ESO's International Vision Science and Optometry Conference

15th-17th August, 2025

Abstract Book

eivoc

ESO's International Vision Science and Optometry Conference

Edited by Ms Amirthaa M& Dr Rashima A

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Chennai Trade Centre
New Convention Centre
Nandambakkam
Chennai - 600 089

ELITE SCHOOL OF OPTOMETRY

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Message from the Scientific Chair

ELITE SCHOOL OF OPTOMETRY
(Unit of Medical Research Foundation, Chennai)

Welcome to the heart of EIVOC – its science!

As Scientific Chair, it's been my privilege to design a program that truly reflects the evolving identity of vision science, where clinical excellence meets practical care, and innovation is grounded in real-world impact.

This year's scientific program doesn't just tick academic boxes, it brings together ideas that challenge, inspire, and push the boundaries of what optometry can be.

High-impact symposia on everything from the subtle signatures of dry eye to the latest frontiers in ocular imaging has depth, discussion, and direction. In addition, hands-on workshops that let you get up close with diagnostic tools, refine clinical skills, and walk away with real-world techniques.

Advanced technology in outreach is reshaping how eye care reaches communities, and optometrists are at the forefront of this transformation. From mobile clinics to AI-powered diagnostics, innovative tools are expanding access and improving outcomes for underserved populations. These discussions highlight how optometrists lead the charge in bridging gaps, driving equity, and redefining what community eye care looks like today.

There are courageous conversations featuring women leaders, practice owners, and boundary-breakers, sharing not just successes, but the grit behind the growth. We have Poster cafés and interactive sessions where first-time presenters and seasoned researchers connect. Because sometimes the best ideas happen over coffee and curiosity.

Curating this program has been a collaborative effort, and I am deeply grateful to the scientific committee, peer reviewers, abstract chairs, workshop leads, moderators, and student coordinators who brought their insight, energy, and unwavering commitment to making EIVOC scientifically rich and logistically seamless.

Whether you're here to present, critique, or simply absorb, I hope you leave EIVOC not just with notes, but with new questions, unexpected connections, and a reaffirmed belief in the science that serves sight.

See you in the sessions!

Warmly,
Dr Rashima Asokan
Scientific Chair, EIVOC
Elite School of Optometry

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Message from the Organising Chair

ELITE SCHOOL OF OPTOMETRY
(Unit of Medical Research Foundation, Chennai)

EIVOC – Elite School of Optometry International Vision Science and Optometry Conference

Greetings from the Elite School of Optometry!

EIVOC is not just a conference – it's a commitment to elevate the dialogue around vision science, to challenge the status quo in optometric education, and to constantly question how we can serve better, see deeper, and reach farther.

This year EIVOC is a testimony to what happens when science meets social conscience. Our sessions blend high-impact research with community-rooted relevance, as we believe that the real power of vision science lies not only in innovation, but in inclusivity and implementation. At ESO, we have always believed in thinking globally and acting locally. Our alumni serve across continents, but their training is steeped in the ethos of primary care, evidence-based practice, and lifelong learning. EIVOC reflects this DNA proudly academic and deeply practical.

We are proud that this year's EIVOC places a spotlight on two powerful narratives shaping the future of our profession: women in optometric leadership, and the growing force of independent optometry practice. From academic pioneers to clinic owners to public health changemakers, women are not just participating, they're leading, building, and transforming lives. ESO is privileged to have nurtured many such journeys, and through EIVOC, we celebrate their stories, their strength, and their fearless vision.

Independent optometry is no longer an aspiration, it's an evolving reality. The sessions this year reflect the courage and clarity it takes to practice autonomously, to innovate within regulations, and to create sustainable models of patient care. We hope these conversations inspire our students and young practitioners to carve paths that are both professionally fulfilling and socially impactful.

Whether you're presenting your first paper, unveiling your latest research, or simply soaking in the diverse perspectives, we welcome you. Ask bold questions. Find unexpected collaborators. Let's make this more than an academic exchange. Let us make it a movement for better vision and better lives.

None of this would have been possible without the extraordinary efforts of the EIVOC organising team – a dedicated group of faculty, alumni, students, and staff who have worked tirelessly behind the scenes. Their enthusiasm, attention to detail, and shared belief in the mission of optometry have been the backbone of this conference. I thank each one of them sincerely for turning a vision into reality.

Thank you for being part of EIVOC and for believing, like we do, that optometry matters – now more than ever.

Warmly,
Dr. N Anuradha
Organising Chair, EIVOC
Principal, Elite School of Optometry

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Email :eso@snmail.org / elite@snmail.org / Website : www.eso.sankaranethralaya.org

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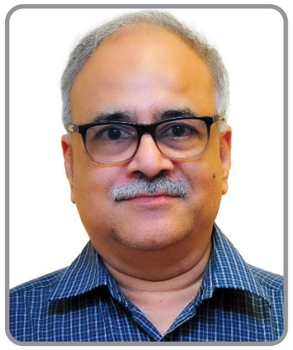
Patrons

Medical Research Foundation



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Conference Committee Members

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Scientific Chair

Dr Ramya S

Ms Ambika C

Ms Amirthaa M

Dr Girish Kumar

Ms Vishnupriya S

Ms Jaanake V N

Ms Jayasri S

Ms Sangeetha S

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Ms Akshaya B

Ms Ashwini V C

Ms Gnanapoonkodi B

Ms Indira R

Ms Janani B

Ms Janani S

Ms Jeba Cynthia J E

Ms Jeevitha R

Ms Karpagavalli S

Ms Mridula K

Ms Nandhini R

Ms Sangeetha N

Ms Subasree R

Ms Subhiksha R

EIVOC 2025 – Highlights

The theme for this year's conference, **"Visionary Leadership: Optometrists Shaping the Future of Ophthalmic Care,"** resonates strongly with the evolving healthcare landscape in India. With the enactment of the **National Commission for Allied and Healthcare Professions (NCAHP)** Act, 2021, optometry is now formally recognized as an independent healthcare profession and no longer classified under paramedical services. This milestone sets the stage for optometrists to play a pivotal role in transforming eye care delivery.

Universal Eye Health & Independent Practice

Recognizing the increasing demand for qualified primary eye care professionals, the conference dedicated a symposium to **Universal Eye Health** under the banner of **"Eye Health for All."** Another key focus was the **advancement of independent optometric practices,** both within India and internationally. Sessions examined global practice models and emphasized cross-border collaboration to elevate clinical standards and align with global benchmarks.

Dedicated discussions on **improving optical dispensing standards and aligning optometry with national health goal,** particularly the elimination of avoidable blindness by 2047 as part of VIKSIT Bharat, form a crucial part of the program. These strategic sessions collectively aim to position optometry as a cornerstone in delivering **universal, equitable, and effective eye care in India by 2030.**

Women in Optometry – Leading the Change

In a powerful testament to the growing influence of women in eye care, **female speakers outnumbered male counterparts** at this year's conference. A flagship session titled **"Women in Optometry: Across the Globe"** highlighted global perspectives and leadership stories.

The pre-conference workshop, **OCI SPARK – Glow Women Leadership**, offered dedicated leadership development for women optometrists, complemented by a panel discussion on **independent practice for women,** focusing on empowerment, mentorship, and access to resources.

ESO Alumni: Regional Leaders in Eye Care

Alumni from the **Elite School of Optometry (ESO)** shared inspiring stories of building successful independent practices and becoming leaders in regional eye care. Their journeys underscore ESO's long-standing impact on shaping optometric excellence.

Symposiums & Scientific Advancements

The scientific sessions and keynote addresses were meticulously curated to prepare the profession for the next five years. Highlights included:

- Paediatric eye health and myopia management
- Innovations in visual assessment techniques
- Best practices in caring for persons with disabilities
- Use of AI in optometry and visual sciences

Special focus was given to doctoral and postgraduate research development, with exclusive sessions aimed at empowering the next generation of clinical scholars and research leaders in optometry.

Memorial Scientific Sessions

EIVOC 2025 honored two pioneering figures through dedicated scientific sessions:

- Dr. Rajeswari Mahadevan Memorial Scientific Session – Focused on specialty contact lenses, including scleral lens advancements.
- Dr. E. Vaithilingam Memorial Scientific Session – Highlighted innovations in optometry education and academic excellence.
- ESO VISTA – Endowment award by Dr P P Santanam organized to integrate AI in optometry and expand clinical intelligence.

Workshops & Clinical Skill Development

To support the profession's growth over the next five years, the conference hosts over 15 specialized workshops in areas such as Sports Optometry, Orthokeratology and managing children with special needs. These workshops aim to boost both the quality and quantity of trained optometrists and encourage sub-specialization across the profession.

Cultural and Networking Highlights & Contests

Beyond the academic rigor, EIVOC 2025 featured vibrant social events, including a **Gala Dinner** and the surprise unveiling of the **ESO Walk of Fame,** celebrating iconic contributors to optometry and vision science. And for better networking and interaction, contests like participants can have "Selfie with speakers" and awards are awaited for the same.

Talent Showcase at EIVOC 2025

The heart of EIVOC 2025 not only yields the celebration of vision and optometry, but brings to light the way students, teachers, institutions and independent practitioners imagine and shape the future of optometry. Apart from the brainstorming scientific sessions these contests such as,

For Students

Selfie with Speakers is an interactive contest which add a personal touch to the conference encouraging the students to approach the speakers, engage in meaningful conversations and capture creative selfies that reflect both learning and rapport with the speakers.

Wall Art is designed to be a creative platform for students to showcase their artistic talents and awe the conference attendees with the optical illusions they create.

Dream Optometry Clinic help students to express their passion towards eye care and innovation. It also serves as a platform for them to showcase the design of their own optometry clinic which would be up to date and inclusive of all future needs pertaining to eye care.

For Academicians

NextGen Educator Excellence Award highlights the innovative methods being handled by optometry faculties to bring students closer to the subject and awaken the spirit of passion and interest towards the profession.

Social Accountability through Education by Schools of Optometry (SAESO) celebrates optometry faculties, HODs and Principals of optometry institutions by showcasing their efforts to enhance community outreach activities across the globe thereby playing a vital role in identifying ocular conditions under the scope of preventable blindness.

For Independent Practitioners

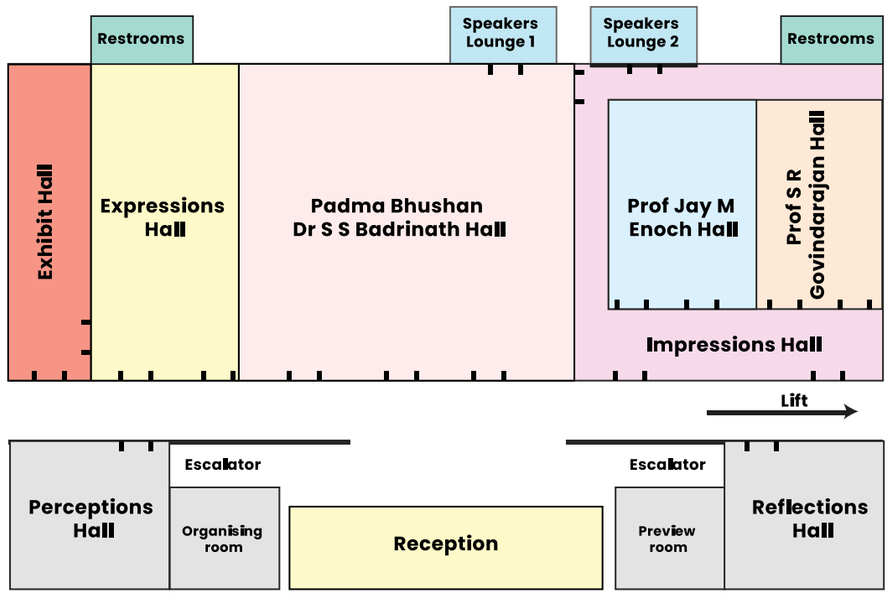
Eye care Elite Award serves as a wonderful platform for budding independent practitioners which showcased their practice along with their success stories and experiences to the audience of EIVOC 2025 and thereby enlightened them about the success and need for independent practices worldwide.

Women in Optometry

LeadHer Legacy Award honors women in optometry at EIVOC 2025, highlighting their contributions, leadership, mentorship and their inspiring role in advancing the profession.

Venue and Layout

Chennai Trade Centre
New Convention Centre
Nandambakkam, Chennai - 600 089



PROGRAM SCHEDULE

EIVOC 2025

AUGUST 15

Time	Padma Bhushan Dr SS Badrinath Hall	Time	Prof. Jay M Enoch Hall
8.00 AM	**Registration**	8.00 AM	**Registration**
9.00 AM	**Opening Session** Session Officers Ms Ambika C / Ms Janani S		
	Welcome and Lighting of Lamp		
09.30 AM	**Keynote Address** Moderators – Dr Anuradha N & Dr Rashima A Session Officers – Ms Ambika C / Ms Janani S	10.00 AM	**Sports Optometry** Moderator – Dr Girish Kumar Session Officer – Ms Amirthaa M
	Women in Optometry: Across the globe! - Dr Sandra Block A journey towards equity - Prof. Hema Radhakrishnan		Sharp eyes for sharp moves - Scope of Practice for Sports Optometry in India - Dr Aishwaryah R Beyond vision - Comprehensive care for athletes - Dr Kristine Dalton From Field to Clinic: Role of Eye Care Providers in Assessment, Management and Recovery - Dr Aparna Raghuram
11.15 AM	**Panel Discussion: Global Voices Independent practice across borders!** Moderator – Dr Krishna Kumar R Session Officer– Ms Vishnupriya S	12.00 PM	**The Scholar's Voyage: From Questions to Breakthroughs** Moderator – Dr Rashima A Session Officer – Ms Indira R
	Dr James Armitage - Australia Dr Bhavani Iyer - US Dr Aditya Goyal - India Dr Subash Sukumar - UK Sponsor Talk - ZEISS		Scientific talks of Indian PhD scholars Ms Salai Dhavamathi Ms Janani S Ms Ashwini V C Ms Preetirupa Devi Mr Vivek Suganthan Sponsor Talk - EssilorLuxottica
02.00 PM	**Universal Eye Health** Moderator – Ms Lakshmi Shinde Session Officer – Ms Ambika	02.00 PM	**Dr Rajeswari Mahadevan Memorial Scientific Session** Moderator–Mr Yeshwant Saoji Ms S Madhumathi Session Officer – Ms Janani B
	Optometry's Role in Advancing the SDGs - Dr Sandra Block Are we on track to meet eREC and eCSC targets by 2030? - Prof GVS Murthy Educate, Innovate, Illuminate: The institutional Route to Eye Health for All - Dr Anuradha N		The Science Behind Dry Eye - Prof. James Wolffsohn Sponsor Session - Coopervision
03.30 PM	**Scientific Free Paper Session 5** Session Officer – Ms Ambika	02.30 PM	**Dr Rajeswari Mahadevan Memorial Scientific Free paper session** Moderators – Mr Yeshwant Saoji & Ms S Madhumathi Session Officer – Ms Janani B
	Optometric Education / Public health and Community Optometry - 3		Sponsor Session - Bausch and Lomb
04.30 PM	**National Commission for Allied and Healthcare Profession: Updates for Optometrists**		

AUGUST 15

Time	Prof. SR Govindarajan Hall	Time	Reflections Hall	Time	Perceptions Hall
8.00 AM	**Registration**	8.00 AM	**Registration**	8.00 AM	**Registration**
10.00 AM	Paid Workshop **Ortho-K: A Path to Myopia Control** Moderator – Ms Karpagavalli S Session Officer – Ms Akshaya B				
	Ms S Madhumathi Ms Lakshmi Shinde Mr Yeshwant Saoji				
12.15 PM	**International Dispensing Standards and Indian Market: Gaps and Bridges** Moderator – Ms Daksha Jain Session Officer – Ms Mridula K	12.00 PM	**Scientific Free Paper Session 1** Session Officer – Ms Jeevitha A	12.00 PM	**Scientific Free Paper Session 2** Session Officer – Ms Sangeetha N
	Ms Liliana Stankova Mr Ramachandran P Mr Ajay Shinde Sponsor Talk - Hoya		Binocular Vision and Vision therapy - 1		Optometric Education / Public health and Community Optometry - 1
02.00 PM	**Scientific Free Paper Session 3** Session Officer – Ms Janani S	02.00 PM	**Scientific Free Paper Session 4** Session Officer – Ms Amirthaa M	02.00 PM	Paid Workshop **Data Analysis Demystified: Selecting the Best Statistical Tests** Session Officer – Ms Vishnupriya S
	Geriatric Optometry, Low Vision and Rehabilitation - 1		Ocular Disease and Diagnostics - 1		Dr Kabilan P Ms Sangeetha N
03.00 PM	**Paid Workshop** Session Officer – Ms Subasree R	03.30 PM	**Scientific Free Paper Session 6** Session Officer – Ms Vishnupriya S	04.00 PM	**Scientific Free Paper Session 7** Session Officer – Ms Ashwini V C
	Clinical Potpourri: Understanding Binocular Vision Dr Aditya Goyal Dr Valarmathi A Mr Praveen Kumar P		Pediatric Optometry / Refractive error correction - 1		Occupational Optometry and Sports Optometry - 1
05.00 PM	Elite School of Optometry Alumni Association Intercollege Optometry Quiz **ISight 2025** Session Officer – Ms Mridula K	05.00 PM	**Scientific Free Paper Session 8** Session Officer – Ms Vishnupriya S	05.00 PM	**Scientific Free Paper Session 9** Session Officer – Ms Ashwini V C
			Ocular Disease and Diagnostics - 2		Optometric Education / Public health and Community Optometry - 2

Coffee / Tea Break: Lobby & Impressions Hall: 10:00 AM to 11:00 AM, 3:00 PM to 4:00 PM

Lunch: Expressions Hall: 12:00 PM to 2:30 PM

Poster Sessions: Impressions Hall: 3:00 PM to 5:00 PM

Coffee / Tea Break: Lobby & Impressions Hall: 10:00 AM to 11:00 AM, 3:00 PM to 4:00 PM

Lunch: Expressions Hall: 12:00 PM to 2:30 PM

Poster Sessions: Impressions Hall: 3:00 PM to 5:00 PM

AUGUST 16

Time	Padma Bhushan Dr SS Badrinath Hall	Time	Prof. Jay M Enoch Hall
8.00 AM	**Registration**	8.00 AM	**Registration**
9.30 AM	**Keynote Address** Moderator: Dr Anuradha N & Dr Rashima A Session Officer - Ms Ambika C	09.00 AM	**Inclusive Optometry: Best practices for Persons with Disabilities** Moderator - Dr Ramya S Session Officer - Ms Indira R
	New ways to look at visual assessment: Connecting the dots between structure and function- Dr. Allison McKendrick IMI Global trends in myopia management attitudes and strategies in clinical practice - Prof James Wolffsohn		Holistic Rehabilitation: Multi-Disciplinary Approaches for Persons with Disabilities in Developed Countries- Dr Bhavani Iyer Empowering Lives: Crafting customized Rehabilitation for Persons with Disabilities in India- Dr Prema Chande Breaking Barriers in Eyecare: Inclusive Optometry for the underserved - Dr Krishna Kumar R Vision Reinvented: Innovative Tools Enhancing Inclusion and Efficiency at Work - Dr Ramu Muthangi
11.00 AM	**ORBIS Sponsor Session** **Novel perspectives and questions in promoting pediatric eye health** Moderator - Ms Ambika C Session Officer - Ms Mridula K	11.30 AM	**Workplace Wellness: The Role of Optometry in Vision, Posture, and Mental Health** Moderator - Ms Janani S Session Officer - Ms Jeevitha A
	Leveraging PEDIG insights for Enhanced Pediatric Eye care - Dr Aparna Raghuram Functional vision assessment for Pediatrics - Dr Premnandhini S Through the eyes of SN SEES: Unocvering India's Pediatric Vision Burden - Dr N Anuradha Sponsor talk - ORBIS		Spotting Musculo-Skeletal issues - A quick guide for optometrists - Dr Madhan Thiruvengada Mental health and wellness at workplace: Role of Optometrists - Dr Prabash Prabhakaran Optimizing Ergonomics in the Ophthalmic Workplace: Enhancing Comfort and Efficiency for Better Patient Care - Dr Sunder Eye and vision care optometry consultations to workplace - From Insights to Impact: Dr Rashima A Sponsor talk - Appasamy Associates
01.30 PM	**EssilorLuxottica Sponsor Session** **Myopia: Prevent, Predict and Protect!** Moderator Dr Kunal Srivatsava & Ms Amirthaa M Session Officer - Ms Mridula K	02.00 PM	**Dr E Vaithilingam Memorial Scientific Session** Moderator: Dr Krishna Kumar R Session Officer - Ms Ambika C
	Decoding global prediction models: Insights and implications - Prof Padmaja Sankaridurg Navigating critical evidences - Streamlining key insights for independent practices - Prof Hema Radhakrishnan Clearing the path: Effective myopia management strategies in India - Dr Dharani R Essilor Sponsor Talk: H.A.L.T. Technology in Practice: Real-World Insights, Patient Education & Adoption-Dr Kunal Srivastava Understanding Myopia Progression & Early Detection in Clinical Practice. Key Signs and Screening Strategies for Optometrists - Dr Pavan Verkicharla		Lab to clinic! Broadening Ophthalmic Care via basic science research - Dr Charanya Ramachandran Learner to Leader! My journey in Academia - Trailblazing a path - Dr Suresh Viswanathan Sponsor Talk - Titan
03.30 PM	**Scientific Free Paper Session 13** Moderator - Ms Amirthaa M Session Officer - Ms Subhiksha R	03.30 PM	**Dr E Vaithilingam Memorial Scientific Free Paper Session** Moderator: Ms Sangeetha N
	Pediatric Optometry / Refractive error correction - 2		
04.30 PM	**Inauguration** MC: Ms Ashwini V C / Ms Subhiksha R		
05.30 PM	**Cultural Event / Gala Dinner**		

AUGUST 16

Time	Prof. SR Govindarajan Hall	Time	Reflections Hall	Time	Perceptions Hall
8.00 AM	**Scientific Free Paper Session 10** Session Officer - Ms Vishnupriya S	8.00 AM	**Scientific Free Paper Session 11** Session Officer - Ms Ashwini V C	8.00 AM	**Scientific Free Paper Session 12** Session Officer - Ms Sangeetha N
	Occupational Optometry and Sports Optometry - 2		Geriatric Optometry, Low Vision and Rehabilitation - 2		Binocular Vision and Vision therapy - 2
09.00 AM	Paid Workshop **Imaging the Anterior Segment: A Guide to Report Analysis** Session Officer - Ms Karpagavalli S	09.00 AM	Paid Workshop **Amblyopia & Suppression: Clinical Assessment and Diagnosis** Session Officer - Ms Subasree R		
	Ms Deepa M Ms Hemalatha C Ms Raksha D		Dr Gayathri Srinivasan Mr Praveen Kumar P Mr Amit Bhowmick	10.00 AM	**Clinician to Researcher Free Paper Session - 1** Session Officer - Ms Sangeetha N
11.00 AM	Paid Workshop **Optimizing Vision for Athletes: Sports Optometry Workshop** Moderator - Ms Sangeetha N Session Officer - Ms Karpagavalli S	11.00 AM	Invited Workshop **Empowering Young Educators: Faculty Development Program** Moderator - Dr Sumathi Narayanan Session Officer - Ms Vishnupriya S		
	Dr Kristine Dalton Dr Aiswaryah R Dr Girish Kumar		Dr Dharani R Ms Ashwini V C	12.00 PM	**Competition** Session Officer - Ms Amirthaa M
01.00 PM	Paid Workshop **Retina & Glaucoma: From Diagnosis to Report Interpretation** Session Officer - Ms Jeba Cynthia J E	01.00 PM	Paid Workshop **Children's Vision Assessment: A Clinical Approach** Session Officer - Ms Indira R		
	Dr Subash Sukumar Ms Vishnupriya S Dr Ramya S Ms Mahalakshmi G		Dr Premnandhini S Dr Valarmathi A Ms Tharakeswari T Ms Subasree R	02.00 PM	**Clinician to Researcher Free Paper Session - 2** Session Officer - Ms Janani S
03.00 PM	Paid Workshop **Managing Children with Special Needs through Optometry: A Practical Workshop** Session Officer - Ms Subasree R	03.00 PM	Paid Workshop **Dry Eye Testing: A Basic Screening Approach** Session Officer - Ms Jeevitha A		
	Dr Aparna Raghuram Dr Deiva Jayaraman Dr Gayathri Srinivasan Ms Indira R Ms Tharakeswari T		Ms Savita B S Ms Karpagavalli S Ms Ab inaya M	04.00 PM	Special Invitation **Strategies for implementation of New Optometry Curriculum** Session Officer - Ms Madhumathi S
					Educators' Special Interest Group Meeting

Coffee / Tea Break: Lobby & Impressions Hall: 10:00 AM to 11:00 AM, 3:00 PM to 4:00 PM

Lunch: Expressions Hall: 12:00 PM to 2:30 PM

Poster Sessions: Impressions Hall: 3:00 PM to 5:00 PM

Coffee / Tea Break: Lobby & Impressions Hall: 10:00 AM to 11:00 AM, 3:00 PM to 4:00 PM

Lunch: Expressions Hall: 12:00 PM to 2:30 PM

Poster Sessions: Impressions Hall: 3:00 PM to 5:00 PM

AUGUST 17

Time	Padma Bhushan Dr SS Badrinath Hall	Time	Prof. Jay M Enoch Hall
8.00 AM	**Registration**	8.00 AM	**Registration**
9.30 AM	**Panel discussion:** **Start, Sustain and Succeed:** **Independent practice for Women** Moderator - Mr Kumaran R Session Officer - Ms Ashwini V C	09.00 AM	**ESOVISTA -** **Enhancing Scope of Optometry and Vision by Integrating Science and Technology** **Advancement Endowment Session by Dr PP Santanam** Moderator - Dr Ramya S Session Officer - Ms Amirtha M
	Ms Lakshmi Shinde Dr Prema Chande Ms Savita BS Ms Daksha Jain Dr Valarmathi A Mr Ajay Shinde Sponsor Talk - EssilorLuxottica		What Congenital Cataract Cases Teach Us about Visual Brain Development - Dr Kabilan P Dr AI in Glaucoma: Choosing the best one! - Dr Andrew Turpin Future-Ready Eye Care: Implementing AI, Robotics, and Tele-Optometry - Dr Sajeesh Kumar Dream, Design, Deliver: The evolution of a product - Dr Anand Sivaram
11.00 AM	**Publish or Perish -** **Boosting Your Research's Appeal:** **Tips That Work** Moderator - Ms Ashwini V C Session Officer - Ms Vishnupriya S	11.00 AM	**Dedicated Session to (Late) Dr Narasimhan S** **Optometry: Evidence - Based Education / Leadership** Moderator - Ms Amirtha M Session Officer - Ms Sangeetha N
	How do I make my publication attractive - Dr Padmaja Sankaridurg Unlocking Insights: Data collection and curation - Dr Kabilan P Research Paper Rejection? Here's Why and How to Fix It - Dr Allison McKendrick		Empowering Educators: The Intersection of Pedagogy and Faculty Development - Dr James Armitage Framing the Future: Integrating Social Accountability into Optometry Curricula - Dr Rashima A Crafting a Forward-Looking Optometry Curriculum - Dr Suresh Viswanathan Strengthening Student Support: What Exists and What More is Needed - Prof. Hema Radhakrishnan
01.30 PM	**Closing ceremony** MC - Ms Ashwini V C and Ms Ambika C Session Officer - Ms Janani S / Ms Amirthaa M / Ms Sangeetha N		
03.30 PM	**Elite School of Optometry Alumni Association Meeting** Session Officer - Ms Madhumathi S		

Coffee / Tea Break: Lobby: 10:00 AM to 11:00 AM

Lunch: Expressions Hall: 12:00 PM to 2:30 PM

AUGUST 17

Time	Reflections Hall	Time	Perceptions Hall
8.00 AM	**Scientific Free Paper Session 14 - Ocular Disease and Diagnostics - 3** Session Officer - Ms Sangeetha N	8.00 AM	**Scientific Free Paper Session 15 - Ocular Disease and Diagnostics - 4** Session Officer - Ms Vishnupriya S
9.00 AM	Paid Workshop **Vision Screening in Schools: Basic Eye Health Assessment** Session Officer - Ms Mridula K	10.00 AM	Paid Workshop **Enhancing Workplace Safety: Visual Task Analysis and Eye Exams for Industrial Workers** Session Officer - Ms Indira R
	Ms Ambika C Mr Deepak Kumar S		Dr Rashima A Ms Janani S Ms Jeevitha A
11.00 AM	Paid Workshop **Handling Emergencies in Primary Eye Care - A referral guide** Session Officer - Ms Karpagavalli S	12.00 PM	Paid Workshop **Mastering Hess & Diplopia Charting - A comprehensive workshop** Session Officer - Ms Subasree R
	Dr Subash Sukumar Mr Ajay Shinde Dr Ramya S		Mr Praveen Kumar P Ms Sherah Benzy

In recognition of participation in the scientific conference Optometry Confederation of India (OCI) hereby grants 30 CE points for attending the conference

With Best Compliments

Prof. Deborah Sweeney
Well-wishers of ESO
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Jutron Vision
J L Vakil & Co.
SEED Co. Ltd
LVPEI-BostonSight
Supporters for travel grant from ESO Alumni

Media Partner - Optician India

Pre-Conference Workshop

August 14, 2025

Pre-Conference Workshop

GLOW (Global Ophthalmic Women) with SPARK
14th August 2025, 9:00 AM to 3:30 PM

Women Leadership Program

Spark the leader within! Connect to your signature strengths!
Learn & Inspire each other!

Time	Program Schedule
08:00 AM	Registration
08:30 AM	Meet and Greet
09:00 AM	Introduction Welcome and Felicitation
09:30 AM	Women Leaders & Eyecare Journey Speakers: Dr Kristine Dalton, Dr Liliana Stankova, Dr Prema Chande, Prof. Padmaja Sankaridurg Moderators: Dr Uma Narayanan & Ms Lakshmi Shinde
11:15 AM	Tea / Coffee Break
11:30 AM	Leadership Presence & Impact - session 1 Facilitator: Dr Uma Narayanan
01:00 PM	Lunch and Networking
01:45 PM	Leadership Presence & Impact - session 2 Facilitator: Dr Uma Narayanan
03:00 PM	Wrap up & Tea / Coffee Break

VENUE
V D Swami Auditorium,
7th Floor - K N BIRVO Block,
Padma Bhushan Dr. S. S. Badrinath Campus,
No. 41 (old 18), College Road, Chennai 600 006, Tamil Nadu, India.

Scientific Sessions

Chennai Trade Centre

August 15 - 17, 2025

Keynote Address

August 15, 2025
Padma Bhushan Dr S S Badrinath Hall 9.30 AM - 10.30 AM
Moderators: Dr Anuradha N & Dr Rashima

Dr Sandra Block

President, World Council of Optometry
Professor Emeritus,
Illinois College of Optometry

Dr. Sandra Block is the president of the World Council of Optometry and a globally respected leader in public health optometry and pediatric vision care. She earned her Doctor of Optometry from Illinois College of Optometry (1981), completed a Pediatric Residency (1982), and holds a Master of Education and a Master of Public Health. Dr. Block served as Professor of Optometry at Illinois College of Optometry for nearly four decades and is now Professor Emeritus. She has been deeply involved with the Special Olympics Lions Clubs International Opening Eyes Program and co-chaired the National Center for Children's Vision and Eye Health. She is Treasurer of Vision 2020 USA and an Emeritus Board Member of Prevent Blindness. Honored with an Honorary Doctorate in Ocular Sciences, she holds multiple fellowships, including Diplomate in Public Health at AAO and Silver Fellow of ARVO. Dr. Block is dedicated to advancing equitable, high-quality eye care for children and people with disabilities worldwide.

Women in Optometry Across the Globe

The profession of optometry is a wonderful field for women to grow and prosper. Optometry is focused on addressing a growing need to address preventable vision impairment. Women are well suited to provide our patients with up to date evidenced based eye care. It has also been shown that one of the most vulnerable groups in accessing eyecare has been women. Over the past decade, we have seen an increasing number of females choosing to become optometrists. In fact in the US, the graduating optometry classes have been predominantly female and we know that this is a global trend. The reality is that the path to success for women in a health care environment has not been without its challenges – not only for optometry. Dr. Prema Chande published results of a study that outlined challenges faced by female optometrists which included bias from peers and concerns with work-life balance. There have been similar results found in studies in Israel, United States and in Australia. The presentation will delve into some of the barriers that have been seen in eye care providers globally and conclude with thoughts on moving forward.

Prof. Hema Radhakrishnan

Professor of Vision Sciences
University of Manchester

Prof. Hema is a Reader in Optometry and Associate Dean for Social Responsibility in the Faculty of Biology, Medicine & Health at the University of Manchester. A registered UK optometrist, her research focuses on accommodation, myopia, and physiological optics. She completed her PhD in 2003 on how optical factors influence visual function in myopia. Since then, she has published over 80 peer-reviewed papers and contributed to more than 200 conference presentations. Dr. Hema has received prestigious accolades for her research, including the Neil Chairman Medal from the College of Optometrists (2015) and the inaugural Bernard Gilmartin OPO Award (2011) for her outstanding work in ophthalmic and physiological optics. An academic at the University of Manchester since 2005, she is actively involved in teaching optometry students and continues to lead innovative research in physiological optics and anterior eye studies. Her role also emphasizes social responsibility within health education and research.

A journey towards gender equity

Gender equity in healthcare is essential for achieving excellence, innovation, and fairness. In optometry, while women make up a significant portion of the workforce, they remain underrepresented in leadership, academic, and decision-making roles. Recent studies highlight persistent disparities in promotion, pay, and research output, often intensified by intersecting factors such as race, geography, and socioeconomic status.

This talk explores the global and regional dimensions of gender equity in optometry, drawing on recent evidence from research and clinical roles. It examines how institutional cultures, mentorship gaps, and structural barriers continue to limit women's advancement, despite growing awareness and advocacy. This presents unique challenges and opportunities, shaped by cultural norms, educational access, and evolving professional landscapes.

Promising strategies are emerging. Gender-transformative leadership, inclusive policy frameworks, and targeted mentorship programs have shown potential to shift the narrative. However, these efforts require sustained commitment and systemic change. Ultimately, achieving gender equity in optometry is not a destination but a continuous journey—one that demands collaboration among educators, practitioners, institutions, and policymakers. By fostering inclusive environments and amplifying underrepresented voices, the profession can unlock its full potential and better serve diverse communities

Sports Optometry

August 15, 2025
Prof Jay M Enoch Hall 10.00 AM - 12.30 PM
Moderator: Dr Girish Kumar

Dr Aiswaryah R

Associate Professor, Dept. of Optometry
SRM Medical College Hospital and Research centre,
Chennai, Tamil Nadu

Dr. Aiswaryah Radhakrishnan is an Associate Professor in Optometry at SRM Medical College Hospital and Research Centre, SRM Institute of Science and Technology. With over 16 years of academic and research experience, she specializes in optics, presbyopia, optical instrumentation, visual psychophysics, and sports vision. She earned her bachelor's and master's degrees from the Elite School of Optometry, BITS Pilani, and her PhD from the Complutense University of Madrid. Dr. Radhakrishnan has published extensively in international journals, contributing significantly to advancements in visual optics and presbyopic corrections. Her research includes interdisciplinary collaborations in retinal imaging and visual simulation technologies. She has received prestigious accolades including the Irvin M Borish-Essilor Ezell Fellowship (AAO), a Marie Curie Fellowship, and several national awards. As a principal investigator for a SERB Start-up Research Grant, she actively mentors students and teaches optics and evidence-based practice, bridging clinical application with innovative research in vision science.

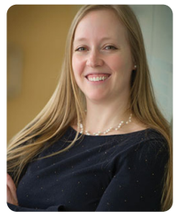
Sharp eyes for sharp moves - Scope of Practice for Sports Optometry in India

Vision is an essential sense that contributes to most of the external input to a wide range of functional activities. In sports visual ability is important to see, interpret, and respond for an effective athletic performance. Several static (low and high contrast visual acuity) and dynamic (dynamic and kinetic visual acuity) parameters, depth perception and visuomotor parameters such as Eye-Hand/Foot Coordination, focus and tracking, visual processing speed have been identified as key factors for enhanced performance. Good vision helps athletes respond faster and more accurately to dynamic situations. Improved eye-body coordination and strong peripheral awareness is also key to preventing sports related injury and improved decision-making. Most of these skills can be trained in short-term and studies show that training improves these visual performances and thereby result in better sports performance. India's sports industry is projected to reach $130 billion by 2030, driven by factors such as increasing government investments, a rising trend of multi-sport culture, wide digital adoption, and a range of quality sports content. In India, participation of young adolescents in organized sports increased by 42% and registration of sports club increased by 54% supporting the growth of sports field. However, there are only 5-6 established sports vision centres offering comprehensive sports vision assessment and sports training using advanced VR based technologies. Even fewer are institutes that provide trans-disciplinary care in collaboration with physiotherapists, occupational therapists, sports psychologists or nutritionists. Optometric management should emerge in parallel with the booming sports trend aiming to create world-class athletes through scientific training and rehabilitation and utilise programmes initiated by state and central government.

Dr Kristine Dalton

Associate Professor
University of Waterloo, Canada

Dr. Kristine Dalton, OD, PhD, FAAO, is a leading expert in sports vision and concussion rehabilitation at the University of Waterloo School of Optometry & Vision Science. She founded the Vision and Motor Performance Lab, Sports Vision Clinic, and Brain Injury Clinic, integrating visual neuroscience with clinical applications for athletic performance and neuro-rehabilitation. Dr. Dalton earned her OD and Master of Vision Science from Waterloo, completed a Cornea and Contact Lens Residency, and obtained her PhD from Aston University. She has received multiple awards, including Outstanding Performance Awards from Waterloo (2017, 2023), and is a Fellow of both the American Academy of Optometry and the British Contact Lens Association. With over 47 peer-reviewed publications, her research focuses on sports vision training, dynamic visual acuity, visual neuroscience, and brain injury rehabilitation. Dr. Dalton actively contributes to the Canadian Paralympic Committee, Brain Injury Task Force, and various editorial boards, and has held prestigious fellowships such as the Bausch & Lomb Ezell Fellowship.



Beyond vision - Comprehensive care for athletes

More than just a good refraction and spectacle or contact lens prescription, sports vision involves providing eye care to enhance performance. Depending on your athlete's needs, that might involve sport-specific prescribing, vision enhancement training, acute or chronic injury management, or vision rehabilitation following sports related concussion. Sports vision can also involve encouraging patients with vision impairment to explore adaptive sports and providing documentation to support the classification of Paralympic athletes. This lecture will present an overview of how comprehensive vision care for athletes can be incorporated into primary care practice and adapted to meet individual athletes' unique needs.

Dr Aparna Raghuram

Director of Optometry, Boston Children's Hospital
Assistant Professor, Harvard Medical School
Massachusetts, The USA

Dr. Aparna Raghuram, OD, PhD, is a leading clinician-scientist in pediatric vision care, serving as Director of Optometry at Boston Children's Hospital and Assistant Professor of Ophthalmology at Harvard Medical School. She earned her OD from the New England College of Optometry, a PhD in Vision Science from the University of Missouri–St. Louis, and completed a pediatric optometry residency at NECO. Her research focuses on amblyopia, strabismus, cortical visual impairment, learning disabilities, visual attention, concussion, and vision rehabilitation. A recipient of several prestigious awards—including the 2018 Knights Templar Award and 2024 Faculty Innovated Research Award—Dr. Raghuram has played key roles in the Pediatric Eye Disease Investigator Group (PEDIG) as Vice Chair and Lead Recruiter. She secured her first independent grant to study learning disabilities and has published in JAMA Ophthalmology. Her leadership and collaborations reflect a strong commitment to advancing pediatric eye health and clinical research.

From Field to Clinic: Role of Eye Care Providers in Assessment, Management and Recovery

Concussion diagnoses are on the rise, with adolescents being particularly vulnerable due to ongoing neurological development. Compared to adults, adolescents often experience longer recovery times, leading to delays in returning to school and sports. Among the constellation of post-concussion symptoms, visual disturbances are both common and frequently underrecognized, underscoring the critical role of eye care providers in the multidisciplinary management of concussion. Oculomotor deficits represent a distinct clinical phenotype of post-concussion syndrome. Affected individuals may present with reading difficulties, blurred or double vision, problems shifting focus between distances, photophobia, visual discomfort in dynamic environments, and reduced visual attention. Convergence insufficiency and accommodative dysfunction are the most frequently diagnosed vision conditions post-concussion in adolescents, occurring at rates significantly higher than in the general population. This presentation will outline a systematic approach to visual function assessment in the post-concussion setting. Drawing on retrospective and prospective clinical studies from our lab, we will highlight the most effective examination tools for identifying vergence and accommodative deficits. We will also differentiate the clinical phenotype of concussion-related convergence insufficiency from naturally occurring convergence insufficiency, highlighting diagnostic and symptomatic distinctions. Furthermore, we will explore the frequently observed disconnect between subjective symptom reporting and clinical findings and demonstrate how symptom provocation during examination can enhance diagnostic sensitivity of visual dysfunction. The talk will conclude with practical clinical strategies for management of persistent visual symptoms in concussed and improve functional outcomes and return to daily activities.

Global Voices - Independent practice across borders!

Panel Discussion
August 15, 2025
Padma Bhushan Dr S S Badrinath Hall – 11:15 AM - 12:30 PM
Moderator: Dr Krishna Kumar R

This expert panel session, Global Voices – Independent Practice Across Borders, brings together four distinguished independent optometry practitioners from diverse international contexts to explore the current landscape of autonomous optometric practice worldwide. The discussion will critically examine the structural, regulatory, and socio-cultural factors influencing independent practice, highlighting both shared and region-specific challenges. Panelists will provide insights into how independent optometrists navigate varying scopes of practice, access to resources, and public health demands. Emphasis will also be placed on the potential for cross-border collaboration, policy advocacy, and global knowledge exchange to strengthen the role of independent optometry in delivering accessible, high-quality eye care globally.

Dr James Armitage

Professor of Optometry, Optometry Course Director and Head of Vision Science Deakin University

Dr James Armitage, PhD, FAAO, is the Director of the Optometry Program and Head of Vision Science at Deakin University's School of Medicine. With over 20 years of academic and research experience, he is a leader in optometry education and a prominent figure in Australian vision science. He holds a Bachelor and Master of Optometry and a PhD in Vision Science from the University of Melbourne. His postdoctoral research at King's College London and the Baker Heart and Diabetes Institute explored maternal-fetal health, neuropharmacology, and cardiovascular risk in ocular disease. Professor Armitage has authored over 100 peer-reviewed publications, with key contributions in glaucoma, vascular programming during pregnancy, and the developmental origins of metabolic disorders. Recognized among the top 200 optometry researchers globally, he has held academic positions at King's College London, Monash University, and Deakin University, where he has led the optometry program since 2016. He is a Fellow of both the American and Australian Academies of Optometry.

Dr Bhavani Iyer

Director Associate Professor
Dan Arnold Center for Vision Rehabilitation Ruiz Dept of Ophthalmology and Visual Science

Dr. Bhavani Iyer, OD, FAAO, is a nationally recognized low vision specialist with over 28 years of experience. She serves as Director of the Dan Arnold Center for Vision Rehabilitation and Associate Professor at McGovern Medical School, UT Health Houston. A Low Vision Diplomate of the American Academy of Optometry, she earned her OD from the Michigan College of Optometry and a Bachelor's in Optometry from the Elite School of Optometry in India. Dr. Iyer has led clinical innovations in visual rehabilitation, incorporating adaptive computer training, driving simulation, and daily living skills into patient care. Her work addresses vision loss from macular degeneration, glaucoma, diabetic retinopathy, stroke, and other conditions. Supported in part by the SightFirst grant, she has expanded access to comprehensive care. Dr. Iyer has held key roles at Henry Ford Health Center, Lyndon B. Johnson County Hospital, and UT Health since 2007, solidifying her leadership in low vision care.

Dr Aditya Goyal

Principal
Sankara College of Optometry

Dr. Aditya Goyal is a leading Indian optometrist and educator with over 30 years of experience. A graduate of the Elite School of Optometry (1989), he holds an M.S. in Clinical Optometry from Salus University, USA, and a Ph.D. from Chitkara University. He is a Fellow of the College of Optometrists in Vision Development (COVD) and is pursuing fellowships with NORA and OEPF. As Principal of Sankara College of Optometry, Bangalore, and adjunct faculty at Salus University, Dr. Goyal has been instrumental in founding optometry colleges across India. He serves as President of ASCO India, where he helped develop the Common Minimum Optometry Curriculum and Indian Entry-Level Optometry Competencies. A national leader in standardizing optometric education, he is a sought-after speaker on vision therapy and pediatric optometry. His accolades include the COVD "Making Vision Therapy Visible" Award (2019) and the Asia Outstanding Optometrist Award (2022).

Dr Subash Sukumar

Advanced Clinical Practitioner
Manchester Royal Eye Hospital

Dr. Subash Sukumar is an Advanced Clinical Practitioner at Manchester Royal Eye Hospital with over 20 years of experience in clinical optometry and vision science research. He earned his BSc in Optometry (1998) and M.Phil in Optometry (2001) from the Elite School of Optometry in collaboration with BITS Pilani. Dr. Sukumar further specialized with Diplomas in Glaucoma (2015) and Therapeutics (2018) from the College of Optometrists, UK, and completed Visual Psychophysics training at Anglia Ruskin University. He has held academic and research roles at Anglia Ruskin University, University of Manchester, and served as Specialist Optometrist and Clinical Tutor at Manchester. Registered with the General Optical Council and Manchester Primary Care Trust, Dr. Sukumar is recognized for his expertise in glaucoma management and evidence-based optometric care. His contributions have been acknowledged with the Geoffrey Burton Memorial Award, highlighting his significant impact on clinical education and patient care in the UK.

The Scholar's Voyage: From Questions to Breakthroughs

Panel Discussion
August 15, 2025
Prof. Jay M Enoch hall – 12:00 PM - 1:00 PM
Moderator: Dr Rashima A

The Scholar's Voyage: From Questions to Breakthroughs" is a 60 minute panel featuring featuring five current PhD candidates and a skilled moderator who guides them through their journey—from initial inquiry and challenges to breakthrough discoveries. With structured opening reflections, audience interaction (polls/ Q&A), and expert facilitation, attendees gain practical insights, authentic perspectives, and inspiration.

Representatives
Ms Salai Dhavamathi
Ms Janani S
Ms Ashwini V C
Ms Preetirupa Devi
Mr Vivek Suganthan

International Dispensing Standards and Indian Market: Gaps and Bridges

Panel Discussion
August 15, 2025
Prof. S R Govindarajan hall – 12:15 PM -1:15 PM
Moderator: Ms Daksha Jain

This session explores the global practices, demands, and challenges within the optical and optometry industry, with a specific focus on dispensing standards. It aims to connect internationally accepted dispensing norms with the Indian market, highlighting critical gaps, industry-specific hurdles, and potential pathways to bridge these differences. The discussion will also outline the evolving landscape of the dispensing industry in India and propose strategies to align it more closely with global standards.

Ms Liliana Stankova

Contact lens specialist /FH Jena/ FMEAOO, FEAOO
Immediate past President of the European Academy for Optometry and Optics

Mrs. Liliana Stankova is a highly experienced optician and contact lens specialist from Sofia, Bulgaria, with over 40 years in optometry and optics. She founded and directs EUROOPTIC Ltd., offering expert contact lens fittings and myopia management, and consults at VISION Eye Clinic for complex ocular cases. A graduate of FH Jena, Germany, Mrs. Stankova has significantly influenced optometric practice and education throughout Europe. She is a founding member and Fellow of the European Academy of Optometry and Optics (EAOO), served on its Board of Trustees, and was elected EAOO President in 2022. After her two-year presidency, she continues as Immediate Past President. Mrs. Stankova also actively participates in the European Council of Optometry and Optics (ECOO), shaping policy and advocacy to enhance eye care standards. Her dedication to innovation, education, and clinical excellence has made her a respected leader in the European optometry community and beyond.

Mr Ramachandran P

Business Advisor-Eyewear & Fellow Institute of Directors (IOD)

Mr Ramachandran is currently Business Strategic Advisor, Board Member, Honorary Advisor for India Vision Institute, Trustee- Sure Trust (Skill Upgradation for Rural Youth) Trustee Sarada Foundation and Volunteer at Poovanthi Institute for Rehabilitation and Elder Care. Previously he was the Group Chief Operating Officer of Essilor South Asia and Director of Essilor India P Ltd. He has been involved in creating spectacle lens brand in India and have spent his major part of professional life is spectacle lenses businesses having worked earlier with Forbes Gokak then as part of Tata Group. He has graduated in Economics and Advanced Management program from Thunderbird School of Management (USA) and Executive program form Essec Business school and Nanyang Business School Singapore.

Mr Ajay Shinde

Optometrist, Shinde eye care, Bangalore, Karnataka

Mr. Ajay Shinde, FIACLE, is a highly experienced optometrist based in Bengaluru, India, with over 30 years of clinical expertise. He is the founder of Shinde Eye Care Centre, operating from New BEL Road and Yelahanka New Town. His practice focuses on comprehensive eye care, including vision therapy for amblyopia, binocular vision issues, computer vision syndrome, contact lens fitting, and myopia management. Mr.Shinde is especially renowned for his proficiency with specialty contact lenses, including scleral lenses and those for keratoconus management. He holds a Bachelor of Clinical Optometry from SankaraNethralaya (1991) and a Master of Optometry from Lotus College of Optometry (2012). In 2007, he earned the FIACLE designation, recognizing his leadership in contact lens education. Alongside his clinical work, Mr.Shinde has contributed to academia, having lectured at Bangalore West Lions Eye Hospital and currently serving on the faculty at Sankara College of Optometry since 2009.

Universal Eye Health

August 15, 2025
Padma Bhushan Dr S S Badrinath Hall 02.00 PM - 03.30 PM
Moderator: Ms Lakshmi Shinde

Dr Sandra Block

President, World Council of Optometry
Professor Emeritus,
Illinois College of Optometry

Dr. Sandra Block is the president of the World Council of Optometry and a globally respected leader in public health optometry and pediatric vision care. She earned her Doctor of Optometry from Illinois College of Optometry (1981), completed a Pediatric Residency (1982), and holds a Master of Education and a Master of Public Health. Dr. Block served as Professor of Optometry at Illinois College of Optometry for nearly four decades and is now Professor Emeritus. She has been deeply involved with the Special Olympics Lions Clubs International Opening Eyes Program and co-chaired the National Center for Children's Vision and Eye Health. She is Treasurer of Vision 2020 USA and an Emeritus Board Member of Prevent Blindness. Honored with an Honorary Doctorate in Ocular Sciences, she holds multiple fellowships, including Diplomate in Public Health at AAO and Silver Fellow of ARVO. Dr. Block is dedicated to advancing equitable, high-quality eye care for children and people with disabilities worldwide.

Advancing SDGs through Optometry

On September, 2015, the UN General Assembly adopted the resolution titled: Transforming our World: the 2030 Agenda for Sustainable Development. In this resolution, 17 sustainable development goals (SDGs) were outlined to help realize the human rights for all through the development of 3 dimensions: economic, social and environmental. Vision and eye health are essential in achieving the 17 SDGs. The Lancet Global Health Commission outlined the importance of eye health in relation to eight SDGs directly and others indirectly. Optometry plays a significant role in the efforts of many SDGs. The World Report on Vision highlighted vision problems that are preventable and very common. Interventions to reduce URE has long acting benefits as do identifying and referring to those with cataracts and other diseases requiring secondary care. In addition, the WHO Eye Care Competency Framework highlighted the position of optometry within the continuum of eyecare at the primary eye care level. Goals of this presentation with be to highlight the successes of optometry on the global level in addressing the SDG goals and remind the audience of barriers we are still working together to solve.

Dr. G.V.S Murthy

President
PRASHO Foundation, Hyderabad, Telangana

Prof. G.V.S. Murthy is a renowned public health expert and pioneer in community ophthalmology in India, with a career spanning over four decades. He is the President of Pragyaan Sustainable Health Outcomes (PRASHO Foundation) and Professor of Public Health Eye Care and Disability at the London School of Hygiene and Tropical Medicine. Formerly Director of the Indian Institute of Public Health, Hyderabad, Prof. Murthy has significantly contributed to national and international public health initiatives. He has authored over 400 peer-reviewed publications and led pioneering research in blindness prevention, diabetic retinopathy, and retinopathy of prematurity (ROP). His work promotes inclusive eye health, notably through parent training and disability identification initiatives in South Asia. He collaborates with bodies like the Optometry Council of India and serves on ethics panels in biotechnology and vision science. Recognized with numerous awards, including the Dr. B.C. Shrivastava Prize and G. Venkataswamy Memorial Award, he continues to influence global eye care and public health policy.

Are we on track to meet eREC and eCSC targets by 2030?

The World Health Organization gave a call for Integrated People-Centred Eye Care where quality of services has been given utmost importance. New indicators have been proposed for achieving Universal Eye Coverage by 2030 to align with the achievement of Sustainable Development Goals. The new indicators emphasize person-level indicators rather than eye-level indicators. Effective Cataract Surgical Coverage (eCSC) and Effective Refractive Error Coverage (eREC) are the new indicators to measure the progress of implementation of Universal Eye Coverage. Both emphasize that good quality outcomes demand vision ≥ 6/12 after the interventions for Cataract and Refractive Errors.
Currently the median eCSC in high income countries is 60.5% against only 14.8% in low-income countries demonstrating huge variation in the quality of desirable outcomes. There are also significant gender, age and literacy differentials across and within countries. In India data shows that eCSC varies between 40-60%. eREC for distance vision is estimated to be 42.9% globally and as low as 9% in South Asia. eREC for near vision is even worse at 20.5% globally. In India, eREC for distance vision varies between 35-45% and for near between 23-50%.

Based on current estimates both in terms of cataract and refractive errors effective coverage, the world and India will not be able to achieve the targets by 2030 but there has been a significant increase in coverage rates over the last 20 years and this augurs well for the future.

Dr N Anuradha

Principal
Elite School of Optometry, Chennai, Tamil Nadu

Dr. Anuradha Narayanan is the Principal of the Elite School of Optometry (ESO) at Sankara Nethralaya, Chennai and Kolkata, India. She leads school eye health and community optometry initiatives, focusing on large-scale vision screening and public health research. An alumna of ESO, she holds a Ph.D. in Community Optometry, an M.Sc. in Psychology, a PG Diploma in Health Economics, and is a Diplomate in Public Health and Environmental Vision from the American Academy of Optometry. Since 1998, she has served Sankara Nethralaya in various roles, including heading the optometry division of the LASIK clinic. With over two decades of teaching experience, she supervises Master's and Doctoral students, collaborating with national and international universities. Dr. Narayanan has secured 15 major grants for school vision screening projects, contributing to numerous publications and international collaborations. She played a pivotal role in the REACH project, screening 1.8 million children, and leads the "Experience Vision" initiative under the Optometry Council of India. Her accolades include the "Best Researcher in Optometry" and "Optometry Contribution to Public Health Award" (2021). She also headed the Limca national record by screening 8,469 children in a single day.

Educate, Innovate, Illuminate: The Institutional Route to Eye Health for All

As the global health community intensifies its efforts toward achieving Universal Eye Health, it is imperative to recognize the crucial role played by optometry institutions in driving this mission forward. Far beyond their traditional mandate of academic instruction, these institutions have emerged as dynamic platforms that shape practice, policy, and population impact.

This keynote will reflect on how institutions like the Elite School of Optometry have embedded social responsibility into their core, preparing professionals who are clinically competent, socially aware, and globally relevant. The institutional journey encompasses a continuum—from educating students with a strong foundation in community eye care, to innovating cost-effective models that improve access in underserved regions, and to illuminating broader health systems through research and collaborative outreach.

In a world where health inequities continue to challenge progress, optometry institutions are uniquely positioned to influence not just individual careers, but collective change. At EIVOC, as we converge to celebrate vision science and collaborative knowledge, this keynote will offer a perspective on how academic institutions can lead the way—by educating with purpose, innovating with empathy, and illuminating the path toward equitable, inclusive, and sustainable eye care for all.

Dr Rajeswari Mahadevan Memorial Scientific Session

August 15, 2025
Prof. Jay M Enoch hall – 02:00 PM - 02:30 PM
Moderators: Mr Yeshwant Saoji, Ms Madhumathi S

Dr. Rajeswari Mahadevan, fondly called as Raji, who headed the contact lens clinic for almost two decades, epitomized leadership, courage, resilience, dedication, perfection, and innovation. She brought in all the best practices and advancements in the field of contact lenses and specialty contact lenses to Sankara Nethralaya that raised the status of the contact lens clinic at SN to the Numero uno position.

Dr. Raji graduated from the prestigious Elite school of Optometry (ESO) in 1998 and went ahead to pursue her M.Phil and PhD in contact lenses while continuing to serve at SN. She held a number of first of its kind accolades including a PhD in the field of specialty contact lenses, PROSE clinical fellowship from the Boston Foundation for Sight, USA to becoming the Asia Pacific Regional president of the executive board of the "International association of contact lens educators (IACLE)". She became a Fellow of the International association of contact lens educators (FIACLE) in 2000, obtained FSLS a fellowship from the scleral lens education society in 2014, awarded the First initiated, Educator of the year award in the field of contact lens in Asia pacific region for the year 2014, received the fellowship from the British contact lens association (FBCLA) in the year 2014, fellowship from the American academy of optometry (FAAO) in 2016, and served as the Asia pacific – President for IACLE.

The proudest moment in her life was authoring her first book on "Trouble shooting and problem solving in contact lens practice" which was released during the ESO's international vision science and optometry conference in 2015 by her revered Guru Mahatria Ra. She had also authored a chapter on "Role of contact lens in different environment" in a book published on occupational optometry. She had authored a chapter on Cornea and contact lens in the book Peyman's Ophthalmology.

After her demise, the cornea, contact lens, and refractive therapy (CCLRT) section of the American academy of optometry has honoured Raji with a posthumous honorary diplomate of the CCLRT section - the highest recognition in the field one could possibly ever get right now. This shows the exemplary clinician researcher that Raji was not just within but across the global fraternity!

Prof. James Wolffsohn

Professor
Aston University, Birmingham, England, The UK

Professor James Wolffsohn is Dean of the School of Optometry and Audiology at Aston University, where he has been a faculty member since 2000. He holds an Optometry degree from the University of Manchester, completed training at Moorfields Eye Hospital, and earned a PhD from Cardiff University. His research focuses on ophthalmic instrumentation, myopia management, contact lenses, intraocular lenses, presbyopia, and tear film. A National Teaching Fellow, he has published over 360 peer-reviewed papers and presented internationally. Professor Wolffsohn serves as academic Chair of the British Contact Lens Association (BCLA), having previously been its President, and chaired the BCLA's CLEAR initiative. He is on the Executive of the Tear Film & Ocular Surface Society (TFOS) and contributed to key TFOS reports. As Chief Scientific Officer of the International Myopia Institute, he co-chaired their influential white papers. His honors include the BCLA Medal (2021), AoA Glenn Fry Award (2022), and AAOptom CCLRT Founders Award (2024).

The Science Behind Dry Eye

In 2017 the Tear Film and Ocular Surface Society published their second Dry Eye Workshop (TFOS DEWS II) report, a systematic process to bring together the evidence on dry eye and its practical implications for clinical practice. This presentation will update attendees with the 2025 TFOS DEWS III reports and how these should inform the diagnosis and management of patients with dry eye in the future.

National Commission for Allied and Healthcare Professions: Updates for Optometrists

August 15, 2025
Padma Bhushan Dr S S Badrinath Hall– 4:30 PM - 5:30 PM

The National Commission for Allied and Healthcare Professions (NCAHP), established under the NCAHP Act of 2021, has introduced significant updates that directly impact the field of optometry in India. This session will outline the information on the updates for practicing optometrists.

With this legislation, optometry has been formally recognized as a healthcare profession, positioning optometrists as key players within the broader medical ecosystem. Under the Act, optometrists fall into the category of healthcare professionals.

This council is tasked with overseeing the regulation of education, licensure, and ethical standards in the profession. It will also work to standardize the curriculum across institutions offering optometry education, ensuring uniformity and quality of training throughout the country. All practicing optometrists will be required to register with their respective State Allied and Healthcare Councils. A centralized register will also be maintained, creating a transparent and legally recognized database of qualified professionals. This registration will be mandatory for practice, and those operating without it may face legal penalties.

Another important component of the reform is the emphasis on continuing professional development. Optometrists will be expected to engage in regular upskilling through recognized training programs in order to maintain their professional standing and licensure.

Elite School of Optometry Alumni Association Intercollege Optometry Quiz - ISight 2025

August 15, 2025
Prof. SR Govindarajan Hall– 5:00 PM - 6:00 PM

ESOAA organized its 5th virtual Intercollege Optometry quiz called as ISight 2025 on March 15, 2025. This quiz was open to the third and fourth-year undergraduate students of optometry. The quiz was sponsored by Hoya lens India Pvt Ltd.
A total of 72 teams registered and participated for event from 18 Optometry colleges across the country in the preliminary (Round 1). From which, the top 30 teams were selected for Round 2. This was made interesting and inquisitive for students in the form of connections. After a tough and competitive rounds, the top 15 teams moved on to the next round. The final round was case-based scenarios. From the top 15 teams, five teams were selected for grand finale at ESO's International Vision Science and Optometry Conference at Chennai.

Keynote Address

August 16, 2025
Padma Bushan Dr S S Badrinath Hall – 09:30 AM - 11:00 AM
Moderators: Dr N Anuradha, Dr Rashima A

Prof. Allison McKendrick

Chair in Optometry Research
The University of Western Australia and Lions Eye Institute
Australia

Professor Allison McKendrick, the Lions Eye Institute UWA Chair in Optometry Research, is a renowned vision scientist and registered optometrist with over two decades of expertise in visual and neurological disorders. She holds a PhD, MSc, and BSc in Optometry from the University of Melbourne, along with a Postgraduate Certificate in Ocular Therapeutics. Her research focuses on enhancing clinical assessment tools, particularly visual field testing and its integration with ophthalmic imaging, targeting conditions such as glaucoma, diabetic retinopathy, macular degeneration, and neurological disorders like migraine and visual snow syndrome. Professor McKendrick emphasizes real-world functional outcomes in vision care. She is a Professorial Fellow at the University of Melbourne, Vice-President of the Imaging and Perimetry Society, and serves on editorial boards for Vision Research and Translational Vision Science & Technology.

New ways to look at visual assessment: Connecting the dots between structure and function

Connecting structural change to functional change is critical to making correct clinical decisions in the detection and following of people with glaucoma. Most commonly, this involves linking visual field assessment to optical coherence tomography or retinal photography. This talk will discuss key approaches used and highlight challenges encountered. Key topics include: variations of individual anatomy; the sparse nature of some visual field testing grids; why using both OCT and photography is important; and will highlight specific considerations to consider when evaluating central visual loss in glaucoma.

Prof. James Wolffsohn

Professor
Aston University, Birmingham, England, The UK

Professor James Wolffsohn is Dean of the School of Optometry and Audiology at Aston University, where he has been a faculty member since 2000. He holds an Optometry degree from the University of Manchester, completed training at Moorfields Eye Hospital, and earned a PhD from Cardiff University. His research focuses on ophthalmic instrumentation, myopia management, contact lenses, intraocular lenses, presbyopia, and tear film. A National Teaching Fellow, he has published over 360 peer-reviewed papers and presented internationally. Professor Wolffsohn serves as academic Chair of the British Contact Lens Association (BCLA), having previously been its President, and chaired the BCLA's CLEAR initiative. He is on the Executive of the Tear Film & Ocular Surface Society (TFOS) and contributed to key TFOS reports. As Chief Scientific Officer of the International Myopia Institute, he co-chaired their influential white papers. His honors include the BCLA Medal (2021), AoA Glenn Fry Award (2022), and AAOptom CCLRT Founders Award (2024).

IMI Global trends in myopia management attitudes and strategies in clinical practice

Myopia and its increasing prevalence have been acknowledged as a serious health concern by the World Health Organisation. However, despite an increasing volume of research on the topic and new products showing evidence of myopia control, it is known to take a while for this to impact clinical practice. This paper will summarize changes in attitudes towards and practice of myopia management since 2015 from survey data collected globally every couple of years. The International Myopia Institute's (IMI) mission is to advance research, patient management and education in myopia to prevent future vision impairment and blindness associated with increasing myopia by stimulating collaboration and sharing of knowledge. This presentation will allow practitioners to benchmark their own practice and to understand how myopia control treatments and strategies are being applied in the real-world.

Inclusive Optometry: Best practices for Persons with Disabilities

August 16, 2025
Prof. Jay M Enoch Hall – 09:00 AM - 11:00 AM
Moderator: Dr Ramya S

Dr Bhavani Iyer

Director & Associate Professor
Dan Arnold Center for Vision Rehabilitation Ruiz
Dept. of Ophthalmology and Vision Science, Houston, The USA

Dr. Bhavani Iyer, OD, FAAO, is a nationally recognized low vision specialist with over 28 years of experience. She serves as Director of the Dan Arnold Center for Vision Rehabilitation and Associate Professor at McGovern Medical School, UT Health Houston. A Low Vision Diplomate of the American Academy of Optometry, she earned her OD from the Michigan College of Optometry and a Bachelor's in Optometry from the Elite School of Optometry in India. Dr. Iyer has led clinical innovations in visual rehabilitation, incorporating adaptive computer training, driving simulation, and daily living skills into patient care. Her work addresses vision loss from macular degeneration, glaucoma, diabetic retinopathy, stroke, and other conditions. Supported in part by the SightFirst grant, she has expanded access to comprehensive care. Dr. Iyer has held key roles at Henry Ford Health Center, Lyndon B. Johnson County Hospital, and UT Health since 2007, solidifying her leadership in low vision care.

Holistic Rehabilitation: Multi-Disciplinary Approaches for Persons with Disabilities in Developed Countries

Vision impairment affects more than just eyes. It affects visual function which affects how the human interacts with the environment, with those around him and copes with the vision loss. This talk takes a wholistic approach to vision rehabilitation that is observed in the United States- from the low vision specialist to the social worker and ways to integrate the various disciplines into your practice.

Dr Prema K Chande

Head of Department, Lotus College of Optometry
Mumbai, Maharashtra

Dr. Prema K. Chande is a distinguished optometrist with over 30 years of experience. A graduate of the Elite School of Optometry (1992), she holds a PhD from Chitkara University and is a Diplomate in Public Health from the American Academy of Optometry. Since 2000, she has been Head of the Department at Lotus College of Optometry and serves as a Consultant Optometrist at Roshni Eye Care. Dr. Chande has led major community eye health initiatives, including Sight for Kids and the Mumbai Childhood Blindness Program. She is a board member of the Optometry Confederation of India and ICU2 Foundation and sits on the State Commission for Allied and Healthcare Professionals for Optometry. Recognized for her contributions to education and eye care, she has received awards such as International Educator of the Year for Asia Pacific (IACLE, 2016), Excellence in Ophthalmology and Vision (Novartis, 2017), Best Optometrist of the Year (Elite School of Optometry, 2018), Lifetime FIACLE (2019), and the Outstanding Woman Award by Rotary Club Mumbai West (2024).

Empowering Lives: Crafting customized Rehabilitation for Persons with Disabilities in India

Rehabilitating people with visual impairment involves a holistic, person-centered approach to help them regain independence, integrate socially, and improve quality of life. Rehabilitation also follows Maslow's hierarchy of needs. Persons with disabilities are no different and have similar physical, physiological, emotional, and psychological needs.

In the present situation in India, very few cities have all rehabilitation services under one roof for persons with disabilities. The Government has district early intervention centers for children below 6 years of age, which are also not fully operational in all districts. Rehabilitation is a multidisciplinary process with teams including healthcare professionals like Optometrists, rehabilitation specialists, clinical psychologists, etc.

Literature review of best practices and WHO guidelines indicates the need to develop more community-based rehabilitation, so that not just eye and vision care is provided, but to integrate accessibility in all aspects, and make education, vocations, public transport, and places of entertainment all-inclusive to differently abled populations. A strategy for crafting a customized rehabilitation plan should ensure continuity of care throughout all stages of life, from childhood to adulthood, aiming to prepare them for the challenges they would face at different stages of life. This holistic approach ensures that their physical, physiological, emotional, and psychological needs are met, allowing them to regain independence, integrate socially, and improve their quality of life.

Dr. Krishna Kumar R

Advisor
Dept. of Optometry, Sankara Nethralaya,
Chennai, Tamil Nadu

Dr. Krishna Kumar Ramani is a distinguished optometrist and educator from Chennai, India, with over 30 years of experience in clinical practice, education, and public health. He earned his undergraduate, M.Phil., and Ph.D. degrees from the Elite School of Optometry, BITS Pilani, along with a Master's in Psychology and a Fellowship in British Dispensing Optics (FBDO). Dr. Ramani served as Head of Optometry at Sankara Nethralaya for seven years and Principal of the Elite School of Optometry for sixteen years. He currently mentors Occupational Optometry Services and teaches as visiting faculty. Actively engaged in community eye care, he contributes to Sankara Nethralaya's DEED program, providing eye care to the elderly and special needs individuals at home. He helped establish the Optometry Fellowship at Aravind Eye Hospitals. With 32 peer-reviewed publications and two books, his research focuses on falls prevention, low vision, and occupational optometry. Dr. Ramani also serves on national optometry curriculum and professional councils, advancing education and eye care in India.

Breaking Barriers in Eye Care: Advancing Inclusive Optometry for the Underserved

Disparities in access to quality eye care have long persisted, reflecting broader systemic inequities embedded within global and regional healthcare systems. These inequities are evident not only between countries but also within regions of a single nation, such as India, where socio-economic, cultural, and geographic barriers continue to affect service delivery.

The Tanahashi Framework provides a valuable lens for analyzing such disparities, outlining five critical dimensions—availability, accessibility, acceptability, contact, and effectiveness—that determine the quality and coverage of health services. Despite ongoing efforts by governments, NGOs, and professional bodies, significant service delivery gaps persist, particularly in reaching marginalized and high-risk populations.

This presentation advocates for a grassroots, practitioner-led model of inclusive optometry. It highlights the pivotal role individual optometrists can play in identifying and reaching underserved groups within their communities, and delivering targeted, need-based eye care. Groups who may be unintentionally excluded from conventional care pathways include: Elderly family members or dependents of existing patients, people with physical or intellectual disabilities, students in traditional Gurukulam or informal education settings, residents of psychiatric rehabilitation centers or mental health asylums, individuals experiencing homelessness or extreme poverty, migrant laborers and their families and people living in geographically isolated rural or tribal areas
By proactively identifying and addressing the unmet eye care needs of these groups, optometrists can play a transformative role in advancing health equity and sustainable service delivery. This aligns with the WHO's objectives under the Integrated People-Centered Eye Care (IPEC) framework and supports global efforts to achieve Universal Health Coverage (UHC).

Delegates will be encouraged to reflect on the impact of localized, practitioner-driven initiatives and explore how inclusive optometric practices can be integrated into routine care to ensure that no one is left behind in the journey toward universal eye health.

Mr Ramu Muthangi

Founder, CEO & CTO – SHG Technologies Pvt. Ltd.

RamuMuthangi is the Founder, CEO, and CTO of SHG Technologies Pvt. Ltd., Bengaluru, and a recognized social innovator dedicated to empowering the blind and visually impaired through technology. He developed the Smart Vision Glasses, a wearable device that uses AI and AR to assist with reading and navigation. His impactful work earned him the prestigious Aarohan Social Innovation Award from the Infosys Foundation.

Vision Reinvented: Innovative Tools Enhancing Inclusion and Efficiency at Work

Creating inclusive and efficient work environments requires reimagining how individuals with visual impairments access and interact with information. This talk explores two transformative assistive tools: a wearable device for the blind that uses AI and computer vision to support reading, navigation, and spatial awareness; and a low vision companion that enhances brightness, contrast, and text clarity to aid individuals with residual vision. These technologies address the full spectrum of visual impairment, from total blindness to low vision, ensuring that no one is left behind. By enabling greater independence and confidence, they help individuals contribute more effectively in professional settings, where inclusion and productivity must go hand in hand.

Novel perspectives and questions in promoting pediatric eye health

August 16, 2025
Padma Bhushan Dr S S Badrinath Hall – 11:00 AM - 1:00 PM
Moderator: Ms Ambika C

Dr Aparna Raghuram

Director of Optometry, Boston Children's Hospital
Assistant Professor, Harvard Medical School
Massachusetts, The USA

Dr. Aparna Raghuram, OD, PhD, is a leading clinician-scientist in pediatric vision care, serving as Director of Optometry at Boston Children's Hospital and Assistant Professor of Ophthalmology at Harvard Medical School. She earned her OD from the New England College of Optometry, a PhD in Vision Science from the University of Missouri–St. Louis, and completed a pediatric optometry residency at NECO. Her research focuses on amblyopia, strabismus, cortical visual impairment, learning disabilities, visual attention, concussion, and vision rehabilitation. A recipient of several prestigious awards—including the 2018 Knights Templar Award and 2024 Faculty Innovated Research Award—Dr. Raghuram has played key roles in the Pediatric Eye Disease Investigator Group (PEDIG) as Vice Chair and Lead Recruiter. She secured her first independent grant to study learning disabilities and has published in JAMA Ophthalmology. Her leadership and collaborations reflect a strong commitment to advancing pediatric eye health and clinical research.

Leveraging PEDIG insights for Enhanced Pediatric Eye care

The Pediatric Eye Disease Investigator Group (PEDIG) is a collaborative network, formed in 1997 and supported by the National Eye Institute. Its mission is to facilitate multicenter clinical research in strabismus, amblyopia and other eye disorders that affect children. PEDIG has led many of the most influential multicenter clinical trials in pediatric eye care, significantly shaping how visual conditions in children are diagnosed, treated, and monitored. Optometrists play a vital role in the early detection and ongoing management of these conditions, and this session will highlight how PEDIG findings can be effectively integrated into optometric practice to support evidence-based care. The session will focus on PEDIG's major contributions to the management of amblyopia and intermittent exotropia, two of the most prevalent and clinically significant pediatric eye conditions. We will review key studies that have guided amblyopia treatment, including comparisons between patching and atropine, optimized dosing strategies, treatment efficacy in older children, and strategies to reduce recurrence. Emerging evidence on dichoptic and binocular treatment approaches will also be discussed, with an emphasis on their clinical potential and current limitations. For intermittent exotropia, we will summarize PEDIG's findings on natural history, risk factors for progression, and the comparative effectiveness of surgical versus non-surgical management. Practical guidance for referral timing and co-management will be emphasized.

The session will conclude with a brief overview of PEDIG's work on pediatric cataract outcomes and retinopathy of prematurity, followed by clinical takeaways and practical tools to help optometrists apply PEDIG evidence in everyday pediatric care.

Dr Premnandhini S

Vision Scientist
LVPEI
Hyderabad, Telangana

Dr. Prem Nandhini Satgunam is a distinguished vision scientist and clinician specializing in pediatric and binocular vision. She completed her bachelor's in optometry at the Elite School of Optometry, Sankara Nethralaya, earning the Best Outgoing Student award. She holds an MS and PhD in Vision Science from The Ohio State University and completed a postdoctoral fellowship in vision rehabilitation at Harvard Medical School's Schepens Eye Research Institute. Currently, Dr. Satgunam is a Scientist at the Brien Holden Institute of Optometry and Vision Sciences, LV Prasad Eye Institute, Hyderabad. Her research focuses on innovative visual function assessments for children with special needs, including the development of the Pediatric Perimeter to measure visual fields in infants and children with developmental challenges. She has received notable awards such as the Minnie Flaura Turner Memorial Award and the ARVO Foundation's Pfizer Ophthalmics Carl Camras Translational Research Award in 2022. She is also recognized as a Notable Centennial Alumna of Ohio State University College of Optometry.

Functional vision assessment for Pediatrics

Parents notice and report functional vision difficulties in their child (e.g. bumping into objects, not able to localize and pick a toy etc.). While there are standardized tools for measuring visual functions (e.g. visual acuity, stereoacuity etc.) there are no standardized tools for measuring functional vision. It also seems implausible to have standardized tests for various different functional visual activities in daily life. The gap between functional vision and visual function can be reconciled by looking at the correlation between these two parameters. However, some studies have shown poor correlation between the two. Hence, the need to explore some functional vision tasks remains. In this presentation functional vision in the context of amblyopia and in special needs will be discussed. Specifically, study results from visual search task and eye-hand coordination task will be discussed.

Dr N Anuradha

Principal
Elite School of Optometry, Chennai, Tamil Nadu

Dr. Anuradha Narayanan is the Principal of the Elite School of Optometry (ESO) at Sankara Nethralaya, Chennai and Kolkata, India. She leads school eye health and community optometry initiatives, focusing on large-scale vision screening and public health research. An alumna of ESO, she holds a Ph.D. in Community Optometry, an M.Sc. in Psychology, a PG Diploma in Health Economics, and is a Diplomate in Public Health and Environmental Vision from the American Academy of Optometry. Since 1998, she has served Sankara Nethralaya in various roles, including heading the optometry division of the LASIK clinic. With over two decades of teaching experience, she supervises Master's and Doctoral students, collaborating with national and international universities. Dr. Narayanan has secured 15 major grants for school vision screening projects, contributing to numerous publications and international collaborations. She played a pivotal role in the REACH project, screening 1.8 million children, and leads the "Experience Vision" initiative under the Optometry Council of India. Her accolades include the "Best Researcher in Optometry" and "Optometry Contribution to Public Health Award" (2021). She also headed the Limca national record by screening 8,469 children in a single day.

Through the Eyes of SN SEES: Uncovering India's Paediatric Vision Burden

India bears a significant share of the global paediatric vision burden, yet the scope and nature of this challenge have remained under-researched and often under-addressed. The Sankara Nethralaya School Children Eye Examination Study (SN SEES), led by the Elite School of Optometry, stands as one of the most comprehensive efforts to systematically document, analyse, and respond to this issue through a research-driven public health lens.

Over more than a decade, SN SEES has screened over 600,000 children across rural, semi-urban, and urban settings. The findings, published in numerous peer-reviewed journals, have consistently revealed a high prevalence of uncorrected refractive errors, binocular vision anomalies, and emerging concerns related to screen exposure and near-work demands. The study also brings to light significant disparities in access to care, differences in visual health outcomes across regions, and behavioural patterns influencing spectacle uptake and follow-up care

The program's research has explored the associations between vision and academic performance, the challenges of spectacle uptake, and the rising influence of digital screen exposure on visual development. It has also validated scalable, community-based models of school eye screening and demonstrated how trained optometry students and community volunteers can be effective in primary vision care delivery.

This keynote will trace the evolution of SN SEES as both a scientific study and a public health movement. It will reflect on how the program's findings have informed optometry education, shaped community practices, and contributed to the formulation of school eye health policies. Above all, it will share how an academic institution like the Elite School of Optometry has built a unique bridge between research, service, and advocacy to ensure that every child not only sees the world clearly—but is truly seen by the system.

Workplace Wellness: The Role of Optometry in Vision, Posture, and Mental Health

August 16, 2025
Prof. Jay M Enoch Hall – 11:30 AM - 01:00 PM
Moderator: Ms Janani S

Dr Madhan Thiruvengada

Senior Consultant in Trauma and Orthopaedics, Apollo Hospitals,
Chennai, Tamil Nadu

Dr. Madhan Thiruvengada Dr. Madhan Thiruvengada is a Senior Consultant in Trauma and Orthopaedics at Apollo Hospitals, Chennai. With advanced training in arthroscopic surgery, robotic joint replacements, and sports injury management, he has extensive experience across leading hospitals in the UK and India. He holds qualifications from Edgehill University, the Royal College of Surgeons, and Dr. MGR University. Dr. Madhan has pioneered fast-track joint replacement protocols in India and is actively involved in teaching, research, and international collaborations. He is passionate about delivering patient-focused care and advancing orthopaedic practices through innovation and education.

Spotting Musculoskeletal issues – A Quick guide to Optometrist

Musculoskeletal disorders (MSD's) are a growing concern across various occupational settings, often stemming from prolonged static postures, repetitive tasks, and poor ergonomics. Optometrists, both as healthcare providers and professionals working in ergonomically demanding environments, are well placed to recognize early signs of MSK strain—not only in their patients but also within workplace contexts. This session aims to emphasize the optometrist's role in identifying potential MSK issues, promoting ergonomic awareness, guiding preventive strategies, and collaborating with other health professionals for timely referrals. By integrating musculoskeletal health into daily practice and workplace conversations, optometrists can contribute significantly to overall occupational wellness.

Dr Prabash Prabhakaran

Neurologist
Apollo speciality hospitals,
Chennai, Tamil Nadu

Dr. Prabash Prabhakaran is a skilled neurologist with expertise in managing complex neurological disorders. He completed his MBBS and MD in General Medicine from Raja Muthiah Medical College, Annamalai University, followed by a DM in Neurology from Sri Ramachandra Medical College, Chennai. Currently, he practices as a consultant neurologist at Apollo Specialty Hospital, Vanagaram, and Rakshith Hospital, Valasaravakkam. His clinical focus includes neuromuscular disorders, epilepsy, and stroke management, emphasizing evidence-based, compassionate care. Beyond clinical work, Dr. Prabhakaran mentors neurology trainees and regularly presents at national and international conferences. He is active in community outreach, promoting stroke prevention and Parkinson's disease awareness. Collaborating with international organizations, he contributes to innovations in neurological care. Dr. Prabhakaran is a respected member of the Indian Academy of Neurology and the American Academy of Neurology, recognized for his research and dedication to advancing neurology education and accessible healthcare., a published researcher, and a peer reviewer for international journals, known for delivering evidence-based, high-quality care in complex upper limb conditions.

Mental health and wellness at workplace: Role of Optometrists

This session will explore the rising concerns around mental health in the workplace, with a focus on burnout, shift work, sleep disorders, and cognitive fatigue. Drawing from his neurological expertise, the session will also focus on how occupational stress impacts brain function and emotional well-being. Special emphasis will be placed on the unique role optometrists play—particularly those in occupational optometry—in identifying early signs of mental health concerns during routine assessments. The session will also highlight the need for interdisciplinary collaboration and share practical strategies to promote mental wellness among workers, along with essential tips for optometrists to protect their own mental health in clinical practice.

Dr Sunder S

CEO and Chief Ergonomist
Prem Ergo Solutions
Chennai, Tamil Nadu

Dr. S. Sunder is a distinguished expert in Physical Medicine, Rehabilitation, and Occupational Health with an M.D. in Physical Medicine and Rehabilitation and specialized training in workplace ergonomics from the University of Michigan. Since 1988, he has been an active member of the Indian Association of Occupational Health, serving as Secretary and President of its Tamil Nadu branch, and chairing national conferences. Founder and CEO of Prem Ergo Solutions since 1998, he has conducted over 500 ergonomic programs, designing workstations for major IT and industrial companies across India, including Sankara Nethralaya, Tata Steel, and Dell India. Formerly Head of Physical Medicine and Rehabilitation at Global Hospitals and Director of MIOT Rehab Center, he is the only Indian author of a professional textbook on Rehabilitation Medicine and MCQ guides. Dr. Sunder has received numerous national and international awards, including the Best Doctor award (2003) and President's Award for Social Service (2008), recognizing his significant contributions to rehabilitation and occupational health.

Optimizing Ergonomics in the Ophthalmic Workplace: Enhancing Comfort and Efficiency for Better Patient Care

Long hours, repetitive tasks, and poor workstation setups are silently impacting the health and efficiency of optometrists. This session addresses the growing risk of work-related musculoskeletal disorders in clinical eye care environments. Through real-world examples and case insights, we'll explore how poor posture, inadequate seating, screen height mismatches, and arm overuse affect performance and long-term well-being. The talk will focus on recognizing early warning signs of ergonomic strain, identifying high-risk clinical tasks, and implementing simple, sustainable interventions. A must-attend for practitioners, educators, and administrators aiming to build healthier, more supportive clinical spaces for eye care professionals.

Dr Rashima A

Head- Occupational Optometry Services and
Vision enhancement Clinic, Sankara Nethralaya
Professor- Elite School of Optometry
Chennai, Tamil Nadu

Dr. Rashima Asokan leads the Occupational Optometry Services and Vision Enhancement Clinic at Sankara Nethralaya, a leading tertiary eye hospital in India. She holds a PhD in Optometry from the Elite School of Optometry, BITS Pilani, and is a professor there. Dr. Asokan and her team provide eye care primarily to industrial employees and unorganized sector workers, focusing on preventive eye care and supplying safety/protective spectacles through CSR collaborations with NGOs. She specializes in establishing vision standards for various occupations and is deeply involved in occupational eye health for underserved populations. An active researcher, Dr. Asokan has presented widely at national and international forums and received multiple awards, including the Young Scientist Award (2018), Golden Jubilee Awards (2018, 2023, 2024), Best Case Report Award by the Optometry Council of India (2020), and the Dr. CK Ramchandar Centenary Award (2024). She is also a recipient of the Endeavor Executive Fellowship (Australia) and a Glaucoma Foundation research grant. Her research interests include occupational ocular disorders, glaucoma, environmental eye effects, and innovative optometry education.

Eye and vision care optometry consultations to workplace - From Insights to Impact

Workplace environments today expose individuals to a wide range of visual demands and hazards—ranging from prolonged screen use in corporate offices to high-risk visual tasks in manufacturing and construction. Despite these challenges, vision care continues to receive limited attention within occupational health frameworks. This talk explores the critical and expanding role of occupational optometrists in delivering comprehensive eye and vision care directly to the workplace, thereby translating clinical insights into impactful occupational health interventions.

Through workplace consultations and on-site screenings, occupational optometrists are uniquely positioned to identify and address a spectrum of vision-related concerns, including uncorrected refractive errors, digital eye strain, visual fatigue, suboptimal lighting, poor ergonomic practices, and inappropriate or underutilized eye protection. These consultations often reveal underlying systemic issues that impact both employee well-being and productivity, offering a valuable entry point for broader workplace health improvements.
Drawing from field experiences, real-world case studies, and collaborative models across industries, the talk highlights how occupational optometrists contribute to developing job-specific vision standards, customizing visual aids, promoting spectacle compliance, and advocating for eye safety policies tailored to the demands of different occupational settings. By aligning their clinical expertise with the functional requirements of various work roles, optometrists play a key part in reducing work-related visual discomfort, preventing injuries, and enhancing overall occupational performance.

The talk underscores the importance of integrating eye care into routine workplace health programs and demonstrates how such efforts can foster a culture of preventive care, equity in access to vision services, and sustainable workforce health. By reframing workplace optometry from a screening activity to a strategic occupational health intervention, this talk positions the occupational optometrist as a pivotal agent in transforming insights into long-term impact.

Myopia: Prevent, Predict and Protect!

August 16, 2025
Padma Bhushan Dr S S Badrinath Hall – 01:30 PM - 3:00 PM
Moderator: Ms Amirthaa M

Prof. Padmaja Sankaridurg

Head
Global Myopia Management
ZEISS Vision Care
Conjoint Professor at University of New South Wales
Australia

Prof. Padmaja Sankaridurg, B.Optom, PhD, is a globally acclaimed expert in myopia management and refractive error research. She serves on the Board of Trustees for the ALOKA Foundation and ZEISS VisionCare and is a Conjoint Professor at UNSW Sydney's School of Optometry and Vision Science. Beginning her career at the Elite School of Optometry, she earned her PhD from UNSW in 1999 and a Master's in Intellectual Property in 2012. Prof. Sankaridurg has held leadership roles at LV Prasad Eye Institute, the Vision CRC, and the Brien Holden Vision Institute, leading myopia programs and intellectual property portfolios. With over 100 publications, 83 presentations, 15 book chapters, and 17 patents, she is renowned for her contributions to myopia control and clinical translational research. Awards include the 2023 Bernard Gilmartin Award, Optometrist of the Year (2020), and the Garland W. Clay Award. She also served on the International Myopia Institute advisory board from 2015 to 2022.

Decoding global prediction models: Insights and implications

The global myopia epidemic represents one of the most pressing public health issues of our time. Data indicates that presently, nearly 30% of the world's population is myopic and estimates indicate the prevalence will escalate to affect nearly 50% of the world's population by the year 2050. In this presentation, a comprehensive analysis of the estimations will be presented by disaggregating the data to examine regional and age-related trends. These projections will be compared with emerging evidence to understand the current stage. The clinical implications of myopic epidemic are significant. The talk will explore how the demographic shift will impact clinical practice patterns, requirements in terms of resources and the growing need for myopia management strategies.

Prof. Hema Radhakrishnan

Professor of Vision Sciences
University of Manchester

Prof. Hema is a Reader in Optometry and Associate Dean for Social Responsibility in the Faculty of Biology, Medicine & Health at the University of Manchester. A registered UK optometrist, her research focuses on accommodation, myopia, and physiological optics. She completed her PhD in 2003 on how optical factors influence visual function in myopia. Since then, she has published over 80 peer-reviewed papers and contributed to more than 200 conference presentations. Dr. Hema has received prestigious accolades for her research, including the Neil Chairman Medal from the College of Optometrists (2015) and the inaugural Bernard Gilmartin OPO Award (2011) for her outstanding work in ophthalmic and physiological optics. An academic at the University of Manchester since 2005, she is actively involved in teaching optometry students and continues to lead innovative research in physiological optics and anterior eye studies. Her role also emphasizes social responsibility within health education and research.

Navigating critical evidences - Streamlining key insights for independent practices

As the landscape of myopia management evolves rapidly, independent practitioners face the dual challenge of staying abreast of emerging evidence while tailoring interventions to their unique clinical settings. This talk aims to summarise the current understanding of the myopia control landscape and bridge the gap between academic research and real-world application of myopia control. By focusing on evidence and management modalities that are both clinically relevant and contextually adaptable, this talk will aim to enable practitioner to make patient-centred decisions.

Dr Dharani Ramamurthy

Professor , Dept. of Optometry
SRM Medical college Hospital and Research Centre,
Chennai, Tamil Nadu

Dr. Dharani Ramamurthy is a Professor of Optometry at SRM Medical College and Research Centre, SRM Institute of Science and Technology, Chennai. She holds a PhD in Optometry and Vision Science from Anglia Ruskin University, UK, and a Bachelor's degree from the Elite School of Optometry, BITS Pilani. With over 25 years of experience, she is an expert in myopia research, focusing on refractive error development, behavioral and optical interventions, and accommodation-related visual functions. Her postdoctoral work at the National University of Singapore explored pediatric eye care from a public health perspective. Dr. Ramamurthy has led multiple research projects, including SERB-funded innovations like smart spectacles for myopia control. Her work is widely published in high-impact journals, and she serves as a reviewer for top-tier publications such as Investigative Ophthalmology & Visual Science and Scientific Reports. Recognized with awards like the OPO Bernard Gilmartin Award, she continues to shape global advancements in vision science.

Clearing the path: Effective myopia management strategies in India

Childhood myopia is regarded as a significant public health concern, with a drastic change and upsurge in its prevalence. Projections estimate that 50% of the global population will be affected by myopia by the year 2050. In India too, the prevalence of myopia is predicted to increase to 38.89% in 2030, 40.0% in 2040, and 48.14% in 2050. It is important that the progression of myopia be controlled to reduce the incidence of blinding ocular complications later in adulthood. Evidence based clinical practice integrated with appropriate intervention strategies is essential to combat myopia. There is an increasing awareness among Indian eye care practitioners on the importance of myopia management strategies and techniques. There is an emerging trend to prescribe 0.01% or 0.05% atropine eye drops for myopia control followed by orthokeratology and peripheral defocus incorporated spectacles. Randomized Controlled Trials using advanced technologies like Extended Depth of Focus contact lenses are also quite promising for myopia control in Indian children. Combination treatment is gaining momentum along with strategies for behavioral and lifestyle modifications. Myopia advocacy is also evolving to increase awareness among other stakeholders including parents, children and teachers, through awareness videos, school vision screenings and public talks by myopia experts.

Dr. Kunal Srivastava

Director Medical & Professional Affairs
EssilorLuxottica, India

Dr. Kunal Srivastava has done MBBS, MD (Pharma), MBA (Manipal), International course in Health Research Methodology & Evidence Based Medicine from St. John's Bangalore & McMaster University Canada & Advanced Certifications from Harvard, Cleveland Clinic & Royal College of Physicians.
A seasoned medical professional with over 14 years of experience with a well-rounded career path, encompassing clinical practice, research, and medical affairs across MNCs (Novo Nordisk, Twin Health) & Indian pharma (Wockhardt).
Proficient in Clinical & systemic pharmacology, research & clinical trials, medico-marketing, regulatory approvals, pharmacovigilance.
Passion for research evidenced by 5 international publications, Investigator in 3 clinical trials, 17+ original research studies.
Co-authored chapter in 'ER-A ready reckoner for emergency room' 2025.

Essilor Sponsor Talk: H.A.L.T. Technology in Practice: Real-World Insights, Patient Education & Adoption.

Dr Pavan Kumar Verkicharla

Scientist, Myopia Research,
Head & Consultant Optometrist - The Myopia Centre (prevention and control)
Kallam Anji Reddy Campus, Hyderabad

Dr Pavan Verkicharla is the Scientist researching on both basic and translational aspects of myopia at the myopia research lab in L V Prasad Eye Institute, India. Pavan pursued Ph.D from the Queensland University of Technology, Australia and post-doctoral research from Singapore Eye Research Institute, Singapore. He has numerous publications in international peer-reviewed journals in the field of myopia and has multiple international collaborations. He returned to India after gaining post-doctoral experience to establish a full-fledged exclusive myopia research lab in India. He continues his passion in myopia research and invests more time understanding pathophysiology of myopia and developing cost-effective anti-myopia strategy that can be used worldwide. He is a committee member and an ambassador for International Myopia Institute and serves as a reviewer for various optometry/ophthalmology scientific journals. Dr Pavan Verkicharla is a recipient of the prestigious "Bernard Gilmartin Award" from college of optometrists, UK and the "INSPIRE Faculty Award" from the DST-Government of India. He holds grants from both private organizations and the government of India for researching various aspects of myopia through a holistic approach. Besides, Dr Pavan heads 'The Myopia Centre' at the LVPEI where they actively provide various anti-myopia strategies.

Understanding Myopia Progression & Early Detection in Clinical Practice. Key Signs and Screening Strategies for Optometrists.

23rd Dr E Vaithilingam Memorial Scientific Session

August 16, 2025
Prof. Jay M Enoch Hall – 02:00 PM - 3:30 PM
Moderator: Dr Krishna Kumar R

Dr. E. Vaithilingam, fondly known as Dr. EV, was a pioneer in Indian optometry. He served as Principal of the Elite School of Optometry (ESO) from 1991 to 2001. Prior to that, he was a faculty member at Banaras Hindu University's Department of Ophthalmology and held key roles at Sankara Nethralaya, including chief director of clinics, contact lens consultant, and Head of Low Vision Services. Dr. EV was twice President of the Indian Optometric Association and served on several professional bodies, including the Indian Contact Lens Society and the Indian Optometric Association's Executive Committee. He was the first Indian Fellow of both the International Association of Contact Lens Educators (1996) and the American Academy of Optometry (1998). He also contributed to the Indian Contact Lens Journal editorial board. In 1992, Dr. EV initiated World Optometry Day celebrations, an annual event promoting eye care awareness in India, which continues to grow. Known for his technical expertise, innovation, and passion, he published over 100 research papers and helped establish ESO's international reputation. He was a dynamic Head of School until his demise.

Dr. EV was highly respected by his colleagues both in India and all over the world, and deeply admired by his students, who will cherish his valuable guidance for many years. He is ever remembered as one of the pioneers of modern optometry in India. To bring his dream into reality, an annual scientific session was started in memory of Dr. EV in 2002. Management of Medical Research Foundation, Optometry staff and students of ESO created an endowment in his name and so far 18 successful sessions had been organized with innovations being added every year that has gained popularity among Indian optometrists and optometry students as a platform to showcase their scientific work. Elite School of Optometry (ESO) has been encouraging optometry research in India for the last few years in many ways. One of the main activities of ESO in this regard is the annual conference on vision science and optometry. In 2002, in memory of the late Principal Dr. E. Vaithilingam, ESO initiated a national scientific session to encourage optometrists and optometry students from all over India to present their research work. Every year, the quality and quantity of presentations have been increasing exponentially.

Dr Charanya Ramachandran

Scientist
Center for Ocular regeneration
LVPEI, Hyderabad,Telangana
Professor at Brien Holden eye research centre
Australia

Dr. Charanya Ramachandran, PhD, is a Scientist at the Center for Ocular Regeneration, Prof. Brien Holden Eye Research Centre, LV Prasad Eye Institute (LVPEI), Hyderabad, and a faculty member at the Brien Holden Institute of Optometry and Vision Sciences. With over a decade of experience in regenerative medicine, her research focuses on corneal endothelial cell biology, stem cell therapy, and biomaterials for ocular surface reconstruction. She holds a PhD in Vision Science from Indiana University School of Optometry, USA, and a Bachelor's degree in Optometry from the Elite School of Optometry, BITS Pilani. Dr. Ramachandran completed a postdoctoral fellowship at LVPEI's Sudhakar and Sreekanth Ravi Stem Cell Lab. Her contributions include numerous peer-reviewed publications, national and international presentations, and research grants from India's Department of Science and Technology and Department of Biotechnology. A recipient of multiple awards, she remains committed to advancing translational research in ocular regeneration and optometric education.

Lab to clinic! Broadening Ophthalmic Care via basic science research

Diseases of the cornea account for vision loss in millions worldwide. The current standard of care, which involves surgical replacement of whole or affected parts of the cornea, is available only to a small fraction of affected individuals due to the severe shortage of healthy donor tissues. To bridge the gap between the demand and supply of donor tissues, research has focused on engineering the required cell layer using specialized materials. Our group has been involved in developing engineered constructs to treat limbal stem cell deficiency and corneal endothelial loss. My presentation will focus on the progress we have made towards translating research done in the laboratory to the clinic and the outcomes of trials conducted in patients.

Dr Suresh Viswanathan

Dean
Indiana University School of Optometry
Bloomington, Indiana, The USA

Dr Suresh Viswanathan is the Dean of the School of Optometry at Indiana University, Bloomington, and a prominent leader in vision science and optometric education. He earned his undergraduate degree from the Elite School of Optometry, Sankara Nethralaya, followed by postgraduate studies at Pacific University College of Optometry and a Ph.D. from the University of Houston College of Optometry. Dr. Viswanathan began his career as an optometrist in India before transitioning to academia with roles at Indiana University and SUNY College of Optometry, where he also held leadership positions. A Fellow of the American Academy of Optometry and ARVO, he has authored 58 publications with over 3,000 citations. His accolades include the William C. Ezell Fellowship, Outstanding Graduate Student Fellowship, and Indiana University Trustee's Teaching Excellence Award. Dr. Viswanathan is renowned for his dedication to advancing optometric education, research, and public health in vision care worldwide.

Learner to Leader! My Journey in Academia – Trailblazing a Path

This presentation is a reflective narrative that traces the personal and professional experiences that have shaped my growth as an educator, researcher, and academic leader. This talk explores formative moments and insights into how life experiences and transformative opportunities can shape a meaningful academic path.

Enhancing Scope of Optometry and Vision by Integrating Science and Technology Advancements (ESOVISTA) Endowment Session by Dr P P Santanam

August 17, 2025
Padmabushan S S Badrinath hall – 09:00 am - 11:00 am
Moderator: Dr Ramya S

Dr Kabilan Pichaimuthu

Senior Lecturer
Linnaeus University, Sweden

Dr. Kabilan Pitchaimuthu is a Senior Lecturer at Linnaeus University, Sweden, with over 15 years of expertise in optometry and visual perception research. His work explores neural mechanisms of vision after atypical development, healthy aging effects, and the neurochemical basis of visual processing using psychophysics, EEG, and magnetic resonance spectroscopy. He earned his B.Optom and M.Phil from the Elite School of Optometry, receiving the Dr. Srinivasan Award for Best Research Project in 2007, and completed his PhD in Vision Science at the University of Melbourne in 2013. His collaborations with Monash University and the University of Hamburg have resulted in publications in top journals like eLife and Cortex. An experienced educator, Dr. Pitchaimuthu teaches visual optics, sensory perception, and ocular disease, supervising numerous research projects. He is dedicated to combining clinical insights with research innovation to advance vision science and mentor future optometry professionals worldwide.

What Congenital Cataract Cases Teach Us about Visual Brain Development

Bilateral dense congenital cataracts offer a rare yet powerful human model to investigate experience-dependent development of the visual brain. These cases allow us to ask: Which aspects of vision can emerge without patterned visual input, and which rely on early experience? In this talk, I will present evidence from behavioral, electrophysiological, and neuroimaging studies of individuals who experienced transient visual deprivation from birth due to bilateral dense cataracts, with sight later restored through surgery. First, we showed that basic color discrimination emerged even in the absence of early patterned input, suggesting that the development of basic color processing may follow an experience-independent trajectory. Second, steady-state evoked potential markers reveal a dissociation between activity in primary (V1) and extrastriate visual cortex: while V1 responses remain relatively less affected, extrastriate responses are significantly diminished. In addition, this study suggested a sensitive period for developing nonlinear neural mechanisms thought to support visual feature binding. Finally, MR spectroscopy revealed a reduced glutamate/GABA ratio in the visual cortex of sight-recovery individuals, linking the maturation of cortical excitatory/inhibitory balance to early visual experience. Together, these findings point to increasing experience dependent development along the visual processing hierarchy.

Prof. Andrew Turpin

Research Chair of Ophthalmic Data
Lions eye institute and Curtin School Population Health
Australia

Professor Andrew Turpin is the Chair of Ophthalmic Data at the Lions Eye Institute, jointly appointed with Curtin University, where he also serves as a Professor in the School of Population Health. With a PhD in Computer Science from the University of Melbourne, Professor Turpin's research bridges computer science and ophthalmology, focusing on new vision tests and big data for glaucoma, retinal image analysis, AI-driven clinical data systems, and teleophthalmology. His previous academic appointments include roles at the University of Melbourne, RMIT University, and Curtin University, supported by prestigious fellowships including the ARC Future Fellowship and Queen Elizabeth II Fellowship. He was also the Founding Director of the Melbourne Data Analytics Platform and Associate Director at Melbourne Connect. Professor Turpin has published extensively in leading journals on topics such as computational vision modeling, glaucoma diagnostics, and the development of accessible vision assessment technologies. He is a co-author of the book Compression and Coding Algorithms and a key contributor to the Open Perimetry Initiative.

Dr AI in Glaucoma: Choosing the best one!

Artificial Intelligence (AI) has gained significant attention in recent years, promising to revolutionize various aspects of healthcare, including glaucoma diagnosis and management. But what does it really mean for us? In this presentation, we'll demystify AI by reframing it as machine learning, emphasizing the importance of training data and highlighting its strengths and limitations. We'll explore how machine learning can be applied to various tasks in glaucoma, such as image classification, function prediction, and data generation. However, before embracing AI, we must critically evaluate whether it's the right tool for our specific problem-solving needs. We'll discuss three key questions to consider:

1.What am I trying to classify or generate? What problem do I want to solve?
2.Does the required training data exist for my clinic population, and is there potential bias?
3.How would an AI system fit into my clinic workflow, and what audit trails would be necessary?

Finally, we'll examine the environmental and social costs of adopting AI technology in our practices, encouraging a thoughtful and informed approach to integrating AI into our daily work. By the end of this presentation, you'll have a solid understanding of how machine learning can support your glaucoma diagnosis and management needs, and be equipped to make informed decisions about embracing "Dr AI" in your practice.

Dr Sajeesh Kumar

Associate Professor
The University of Tennessee Health Science Center
The United States of America

Dr. Sajeesh Kumar is an Associate Professor at the University of Tennessee Health Science Center, where he chairs the Diversity and Inclusion Working Group for the American Medical Informatics Association and leads the Health Outcomes and Policy Research Ph.D. Program. He also serves as Executive Director of the Institute for Health Outcomes and Policy. Dr. Kumar holds degrees in Public Administration, Optometry (Elite School of Optometry), Medical Informatics, and a Ph.D. in Telemedicine Ophthalmology from the University of Western Australia, complemented by two postdoctoral fellowships. With over 15 years of teaching and research experience and 11 years in clinical practice, he is a Fellow of the American Medical Informatics Association. He has published more than 90 works, including 60+ refereed articles and 7 books with Springer, and presented internationally. His contributions have earned him prestigious awards such as the Global Award for Optometry and Vision Care (2023), AAO Outstanding International Contributions Award (2022), and AHIMA Triumph Award (2016).

Future-Ready Eye Care: Implementing AI, Robotics, and Tele-Optometry

As the global landscape of eye care evolves at a rapid pace, the integration of cutting-edge technologies like Artificial Intelligence (AI), robotics, and tele-optometry is no longer a distant vision but an urgent reality. In this presentation, Dr.Kumar explore the current global trends and challenges that define the future of optometric practice and offer a strategic roadmap to prepare Indian optometrists for this transformation.

We'll delve into how AI is streamlining diagnostics and personalizing patient care, how robotics is making precision refractive surgery and automation feasible even in complex ocular procedures, and how tele-optometry is closing the access gap across rural and underserved regions. We'll also examine the critical need for interoperability across systems, the role of education and training in building a future-ready workforce, and the importance of innovative financing models and public-private partnerships.

Highlighting the Top 5 Future-Proof Areas Indian Optometrists Can Adopt, and an inspiring call to action this session provides a clear and actionable guide to remain competitive and compassionate in the evolving field. Let's shape the next decade of optometry with purpose, innovation, and vision.

Dr Anand Sivaraman

Founding Director
CEO-Remidio

Dr Anand Sivaraman completed his Masters, PhD and Post Doctoral training from MIT in Boston and has built products in the healthcare space, in Tissue Engineering, in vitro Diagnostics, Ophthalmic imaging and use of Digitization to enable Care Gap Closures, over the past 20 years. Anand's philosophy centers on reshaping the healthcare landscape by combining product, delivery, and business model innovations. Furthermore, he advocates embracing the constraints posed by developing nations as opportunities to innovate, thereby creating solutions that are not only scalable and relevant in the developing world, but also highly relevant in the developed economies as well. Through Remidio, he has pioneered innovations that deliver specialist care to primary care and to patient homes. Remidio is not just creating medical devices; it's crafting a revolution in preventive care that hinges on advanced, on-the-edge Artificial Intelligence algorithms and user-friendly point-of-care devices that enable effective screening and management of ocular and systemic diseases.

Dream, design, Deliver: The evolution of a product

How do you build clinically validated, globally scaled medical devices, starting from a modest apartment in Bangalore? This talk traces the 15-year journey of Remidio, a company that blends design, science, and public health vision to build diagnostic solutions that are both cutting-edge and radically accessible. From launching the world's first smartphone-based fundus camera to developing the world's first offline, explainable AI for diabetic retinopathy, Remidio has redefined how eye screening can be delivered, without dependency on internet, or specialists. Today, Remidio's innovations have powered over 16 million screenings across 40+ countries, and its AI is central to Nayanamritham 2.0, the world's first government-led AI screening program for DR, glaucoma, and AMD. Crucially, Remidio also holds the distinction of launching the first CDSCO-approved AI solution in ophthalmology in India. But the journey doesn't stop at preventing blindness. Remidio is now building AI tools that use the retina to detect risks of cardiovascular and kidney disease, turning the eye into a window to systemic health. The vision ahead, not just to prevent blindness, but to prevent death through the eye. This is the story of how bold dreams, principled design, and mission-driven innovation can deliver impact at global scale, especially in the hands of optometrists, technicians, and health workers.

Start, Sustain and Succeed - Independent practice for Women: Panel Discussion

August 17, 2025
Padmabushan S S Badrinath hall – 09:30 AM - 11:00 AM

Learn from women entrepreneurs who've successfully launched and managed independent optometry practices. This panel will offer real-world advice on practice setup, patient retention, work-life balance, and financial management—tailored to inspire and equip aspiring women practitioners.

Moderator: Mr Kumaran R

Founder, CEO, Trinity optics, Chennai, Tamil Nadu
Founder, General Secretary
Optometric Association of Tamil Nanbargal

R. Kumaran is a veteran optometrist with over 40 years of experience in clinical practice, education, and professional leadership. He began his career in 1982 after earning a Diploma in Optometry from Christian Medical College, Vellore, and later obtained B.Sc. and M.Sc. degrees in Optometry from Vinayaka Mission University. He served as Professional Sales Manager and In-House Trainer at Lawrence and Mayo (1984–2000), mentoring many future leaders in the field. In 2000, he founded Trinity Optics & Optometry Eye Clinic in Chennai, offering specialized services like vision therapy, low vision rehabilitation, and pediatric optometry. Kumaran has taught extensively, including roles as Senior Lecturer at CSI Kalyani Hospital and adjunct faculty at the Elite School of Optometry. He is the Founder General Secretary of the Optometric Association of Tamil Nanbargal (OATN) and a life member of major optometric bodies. His accolades include the Lifetime Achievement Award from the Optometry Confederation of India and a Recognition Award from SRIHER.

Ms Lakshmi Shinde

CEO, Optometry Confederation of India
Bangalore, Karnataka

Lakshmi Shinde graduated from Elite School of Optometry, Chennai, India in 1991. Following graduation, she worked at the Contact Lens Department of L.V. Prasad Eye Institute, Hyderabad, India. During her period with the Institute, she was associated with CL clinical research studies. She also was a CL Consultant at the hospital. She completed her Masters in Optometry (through research) from University of New South Wales, Sydney (Australia). She has presented at National and International meetings and also has published peer reviewed journals. During her time with LVP she was also associated with International Association of Contact Lens Educators (IACLE) India meetings when IACLE was launched in 1993-94 in India. Following her completion of Masters, she has been associated with (IACLE) since and is presently the Executive Manager, Global Education. She is also the receiver of the prestigious American Academy award for her contribution to international optometry. She also received the "optometrist of the year" award from Sankara Nethralaya in 2016. She is also the CEO of Optometry Confederation of India (OCI), which is a self-regulatory body for optometry in India. Recently opened a Kids eye care centre and the only practice to have Myopia Master. Recipient of the Gina Sorbara award towards Women leadership at the GLOW meeting in 2024.

Dr Prema K Chande

Head of Department, Lotus College of Optometry
Mumbai, Maharashtra.

Dr. Prema K. Chande is a distinguished optometrist with over 30 years of experience. A graduate of the Elite School of Optometry (1992), she holds a PhD from Chitkara University and is a Diplomate in Public Health from the American Academy of Optometry. Since 2000, she has been Head of the Department at Lotus College of Optometry and serves as a Consultant Optometrist at Roshni Eye Care. Dr. Chande has led major community eye health initiatives, including Sight for Kids and the Mumbai Childhood Blindness Program. She is a board member of the Optometry Confederation of India and ICU2 Foundation and sits on the State Commission for Allied and Healthcare Professionals for Optometry. Recognized for her contributions to education and eye care, she has received awards such as International Educator of the Year for Asia Pacific (IACLE, 2016), Excellence in Ophthalmology and Vision (Novartis, 2017), Best Optometrist of the Year (Elite School of Optometry, 2018), Lifetime FIACLE (2019), and the Outstanding Woman Award by Rotary Club Mumbai West (2024).

Ms Savita B S

Speciality Contact lens practitioner, Eyeful Optometry Clinic
Chennai, Tamil Nadu.

B.S. Savita is the Founder and Director of Eyeful Specialty Optometry Solutions Private Limited and leads Eyeful Optometry Clinic, specializing in advanced eye care services such as myopia management, specialty contact lenses (Rose K, scleral, orthokeratology), vision therapy, occupational optometry, and low vision care. She holds a Bachelor's degree in Optometry from the Elite School of Optometry (Sankara Nethralaya), an MBA, and an M.Phil in Management. With over 15 years of clinical and entrepreneurial experience, Savita has been honored with the Dr. P. P. Santhanam Jayalakshmi Award (2021) and the Lt. Dr. Rajeswari Mahadevan Award (2022). She contributes as an expert panelist for LVPEI's IMPACT Myopia Management Guidelines and represents the ROSE K Center of Excellence for Menicon India. Her entrepreneurial leadership was recognized through a fellowship at IIM Udaipur under the NIDHI Entrepreneur in Residence Program. Savita's work bridges innovation, clinical excellence, and business acumen in the field of optometry.

Ms Daksha Jain

Optometrist-Soni opticians
Visiting Faculty-TSNA
Chennai, Tamil Nadu.

Ms Daksha Jain Soni is an experienced optometrist and educator with over 12 years in optometry education and 6 years in clinical practice. A graduate of the Elite School of Optometry and post-graduate from MGR University, she now practices independently while serving as visiting faculty at The Sankara Nethralaya Academy (TSNA). Her clinical expertise includes specialty contact lenses for ectatic cornea, orthokeratology, myopia control, low vision rehabilitation, vision therapy, and dry eye management. Daksha is passionate about both patient care and teaching, believing that fulfillment in optometry comes from positively impacting both patients and students. She emphasizes the importance of connecting with and engaging Gen Z learners. Navigating the challenges of private eye care practice, she views obstacles as opportunities for growth and skill development. Her commitment to continuous learning and patient-centered care reflects her resilience and dedication to advancing the field of optometry.

Dr Valarmathi A

Assistant Professor
Sri Ramachandra Institute of Higher Education and Research,
Chennai, Tamil Nadu

Dr. Valarmathi Arunachalam is a distinguished optometrist and vision therapist with 25 years of experience in clinical practice and education. She serves as Assistant Professor at Sri Ramachandra Institute of Higher Education and Research (SRIHER), Chennai, where she contributes significantly to optometric education, curriculum development, and clinical training. Her expertise includes vision therapy, myopia management, pediatric optometry, and low vision rehabilitation, focusing on early detection of vision-related learning disabilities. Dr. Valarmathi has introduced innovative teaching methods such as structured clinical assessments and competency-based learning. An active researcher, she has published extensively on visual perception, binocular vision, and ocular health, earning the Chancellor's Award for Best Research Publication. She has also presented at international conferences and authored book chapters on vision therapy. As Clinical Director at PreciEyes, Chennai, she mentors emerging optometrists and advocates for behavioral optometry advancements. Dr. Valarmathi is recognized for her dedication to innovation and shaping the future of vision science.

Mr Ajay Shinde

Optometrist, Shinde eye care, Bangalore, Karnataka.

Mr. Ajay Shinde, FIACLE, is a highly experienced optometrist based in Bengaluru, India, with over 30 years of clinical expertise. He is the founder of Shinde Eye Care Centre, operating from New BEL Road and Yelahanka New Town. His practice focuses on comprehensive eye care, including vision therapy for amblyopia, binocular vision issues, computer vision syndrome, contact lens fitting, and myopia management. Mr.Shinde is especially renowned for his proficiency with specialty contact lenses, including scleral lenses and those for keratoconus management. He holds a Bachelor of Clinical Optometry from SankaraNethralaya (1991) and a Master of Optometry from Lotus College of Optometry (2012). In 2007, he earned the FIACLE designation, recognizing his leadership in contact lens education. Alongside his clinical work, Mr.Shinde has contributed to academia, having lectured at Bangalore West Lions Eye Hospital and currently serving on the faculty at Sankara College of Optometry since 2009.

Publish or Perish - Boosting Your Research's Appeal: Tips That Work

August 17 , 2025
Padma Bushan S S Badrinath Hall – 11:00 AM - 1:00 PM
Moderator: Ms Ashwini V C

Prof. Padmaja Sankaridurg

Head- Global Myopia Management
ZEISS Vision Care
Conjoint Professor at University of New South Wales
Australia

Prof. Padmaja Sankaridurg, B.Optom, PhD, is a globally acclaimed expert in myopia management and refractive error research. She serves on the Board of Trustees for the ALOKA Foundation and ZEISS VisionCare and is a Conjoint Professor at UNSW Sydney's School of Optometry and Vision Science. Beginning her career at the Elite School of Optometry, she earned her PhD from UNSW in 1999 and a Master's in Intellectual Property in 2012. Prof. Sankaridurg has held leadership roles at LV Prasad Eye Institute, the Vision CRC, and the Brien Holden Vision Institute, leading myopia programs and intellectual property portfolios. With over 100 publications, 83 presentations, 15 book chapters, and 17 patents, she is renowned for her contributions to myopia control and clinical translational research. Awards include the 2023 Bernard Gilmartin Award, Optometrist of the Year (2020), and the Garland W. Clay Award. She also served on the International Myopia Institute advisory board from 2015 to 2022.

How do I make my publication attractive

Academic publishing requires thinking and skills beyond expertise in a specific area. Central to writing winning publications is defining the objective early enough in the writing process and decide whether the aim is to report novel findings or synthesising existing evidence or replicating a current method or challenge existing paradigms or to report interesting clinical findings. Thereafter, the content of the manuscript has to be matched to the readership audience of a journal. Writing styles differ across these publication formats and range from a narrative review to a clinical presentation to a more structured, precise writing that abides to statements for randomised clinical trials. This talk with provide the background that will enable the attendees to adapt a framework that they can adapt to write meaningful publications.

Dr Kabilan Pichaimuthu

Senior Lecturer
Linnaeus University, Sweden

Dr. Kabilan Pitchaimuthu is a Senior Lecturer at Linnaeus University, Sweden, with over 15 years of expertise in optometry and visual perception research. His work explores neural mechanisms of vision after atypical development, healthy aging effects, and the neurochemical basis of visual processing using psychophysics, EEG, and magnetic resonance spectroscopy. He earned his B.Optom and M.Phil from the Elite School of Optometry, receiving the Dr. Srinivasan Award for Best Research Project in 2007, and completed his PhD in Vision Science at the University of Melbourne in 2013. His collaborations with Monash University and the University of Hamburg have resulted in publications in top journals like eLife and Cortex. An experienced educator, Dr. Pitchaimuthu teaches visual optics, sensory perception, and ocular disease, supervising numerous research projects. He is dedicated to combining clinical insights with research innovation to advance vision science and mentor future optometry professionals worldwide.

Unlocking Insights: Data Collection and Curation

In the high-stakes world of academic publishing, robust data practices are essential for producing impactful and credible research. This talk, "Unlocking Insights: Data Collection and Curation," explores strategies for conducting publication-ready studies within the demanding "Publish or Perish" landscape. Key topics include an introduction to the FAIR principles (Findable, Accessible, Interoperable, Reusable) to promote transparency and reproducibility in science. The talk will also briefly touch on designing clinically relevant studies, tools for managing clinical data and version control, and best practices for ethical data handling, including informed consent, anonymization, and regulatory compliance. Practical approaches to data curation will be highlighted, such as cleaning data, addressing outliers or missing values, and documenting these processes—along with the use of standardized naming conventions, durable file formats, and public repositories. These topics will be illustrated through examples drawn from Optometry and Vision Science.

Prof. Allison McKendrick

Chair in Optometry Research
The University of Western Australia and Lions Eye Institute
Australia

Professor Allison McKendrick, the Lions Eye Institute UWA Chair in Optometry Research, is a renowned vision scientist and registered optometrist with over two decades of expertise in visual and neurological disorders. She holds a PhD, MSc, and BSc in Optometry from the University of Melbourne, along with a Postgraduate Certificate in Ocular Therapeutics. Her research focuses on enhancing clinical assessment tools, particularly visual field testing and its integration with ophthalmic imaging, targeting conditions such as glaucoma, diabetic retinopathy, macular degeneration, and neurological disorders like migraine and visual snow syndrome. Professor McKendrick emphasizes real-world functional outcomes in vision care. She is a Professorial Fellow at the University of Melbourne, Vice-President of the Imaging and Perimetry Society, and serves on editorial boards for Vision Research and Translational Vision Science & Technology.

Research Paper Rejection? Here's Why and How to Fix It

You have put lots of work into your research and want to tell the world about it. However, publication can be very challenging, requiring resilience and also good planning. Indeed, rejection is a common part of the scientific publication process. This presentation will discuss common pitfalls and how to avoid them, along with strategies for rewriting and resubmitting.

Dedicated Session to (Late) Dr Narasimhan S

Optometry: Evidence-Based Education and Leadership

August 17, 2025
Prof. Jay M Enoch Hall – 11:00 AM - 1:00 PM
Moderator: Ms Amirthaa M

Dr James Armitage

Professor of Optometry, Optometry course
Director and Head of Vision Science
Deakin University, Australia

Dr James Armitage, PhD, FAAO, is the Director of the Optometry Program and Head of Vision Science at Deakin University's School of Medicine. With over 20 years of academic and research experience, he is a leader in optometry education and a prominent figure in Australian vision science. He holds a Bachelor and Master of Optometry and a PhD in Vision Science from the University of Melbourne. His postdoctoral research at King's College London and the Baker Heart and Diabetes Institute explored maternal-fetal health, neuropharmacology, and cardiovascular risk in ocular disease. Professor Armitage has authored over 100 peer-reviewed publications, with key contributions in glaucoma, vascular programming during pregnancy, and the developmental origins of metabolic disorders. Recognized among the top 200 optometry researchers globally, he has held academic positions at King's College London, Monash University, and Deakin University, where he has led the optometry program since 2016. He is a Fellow of both the American and Australian Academies of Optometry.

Empowering Educators: The Intersection of Pedagogy and Faculty Development

Modern Optometry curricula must evolve to equip graduating students with the professional attributes to embrace the challenges of evolving practice patterns and scope. This presentation will describe the development, evaluation and refinement of a vertically integrated optometric program grounded in active learning methodologies. After identifying professional identify and professional capabilities such as communication, evidence-based practice and clinical reasoning as core, rather than soft skills, our faculty have focused on design of a curriculum that introduces students to frameworks that they can use to scaffold their own learning of these crucial capabilities. Constructive alignment of assessment evaluates student competency in core skills and their capacity to integrate discipline specific knowledge with these core skills to enable patient-centred and evidence- based care.

Development of virtual simulation learning opportunities enables students to practice integration skills and to critically reflect on their progress in developing skills in a student-centric manner. Simulation enables students to learn through their mistakes and reflect on ways to improve their core or knowledge/ practice-based skills in a lower stress environment and without compromising patient safety or care.

Dr Rashima A

Head- Occupational Optometry Services and
Vision enhancement Clinic, Sankara Nethralaya
Professor- Elite School of Optometry
Chennai, Tamil Nadu

Dr. Rashima Asokan leads the Occupational Optometry Services and Vision Enhancement Clinic at Sankara Nethralaya, a leading tertiary eye hospital in India. She holds a PhD in Optometry from the Elite School of Optometry, BITS Pilani, and is a professor there. Dr. Asokan and her team provide eye care primarily to industrial employees and unorganized sector workers, focusing on preventive eye care and supplying safety/protective spectacles through CSR collaborations with NGOs. She specializes in establishing vision standards for various occupations and is deeply involved in occupational eye health for underserved populations. An active researcher, Dr. Asokan has presented widely at national and international forums and received multiple awards, including the Young Scientist Award (2018), Golden Jubilee Awards (2018, 2023, 2024), Best Case Report Award by the Optometry Council of India (2020), and the Dr. CK Ramchandar Centenary Award (2024). She is also a recipient of the Endeavor Executive Fellowship (Australia) and a Glaucoma Foundation research grant. Her research interests include occupational ocular disorders, glaucoma, environmental eye effects, and innovative optometry education.

Framing the Future: Integrating Social Accountability into Optometry Curricula

As future eye care professionals, optometry students are taught to examine, diagnose, and manage vision problems. But in today's complex world, being a good clinician also means understanding the bigger picture—like who gets access to eye care, why some communities are underserved, and how we as professionals can make a real difference beyond the clinic walls.

This session introduces the idea of social accountability in optometry education—a concept that encourages us to align our learning with the real needs of society, especially of the underserved and marginalized. It challenges us to ask: Are we learning just to treat patients, or are we also learning to serve communities?

Drawing from global frameworks like the WHO's definition of socially accountable education and interdisciplinary models used in other health professions, this talk explores practical ways in which teaching, learning, and service can be better aligned with the needs of the population. We'll explore how educational programs can integrate:

Community-based learning, where students engage directly with local populations, Inter-professional collaboration, where optometry students work alongside other health professionals to solve complex health issues, Health equity principles, which ensure that care is fair and inclusive for all, Reflective practice, helping students learn not just from books, but also from their experiences and challenges in the real world

Real-life stories, case studies, and student-led projects—both from optometry and broader health education—will be shared to show how this kind of training can be transformative. These experiences help students develop not only clinical competence, but also compassion, cultural sensitivity, and a sense of responsibility toward society.

Ultimately, this session invites students to see their role as more than just eye care providers. It encourages them to become leaders, advocates, and change makers—professionals who bring both vision and purpose to

every patient and community they serve.

Dr Suresh Viswanathan

Dean
Indiana University School of Optometry
Bloomington, Indiana
The USA

Dr Suresh Viswanathan is the Dean of the School of Optometry at Indiana University, Bloomington, and a prominent leader in vision science and optometric education. He earned his undergraduate degree from the Elite School of Optometry, Sankara Nethralaya, followed by postgraduate studies at Pacific University College of Optometry and a Ph.D. from the University of Houston College of Optometry. Dr Viswanathan began his career as an optometrist in India before transitioning to academia with roles at Indiana University and SUNY College of Optometry, where he also held leadership positions. A Fellow of the American Academy of Optometry and ARVO, he has authored 58 publications with over 3,000 citations. His accolades include the William C. Ezell Fellowship, Outstanding Graduate Student Fellowship, and Indiana University Trustee's Teaching Excellence Award. Dr. Viswanathan is renowned for his dedication to advancing optometric education, research, and public health in vision care worldwide.

Crafting a Forward-Looking Optometry Curriculum

This presentation will explore the evolving educational needs of optometry in a rapidly advancing healthcare landscape. This talk will outline a strategic approach to designing a curriculum that integrates clinical excellence, scientific rigor, and emerging technologies, with an emphasis on interdisciplinary learning, patient-centered care, and global relevance. It will also address the distinct contexts of optometric education in the U.S. and India. By aligning academic training with innovation and service, the talk will highlight how future-ready curricula can equip graduates to lead and adapt in diverse clinical and research environments.

Prof. Hema Radhakrishnan

Professor of Vision Sciences
University of Manchester,
The United Kingdomprabas

Prof. Hema is a Reader in Optometry and Associate Dean for Social Responsibility in the Faculty of Biology, Medicine & Health at the University of Manchester. A registered UK optometrist, her research focuses on accommodation, myopia, and physiological optics. She completed her PhD in 2003 on how optical factors influence visual function in myopia. Since then, she has published over 80 peer-reviewed papers and contributed to more than 200 conference presentations. Dr. Hema has received prestigious accolades for her research, including the Neil Charman Medal from the College of Optometrists (2015) and the inaugural Bernard Gilmartin OPO Award (2011) for her outstanding work in ophthalmic and physiological optics. An academic at the University of Manchester since 2005, she is actively involved in teaching optometry students and continues to lead innovative research in physiological optics and anterior eye studies. Her role also emphasizes social responsibility within health education and research.

Strengthening Student Support: What Exists and What More is Needed

Creating a sense of belonging is increasingly recognised as a cornerstone for enhancing student performance, satisfaction, and retention in higher education. This presentation explores how embedding inclusive pedagogies, co-creation, and strategic leadership can transform academic environments into spaces where all students thrive. University of Manchester's Diversity and Inclusion Student Ambassador Programme and the Active Bystander Programme, both of which were co-produced with students and grounded in asset-based frameworks, show that initiatives that move beyond deficit models to empower students as equal partners in shaping their learning environments, result in measurable improvements in student satisfaction and a reduce in attainment gaps

Abstract Evaluators for Free Paper and Poster Sessions

We thank the following members for their valuable contribution towards the abstract selection process

Dr Aiswaryah R

Dr Dharani R

Dr Gella Laxmi

Dr Gopinath Madeswaran

Dr Jameel Rizwana Hussaindeen

Dr James Wolffsohn

Dr. Jaya Sowjanya Siddireddy

Dr Kalpa Negiloni

Dr Krithica Srinivasan

Dr Najiya Sundus

Dr Pavan Kumar Verkicharla

Dr Prema Chande

Dr Premnandhini S

Dr Shonraj Ballae Ganeshrao

Dr Sheela Evangeline

Dr Shrikant R Bharadwaj

Dr Siddhart Srivatsav Rajendran

Dr Subash Sukumar

Dr Valarmathi A

Workshops

15th August 2025

Time	Hall name	Workshop Name
10:00 AM	Prof. SR Govindarajan Hall	Ortho-K: A Path to Myopia Control
02:00 PM	Perceptions Hall	Data Analysis Demystified: Selecting the Best Statistical Tests
03:00 PM	Prof. SR Govindarajan Hall	Clinical Potpourri: Understanding Binocular Vision

16th August 2025

Time	Hall name	Workshop Name
09:00 AM	Prof. SR Govindarajan Hall	Imaging the Anterior Segment: A Guide to Report Analysis
09:00 AM	Reflections Hall	Amblyopia & Suppression: Clinical Assessment and Diagnosis
11:00 AM	Prof. SR Govindarajan Hall	Optimizing Vision for Athletes: Sports Optometry Workshop
11:00 AM	Reflections Hall	Empowering Young Educators: Faculty Development Program
01:00 PM	Prof. SR Govindarajan Hall	Retina & Glaucoma: From Diagnosis to Report Interpretation
01:00 PM	Reflections Hall	Children's Vision Assessment: A Clinical Approach
03:00 PM	Prof. SR Govindarajan Hall	Managing Children with Special Needs through Optometry: A Practical Workshop
03:00 PM	Reflections Hall	Dry Eye Testing: A Basic Screening Approach

17th August 2025

Time	Hall name	Workshop Name
09:00 AM	Reflections Hall	Vision Screening in Schools: Basic Eye Health Assessment
10:00 AM	Perceptions Hall	Enhancing Workplace Safety: Visual Task Analysis and Eye Exams for Industrial Workers
11:00 AM	Reflections Hall	Handling Emergencies in Primary Eye Care - A referral guide
12:00 PM	Perceptions Hall	Mastering Hess & Diplopia Charting - A comprehensive workshop

Free Paper and Poster Sessions

August 15, 2025

Scientific Free Paper Session

Scientific Free Paper Session 1 - Binocular Vision and Vision therapy – 1 Reflections Hall (12:00 PM-1:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
238R134EIVOC2025	PriyankaManiarasu	Measuring Suppression in Amblyopia with Humphrey Visual Field Analyzer	L V Prasad Eye Institute, Hyderabad, Telangana
292U076EIVOC2025	Lathika J	The Impact of Screen Time and Earphone Usage on Motor Proficiency Among Young Adults	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
395R221EIVOC2025	Noor Naazneen	Saccadic Eye Movement in Neurodegenerative Disease	Sankara College of Optometry, Bangalore, Karnataka
390R218EIVOC2025	NamrathaHegde	A Comparative Analysis of Anaglyph Dichoptic Vision Chart and Worth 4 Dot App Vs Standard Worth Four Dot Test in Evaluating Suppression among Clinical Patients	Sankara College of Optometry, Bangalore, Karnataka
394R220EIVOC2025	Prateeksha G Hegde	Pilot Study On The Correlation Of Pursuit And Saccadic Eye Movements With Motor And Non-Motor Perceptual Skills Among School-Going Children	Sankara College of Optometry, Bangalore, Karnataka
400R225EIVOC2025	Sofia Mary	Clinical Practice Patterns and Upskill Of Assessing Saccades & Pursuits In A Tertiary Eye Hospital: A Quasi-experimental study	Sankara College of Optometry, Bangalore, Karnataka
389R217EIVOC2025	RoselinKiruba A	Effect of Smartphone-Based Vision Therapy Using the Vikas App on Visual Perception and Oculomotor Skills in Dyslexic Children: A Case Series	SRM Institute of Science and Technology, Chennai, Tamil Nadu
Scientific Free Paper Session 2 - Optometric Education / Public health and Community Optometry 1 Perceptions Hall (12:00 PM - 01:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
197R117EIVOC2025	NehaJadhav	Service Delivery Model Using Volunteers for Vision Screening of Tribal Children Residing in Ashram Shalas of Palghar, Maharashtra	Lotus College of Optometry, Mumbai, Maharashtra
433R254EIVOC2025	DebanandaPadhy	Can People Use WHOeyes on Smartphones for Vision Screening at Home? A Validation and Acceptability Study in Indian Context	L V Prasad Eye Institute, Hyderabad, Telangana
487R289EIVOC2025	Paula Mukherjee	Evaluating Spectacle Compliance in School Children: Findings from the 'Vision for a Cause' Project	Optometry Confederation of India
035R036EIVOC2025	SwethaSaravanan	Gaps in Refractive Error Coverage Among Indian Schoolchildren: Findings from the 'Vision for a Cause' Program	Optometry Confederation of India
522R316EIVOC2025	Swati Panigrahi	Percentile Growth Curves Based On Different Ocular Parameters Of Indian School Children	L V Prasad Eye Institute, Hyderabad, Telangana
314P047EIVOC2025	PallaDeepika	Effectiveness of Monocular Estimation Method in Determining Spectacle Prescription in School Eye Screening	Elite School of Optometry, Chennai, Tamil Nadu
334P058EIVOC2025	ParomitaMondal	Practices & Protocols of School Eye Screening in India - A Scoping Review	Elite School of Optometry, Chennai, Tamil Nadu
Scholars Voyage Session Prof Jay M Enoch Hall (12:15 PM - 01:15 PM)			
Registration No	**Presenting Author Name**	**Title**	**Presenting Author Institution**
247R142EIVOC2025	Preetirupa Devi	One-eyed individuals may utilize monocular depth cues for perception but not for visuomotor actions involving depth judgments	L V Prasad Eye Institute, Hyderabad, Telangana
535R326EIVOC2025	Janani Suresh	Development and Application of a Composite Functional Scoring System for Color Vision Deficiency Using Clinical and Self-Reported Measures – Pilot Study	Elite School of Optometry, Chennai, Tamil Nadu
040R041EIVOC2025	VivekSuganthanRamasubramanian	Evaluating the Efficacy of AI-Generated Responses in Optometry Exam Questions	SRM Institute of Science and Technology, Chennai, Tamil Nadu
254R147EIVOC2025	AshwiniVenkat Reddy Chanakya	Binocular And Monocular Saccadic Reaction Times in Glaucoma: A Promptness-Based Analysis	SankaraNethralaya, Chennai and Erasmus MC, Rotterdam, The Netherlands
149R075EIVOC2025	SalaiDhavamathi J	Comparison of Visual Functions Among Spectacles and Contact Lenses in Individuals with Myopia	Manipal Academy of Higher Education, Karnataka

August 15, 2025
Scientific Free Paper Session

Scientific Free Paper Session 3 - Geriatric Optometry, Low Vision and Rehabilitation 1 Prof SR Govindarajan Hall (02:00 PM - 03:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
147R073EIVOC2025	AnanthaPadmanabhan	Seeing The Unseen: Novel Method of Visual Field Assessment in Children with Cerebral Visual Impairment	L V Prasad Eye Institute, Hyderabad, Telangana
155R080EIVOC2025	RagukumarVenugopal	Financial vulnerability of the geriatric population undergoing cataract surgery at various levels of a distributed eye care delivery system in India	L V Prasad Eye Institute, Hyderabad, Telangana
320P050EIVOC2025	IswaryalakshmiVelmurugan	Knowledge, Attitude and Practice towards Presbyopia among Presbyopes: A Cross-Sectional Survey	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
087R052EIVOC2025	Devi Udayakumar	Improving Access to Vision Rehabilitation: Impact of a Non-profit Organisation's Tiered Model in Tertiary Eye Hospitals Across India	Vision-Aid India
Scientific Free Paper Session 4 - Ocular Disease and Diagnostics - 1 Reflections Hall (02:00 PM to 03:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
165R087EIVOC2025	Rahul Roy	Association Between Obstructive Sleep Apnea and Corneal Structural Alterations: An Updated Systematic Review and Meta-Analysis	Nethradhama school of Optometry, Bangalore, Karnataka
206R125EIVOC2025	Pritam Dutta	Diurnal Modulation of Pupillary Dynamics in Concussions: A Quantitative Pupillometric Analysis	Ridley college of Optometry, Dulia Gaon, Assam
245P033EIVOC2025	Monika Thakur	Does the etiology of congenital cataract affect the "fixation to light" reaction time?	L V Prasad Eye Institute, Hyderabad, India and City St. George's, University of London
285R167EIVOC2025	ManjiraAcharyya	Exploring The Impact of Relaxation Yoga on Intra Ocular Pressure Pre And Post Practice – A Pilot Study	NSHM Knowledge Campus Kolkata, Durgapur, West Bengal
196R116EIVOC2025	Sejal R Singh	Blinking Dynamics in Dry Eye Disease Using High-Precision EOG	SankaraNethralaya, Chennai
Dr RajeswariMahadevan Memorial Scientific Session Prof Jay M Enoch Hall (02:30 PM - 04:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
194R114EIVOC2025	MohamadHanifHajarMaidin	The Meibum Lipid Profile and Its Relationship with Clinical Dry Eye Measurement in a Sample of Kuala Lumpur Young Adults	Islamic International University, Malaysia
176R098EIVOC2025	AnkurBanik	Prescribing Patterns and Challenges Faced by Contact Lens Practitioners in India	CT University, Ludhiana, Punjab
159R083EIVOC2025	AnithaArvind	The effect of Tibetan herbal tea "Eye Vitalizer" on symptomatic dry eye subjects	G D Goenka University, Gurgaon, Haryana
372R201EIVOC2025	Simakumari	Angle Kappa Changes After One Year of Overnight Orthokeratology Treatment For Myopia	Ridley college of Optometry, Dulia Gaon, Assam
410R232EIVOC2025	MoutusiNath	Dry Eye Disease in Young Adults: Data from Eastern India	NSHM Knowledge Campus Kolkata, Durgapur, West Bengal
357P065EIVOC2025	Sayak Banerjee	Higher order aberrations and glare disability in Mild Keratoconus: A comparative study	Elite School of Optometry, Chennai, Tamil Nadu
484R286EIVOC2025	RamkailashGujar	Tear film layers and meibomian gland assessment in patients with thyroid eye disease using a noninvasive ocular surface analyzer: a cross-sectional case-control study	Dr Shroff's Charity Eye Hospital, New Delhi
350P062EIVOC2025	Yashoda Khanna	Understanding Contact Lens-Related Quality of Life: Why Scleral Lenses Need a Dedicated Questionnaire	Elite School of Optometry, Chennai, Tamil Nadu
286R168EIVOC2025	JananiBalaji	Prescribing Trends of Scleral Lenses Over a Decade at a Tertiary Eye Care Center in India: A 12-Year Retrospective Study	SankaraNethralaya, Chennai
494R296EIVOC2025	VarsaHarinya	Knowledge, Attitude, and Barriers towards Contact Lenses among Spectacle Wearers in the Indian Population	SankaraNethralaya, Chennai

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Scientific Free Paper Session

Scientific Free Paper Session 5 - Optometric Education / Public health and Community Optometry - 2 Padma BhushanDr. SS Badrinath Hall (03:30 PM - 04:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
581R348EIVOC2025	Baby Kumari	Unseen Burden: Prevalence of Childhood Ocular Morbidity in a Rural Indian District	AkhandJyoti Eye Hospital
439R257EIVOC2025	Kaviyarasan S	Evaluating The Impact of Annual Follow-Up in a School Eye Screening Program: A Longitudinal Study from Rural Tamil Nadu	Elite School of Optometry, Chennai, Tamil Nadu
428R249EIVOC2025	Naveen Kumar B	Compliance to referral among visually impaired people in urban slums of Chennai	Elite School of Optometry, Chennai, Tamil Nadu
030R031EIVOC2025	AmbikaChandrasekar	Ocular Health Status Among Adults Living in Urban Slums of Chennai, South India	Elite School of Optometry, Chennai, Tamil Nadu
653R368EIVOC2025	DeepaArumugam	Implementation Model to Improve Spectacle Compliance among School Children through Behavior Change Model	Elite School of Optometry, Chennai, Tamil Nadu
Scientific Free Paper Session 6 - Paediatric Optometry / Refractive error correction – 1 Perceptions Hall (03:30 PM - 05:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
252P035EIVOC2025	Subashreelakshmi C	A Comparative Study of Conventional Eye Drop Versus Novel Vaporized Spray of Cyclopegic - Mydriatic Protocol in An Indian Paediatric Cohort	MN College of Optometry, Chennai, Tamil Nadu
408P074EIVOC2025	Nandhini C	Prevalence, Incidence and Progression of Myopia among School Children in Tamil Nadu. The SankaraNethralaya Tamil Nadu Essilor Myopia (STEM) Study	Elite School of Optometry, Chennai, Tamil Nadu
182R102EIVOC2025	NikeshKangane	Combination treatment modality for myopia progression in Indian children: Evidence from real-world clinical setting	L V Prasad Eye Institute, Hyderabad, Telangana
310R174EIVOC2025	Dr Premnandhini (NFE)	Investigation Of Eye Movements Using The Oculomotor Assessment Tool (OMAT) In Young Indian Adults	L V Prasad Eye Institute, Hyderabad, Telangana
421R243EIVOC2025	SelvaHariharan K	Comparison of Non-CycloplegicAutorefraction Using Open-Field and Closed-Field Autorefractometers in Preschool Children	Elite School of Optometry, Chennai, Tamil Nadu
Scientific Free Paper Session 7 - Occupational Optometry and Sports Optometry – 1 Reflections Hall (04:00 PM - 05:00 PM)			
Registration No	**Presenting Author Name**	**Title**	**Presenting Author Institution**
161R085EIVOC2025	SaranyaSachiBalasubramaniam	Employers' Perspective of Employability Skills among Optometry Graduates in India	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
306U089EIVOC2025	E. DhivyaDharshini	Effect of Blue Light Filter (BLF) on Visual Fatigue (VF) and Image Quality (QI) among Optometry students	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
342R184EIVOC2025	MumtazQazi	Comprehensive visual assessment of Public Transport drivers in Mumbai, Maharashtra: A study on visual standards	Lotus College of Optometry, Mumbai, Maharashtra
188R108EIVOC2025	ThenmozhiVelumani	Evaluation of visual task analysis and vision standards in cricket batting	SRM Institute of Science and Technology, Chennai, Tamil Nadu
293U077EIVOC2025	Trisha B	Assessment of Visual Performance in Aari Workers	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
506R305EIVOC2025	Pavithra R	Improving Work-Related Vision: Impact of Spectacle Correction for Uncorrected Refractive Errors in Commercial Drivers in Chennai	SankaraNethralaya, Chennai
Scientific Free Paper Session 8 - Ocular Disease and Diagnostics - 2, Reflections Hall (05:00 PM - 06:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
226P024EIVOC2025	AakanshaSawaiker	Ocular Biometric Profile of Cornea Plana	The SankaraNethralaya Academy, Chennai
331P056EIVOC2025	Sabrina Antonia Naxareth	Rim Changes Vs RNFL Defects In Glaucoma; Do They Always Correlate?	Elite School of Optometry, Chennai, Tamil Nadu
363P069EIVOC2025	Anitha Chandrasekhar	Facial Recognition Testing in Glaucoma: A Narrative Review of Protocol Gaps and Technological Advancements	The SankaraNethralaya Academy, Chennai
466R271EIVOC2025	S Deepak Kumar	Evaluating the Efficacy of Non-Mydriatic Fundus Imaging in Community Outreach Program	Elite School of Optometry, Chennai, Tamil Nadu
Scientific Free Paper Session 9 - Optometric Education / Public health and Community Optometry – 2 Perceptions Hall (05:00 PM - 06:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
482R284EIVOC2025	Harshada Kale	Assessing the Impact of Online and Offline Learning Modalities in Optometry Professional Development: Insights from OCI's Educational Series	Optometry Confederation of India
528R322EIVOC2025	Lakshmi Shinde	Optometry Under Regulation: Why Continuing Education Matters More Than Ever	Optometry Confederation of India
657R371EIVOC2025	Subhiksha R	Competency Based Assessment Of Community Based Training For The Students Of Optometry	Elite School of Optometry, Chennai, Tamil Nadu
038R039EIVOC2025	Amirthaa M	Mapping Optometry Competency standard: A comparative document analysis of WCO and IELOCS framework	Elite School of Optometry, Chennai, Tamil Nadu

August 16, 2025
Scientific Free Paper Session

Scientific Free Paper Session 10 - Occupational Optometry and Sports Optometry – 2 Prof SR Govindarajan Hall (08:00 AM - 09:00 AM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
187R107EIVOC2025	ChandrikaRavisankar	Impact of ball parameters on binocular and monocular batting performance	SRM Institute of Science and Technology, Chennai, Tamil Nadu
328P054EIVOC2025	SubratoMondal	Comparison Between Static and Dynamic Vision and their Associated Parameters Between Cricketers and Non-cricketers	Elite School of Optometry, Chennai, Tamil Nadu
524R318EIVOC2025	JeevithaAsokan	Prevalence of Occupational Injuries and Ocular Morbidities among Welders: A Cross-Sectional Study	SankaraNethralaya, Chennai
498R299EIVOC2025	VijayalakshmiNivethitha K	Assessment of ocular surface changes using Conjunctival UV autofluorescence device among outdoor and indoor workers	Elite School of Optometry, Chennai, Tamil Nadu
458U107EIVOC2025	Sneha Gupta	Predicting Farnsworth Lantern Signal test performance in Color Vision Deficient individuals using Pseudoisochromatic Plate tests	Elite School of Optometry, Chennai, Tamil Nadu
Scientific Free Paper Session 11 - Geriatric Optometry, Low Vision and Rehabilitation – 2, Reflections Hall (08:00 AM - 09:00 AM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
491R293EIVOC2025	Bhavya M	Geriatric Outreach and Ocular Disease Study.	Optometry Confederation of India
490R292EIVOC2025	SivasankariGovindan	Ocular profiling of patients seen at doorstep eye care services	SankaraNethralaya, Chennai
329P055EIVOC2025	Jayanthi Suresh	Beyond Chalk and Talk: Are Teachers Prepared for Visual Impairment Education?	Elite School of Optometry, Chennai, Tamil Nadu
579R346EIVOC2025	MdAfrozAlam	Revolutionizing Eye Care: Effectiveness, Economic Viability, and Patient Perception of Teleophthalmology Services	AkhandJyoti Eye Hospital
635R357EIVOC2025	Lokeshwar Prasad Sahu	Referral pattern and vision impairment profile in a low vision clinic: 15-years experience	MGM Eye Institute, Raipur, Chhattisgarh
Scientific Free Paper Session 12 - Binocular Vision and Vision therapy – 2 Perceptions Hall (08:00 AM - 10:00 AM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
391P072EIVOC2025	AasmaMarasini	Objective vergence characterization using eye tracker in presbyopia and non-presbyopia – An exploratory pilot study	L V Prasad Eye Institute, Hyderabad, Telangana
505U113EIVOC2025	HariPriya V	The Effect of Accommodation and Convergence on Emmetropes and Ametropes in Virtual Reality Device	Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamilnadu
303U086EIVOC2025	Rithika S	Pilot Study on the Effect of Digital Video Games on Visual Memory and Visual Attention	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
418R240EIVOC2025	Suriya A	Evaluating Vision Therapy and Plus Lenses for Postural Improvement in Accommodative Dysfunction: A Pilot Study	School of Allied Health Sciences, Vinayaka Mission Research Foundation, Salem, Tamil Nadu
266U074EIVOC2025	P C Gouravh	Design and Development of a Touch Sensor-Based Visual Anticipation Timer for Eye-Hand Coordination Training	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
518R313EIVOC2025	Pavithra E	Evaluation of Nystagmus Dynamics Before And After Yoke Prism Using Photo Refractometer	SankaraNethralaya, Chennai
521P093EIVOC2025	Asha Slecer R	Clinical Profile Of Non Strabismic Binocular Vision Anomalies Among Adults – A Retrospective Study	The SankaraNethralaya Academy, Chennai
387R215EIVOC2025	YuvarajChellakkannu	Efficacy of Neuro-Optometric Rehabilitation for Traumatic brain Injury.	SankaraNethralaya, Chennai
384R212EIVOC2025	ShenbagamNarasimhan	The Effect of Digital Device Usage on Visual Fatigue Among University Students	CT University, Ludhiana, Punjab
461R267EIVOC2025	Saujanwita Roy	Binocular Function Score in patients with Amblyopia Pre and Post Dichoptic Therapy: a short term pilot study	CT University, Ludhiana, Punjab
Clinician to Researcher Free Paper Session 1 Perceptions Hall (10:00 AM - 12:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
107P004EIVOC2025	Avani Shah	Permanent Homonymous Visual Field Defect in a Patient with Migrainous Aura and Spasm of the Posterior Cerebral Artery	SwaraashiNethralaya, Maharashtra
244R140EIVOC2025	Ajay Ray	The role of cycloplegic refraction in detection of the Accommodative Spasm and the plan of its managements: A case report.	Mechi Eye Hospital, Birtamode, Jhapa, Nepal
239R135EIVOC2025	Sanjay Mehta	An Arc of the Mind – Early Detection of Hypertensive Stress in Young Adults: A Case Study on Retinal Vascular Changes at a Private Optometric Practice.	Tower Optics, Chennai
296U080EIVOC2025	SmruthiSivakumar	Rare Case of Vernal Conjunctivitis with Keratoconus: Successful Management with CAIRS and CXL	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
420R242EIVOC2025	KiranmayiChappidi	Enhancing Scleral Lens Fitting: The Role of Eaglet Eye Surface Profiler in Assessing Scleral Asymmetry and Lens Modifications	L V Prasad Eye Institute, Hyderabad, Telangana
348R190EIVOC2025	Sharmila D	Role of visual field in diagnosing Pituitary adenoma – A Case report	SankaraNethralaya, Chennai
341P061EIVOC2025	Nikitha N	Impact of Visual Stimulation Therapy on Children with Retinopathy of Prematurity	Elite School of Optometry, Chennai
347R189EIVOC2025	ThenmozhiNallathambi	The role of Atropine in diagnosing and managing accommodative spasm – A case report	SankaraNethralaya, Chennai
340P060EIVOC2025	PraveenaVenkat	Rehabilitation Beyond Vision Stimulation in Children with Optic Atrophy: A Case Series	Elite School of Optometry, Chennai, Tamil Nadu
424R246EIVOC2025	SwetaChitranshi	Improved Ocular Surface and restoring vision in Corneal Macular Dystrophy with Scleral Contact Lens	Dr Shroff's Charity Eye Hospital, New Delhi
523R317EIVOC2025	Indira Rengarajan	Breaking Barriers: Overcoming Learning Disabilities through Visual Skills Therapy – A Case Report	SankaraNethralaya, Chennai

August 16, 2025
Scientific Free Paper Session

Clinician to Researcher Free Paper Session 2, Perceptions Hall (02:00 PM - 04:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
452P082EIVOC2025	SruthiGunasekaran	Management of Advanced Keratoconus in a Paediatric Patient: A Case Report: Do we have to relook into our claims policies for contact lens	Sri JayendraSaraswati Institute of Optometry
346R188EIVOC2025	Chowthri M.M	Seeing the Forest but Not the Trees: A Detailed Case Report on Simultagnosia	The SankaraNethralaya Academy, Chennai
520R315EIVOC2025	Poojashri G	Vision Realigned: Successful Nonsurgical Management of a Complex Esotropia	SankaraNethralaya , Chennai
469R274EIVOC2025	Shrinithi S	Prism therapy as a conservative strategy for patients with Esotropia in High myopia: A Case Report	SankaraNethralaya , Chennai
397R223EIVOC2025	Akshaya C Balakrishnan	Tailoring vision with Modified Monovision	SankaraNethralaya , Chennai
209R128EIVOC2025	ShakthiKeshini Suresh	Evaluating and managing hemi slide phenomenon- a clinical perspective	SankaraNethralaya , Chennai
459U108EIVOC2025	PriyadharshiniAlaguraj	Type-B Prosthetic Lenses: A Dual Approach To Adie's Tonic Pupil Symptoms	The SankaraNethralaya Academy, Chennai
405R228EIVOC2025	Yamuna Devi G	Microspherophakia – A review of clinical pearls with a case report	SankaraNethralaya , Chennai
427R248EIVOC2025	Manish Bhagat	Use of the Reverse Piggyback Scleral Lens System to Optimize Visual Rehabilitation in Complex Corneal Disorders.	L V Prasad Eye Institute, KVC Campus, Vijayawada
476P089EIVOC2025	Godly Abraham	Balancing Vision And Aesthetics With Type B Prosthetic lens: A Case Report	The SankaraNethralaya Academy, Chennai
406R229EIVOC2025	SuchithraKannan	Acute Myopia and Angle closure glaucoma - A Case Report	SankaraNethralaya, Chennai
Dr E Vaithilingam Memorial Scientific Session, Prof. Jay M Enoch Hall (03:00 PM - 05:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
327P053EIVOC2025	Tai Jarkum	The Impact of Induced Retinal Image Blur on Monocular and Binocular Depth-related Visuomotor Task Performance	L V Prasad Eye Institute, Hyderabad, Telangana
186R106EIVOC2025	IndraniSirivella	A Visual Acuity Paradigm Based On Spatial Frequency-Discrimination Overcomes Cognitive And Linguistic Barriers Of Acuity Testing While Being Comparable To The Gold-Standard LogMAR Test	L V Prasad Eye Institute, Hyderabad, Telangana
321P051EIVOC2025	KalaiyarasiDhandapani	Landscape of Services for Pediatric Refraction and Spectacle-Dispensing in Optometry and Optical Practices of India: A Mixed-Methods Study	Elite School of Optometry, Chennai, Tamil Nadu
183R103EIVOC2025	Tithi Bhakta	Monocular Blur-driven Accommodation In Keratoconus Is Governed By The Strength Of The Defocus-induced Degradation In Retinal Image Quality	L V Prasad Eye Institute, Hyderabad, Telangana
040R041EIVOC2025	VivekSuganthanRamasubramanian	Quantifying Water-Induced Blur: A Reference-Based approach with Simulated Spherical Blur using Image Quality Metrics and Subjective Perceptual Scores	SRM Institute of Science and Technology, Chennai, Tamil Nadu
418R240EIVOC2025	Suriya A	Visual Function at Hypersonic Speeds: A Theoretical Model of Human Perception	School of Allied Health Sciences, Vinayaka Mission Research Foundation, Salem, Tamil Nadu
333P057EIVOC2025	Varsha M	Effect Of Contra-Lateral Occlusion Methods on Monocular Visual Acuity	Elite School of Optometry, Chennai, Tamil Nadu
290R171EIVOC2025	SangeethaNagarajan	Contribution of Visual Saliency in Free Viewing: Similarity Between Computational Fixation Predictions and Actual Gaze Behaviour Among Healthy and Glaucoma Participants	SankaraNethralaya, Chennai and Erasmus MC, Rotterdam, The Netherlands
415R237EIVOC2025	Megha Antony	Red Light Exposure Stimulates Ocular Elongation In Zebrafish	L V Prasad Eye Institute, Hyderabad, Telangana
352P063EIVOC2025	SayantikaChakrabarti	Validation of a Cost-effective Eye Tracker for Objective Measurement of Heterophoria	Elite School of Optometry, Chennai, Tamil Nadu
294U078EIVOC2025	Shivani c	Construction of infrared camera on virtual reality headset for assessment of blink-rate	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
527R321EIVOC2025	Sayoki Ghosh	Peripheral Refraction with Simplified Peripheral Ancillary Refractive Component (SPARC) and Open-Field Autorefractor in Children	L V Prasad Eye Institute, Hyderabad, Telangana
Scientific Free Paper Session 13 - Pediatric Optometry / Refractive error correction- 2 Padma Bhushan Dr S SBadrinath Hall (03:30 PM - 05:00 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
175R097EIVOC2025	JothiBalajiJanarthanam	Profile of peripheral refraction, choroidal thickness and its correlation with refraction among children with myopia.	SankaraNethralaya , Chennai
205U067EIVOC2025	TaksuMech	Progressive alterations in pupillary dynamics across myopia severities: A Quantitative Iphone based pupillometry study	Ridley college of Optometry, Dulia Gaon, Assam
218R131EIVOC2025	Jegatheeswari J	Comparative Assessment of Accommodation Lag in Myopic Children Using MEM Retinoscopy and Open Field Autorefractometer	Aravind Eye Hospital, Madurai
338R182EIVOC2025	SaiSivaniKoonapareddy	Enduring Influence Of Social, Economic And Demographic Determinants On PediatricKeratoplasty Outcomes: Perspectives From A South Indian Tertiary Eye Care Center	L V Prasad Eye Institute, Hyderabad, Telangana
474R278EIVOC2025	SruthiChamarty	Clinical realities of Low-Dose Atropine use in High and Pathologic myopia	L V Prasad Eye Institute, Hyderabad, Telangana

August 17, 2025
Scientific Free Paper Session

Scientific Free Paper Session 14 - Ocular Disease and Diagnostics – 3 Reflections hall (08:00 AM - 09:00 AM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
332R179EIVOC2025	Nuzhat Khan	Evaluation And Prediction Of Postoperative Visual Acuity In Cataract Patient Using RFT.	Lotus College of Optometry, Mumbai, Maharashtra
304U087EIVOC2025	O. Mohamed Shaqeeq	Association Between Sleep Quality (SQ) and Functional Vision (FV) Among Adults - A Cross-Sectional Study	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
305U088EIVOC2025	Harshini Rajesh	Portable Corneal Topography: A Projection-Based Approach Using Placido Disc Imaging with Mobile Integration	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
288P045EIVOC2025	Swapnil Thakur	Can exposure to long-, middle-, and short-wavelength light alter the vascular properties of the retina and choroid?	L V Prasad Eye Institute, Hyderabad, Telangana
Scientific Free Paper Session 15 - Ocular Disease and Diagnostics – 4 Perceptions hall (08:00 AM - 10:00 AM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
495R297EIVOC2025	Sowmya V K	MMP-9 as a Biomarker for Dry Eye Diagnosis: A Systematic Review and Meta-analysis	L V Prasad Eye Institute, Hyderabad, Telangana
353R192EIVOC2025	RoshanYadav	Measurement of visual field expansion with Peli Prism using Humphrey Visual Field Analyzer(HFA)	L V Prasad Eye Institute, Hyderabad, Telangana
497U111EIVOC2025	Mary Jenifer	Comparison of Corneal Thickness in Lactating & Non-Lactating Women	Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamilnadu
448R262EIVOC2025	Suchana S ShetShirodker	Multimodal Visual Function Analysis In Diabetic Macular Edema Post Anti-VEGF Treatment	L V Prasad Eye Institute, Hyderabad, Telangana
269R153EIVOC2025	VinithaMingi	Subclinical Blue-Yellow And Flicker Sensitivity Losses In Patients With Diabetes	L V Prasad Eye Institute, Hyderabad, Telangana
636R358EIVOC2025	Shishir Shukla	Clinicodemographic profile of custom ocular prosthesis in a tertiary care eye center in central India	MGM Eye Institute, Raipur, Chhattisgarh

August 15, 2025
Scientific Free Paper Session - E-Poster
Venue: Impressions Hall

Scientific E-Poster Session 1 - Binocular Vision and Vision therapy – 1 (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
212U069EIVOC2025	Florina Deka	Diurnal Variations in Binocular Vision and Pupillary Dynamics among Young Adults	Ridley college of Optometry, Dulia Gaon, Assam
166R088EIVOC2025	Sushant Kumar Shah	Impact of Continuous Mobile Gaming on Binocular Vision Functions and Ocular and Physical Symptoms in Young Healthy Individuals	Acharya Institute of Allied Health Sciences, Bengaluru, Karnataka
193R113EIVOC2025	Prema Chande	Comparative Impact of Anti-Suppression Therapy in Strabismic Amblyopia: Esotropia vs. Exotropia	Lotus College of Optometry, Mumbai, Maharashtra
218R131EIVOC2025	Jegatheeswari J	Impact of Prismatic correction on field of binocular single vision in Incomitant Strabismus	Aravind eye hospital, Madurai
281R163EIVOC2025	Manju Varshini Bhuvaneswaran	The Impact Of Long-Term Antipsychotic Therapy On Accommodative Functions: Unveiling The Visual Side Effects In Psychiatric Disorders	SRM Institute of Science and Technology, Chennai, Tamil Nadu
359P067EIVOC2025	Yesha Chotalia	Control of Intermittent Exotropia and Vision Therapy	Nagar School of Optometry, Gujarat
337P059EIVOC2025	Balakeethiga M L	Association between Accommodative Function and Refractive Error in Late Adolescence.	Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu
Scientific E-Poster Session 2 - Geriatric Optometry, Low Vision and Rehabilitation – 1 (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
248P034EIVOC2025	Keerthana G	Childhood Glaucoma–Related Low Vision: Referral Patterns and Low Vision Clinic Service Uptake in a Tertiary Eye Care Center	The Sankara Netharalaya Academy
442R258EIVOC2025	Nandhini Elango	The effect of psychological disorders in colour perception: A Review	Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu
438R256EIVOC2025	Somdatta Maitra	Colour vision deficiency in mild to moderate dementia patients seen in a memory clinic of Kolkata	NSHM Knowledge Campus Kolkata, Durgapur, West Bengal
336R181EIVOC2025	Priyanka Jaishankar	Assessing the usability of bifocal spectacles and its impact on falls risk perception among senior adults	Sankara Nethralaya, Chennai
189R109EIVOC2025	Raisul Azam	Perception Towards Use Of Smart Vision Glasses Among Visually Impaired Adults And Low Vision Practitioners: A Qualitative Study	SRM Institute of Science and Technology, Chennai, Tamil Nadu
190R110EIVOC2025	Vidya Neelamegam	Effectiveness Of Eccentric Viewing Training (EVT) Techniques For Low Vision Rehabilitation In Individuals With Central Field Loss: A Scoping Review	SRM Institute of Science and Technology, Chennai, Tamil Nadu
110P007EIVOC2025	Rajalakshmi Venkatakrishnan	Perceptions of Indian Ophthalmologists towards Low Vision Rehabilitation Referral: Preliminary Analysis	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
Scientific E-Poster Session 3 - Pediatric Optometry / Refractive error correction - 1 (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
532R325EIVOC2025	Manikandan C	Vision Correction Needs in Presbyopia: Can Reading Glasses Alone Meet the Demand?	Elite School of Optometry,Chennai, Tamil Nadu
109P006EIVOC2025	Vineeta P Shaji	Exploring Parental Awareness, Attitudes and Practices towards Retinopathy of Prematurity in Premature Infants: Qualitative Study	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
220P018EIVOC2025	Avantika Bind	Clinical Risk Factors and Visual Outcomes in Preterm Infants with Retinopathy of Prematurity under Different Treatment Regimens	The Sankara Nethralaya Academy, Chennai, Tamil Nadu
076R047EIVOC2025	Nisha Jha	Changes in Refractive characteristics in premature infants with or without treatable Retinopathy of Prematurity: A Retrospective study	Sankara Nethralaya, Kolkata
207R126EIVOC2025	Vipin Guruvathamani	Prevalence of Ocular Conditions among the Preschool Children from the SN-SEEKS study	Elite School of Optometry,Chennai, Tamil Nadu
386R214EIVOC2025	Praveen Kumar	Ocular Profiling of Children with Hearing Impairment	Sankara Nethralaya, Chennai
321P051EIVOC2025	Kalaiyarasi Dhandapani	Exploring Service Delivery Models for Paediatric Refraction and Spectacle-Dispensing in India and the United Kingdom: A Scoping Review	Elite School of Optometry,Chennai, Tamil Nadu
432R253EIVOC2025	Latha C	Profiling of near and outdoor activities among children of 13-15 years	Elite School of Optometry,Chennai, Tamil Nadu

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Scientific Free Paper Session - E-Poster

Venue: Impressions Hall

Scientific E-Poster Session 4 - Ocular Disease and Diagnostics - 1 (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
509R308EIVOC2025	MoumiMaity	Impact of sex hormones on tear film parameters and proteomics of healthy women during menstrual cycle	L V Prasad Eye Institute, Hyderabad, Telangana
213R129EIVOC2025	AkshayaViyasan	Recent advances and Innovation in Glaucoma Screening: A review	Sri ManakulaVinayagar Medical College and Hospital, Villupuram
183R103EIVOC2025	Tithi Bhakta	A Scoping Review On The Potential Applications Of Near-infrared Imaging In Ophthalmology Beyond The Established Use-cases	L V Prasad Eye Institute, Hyderabad, Telangana
193R113EIVOC2025	PremaChande	The Impact of Green Tea Extract Oral Supplement and Its Catechins on Intraocular Pressure in Patients Diagnosed with Glaucoma	Lotus College of Optometry, Mumbai, Maharashtra
338R182EIVOC2025	SaiSivaniKoonapareddy	Morphometric Study Of Primary Congenital Aphakia Using AS-OCT: Unveiling Structural Insights	L V Prasad Eye Institute, Hyderabad, Telangana
172R094EIVOC2025	Sweety Sharma	Agreement of IOP by ICARE TA01i and NIDEK NCT with GAT and its correlation with Central Corneal Thickness in North Indian Tertiary Care Eye Hospital	Dr. Shroff's Charitable Eye Hospital, New Delhi
388R216EIVOC2025	AnandiBhatiwal	Factors Associated with Follow-up Compliance of Ocular Trauma Patients at a Tertiary Care Hospital	Post Graduate Institute of Medical Education and Research, Chandigarh
Scientific E-Poster Session 5 - Optometric Education / Public health and Community Optometry - 1 (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
159R083EIVOC2025	AnithaArvind	A Delphi study to determine the need for national curriculum for optometry education and key recommendations for optometry in India	G.D Goenka University, Gurgaon, Haryana
430R251EIVOC2025	Shalini R	Spectacle Compliance in Urban Slum Settings: A Community-Based Study from Tamil Nadu	Elite School of Optometry,Chennai, Tamil Nadu
299U082EIVOC2025	Poojasri S	Perceptual learning style preferences among GenZ optometry students	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
253R146EIVOC2025	Ayushwilson	Prevalence Of Diabetes in Cataract Patient-Crossectional Study	Sushant University, Gurgaon
168R090EIVOC2025	RoshniSengupta	Tele-optometry in India: Adoption, Barriers & The Road Ahead	G.D Goenka University, Gurgaon, Haryana
339R183EIVOC2025	Isha Dave	Knowledge, Attitude, and Practice of Eye Care Practitioners Towards the Prescription of Spectacle Lenses for Myopia Control in India	Lotus College of Optometry, Mumbai, Maharashtra
265R151EIVOC2025	Gursimran Singh Rana	Unmet Need of Spectacle/Lens Among Middle-Aged and Older Adults in India: Evidence from LASI Wave-1.	Post Graduate Institute of Medical Education and Research, Chandigarh
Scientific E-Poster Session 6 - Dr RajeswariMahadevan Memorial Scientific Session 1 – (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
016U001EIVOC2025	RevathiSaravanan	The contact lens: A study on discontinuation and reluctance among spectacle wearers	Vasan Institute of Ophthalmology & Research, Chennai, Tamil Nadu
127P011EIVOC2025	AnushiyaRajasekar	Exploring Quality of Life in Long-Term Speciality Contact Lens Users: Perspectives from Patients, Caregivers, and Practitioners	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
399R224EIVOC2025	Padmapriyaa M	Effect of Different Multipurpose Contact Lens Solutions against Common Ocular Pathogens on Different Material of Contact Lens	Sankara College of Optometry, Bangalore, Karnataka
475R279EIVOC2025	Ronit Dutta	Short-Term Assessment of Conjunctival Prolapse Variation in Keratoconic Eyes Wearing Scleral Lenses	SankaraNethralaya, Chennai
312R175EIVOC2025	Karpagavalli Subramanian	Profile of Contact Lens Fitting in Ocular Injury over 10 years in a Tertiary Eye Care Center - A Retrospective Study	SankaraNethralaya, Chennai
195R115EIVOC2025	Krishna Shah	Knowledge, Attitude, and Practices (KAP)of Contact Lens Use Among Contact Lens Users visiting a Tertiary Eye Care Centre	SankaraNethralaya, Chennai
229P027EIVOC2025	Varsha Singh	Corneal Edema Changes following 6 hours of Piggyback Scleral Lens Wear in Patients with Keratoconus: A Pilot Study	The SankaraNethralaya Academy, Chennai, Tamil Nadu

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Scientific Free Paper Session - E-Poster

Venue: Impressions Hall

Scientific E-Poster Session 7 - Occupational Optometry and Sports Optometry – (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author Name**	**Title**	**Presenting Author Institution**
382R210EIVOC2025	PremSudhakar L	A Study on Visual Function, Driving Behaviour, and Experience Using MMDQ, VND-Q, and VFQ-25 among Drivers.	SRM Institute of Science and Technology, Chennai, Tamil Nadu
368U101EIVOC2025	Sharika H V	Visual demand and task analysis of embroidery workers.	Vittala international Institute of ophthalmology, Bangalore, Karnataka
471R276EIVOC2025	MeenakshiJha	Early Detection of Diabetic Retinopathy in Truck Drivers: A Critical Need for Proactive Screening	Sightsavers India
491R293EIVOC2025	Bhavya M	Task Analysis among Weavers: Evaluating Visual and Ergonomic Challenges in the Workplace	Optometry Confederation of India
162P014EIVOC2025	Sathish A	Survey on the Impact of Colour Vision Deficiency in the activities of daily living and at the workplace	Elite School of Optometry,Chennai, Tamil Nadu
478R281EIVOC2025	Nandhini R	The role of visual ergonomics in mitigating Digital Eye Strain (DES) among IT professionals	SankaraNethralaya, Chennai
164R086EIVOC2025	Ritvika Raj Verma	Scoping Review: Development of Normative Visual Skills Benchmarks for Youth Athletes in Racket Sports.	G.D Goenka University, Gurgaon, Haryana

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Venue: Impressions Hall

Scientific E-Poster Session 8 - Binocular Vision and Vision therapy CtoR - 1 (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
109P006EIVOC2025	Vineeta P Shaji	Sudden Diplopia in Stilling-Turk-Duane Retraction Syndrome: A Rare Case	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
179R099EIVOC2025	Rinki Gupta	Cost-Effective Prism Management Technique to Manage Acute Acquired ComitantEsotropia : 2 Case reports	L V Prasad Eye Institute, Hyderabad, Telangana
283R165EIVOC2025	RajeswariKesavan	Effectiveness of In-House Exercises in Intermittent Exotropia: A Case Report on Initial Improvement and Regression Due to Poor Home Therapy Compliance	Sankara College of Optometry, Bangalore, Karnataka
458U107EIVOC2025	Sneha Gupta	Fusion or Confusion? The Diagnostic Dilemma of Acute Esotropia	Elite School of Optometry,Chennai, Tamil Nadu
209R128EIVOC2025	ShakthiKeshini Suresh	Visual Outcome with Contact lens over spectacles among adult amblyopia	SankaraNethralaya, Chennai
227P025EIVOC2025	Sunny Kant	Functional Recovery of Accommodative Parameters in Adie's Tonic Pupil with Vision Therapy: A Case Series	The SankaraNethralaya Academy, Chennai, Tamil Nadu
228P026EIVOC2025	Anindita Chowdhury	Post-Traumatic Third Nerve Palsy with Homonymous Hemianopia: A Case Report on Adaptive Non-Surgical Management and Visual Rehabilitation	The SankaraNethralaya Academy, Chennai, Tamil Nadu
314P047EIVOC2025	PallaDeepika	Paradoxical diplopia post-strabismus surgery: Role of vision therapy beyond surgical alignment	Elite School of Optometry,Chennai, Tamil Nadu
Scientific E-Poster Session 9 - Dr RajeswariMahadevan Memorial Session CtoR (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
059U015EIVOC2025	Monica balu	Effectiveness of Contact Lenses and Photochromic Glasses in Reducing Halos and Starburst Patterns in a 29-Year-Old Male with Higher-Order Aberrations	Elite School of Optometry,Chennai, Tamil Nadu
046R045EIVOC2025	Zalak Shah	Visual Rehabilitation of Long-Term Soft Contact Lens Wearer and Pellucid Marginal Degeneration: A Case Report	C. H. Nagri Eye Hospital, Ahmedabad
427R248EIVOC2025	Manish Bhagat	Innovative Use of Piggyback Scleral Lens in a PediatricSymblepharon Case	L V Prasad Eye Institute, Vijayawada
424R246EIVOC2025	SwetaChitranshi	Indian Paediatric Compliance and Parental Acceptance in Ortho-K lenses	Dr. Shroff's Charitable Eye Hospital, New Delhi
195R115EIVOC2025	Krishna Shah	Unilateral Jelly Bump Deposits on a Contact Lens Due to Inconsistent Lens Hygiene and Reduced Hand Dexterity: A Case Report	SankaraNethralaya, Chennai
219P017EIVOC2025	Rahufa Abdul GaniMulla	Restoring Ocular Surface Integrity In Toxic Epidermal Necrolysis With Scleral Lenses: A Case Report	The SankaraNethralaya Academy, Chennai, Tamil Nadu
531R324EIVOC2025	Savita B S	Troubleshooting Rotation of Channels in a Scleral Lens Fitting	Eyeful Optometry Clinic
373R202EIVOC2025	Priya Dutta	Catch Me If You Can: Atypical Keratoconus Or Atypical Pellucid Marginal Degeneration Or A Combination Of Both?	SankaraNethralaya, Kolkata
115R058EIVOC2025	Suraj Kumar Chaurasiya	Pellucid-like Keratoconus Associated with Orbital Xanthogranulomatous Disease Managed with Scleral Lens	CL Gupta Eye Institute
Scientific E-Poster Session 10 - Ocular Disease and Diagnostics CtoR -1 (3:30 PM to 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
107P004EIVOC2025	Avani shah	Brown's Syndrome: Unusual Association with Reverse Straatsma Syndrome and Aplasia Cutis Congenita	IshaNetralaya
249R143EIVOC2025	ApareshMaity	An Unusual Manifestation Of Peter's Anomaly: Insights From A Rare Case	SankaraNethralaya, Kolkata
051U007EIVOC2025	VasundharaVijayaraghavan	Is Tropicamide Truly Harmless? A case of An Atypical Presentation of Allergic Conjunctivitis Following Tropicamide Use in an 87-Year-Old: A Case Report	Elite School of Optometry, Chennai, Tamil Nadu
305U088EIVOC2025	Harshini Rajesh	Ethambutol Toxicity Presenting as Anterior Scleritis and Dyschromatopsia: A Case Report	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
292U076EIVOC2025	Lathika J	Marfan Syndrome & Strabismus: A Rare Clinical Encounter	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
361P068EIVOC2025	BharathVijayan	A Young Eye, A Small Hit, A Big Hole: Traumatic Macular Hole from Minor Blunt Injury	The SankaraNethralaya Academy, Chennai, Tamil Nadu
222P020EIVOC2025	MohanrajVijayakumar	Eyes as the clue – Ocular inflammation preceding systemic diagnosis in a young adult	The SankaraNethralaya Academy, Chennai, Tamil Nadu
239R135EIVOC2025	Sanjay Mehta	Treat the Patient First & Then the Condition - Haemoclaria - A case report on the need to go for the root cause of any condition to really treat it	TOWER OPTICS
210P016EIVOC2025	ElakiyaAruchami	Goldenhar Syndrome in Infancy: The Optometrist's Role in Monitoring and Management	Elite School of Optometry,Chennai, Tamil Nadu

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Scientific Free Paper Session - E-Poster

Venue: Impressions Hall

Scientific E-Poster Session 11 - Binocular Vision and Vision therapy - 2 (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
450R264EIVOC2025	SherahBenzy S	Perspectives On The Quality Of Life Among Parents And Children Undergoing Vision Therapy - A Questionnaire Based Study	SankaraNethralaya, Chennai
151R077EIVOC2025	PreethaRamprasat	Binocular Vision Status Among Bridal-Mehndi Artists	Vasan Institute of Ophthalmology & Research, Chennai, Tamil Nadu
259R149EIVOC2025	RaghulGurunathan	Clinical Profile of Adults with Amblyopia – A Retrospective study	SankaraNethralaya, Chennai
196R116EIVOC2025	Sejal R Singh	Changes in Binocular Vision Parameters After Strabismus Surgery in Patients with Intermittent Exotropia	SankaraNethralaya, Chennai
504R304EIVOC2025	Prasannasai K	Comparing the biometric parameters between accommodative spasm and true myopes- A pilot study.	SankaraNethralaya, Chennai
318P049EIVOC2025	Rakshitha R S M	Relationship Between Eye Movement Control, Academic Performance, and Reading Speed Using the DEM Test	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
163P015EIVOC2025	Shreyasi Biswas	Cost effectiveness analysis of amblyopia management in India	Elite School of Optometry,Chennai, Tamil Nadu
316R177EIVOC2025	Meenakshi Narayanan	A pilot study on effect of Monocular Visual Degradation (MVD) on Visuomotor task performances in anisometropes	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
230P028EIVOC2025	Fasilathunnisa K	Long Term Efficacy of Vision Therapy in Strabismic Amblyopia: Insights from A Case Study.	The SankaraNethralaya Academy, Chennai, Tamil Nadu
Scientific E-Poster Session 12 - Geriatric Optometry, Low Vision and Rehabilitation - 2 (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
108P005EIVOC2025	AarthiPoorani	Exploring the Benefits and Challenges of Obtaining Disability Certification for Individuals with Visual Impairment: A Qualitative Study	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
108P005EIVOC2025	AarthiPoorani	Effectiveness of Assistive Devices for Improving Functionality in Individuals with Low Vision and Blindness: A Scoping Review	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, TamilNadu
034R035EIVOC2025	GopinathMadheswaran	Emotion Identification and Categorization in Simulated Central Vision Loss Using Event-Related Potentials	Manipal Academy of Higher Education, Karnataka
281R163EIVOC2025	ManjuVarshiniBhuvaneswaran	Vision And Psychiatric Disorders: A Pilot Study On The Impact Of Psychiatric Disorders On Visual Functions	SRM Institute of Science and Technology, Chennai, Tamil Nadu
581R348EIVOC2025	Baby Kumari	Insights from the Field: Low Vision Rehabilitation in Eastern India's Largest Eye Network	AkhandJyoti Eye Hospital
429R250EIVOC2025	Luouiebastin K	Impact of Contrast Sensitivity and Visual Field on Driving Performance in Drivers with Visual Impairment	SankaraNethralaya, Chennai
Scientific E-Poster Session 13 - Pediatric Optometry / Refractive error correction - 2 (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
174R096EIVOC2025	Subiksha S	The Role of Peripheral Hyperopia in Myopia Progression and the Efficacy of Myopia Control Glasses in Children	Aravind eye hospital, Madurai
291P046EIVOC2025	Swetha S	Knowledge, Attitude, Practices Related to Myopia Control Spectacle Lenses Among Eye-Care Practitioners in India	Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu
483R285EIVOC2025	ArumugamVijayalakshmi	Reasons for spectacle Reassessment in a Tertiary eye care center: A six-year Retrospective Analysis (2019-2024)	SankaraNethralaya, Chennai
496R298EIVOC2025	Lingesh M	Impact of Refractive Error on Stereopsis in Emmetropic and Myopic Individuals: A Prospective Study	Christian Medical College, Vellore
203R123EIVOC2025	SoubhikChel	Siblings and Myopia Study	L V Prasad Eye Institute, Hyderabad, Telangana
030R031EIVOC2025	AmbikaChandrasekar	Dry Eye And Refractive errors among School children (DEARS)	Elite School of Optometry,Chennai, Tamil Nadu

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Scientific Free Paper Session - E-Poster

Venue: Impressions Hall

Scientific E-Poster Session 14 - Ocular Disease and Diagnostics - 2 (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
198R118EIVOC2025	Debannita Pal	Study of Visual Evoked Potential Patterns for Optic Nerve Disorder. The type of my study is Retrospective Cohort Study.	Aditya Birla SankaraNetralaya
369U102EIVOC2025	Kavana D C	The effect of 8-D music and digital screen use on intraocular pressure and corneal thickness	Vittala international Institute of ophthalmology, Bangalore, Karnataka
172R094EIVOC2025	Sweety Sharma	Descriptive analysis of structure - function test parameters in primary glaucoma subtypes	Dr. Shroff's Charitable Eye Hospital, New Delhi
227P025EIVOC2025	Sunny Kant	Ocular profiling of patient with Adie's Pupil: A Retrospective Study from a Tertiary Eye Care Center in South India	The SankaraNethralaya Academy, Chennai, Tamil Nadu
317P048EIVOC2025	Nivetha K	Development of a hybrid low-cost smartphone-based fundus camera using IR and visible light for retinal imaging	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
370R199EIVOC2025	AmrithaVijayan V L	Comparative Study on Patient Comfort, Ease of Use, and Time Efficiency Between Heidelberg Spectralis and SS-Intalight Dream OCT Systems in a Clinical Setting.	Chaithanya Eye Hospital and Research Institute, Kesavadasapuram,Trivandrum,Kerala
199R119EIVOC2025	DebalinaGuchhait	Assessing quality of Optometry diagnostic services through peer review in a NABH accredited eye hospital	SankaraNethralaya Kolkata
Scientific E-Poster Session 15 - Optometric Education / Public health and Community Optometry - 2 (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
414R236EIVOC2025	Ramesh Babu	Impact of Teleophthalmology in Rural Eye Care: A Decade-long Study on Blindness Prevention in Tamil Nadu, India	SankaraNethralaya, Chennai
487R289EIVOC2025	Paula Mukherjee	Empowering Women for Leadership: Transformative Outcomes of the Women Leadership Program	Optometry Confederation of India
035R036EIVOC2025	SwethaSaravanan	Prevalence of Refractive Error and Visual Impairment Among School Children in India: Insights from the National 'Vision for a Cause' Screening Initiative	Optometry Confederation of India
207R126EIVOC2025	VipinGuruvathamani	Normative Data for Visual Functions among the Preschool Children from the SN-SEEKS study	Elite School of Optometry,Chennai, Tamil Nadu
211U068EIVOC2025	Sneha K	Cost Analysis of Single-day Mass Vision Screening (SMVS) for School-going Children in India	Elite School of Optometry,Chennai, Tamil Nadu
489R291EIVOC2025	Pushpavalli M	Spectacle Wear Adherence among Beneficiaries of Community Outreach Programs by a Tertiary Eye Care Hospital	SankaraNethralaya, Chennai
127P011EIVOC2025	AnushiyaRajasekar	Exploring Teaching and Learning in Mastering Retinoscopy Among Optometry Students – A Qualitative Study	Acchutha Eye Care &Acchutha Institute of Optometry, Erode, Tamil Nadu
Scientific E-Poster Session 16 - Dr RajeswariMahadevan Memorial Scientific Session 2 (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
516R311EIVOC2025	MohanaSundari S.B	Impact Of Contact Lens Disposal Into The Environment – A Review	Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu
046R045EIVOC2025	Zalak Shah	Distinguishing Superior Suspect Keratoconus and Superior Keratoconus from Normal Eyes Using Corneal Topography, Tomography and Higher Order Aberrations Parameters.	C. H. Nagri Eye Hospital, Ahmedabad
115R058EIVOC2025	Suraj Kumar Chaurasiya	Impact of Corneal Collagen Cross-Linking on Visual Acuity and Higher-Order Aberrations in Keratoconus: A Retrospective Study at a Tertiary Eye Hospital	CL Gupta Eye Institute
420R242EIVOC2025	KiranmayiChappidi	Surgical Aphakia In Severe Ocular Surface Disease: Scleral Lens To The Rescue	L V Prasad Eye Institute, Hyderabad, Telangana

August 16, 2025

Scientific Free Paper Session - E-Poster

Venue: Impressions Hall

Scientific E-Poster Session 17 - Dr E Vaithilingam Memorial Scientific Session (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
485R287EIVOC2025	Bhavani V	Does Altering The Text And Background Of Hardcopy Have Influence Of Ocular Biometry?	L V Prasad Eye Institute, Hyderabad, Telangana
352P063EIVOC2025	SayantikaChakrabarti	Comparison of Displacement Thresholds across Individuals with Various Experience Levels During Simulated Cover Test	Elite School of Optometry,Chennai, Tamil Nadu
465R270EIVOC2025	TithiHalder	Quantitative assessment of the pupillary light reflex in neuro-critical care patients using objective pupillometry	L V Prasad Eye Institute, Visakhapatnam
479R282EIVOC2025	AmithavikramHathibelagal	Do Color Vision Aids Improve Visual Search task?	L V Prasad Eye Institute, Hyderabad, Telangana
295U079EIVOC2025	Nithisha R	The impact of contrast and spatial masking on the perception of letter fragments	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
328P054EIVOC2025	SubratoMondal	Comparative Analysis of Three Different Types of Visual Acuity Measures and Associated Reaction Times across Retinal Eccentricities in Normal Subjects	Elite School of Optometry,Chennai, Tamil Nadu
333P057EIVOC2025	Varsha M	Comparing the Effects of Optical and Digital Blur in Visual Acuity Assessment	Elite School of Optometry,Chennai, Tamil Nadu
163P015EIVOC2025	Shreyasi Biswas	Cost Analysis of a digital vs conventional psychophysics lab setting for the UG program of Optometry	Elite School of Optometry,Chennai, Tamil Nadu
Scientific E-Poster Session 18 - Binocular Vision and Vision therapy CtoR- 2 (03:30 PM - 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
445U106EIVOC2025	SivabalaMeenakshiMuthalagupillai	NSBV Anomaly: A Complete BV Assessment With A Step-By-Step Guided Vision Therapy In A Compliant Patient -Is All It Needs	Sri JayendhraSaraswathi Institute of Optometry, Chennai, Tamil Nadu
329P055EIVOC2025	Jayanthi Suresh	The Hidden Cost of a Blank Stare: The Overlooked Role of Absence Seizures in Vision Therapy Regression	Elite School of Optometry,Chennai, Tamil Nadu
518R313EIVOC2025	Pavithra E	Unilateral pseudo myopia in patient with Adies topic pupil- A case report	SankaraNethralaya, Chennai
279R162EIVOC2025	Vikram B G	A Case of Self-Prescribed Vision Therapy and the Need for Expert Eye Care	Ray Optics and Vision Care, Chennai
259R149EIVOC2025	RaghulGurunathan	Managing Digital Eye Strain with Low Add Power Lenses in a Young Adult: A Case Report	SankaraNethralaya, Chennai
296U080EIVOC2025	SmruthiSivakumar	Duane's Syndrome With Refractive Error :A Successful Surgical Outcome.	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
033R034EIVOC2025	Asha Tharsis	Combination Therapy for Myopia Control: A Case Series of Low Dose Atropine and DIMS Spectacle Lenses in Children Aged 8–12 Years	SankaraNethralaya, Chennai
530R323EIVOC2025	Ramesh Pillai	Clinical efficacy of Titan MyoSlo lenses on Indian Population: To measure the efficacy of Titan MyoSlo lenses in Myopic Children of Indian population after using it for 1 year in terms of power progression and the adaptation time required.	Titan Company Limited
Scientific E-Poster Session 19 - Geriatric Optometry, Low Vision and Rehabilitation CtoR-2 (03:30 PM- 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
434P076EIVOC2025	Ishwarya A	Beyond Double Vision: A Novel Optical Approach to Diplopia Management	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
480R283EIVOC2025	Mahalakshmi G	Overcoming Barriers to Eye care: A Home Visit Case study for an Elderly patient	SankaraNethralaya, Chennai
349R191EIVOC2025	SoundaryaDharshiniVengatesan	"Face Blindness and Visual Agnosia in a Child with Cortical Visual Impairment CVI): A Case of Prosopagnosia Following Acute Necrotizing Encephalopathy" :	SankaraNethralaya, Chennai
346R188EIVOC2025	Chowthri M.M	"Echoes in sight: Exploring Palinopsia in a Clinical Case Series"	The SankaraNethralaya Academy, Chennai, Tamil Nadu
456P085EIVOC2025	DivyaKumaran	Visual Rehabilitation Post- C3R: A Case Report	Sri JayendhraSaraswathi Institute of Optometry, Chennai, Tamil Nadu
042R042EIVOC2025	Tharakeswari T	Enhancing Visual Function in Retinitis Pigmentosa with Macular Atrophy: A Case of Cost-Effective Low Vision Rehabilitation Using Combined Optical and Non-Optical Aids	SankaraNethralaya, Chennai
095U042EIVOC2025	ZoyaNaaz	30 Days To Diagnosis, 9 Years Of Challenge Of A Brave Child Full Of Dreams And Life: A Personal Journey Of A 9-Year-Old Boy Through Vision Loss, Multiple Surgeries And Hope — Inviting Collaborative Insight for Advancements In ROP Management and Research to Prioritize Retinopathy of Prematurity.	JamiaHamdard University, New Delhi
355R194EIVOC2025	LoshineeSrikanthKanchana	A Multidisciplinary approach in addressing oculomotor dysfunction in children with Cerebral Visual Impairment	SankaraNethralaya, Chennai
504R304EIVOC2025	Prasannasai K	Management of Cerebral visual impairment with Yoked prism - A case report	SankaraNethralaya, Chennai

August 16, 2025

Scientific Free Paper Session - E-Poster

Venue: Impressions Hall

Scientific E-Poster Session 20 - Ocular Disease and Diagnostics CtoR - 2 (03:30 PM- 05:30 PM)			
Registration No	**Presenting Author**	**Title**	**Presenting Author Institution**
201R121EIVOC2025	Madhurima Choudhury	Varied clinical presentations of Posterior Polymorphous Corneal Dystrophy (PPCD): A Case Series	SankaraNethralaya, Kolkata
496R298EIVOC2025	Lingesh M	Comprehensive Management of Viral Retinitis in an Immunocompromised Patient: A 9-Month Follow-Up Case Report on Serial IntravitrealGanciclovir Therapy and Systemic Valganciclovir(A Retrospective follow up study)	Christian Medical College, Vellore
235P032EIVOC2025	BarsitaPanchariya	Bilateral Retinal Vasculitis in a case of Seronegative Rheumatoid Arthritis	The SankaraNethralaya Academy, Chennai, Tamil Nadu
263P042EIVOC2025	Siva Priya S	Unmasking the Ocular Tuberculosis: Choroidal Tubercles as A Consequence of Ethambutol Toxicity	The SankaraNethralaya Academy, Chennai, Tamil Nadu
440P079EIVOC2025	Gopikrishnan G	Bilateral Dacryops in an Elderly Male: An Uncommon Presentation of Lacrimal Gland Ductal Cysts	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
055U011EIVOC2025	ShaliniBalakrishnan	Atypical Clinical Presentation of BEST Disease: A Case Report	Elite School of Optometry,Chennai, Tamil Nadu
513U114EIVOC2025	Akshaya J	Toxoplasma Retinitis- A Silent Threat to Vision	Lotus Institute of Health Sciences and Management, Coimbatore, Tamil Nadu.
317P048EIVOC2025	Nivetha K	Intravitreal Parasitic Infection Presenting as a Floater: A Case Report	Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu
513U114EIVOC2025	Akshaya J	Blocked at 25: A Rare Retinal Vein Occlusion	Lotus Institute of Health Sciences and Management, Coimbatore, Tamil Nadu.
373R202EIVOC2025	Priya Dutta	Glaucoma In A Child With Cutis Laxa Syndrome – An Unusual Association	SankaraNethralaya, Kolkata

Scientific Sessions

Oral Session

Scientific Free Paper Session 1
Binocular Vision and Vision therapy – 1

Registration ID Number: 238R134EIVOC2025

Title: Measuring Suppression in Amblyopia with Humphrey Visual Field Analyzer

Author(s): Priyanka Maniarasu, PremNandhini Satgunam, Anantha Padmanabhan

Affiliation(s): L V Prasad Eye Institute, Hyderabad, India

Abstract Content:
Purpose: Suppression is a key feature in amblyopia pathogenesis, but its clinical quantification remains elusive due to limited techniques which can be readily translated into clinical practice. Thus, this study aimed to measure suppression using routine perimetry technique.

Methods: Fourteen individuals with amblyopia (mean ±SD age: 21.35 ±7.23 years) and age-matched controls were recruited (23.78 ±5.34 years). Participants underwent Humphrey Field Analyzer (HFA, Carl Zeiss Meditech) 10-2 perimetry monocularly, fellow eye first, followed by the amblyopic eye in amblyopia group, whereas in controls right eye followed by left eye. Foveal threshold was compared between the amblyopic, fellow eye and the controls eye. A full-field median threshold was also computed and compared from the median of 68 threshold values for each participant. The primary outcome was the interocular threshold difference, computed by subtracting the fellow eye's threshold from the amblyopic eye at each of the 68 grid points. This difference was considered significant if outside the 95% confidence interval for the difference between the two eyes of the control group.

Results: Foveal thresholds were significantly reduced in amblyopic eyes than in controls eyes ($p = 0.01$). Full-field median thresholds were also significantly reduced in amblyopic eyes (median [Q1, Q3]: 32.0 dB [31.0,33.8]) compared to fellow eyes (33.5 dB [32.3, 35.0]) and control eyes (34.0 dB [34.0,34.0]), ($p = 0.01$). The point-by-point interocular threshold difference for 68 grid points was significantly greater in amblyopic group (median [Q1, Q3]: -1.50 dB [-2, -1]) compared to controls (0.5 dB [0,1]), ($p < 0.001$). This difference correlated with stereoacuity ($rs=-0.84$, $p<0.001$).
Conclusion: Full-field interocular threshold difference was 3-folds higher in amblyopia group than controls. The difference also correlated with stereoacuity. These findings suggest that HFA 10-2 perimetry can serve as a potential clinical tool for quantifying suppression in amblyopia. Such a measure can be used for longitudinal follow-ups in amblyopia management.

Registration ID Number: 292U076EIVOC2025

Title: The Impact of Screen Time and Earphone Usage on Motor Proficiency Among Young Adults

Author(s): Lathika J, Shakthivel V, OMohamed Shaqeeq, Mythili S, Rakhumaran S, Bharghavy S, Maheswari Srinivasan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:
Purpose: This study explores how increased screen time and frequent earphone use impact motor skills in young adults. Prolonged screen exposure can affect coordination and balance, while extended earphone use may disrupt sensory processing. Using the BOT-2 test, we examine the impact of screen time, earphone usage influence overall motor performance.

Methods: This cross-sectional observational study examined young adults aged 18–21, selected randomly. Earphone usage data was collected through a self-reported questionnaire adapted from previous research, where participants reported their daily usage, categorized as low (1 hour). Screen time was objectively recorded from device settings, considering only one primary device per participant, and classified as ≤6 hours or >6 hours. The motor proficiency was assessed using the Bruininks-Oseretsky Test of Motor Proficiency, Second Edition (BOT-2), a standardized tool evaluating coordination, strength, and agility through structured tasks like balance exercises and object manipulation. The test provides detailed scoring to analyze motor development. Data normality will be checked using the Shapiro-Wilk test, while multiple linear regression will assess the relationship between screen time, earphone usage, and motor proficiency. A chi-square test will examine associations between categorized screen time, earphone usage, and motor performance.

Results: A total of 265 participants (mean age: 19.05 ± 0.8 years; 135 males, 130 females) were included. Mean earphone usage was 1.14 ± 1.13 hours/day, mean screen time was 5.50 ± 1.77 hours/day, and mean BOT-2 score was 68.5 ± 5.66. Descriptive analysis showed 50.19% had higher screen time, while 49.81% had lower screen time. Earphone usage was predominantly low (66.42%), while 33.58% reported higher usage. Regarding motor proficiency, 60.38% scored lower, while 39.62% scored higher on BOT-2. The Shapiro-Wilk test confirmed non-normal data distribution ($p < 0.05$). Multiple linear regression indicated a significant relationship between screen time, earphone usage, and BOT-2 scores ($p < 0.001$). Chi-square tests showed significant associations between screen time grading and motor proficiency ($p = 0.008$) and between earphone usage grading and motor proficiency ($p < 0.001$).

Conclusion: This study identifies a significant link between screen time, earphone usage, and motor proficiency in young adults. Higher digital device use was associated with reduced motor performance, highlighting its potential neuromuscular effects. These findings emphasize the importance of mindful technology use to support motor skills and overall physical health

Registration ID Number: 395R221EIVOC2025

Title: Saccadic Eye Movement in Neurodegenerative disease

Author(s): Noor Naazneen, Noor Naazneen, Namratha Hegde, Kalsang Dolma, Gulafsha Parveen

Affiliation(s): Sankara College of Optometry, Bangalore, Karnataka

Abstract Content:
Purpose: This study investigates saccadic eye movements in neurodegenerative diseases, highlighting their diagnostic potential. By analyzing movement abnormalities and their correlation with disease severity, it emphasizes saccades as a possible biomarker for early detection and progression monitoring. These findings contribute to improved assessment and Management of neurodegenerative conditions.

Methods: This observational study included patients with neurodegenerative diseases, selected based on specific inclusion and exclusion criteria. Participants underwent initial assessments, including demographic details, patient history, visual acuity testing (Log MAR chart), objective and subjective refraction, and fundus evaluation using the Remedio fundus camera. Saccadic eye movements were assessed with NSUCO's oculomotor test, followed by an MMSE score using the Mini Mental State Examination questionnaire.

Results: A total of 56 participants (27 males, 29 females) with an average age of 74.35 years were divided into four stages based on MMSE scores: normal, early, middle, and late stages. Significant differences in saccadic accuracy were found across diagnostic groups ($p = 0.021$). But no significant differences were observed in pursuit movements. Saccadic accuracy ($p = 0.012$) and head movement ($p = 0.025$) differed significantly across stages, while no significant differences were found for saccadic ability or body movement. Pursuit ability ($p = 0.01$), accuracy ($p = 0.011$), head movement ($p = 0.011$), and body movement ($p = 0.033$) showed significant differences across stages.

Conclusion: The study found that neurodegenerative diseases impact saccadic and pursuit eye movements, with accuracy and head movement worsening as the disease progresses. These findings support using eye movement tests as a diagnostic and monitoring tool for disease progression

Registration ID Number: 390R218EIVOC2025

Title: A Comparative Analysis of Anaglyph Dichoptic Vision Chart and Worth 4 Dot App Vs Standard Worth Four Dot Test in Evaluating Suppression among Clinical Patients

Author(s): Namratha Hegde, Sapana Singh, Aditya Goyal, Kaushik Murali

Affiliation(s): Sankara Academy of Vision, Karnataka

Abstract Content:
Purpose: To compare the effectiveness of the Anaglyph Dichoptic Vision Chart and Worth 4 Dot App with the standard Worth Four Dot Test in evaluating suppression in clinical patients and to assess the accuracy and reliability of these methods in a clinical setting

Methods: The study began with a comprehensive assessment of visual acuity under aided and unaided conditions using a log MAR chart for both distance and near vision. Objective and subjective refraction were performed to determine the

best-corrected visual acuity through retinoscopy and subjective refinement. Suppression was evaluated using the iOS W4DT App at varying contrast levels (100%, 80%, 60%), sizes (6.00, 0.66, 0.33), and distances (33 cm, 3 m, 6 m) to assess binocular visual function. Additionally, suppression was measured using the Anaglyph Dichoptic Vision Chart (ADVC) paired with a log MAR chart and compared to the standard Worth Four Dot Test. Ocular alignment was examined via a cover test and the Modified Thorington Test. The statistical analysis for this research was conducted using SPSS version 25 where descriptive statistics were calculated, followed by inferential statistics, including Spearman's correlation test, to assess the strength of agreement between methods of suppression evaluation.

Results: A total of 70 patients diagnosed with suppression were evaluated for the depth of suppression using three methods: the W4DT iOS App, the Anaglyph Dichoptic Vision Chart (ADVC), and conventional methods. The average age of the subjects was 17.39 ± 13.9 years, with 36 females and 34 males. The average visual acuity for the right eye was 0.17 ± 0.16 log MAR and 0.19 ± 0.17 log MAR for the left eye. Spearman's correlation coefficients between the methods ranged from 0.599 to 1.00, all statistically significant ($p < 0.01$). A perfect correlation ($r = 1.00$) was observed at the intermediate distance, indicating excellent consistency in evaluating binocular suppression across the three methods. These results highlight the high reliability and strong agreement between the W4DT iOS App and the Dichoptic Vision Chart, demonstrating their potential as effective and dependable tools for assessing suppression in clinical settings.

Conclusion: The study demonstrates that W4DT iOS App and Anaglyph Dichoptic Vision Chart (ADVC) show high reliability and strong agreement with the standard Worth Four Dot Test in evaluating binocular suppression. These digital tools offer effective, dependable alternatives, providing potential advantages for clinicians in diagnosing suppression in clinical settings.

Registration ID Number: 394R220EIVOC2025

Title: Pilot Study on The Correlation of Pursuit and Saccadic Eye Movements with Motor and Non-Motor Perceptual Skills Among School-Going Children

Author(s): Prateeksha G Hegde, Namratha Hegde, Aditya Goyal

Affiliation(s): Sankara College of Optometry, Bangalore, Karnataka

Abstract Content:

Purpose: To determine the correlation of pursuit and saccadic eye movements with motor and non-motor perceptual skills among school going children

Methods: Institutional ethics approval was obtained for this study involving school children. Participants were recruited based on inclusion criteria, and underwent baseline evaluations including history, visual acuity (distance and near), and refraction. Binocular vision was assessed to exclude any anomalies. Eye movements (saccades and pursuits) were tested using NSUCO and DEM

Results: The study samplecomprised a total of 39 participants. The mean age of study participants were 8.83± 2.26 years with the gender distribution of 15 males and 24 females. Shapiro wilk test was done to check the normality of the data. Since the data was non-parametric, Spearman's correlation test was used to find the correlation. Correlation of r=0.486, (p = 0.002) was found between the percentiles of TVPS & VMI. Also, between motor coordination and VMI ages strong positive correlation of r=0.979 (p=0.000) was found. Whereas, no significant correlation was seen between Eye movements with motor and non-motor perceptual skills.

Conclusion: The study found no significant correlation between eye movements and motor or non-motor perceptual skills. However, a significant correlation existed between motor and non-motor perceptual skill percentiles. This suggests an interrelationship between visuo-motor integration and motor coordination development in school children, independent of direct eye movement correlation.

Registration ID Number: 398U104EIVOC2025

Title: Dry Eye Disease Among the Patients with Non Strabismic Binocular Vision Anomalies

Author(s): Akula Bhavani, Prateeksha Hegde, Akula Bhavani, shruti MS, Anand Balasubramaniam, Vidhya C

Affiliation(s): Sankara College of Optometry, Bangalore, Karnataka

Abstract Content:

Purpose: To estimate number of patients with dry eye disease among the clinical population of Non Strabismic Binocular Vision Anomalies.

Methods: An Observational Study was conducted in Sankara College of Optometry. Consent was taken from subjects. Subjects in the 19–40 age range participated in the study. The Scientific and Ethics Committee granted permission. The participants gave their consent. The NSBVA workup has been done as part of the baseline assessment. The participants will be recruited for the study if they meet the inclusion and exclusion requirements. The keratograph, TBUT, and Schimer's are used to measure the participant's ocular surface as part of the baseline assessment for dry eye examination. The OSDI questionnaire and COVD-19 were used to evaluate the recruited participant's symptom score

Results: Clinical tests revealed that 26 of the 30 NSBVA patients had dry eye. 86.6% of participants had dry eyes. Of the 26 patients who received positive scores on the OSDI questionnaire, 24 also had positive scores on the COVID-19 questionnaire. There is a 92.30% correlation between OSDI and COVID-19 symptoms, r = 0.223 and p = 0.234, as determined by Spearman's correlation coefficient, show a positive correlation between the NSBVA symptoms scores and dry eye. Twenty-six of the 26 individuals with dry eyes scored positively on the OSDI questionnaire. The clinical test and the symptom score are exactly in sync. R=0.876 indicates that the correlation is quite strong.

Conclusion: In conclusion, the symptoms of dry eye and NSBVA overlap significantly, and this study demonstrated that patients with dry eye may also experience NSBVA, contributing to the manifestation of these symptoms.

Registration ID Number: 400R225EIVOC2025

Title: Clinical Practice Patterns and Upskill of Assessing Saccades & Pursuits in A Tertiary Eye Hospital: A Quasi-experimental study

Author(s): Sofia Mary, Namratha Hegde, Prateeksha G Hegde

Affiliation(s): Sankara College of Optometry, Bangalore, Karnataka

Abstract Content:

Purpose: This study examines optometrists' clinical assessment of saccades and pursuits in a tertiary hospital, emphasizing their role in visual tasks like reading and driving. It promotes standardized evaluations using NSUCO's scoring method and aims to enhance consistency through education on grading and diagnosing visual performance issues.

Methods: Participants were recruited based on inclusion criteria and study underwent three phases: pre-training evaluation, training, and post-training evaluation, conducted one week apart. Knowledge was assessed using a questionnaire on NSUCO's Oculomotor Test, while skill was graded by an expert reviewing video of participants performing assessments. Combined knowledge and skill were evaluated by the participants' ability to accurately grade saccadic and pursuit eye movements. Training was provided through a structured handout and an instructional video.

Results: Of 52 participants, 38 evaluated saccades and pursuits, and 20 performed the NSUCO oculomotor test. Only knowledge scores showed significant improvement (p = 0.042). Correlations with years of experience were positive for most scores, except for pre-training combined and post-training knowledge scores, which showed negative correlations.

Conclusion: This study highlights variability in saccade and pursuit assessments. While knowledge improved post-training, skill and combined scores did not, indicating challenges in applying theory to practice. This underscores the need for hands-on training in professional development to bridge the gap between knowledge and clinical application.

Registration ID Number: 389R217EIVOC2025

Title: Effect of Smartphone-Based Vision Therapy Using the Vikas App on Visual Perception and Oculomotor Skills in Dyslexic Children: A Case Series

Author(s): Roselin Kiruba A, Dharani Ramamurthy
Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: To evaluate the effectiveness of smartphone-based vision therapy using the Vikas app in enhancing visual perception and oculomotor skills in children diagnosed with dyslexia.

Methods: This case series includes four children diagnosed with dyslexia, aged between 5 and 15 years. All participants had a best-corrected visual acuity of 20/25 or better in both eyes and exhibited no ocular abnormalities or prior interventions for dyslexia. Exclusion criteria included the presence of visual impairments, genetic syndromes, intellectual disability, or ADHD. Each child underwent a comprehensive eye examination followed by assessments of binocular vision, visual perception using the Test of Visual Perceptual Skills–4 (TVPS-4), and oculomotor skills using the NSUCO grading system. Therapy was administered using the Vikas app—a smartphone-based application featuring games designed to improve visual perception and oculomotor skills. Each child participated in 10 consecutive therapy sessions, 30 minutes per day. Following therapy, all assessments were repeated to evaluate changes in performance.

Results: The children, with a mean age of 9.2 years, showed improvements in various visual functions after the intervention. Improvements were observed in saccadic movements, including ability and accuracy, as well as in pursuit movements, and head - body coordination during tracking tasks. Post-therapy evaluations also indicated enhanced performance in dynamic retinoscopy and monocular accommodative facility. Notable gains were seen in visual discrimination, visual closure, visual sequential memory, form constancy, visual figure-ground discrimination, spatial relationships, and overall scaled, standard, and percentile scores. Visual memory scores remained unchanged.

Conclusion: This case series suggests that smartphone-based vision therapy using the Vikas app may improve visual perception and oculomotor functions in children with dyslexia. Although the outcomes are promising, studies with larger sample sizes and extended therapy sessions are needed to validate these findings.

Scientific Free Paper Session 2
Optometric Education / Public health and Community Optometry

Registration ID Number: 197R117EIVOC2025

Title: Service Delivery Model Using Volunteers for Vision Screening of Tribal Children Residing in Ashram Shalas of Palghar, Maharashtra

Author(s): Neha Jadhav, Prema Chande, Mumtaz Qazi

Affiliation(s): Lotus College of Optometry, Mumbai, Maharashtra

Abstract Content:

Purpose: The purpose of this study was to explore the role of volunteers from a foundation, to provide primary vision screening for tribal children. The need to explore this service delivery model here was because these residential schools are located in geographies that are difficult to access.

Methods: Ashram Shallas are residential schools located in rural Maharashtra under the Ministry of tribal affairs located in remotest areas. In Palghar district, a foundation has assigned volunteers for 2 years to monitor education and handhold children along with the teachers. These volunteers are provided boarding, lodging, and a nominal stipend by the foundation and assigned 4-5 schools each. Twenty-one Gandhi Fellows from the Piramal Foundation were trained to record vision and segregate children who failed the tests to be further evaluated by Optometrists. The optometrists performed a comprehensive eye examination which included vision, objective and subjective refraction, binocular vision and color vision assessments, and anterior and posterior evaluation with a direct ophthalmoscope. Children with refractive errors received corrective glasses, while those with other ocular morbidities, such as cataracts or corneal opacities, or those who needed cycloplegic refractions, were referred to a base hospital for further Management.

Results: Primary screening was conducted in 98 Ashram shalas over 29 days (99 man-days). 58,275 children were screened by volunteers, and 2,966 (5.09%) were identified and referred for further evaluation. 1971 children underwent secondary screening by Optometrists in 25 days (171 man-days) The mean age of screened children was 12.5 ± 3.45 years. Of these, 518 (0.89%) children were diagnosed with ocular morbidity, including 311 (0.53%) refractive errors and 207 (0.36%) with other ocular conditions requiring referrals. Additionally, the remaining 995 students will be screened post-vacation. 15 volunteers screened an average of 3885 number of children each, in 29 working days. The study demonstrates the effectiveness of dedicated eye health volunteers in identifying children needing eye care while underscoring the need for better diagnostic precision. Strengthening screening protocols can further improve efficiency and reduce false positives and ensure timely interventions for children with vision problems.

Conclusion: Volunteers played a crucial role in vision screening of remote schools which are inaccessible to primary healthcare workers. Their dedication ensured faster screenings than training teachers. To enhance impact, assigning 4-5 schools per volunteer from NGOs in rural areas could improve screening accuracy and expand access to essential eye health

Registration ID Number: 433R254EIVOC2025

Title: Can People Use WHOeyes on Smartphones for Vision Screening at Home? A Validation and Acceptability Study in Indian Context

Author(s): Debananda Padhy, Winston D Prakash, Andreas Mueller, Stuart Keel, Rohit C Khanna

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: The aim of the study was to validate the WHOeyes app for measuring visual acuity (VA) against standard logarithm of minimum angle of resolution (logMAR) chart and assess its user acceptability in India.

Methods: This is a cross-sectional study conducted between July to December 2023 at Shirin Etian Tara Brown (SET Brown) Campus, Kismathpur and Kallam Anji Reddy (KAR) Campus Banjara Hills, Hyderabad, Telangana, India. Participants aged 5 years and older underwent VA testing using both the WHOeyes app and logMAR E chart using tumbling E optotypes. Additionally, a questionnaire was administered to assess the app's usability, practicality, and user experience.

Results: A total of 270 participants (227 adults, 43 children) were enrolled. The mean age was 42.47 ± 15.24 years for adults (range: 17-83 years) and 11 ± 2.89 years for children (range: 5-15 years). For adults, the Bland-Altman plot between logMAR and WHOeyes VA showed mean differences(MD) with 95% limits of agreement (LOA) for right eye (RE) -0.01(-0.27 to 0.23), left eye (LE) -0.006(-0.15 to 0.14), and binocular nearVA was -0.0004(-0.098 to 0.098). For children the MD with 95% LOA was 0.04(-0.240 to 0.328) for RE and 0.07(-0.281 to 0.425) for LE. The questionnaire revealed that 47.14% of participants valued time-saving aspect and 29.23% felt easy to monitor vision at home, while 53.30% expressed concerns about its accuracy.

Conclusion: The WHOeyes app exhibited high accuracy to standard VA tests, indicating its potential for vision screening in underserved areas. Incorporating suggestions from participants would be helpful.

Registration ID Number: 487R289EIVOC2025

Title: Evaluating Spectacle Compliance in School Children: Findings from the 'Vision for a Cause' Project

Author(s): Paula Mukherjee, Bhavya M, Spandhana P, Anuradha Narayanan, Swetha S, Premjeeth Moodbidri, Lakshmi Shinde

Affiliation(s): Optometry Confederation of India

Abstract Content:

Purpose: Vision for a Cause is a two-year ongoing project in which optometry colleges screened 34,142 children in government and government-aided schools across India. This study was done to compare and assess the spectacle compliance among school-going children following 6 months of dispensing free pairs of spectacles in the initial

Methods: The screening was performed using a standardized screening and referral protocol. The children with refractive errors were given free spectacles following the screening. The project team visits the schools after six months of spectacle delivery with prior permission from the school authorities to evaluate the students prescribed with spectacles. The students are divided into compliant and non-compliant based on the observation of the optometrist and the teacher. The spectacle compliance was evaluated using a questionnaire for compliance and noncompliance. The various reasons for non-compliance were also documented.

Results: Data was analyzed for 1755 children in phase 1 & 1165 children in phase 2 with uncorrected refractive errors and the analysis was done using the spherical equivalent. The mean (SD) age of the children was 13 (2) years in both phases. Of which, the majority were females in both phases (67.52% and 59.5%). The mean spherical equivalent for myopia was -1.45DS and hyperopia was +0.75DS in both phases. Overall, spectacle compliance was seen in 67.07% in phase 1 and 52.79% in phase 2 of the children. India was divided into 4 zones and the compliance was analyzed across the zones. The compliance was found highest in the west zone (77.94%) in phase 1 whereas in phase 2 the compliance was found highest in the north zone (57.07%) in phase 2. Further, analysis revealed that gender and type of refractive error

Conclusion: The study demonstrates that over half of the children continued using their spectacles six months after distribution, showing promising impact of school-based interventions. Regional variations highlight areas of success that can guide future efforts. Gender and type of refractive error had no negative influence on compliance. Strengthening follow-up and engagement

Registration ID Number: 035R036EIVOC2025

Title: Gaps in Refractive Error Coverage Among Indian Schoolchildren: Findings from the 'Vision for a Cause' Program

Author(s): Swetha Saravanan, Bhavya M, Anuradha Narayanan, Spandhana P, Paula Mukherjee, Premjith Moodbidri, Joachim Khus, Lakshmi Shinde

Affiliation(s): Optometry Confederation of India

Abstract Content:

Purpose: Uncorrected refractive error is the leading cause of preventable vision impairment in children, particularly in low-resource settings. This study evaluates the quality of refractive services provided to Indian schoolchildren by measuring effective refractive error coverage (eREC) and identifying regional and demographic disparities

Methods: The 'Vision for a Cause' is a nationwide school eye health initiative led by the Optometry Confederation of India aiming to address preventable vision disorders through standardized screenings. A cross-sectional analysis was conducted among 27,481 schoolchildren across six states representing all geographic zones of India. Comprehensive eye examinations, including visual acuity testing, non-cycloplegic refraction, and anterior segment evaluation, were carried out. Refractive error coverage (REC) was defined as the proportion of children receiving any form of vision correction, while effective refractive error coverage (eREC) denoted those receiving appropriate correction. The refractive quality gap (RQG) was calculated as the difference between REC and eREC. Data were further stratified by zones (South, North, East, West), gender, and school level (Primary, Middle, High, Higher Secondary).

Results: Nationally, REC was found to be 53.30%, while eREC was only 37.31%, revealing a 30.01% quality gap in refractive services. Marked regional disparities were also observed where the Northern region reported the highest eREC (65.23%, RQG=14.49%), while the Southern region recorded the lowest (eREC=17.74%, RQG: 58.49%). Gender-based differences were also apparent, with females achieving marginally higher eREC (37.45%) over males (36.98%). School level also influenced outcomes, with higher secondary students showing significantly better coverage (eREC=43.55%) compared to Primary school students (eREC=30.00%).

Conclusion: The 'Vision for a Cause' program reveals substantial quality gaps in India's school-based refractive services, with fewer than half of children receiving effective correction. Addressing regional inequalities and strengthening service delivery, robust follow-up systems, and integration with education policy are critical steps toward achieving universal eye health

Registration ID Number: 522R316EIVOC2025

Title: Percentile Growth Curves Based on Different Ocular Parameters of Indian School Children

Author(s): Swati Panigrahi, Sruthi Chamarthy, Swapnil Thakur, Rohit Dhakal, Satish Gupta, Manoj Manoharan, Rakesh Maldoddi, Pavan Verkicharla

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana.

Abstract Content:

Purpose: To generate normative percentile curves derived from ocular biometry components of Indian school children based on age, gender and refractive error.

Methods: A retrospective analysis of 2577 school children (males: 1268, 49%) aged between 9 to 16 years (right eye) was conducted. There were 826 myopes and 1,754 non-myopes. Percentile curves (2nd, 5th, 10th, 25th, 50th, 75th, 90th, 95th and 98th) were estimated using Lambda-Mu-Sigma method for spherical equivalent refraction (SER), axial length (AL), average keratometry (K), axial length to corneal radius of curvature (AL/CRC) ratio, lens thickness, central corneal thickness (CCT), anterior segment length (ASL), posterior segment length (PSL) and posterior segment length to anterior segment length (PSL/ASL) ratio.

Results: In linear regression while, AL, AL/CRC ratio, PSL and PSL/ASL ratio increased with age ($p<0.001$), average K decreased with increase in age ($p<0.001$) and lens thickness remained stable ($p=0.86$). From 2nd to 98th percentile, the range of per year increase in AL was 0.11 to 0.21 mm/year (R2=0.98), AL/CRC ratio was 0.007 (R2=0.71) to 0.05/year (R2=0.94), PSL was 0.08 (R2=0.90) to 0.17 mm/year (R2=0.92) and PSL/ASL ratio was 0.007 (R2=0.50) to 0.02/year (R2=0.78). In univariate analysis after adjusting for SER, there was no significant difference between per year increase in biometric parameters of males and females. In non-myopes, from 2nd to 98th percentile, the range of per year increase in AL was 0.09 (R2=0.88) to 0.10 mm/year (R2=0.70) and AL/CRC ratio was 0.003 (R2=0.30) to 0.01/year (R2=0.93). In ROC analysis AL/CRC ratio better classified myopes and non-myopes (AUC=0.73, Youden=0.36, sensitivity=0.60, specificity=0.76, cutoff=65th percentile) compared to other parameters.

Conclusion: Until 16 years, along with axial length and posterior segment length, AL/CRC ratio and PSL/ASL ratio continued to increase while, average K decreases linearly. No significant gender differences were found between percentile parameters. Percentile growth curves based on AL/CRC ratio has potential for predicting probability of risk of myopia.

Registration ID Number: 314P047EIVOC2025

Title: Paradoxical diplopia post-strabismus surgery: Role of vision therapy beyond surgical alignment

Author(s): Palla Deepika, Praveen kumar P, Amit Bhowmick

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Dissociated Vertical Deviation (DVD) is a binocular vision anomaly characterized by upward drift of one eye when the fellow eye is fixating, appears following strabismus surgery. Surgical corrections achieve ocular alignment but fails to address sensory adaptations causing recurrence. Vision Therapy (VT) offers comprehensive approach, rehabilitating the visual system by targeting accommodative-convergence mechanisms.

Case Details: A 11-year-old-girl presented with the complaints of binocular horizontal diplopia following squint correction. On examination, her best corrected visual acuity was 6/6 and N6 for distance and near. Worth four dot test revealed crossed diplopia for distance and near. Hirschberg indicated ortho. Cover Test (CT) showed esophoria at distance and exophoria at near with DVD. Prism bar cover test showed 4Prism dioptre (PD) of Eso with 5PD DVD for distance and 14 PD Exo with 6DVD for near. Visuoscopy identified unstable foveal fixation, Bagolini striated glasses test reported harmonious abnormal retinal correspondence.
Management: Initially a prism trial was done for fusion, however patient could not fuse for both distance and near with any of the prism combinations. Office based VT was recommended to the patient. Ten sessions were advised, each session given for 45-60 min every day on consecutive days. VT focused on improving the gross vergence followed by jump vergence training. Felt symptomatically better with minimal diplopia in free space after undergoing VT. During follow-up CT reported esophoria for distance and exophoria for near. PBCT showed 4 PD of Eso for distance and 2 PD Exo for near.

Outcome: DVD does not resolve completely with intervention and sometimes treatment may not be feasible or may provide only partial improvement. This is primarily due to the underlying neurological and sensory adaptations associated with DVD. VT helps in treating sensory and motor dysfunctions. Enhances fusional reserves and reduces the frequency of DVD.

Registration ID Number: 334P058EIVOC2025

Title: Practices & Protocols of School Eye Screening in India - A Scoping Review

Author(s): Paromita Mondal, Amirthaa M, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: The School Eye Screening (SES) program of National Programme for Control of Blindness and Visual Impairment (NPCBVI), helps in eradication of avoidable blindness in India. Standardization of protocol in SES program would enable uniform and accessible eye care. This review systematically maps the existing protocols for SES programs in India.

Methods: A scoping review was conducted in accordance with the PRISMA-ScR guidelines. Relevant articles and reports were identified through searches in academic databases including MEDLINE (PubMed), Google Scholar, and official reports from government and tertiary eye care institutions, using keywords such as 'School Screening Protocol in India' and 'Vision Screening Guidelines in India'. Studies focusing on school-going children aged 5 to 18 years were included. Exclusion criteria comprised comparative studies validating screening instruments, articles involving preschool children, and those addressing screening for other ocular conditions. Initially, the included screening protocols were categorized based on their referral criteria. Subsequently, six key elements were extracted from the evidence and described narratively for visual acuity (VA) assessment, refraction, anterior segment evaluation, posterior segment evaluation, referral criteria, and spectacle prescription criteria.

Results: A total of 250 articles were identified for title and abstract screening, of which 40 proceeded to full-text screening, and 29 were included in the final review. SES programs were categorized based on referral criteria: (i) referral for all ocular conditions including refractive errors, (ii) provision of spectacle and referral for all other ocular conditions, (iii) comprehensive screening protocols with provision of spectacles, management of few other ocular conditions and referral based on specific referral criteria. Significant variability existed in screening protocols, particularly in visual acuity cut-offs, with 6/9 most commonly used. In most cases, refraction (objective or subjective) was not performed. Referrals were largely based on visual acuity screening and anterior segment evaluation, typically limited to torchlight examination. Posterior segment assessments and spectacle dispensing were excluded from the majority of protocols.

Conclusion: Overall, marked inconsistencies were observed in screening protocols and spectacle dispensing practices across different institutional levels within the country, despite targeting the same age group.

Scholars Voyage Session

Registration ID Number: 247R142EIVOC2025

Title: One-eyed individuals may utilize monocular depth cues for perception but not for visuomotor actions involving depth judgments

Author(s): Preetirupa Devi, Preetirupa Devi, Tarjani Dave, Swathi Kaliki, Joshua Solomon, Christopher Tyler, Shrikant Bharadwaj

Affiliation(s): L V Prasad Eye Institute, Hyderabad, India

Abstract Content:

Purpose: We reported that one-eyed individuals could perform a depth-related visuomotor task no better than binocular individuals who temporarily wore an eye patch. Here, we ask whether the two groups might judge depth differently in a perceptual task that mimicked the visuomotor task.

Methods: The visuomotor task required the subjects to guide a metal loop along a convoluted wire without making any contact thrice. A buzzer would ring indicating an error, in case of contact. The perceptual version of the visuomotor task required the subjects to identify the presence of gaps between a loop and a path with a straight section, that transitioned to a curved section. Sixty presentations (20 each in the three sections) were shown to subjects 3 times, summing up to 180 trials. Fourteen one-eyed subjects did both tasks, as did 11 age-similar controls, both monocularly and binocularly.
Results: Visuomotor error rates of one-eyed cases (mean ± SEM: 0.25 ± 0.03err/s) were not significantly different from those of monocular controls (0.28 ± 0.03err/s; p=0.4), but significantly higher than those of binocular controls (0.09 ± 0.01err/s; p<0.01)

Conclusion: Extended reliance on monocular cues such as motion parallax may encourage larger head translations that may have provided an advantage in perceptual tasks but not in the visuomotor task.

Registration ID Number: 535R326EIVOC2025

Title: Development and Application of a Composite Functional Scoring System for Color Vision Deficiency Using Clinical and Self-Reported Measures – Pilot Study

Author(s): Janani Suresh, Sathish A, Rashima A

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: To develop and apply a weighted composite scoring model that combines clinical test outcomes and self-reported functional limitations to assess the real-world impact of individuals with color vision deficiency, particularly in occupational settings requiring color discrimination and identification.

Methods: The study was conducted in three phases. Phase one involved developing a functional difficulty survey using the Delphi technique with 10 experts, resulting in 16 items (8 each for daily and work tasks) rated on a 5-point Likert scale. In phase two, the survey was pilot-tested and showed high reliability (Cronbach's $\alpha > 0.80$). Phase three, responses were collected from individuals with color vision deficiency. Clinical tests included the Farnsworth-Munsell 100 Hue Test where the total error score (TES) cut off was set to ≤100 and Farnsworth Lantern Test where are all nine filters must be correctly identified. The weightage of composite functional scores were given as 75% to clinical performance, (40 % FM 100 and 35 % lantern signal test), and 25% to survey responses. Functional color vision was classified as good (67) based on the final score.

Results: The study included 42 individuals with color vision deficiency (41 males, 1 female; mean age 34±10 years) who presented for pre-employment, periodic, or annual eye exams. Diagnoses included 32 deuteranopia, 9 protanopia, and 1 unspecified defect, confirmed using Ishihara plates and the FM 100 Hue test. Mean survey scores were 13 ± 5 for daily activities and 10±4 for workplace tasks. The mean FM 100 Hue TES was 166±99, and the Lantern score was 6±3. Based on clinical tests alone, all participants would be unfit for certain occupations. However, using the composite functional score (clinical + survey), 4 were classified as having good, 17 as average, and 21 as poor functional color vision. Those in the poor group had difficulty in workplace survey scores (mean 11±4) and reported difficulties with color-related tasks, dependency on colleagues, and discrepancies in color perception.

Conclusion: The composite scoring framework may serve as a useful tool for assessing functional color vision in occupational contexts. By aligning clinical and real-world performance, it can potentially support fairer screening and broaden job opportunities for individuals with color vision deficiency, particularly in visually demanding roles.

Registration ID Number: 040R041EIVOC2025

Title: Evaluating the Efficacy of AI-Generated Responses in Optometry Exam Questions

Author(s): Vivek Suganthan Ramasubramanian, Gopinath Madheshwaran

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: With the increasing integration of AI in education, it is essential to determine whether AI-generated content meets academic standards in optometry, where precision and applied knowledge are critical. This study evaluated the efficacy of AI-generated responses for university-level optometry exam questions by assessing their quality based on expert evaluations.

Methods: University exam question papers from five different universities covering five subjects—Binocular Vision, Low Vision, Contact Lenses, Visual Optics, and Dispensing Optics—were collected. Ten frequently asked 10-mark questions per subject were selected. AI-generated responses were obtained using Google Gemini, ensuring a fresh account to avoid prior influences. The answers were exported and sent to subject matter experts for evaluation on a 5-point scale across five criteria: accuracy, completeness, relevance, clarity, and coherence. A Delphi consensus method was applied to analyse the level of agreement among experts. The Bloom's Taxonomy framework (remember, understand, analyse, apply, evaluate and create) was used to categorize questions. Thematic analysis of expert feedback was conducted to identify common patterns in AI responses, and a word cloud frequency analysis was used to visualize the most cited strengths and weaknesses. The AI's performance was further compared across the five subjects to determine variations in effectiveness.

Results: The AI-generated answers demonstrated moderate performance, with mean accuracy scores ranging from 3.5 to 3.8 across subjects. Completeness was identified as the weakest aspect, while clarity and coherence were relatively higher. AI performed better in Binocular Vision and Visual Optics, while Low Vision and Dispensing Optics had lower scores due to insufficient clinical depth and practical applicability. Bloom's Taxonomy categorization revealed that AI-generated responses performed well on lower-order cognitive tasks (Remember, Understand) but struggled with higher-order tasks (Apply, Analyse, and Evaluate), particularly in case-based problem-solving, critical reasoning, and clinical decision-making questions. Thematic analysis of expert feedback identified key shortcomings, including superficial reasoning, lack of evidence-based explanations, and inadequate patient-specific details. Experts suggested several improvements, such as enhancing clinical depth, incorporating structured answer formats, improving logical coherence, integrating case-based explanations, and ensuring greater technical accuracy to better align AI responses with academic and clinical expectations.

Conclusion: While AI shows potential in providing foundational knowledge in optometry, it currently lacks the depth and contextual precision required for high-stakes academic assessments. Future advancements should focus on refining AI models to incorporate detailed, clinically relevant content and structured answer formats to enhance their applicability in optometry education.

Registration ID Number: 254R147EIVOC2025

Title: Binocular and Monocular Saccadic Reaction Times in Glaucoma: A Promptness-Based Analysis

Author(s): Ashwini Venkat Reddy Chanakya, Johan JM Pel, Ronnie George, Peter Bremen

Affiliation(s): Sankara Nethralaya, Chennai and Erasmus MC, Rotterdam, The Netherlands

Abstract Content:

Purpose: Binocular vision enhances perception by integrating inputs from both eyes, improving detection and reducing reaction times (RTs). In glaucoma, visual-field loss and interocular imbalance may impair this advantage, especially peripherally and in later disease stages. We hypothesized that glaucoma reduces binocular summation, potentially leading to binocular inhibition in these conditions.

Methods: Fifteen participants (7 with glaucoma) completed an eye-movement perimetry task using a haploscopic setup with independent monocular and binocular stimulation and infrared eye tracking. Visual stimuli included 74%- and 155%-Weber contrast achromatic targets presented at 54 (monocular) and 56 (binocular) visual-field locations. Each participant completed 6–14 repetitions per condition across multiple sessions. Saccades were elicited by a sudden peripheral target after a variable fixation interval, with eye movements recorded and analyzed offline. Custom MATLAB scripts interpolated eye traces, removed blinks, and detected saccades based on velocity thresholds. Reaction time (RT) was measured as the latency between target onset and saccade initiation. RTs were normalized by promptness transformation (1/RT) and analysed using reciprobit fitting to estimate central tendency and variability. A linear mixed-effects model assessed the impact of viewing condition (monocular vs. binocular), contrast, eccentricity, and group (normal vs. glaucoma) on promptness.

Results: Binocular viewing led to significantly faster RTs than monocular viewing in both groups. However, the binocular advantage was reduced in glaucoma, suggesting impaired summation. Across conditions, high contrast and central target locations consistently yielded faster RTs. The linear mixed-effects model revealed that RTs declined with age, with a steeper decline in glaucoma patients, indicating that neural degeneration may compound age-related slowing. Higher contrast enhanced performance, highlighting the role of stimulus visibility. Peripheral targets elicited slower and more variable RTs, especially in glaucoma patients, consistent with their restricted visual fields. A significant Group × Eccentricity interaction showed that glaucoma patients experienced an exacerbated peripheral deficit, in line with characteristic visual-field loss. Together, the results suggest that glaucoma disrupts binocular integration, particularly under demanding visual conditions such as low contrast and peripheral target locations.

Conclusion: Glaucoma patients show slower, more variable RTs and reduced binocular advantage compared to healthy individuals, resulting in decreased performance in tasks like navigation and driving. Binocular RTs may offer a functional metric for assessing real-world performance and guiding personalized interventions, emphasizing the value of eye-movement perimetry for glaucoma diagnostics.

Registration ID Number: 149R075EIVOC2025

Title: Comparison of Visual Functions Among Spectacles and Contact Lenses in Individuals with Myopia

Author(s): Salai Dhavamathi J, Shonraj Balle Ganeshrao, Kathleen Watt, Manali Hazarika

Affiliation(s): Manipal Academy of Higher Education, Karnataka

Abstract Content:

Purpose: Myopia is a growing public health issue. This study compares visual functions in myopic individuals using spectacles and contact lenses through psychophysical experiments to understand differences in visual performance between these corrections and provide insights for better myopia Management strategies.

Methods: This prospective cross-sectional study recruited participants aged 18–35 years with myopia ranging from -0.50D to -6.00D and astigmatism ≤1.50D from the student and staff population of the University. Individuals with ocular abnormalities other than refractive errors were excluded. Ethics approval was obtained, and written informed consent was collected from all participants. High and low contrast visual acuity (HCVA and LCVA) were assessed using Landolt-C optotypes at 3 meters through custom-designed MATLAB software, through a staircase method with six reversals, with the average of the last four used for analysis. Contrast sensitivity function (CSF) parameters, including peak sensitivity, cut-off frequency, and area under the curve (AUC), were measured using the quick CSF method (Liou et al., 2001). Visual function testing was conducted using full-distance spectacle correction and one-day daily disposable contact lenses on the same individuals. Data was analyzed using Jamovi software version 2.3.28.

Results: Five participants (mean age 20 ± 2.5 years; mean spherical equivalent -1.50 ± 0.5 DS) completed the study. Mean HCVA and LCVA were -0.153 ± 0.0122 LogMAR and -0.0421 ± 0.107 LogMAR with spectacles and -0.262 ± 0.134 LogMAR and -0.0945 ± 0.09 LogMAR with contact lenses, respectively. Quick CSF results showed peak spatial frequencies between 2–5 CPD and cut-off frequencies between 20–30 CPD for both modalities. The mean AUC was 2.36 ± 0.437 for spectacles and 2.1 ± 0.4 for contact lenses. Peak CSF was 4.02 ± 2.02 with spectacles and 4.28 ± 0.9 with contact lenses. Cut-off frequencies were 25 ± 2 CPD (spectacles) and 26.5 ± 9 CPD (contact lenses). Parameters were not normally distributed. An independent t-test revealed no statistically significant differences between the two modalities in HCVA, LCVA, and CSF parameters.

Conclusion: This study found no significant differences in visual acuity and contrast sensitivity function between spectacle and contact lens correction in myopic individuals. Both modalities offered comparable visual functions, suggesting that correction choice can be based on lifestyle and patient preference without compromising visual performance

Scientific Free Paper Session 3 Geriatric Optometry, Low Vision and Rehabilitation 1

Registration ID Number: 147R073EIVOC2025

Title: Seeing the Unseen: Novel Method of Visual Field Assessment in Children with Cerebral Visual Impairment

Author(s): Anantha Padmanabhan, Monika Thakur, Tithi Haldar, PremNandhini Satgunam

Affiliation(s): L V Prasad Eye Institute, Hyderabad

Abstract Content:

Purpose: Visual field (VF) defects are commonly reported in cerebral visual impairment (CVI). However, there are no perimeters available for testing young children with CVI. This study evaluated the feasibility of using Baby Vision Screener (BaViS) to assess VF in infants and children with CVI.

Methods: BaViS is an in-house built device. It consists of a hemispherical dome with light-emitting diodes (LED) that are computer controlled. An infrared camera mounted in the device allows the examiner to monitor the child's response to the presented LED stimuli and record the same. Recorded videos are segmented and analysed to plot the isopter. Patients referred from the special needs' clinic for BaViS testing were included. Visual acuity (VA) and contrast sensitivity (CS) were also measured using appropriate charts based on the age and cooperation level of the child.

Results: Thirty-one children ((mean age ± SD, range) 6.3 ± 3.2 years (range: 11 months to 14 years, 23 males)) with CVI were tested. Of these, 90.3% (28/31) completed the assessment, with the youngest reliable VF isopter recorded at 2 years. Reduced VA was observed in 80.6% (25/31) and diminished CS in 67.7% (21/31). VF analysis (n=20) revealed no defects in 50% (10/20), while 45% (9/20) showed inferior VF defects or overall constriction; one case was inconclusive.

Conclusion: BaViS can be used to quantify VF in children with CVI. Almost half of our cohort had VF defects, with inferior VF constriction being most common. This is in agreement with earlier studies that suggest brain insults in CVI to be more common in superior optic radiations.

Registration ID Number: 155R080EIVOC2025

Title: Financial vulnerability of the geriatric population undergoing cataract surgery at various levels of a distributed eye care delivery system in India

Author(s): Ragukumar Venugopal, Brijesh Takkar, Mehul Mehta, Anthony Vipin Das, Varsha Rathi, Rohit Khanna,
Gudlavalleti V.S. Murthy, Hemendra Kumar Vaishnav, Brijesh Kashyap, Chirantan Chatterjee, Raja Narayanan

Affiliation(s): L V Prasad Eye Institute

Abstract Content:

Purpose: The health burden of geriatric eye care is expected to rise, but medical insurance coverage in this population is low. We used hospital records on cataract surgeries to explore insurance coverage and its impact on visual Outcomes.
Methods: Electronic medical records of 38,387 patients aged >70 years who underwent cataract surgery between 2011–2022 were assessed. Data on age, utilization of health insurance, type of health insurance coverage (government or private), and mode of payment for cataract surgery were collected.

Results: Insurance usage declined from 17.5% at 70 years to <10% at >85 years. Private insurance coverage declined from 13.3% at 70 years to 4.7% at 90 years, while publicly funded insurance remained stable (3.3%–4.2%). Insurance coverage increased significantly in 2018–2022 from 2011–2017 (20.61% vs. 10.65%; p<0.001). More males had insurance coverage compared to females. Amongst patients aged >90 years, insurance coverage for those from urban areas was higher than for those from rural areas (60% vs 41%). Median waiting times for surgery among patients with government vs private insurance were 18 and 11 days, respectively. In patients >80 years, surgical Outcomes for those without insurance coverage were worse than for those with insurance coverage.

Conclusion: Insurance coverage falls dramatically in octogenarian patients and is associated with poorer visual outcomes of cataract surgery. Policy changes are needed to ensure insurance coverage for eye care in this population.

Registration ID Number: 320P050EIVOC2025

Title: Knowledge, Attitude and Practice towards Presbyopia among Presbyopes: A Cross-Sectional Survey

Author(s): Iswaryalakshmi V, Gopinath Madheswaran, Karthikeya Priya, Akilan A K, Mukesh R, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: This study aims to evaluate presbyopic patients' knowledge, attitude and practices (KAP) regarding their condition and Management. This survey examines how presbyopes perceive presbyopia, their awareness towards corrective options, and factors influencing their treatment decisions.

Methods: A cross-sectional survey was conducted with a structured & content-validated questionnaire using Google Forms after obtaining approval from the institutional research committee. The study included participants from diverse demographic Backgrounds across urban and rural populations aged 40 years and above. Participants were briefed about the project, and their e-consent was obtained before enrolling in the study. A single interviewer administered the questionnaire to the identified participants and responses were saved in the cloud. The survey included demographic details such as age, gender, occupation, annual income, educational qualifications, and KAP towards presbyopia. The collected data were coded using Microsoft Excel (2013) and analysed using Jamovi (Version 2.3.21). Descriptive statistics summarised the findings and Pearson correlation was performed to find significant correlations ($p < 0.05$).

Results: This study included 300 participants (50%: Male) with a mean age of 48.7 (6.9) years. 52% (n=162) were graduates and 35.7% (n=107) had completed secondary education or less. 40.7% (n=122) were salaried, and 36% (n=108) were self-employed. 45% (n=135) were earning less than ₹2,00,000 and 35% (n=105) between ₹2,00,000–5,00,000. Majority [70.3% (n=211)] were aware about presbyopia; of those the presbyopic symptoms reported were blurred near vision (78.2%), eye strain (82.2%), headaches (71.5%), and difficulty reading in dim light (65.8%). Education level positively correlated with knowledge (r=0.42, p<0.01). 78% (n=234) felt spectacles did not affect appearance, while 15% (n=45) were concerned. Similarly, level of education influenced attitude (r=0.31, p<0.05); however, gender showed no significant correlation. 68.7% (n=206) used corrective spectacles, 31% (n=93) reported no correction, and only 0.3% (n=1) used contact lenses. Use of correction and its correlation with gender, education, and occupation were significant (r=0.28, r=0.38, r=0.29; p<0.05), respectively.

Conclusion: Awareness towards presbyopia was high, but knowledge gaps persisted among those with lower educational Backgrounds. Level of education and occupation strongly influenced the practice towards presbyopia. Increasing awareness, promoting regular eye examinations, and improving access to affordable corrective options are needed to enhance the quality of life of presbyopes.

Registration ID Number: 087R052EIVOC2025

Title: Improving Access to Vision Rehabilitation: Impact of a Non-profit Organisation's Tiered Model in Tertiary Eye Hospitals Across India

Author(s): Devi Udayakumar, Sailaja Manda, Ramakrishna Raju, Aparna Raghuram

Affiliation(s): Vision-Aid, India

Abstract Content:

Purpose: Despite a significant need, only 7% of Indian eye care institutions offer dedicated low vision care. This study presents the impact of a non-profit organisation's three-tiered model established in 2023 to support tertiary eye hospitals across India in establishing scalable and sustainable vision rehabilitation services.

Methods: Eye hospitals were identified for support from non-profit organisation for low vision care and rehabilitation services and classified into three tiers based on the number of beneficiaries availing services per quarter and their capacity for service delivery: Tier 3 (50–100) included hospitals to sustain basic low vision services; Tier 2 (100–200) comprised facilities with the potential to expand into multidisciplinary rehabilitation; and Tier 1 (300–500) included advanced centers with a holistic care model. Tiers 1 and 2 receive infrastructure support, while all tiers receive low vision aids and advanced assistive technology devices, including digital magnifiers and smart vision glasses. Tier 1 support includes human resources and skill training for beneficiaries to sustain a holistic model.

Results: In 2023 and 2024, collaboration expanded to include six Tier 3 and three Tier 2 hospitals, contributing to 43.85% increase in overall footfall for rehabilitative services across the eye hospital network. In 2024 alone, 25,480 individuals were served, of which, 14,892 received comprehensive evaluations, 2,197 paediatric functional vision assessments, and 1,254 were screened through outreach. Assistive devices were provided to 1,898 individuals, including 128 with smart vision glasses and 540 with portable digital magnifiers. Training services covered assistive technology usage, mobility, digital literacy, braille, and job-oriented skill training. The growth in Tier 3 participation enhanced screening and outreach, Tier 2 expanded to include habilitative services for children with cerebral/cortical visual impairment and rehabilitation of adults with blindness, and Tier 1 hospitals strengthened and sustained holistic care of vision rehabilitation and built professional capacity across the network.

Conclusion: The tiered model expands access at Tier 3 hospitals while enhancing and sustaining services at Tier 1 and 2. It offers a structured, scalable framework for hospitals to progress from basic services to comprehensive rehabilitation, providing a sustainable approach to strengthening vision rehabilitation across India.

Scientific Free Paper Session 4
Ocular Disease and Diagnostics

Registration ID Number: 165R087EIVOC2025

Title: Association Between Obstructive Sleep Apnea and Corneal Structural Alterations: An Updated Systematic Review and Meta-Analysis

Author(s): Rahul Roy, Anitha Arvind

Affiliation(s): Nethradhama school of Optometry, Bangalore, Karnataka

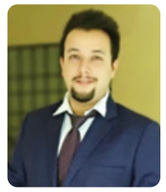
Abstract Content:

Purpose: Obstructive sleep apnea (OSA) is a prevalent sleep disorder characterized by recurrent upper airway collapse, leading to intermittent hypoxia, oxidative stress, and systemic inflammation. Recent studies suggest that OSA may contribute to alterations in corneal structure and biomechanics, potentially predisposing individuals to ocular complications. However, the reported findings remain inconsistent.

Methods: A systematic literature search was conducted using PubMed, Embase, Cochrane Library, and Web of Science (1999–2024) to identify observational studies comparing corneal parameters in OSA patients and healthy controls. Studies reporting central corneal thickness (CCT), corneal hysteresis (CH), corneal resistance factor (CRF), and keratometry values were included. Pooled mean differences (MDs) were calculated using a random-effects meta- analysis model. Heterogeneity (I^2) and publication bias were assessed.

Results: Twelve studies involving 1,234 OSA patients and 1,089 controls met the inclusion criteria. Patients with OSA exhibited significantly lower CCT (MD: -8.12 µm, 95% CI: -12.34 to - 3.90, $p = 0.0002$) and CH (MD: -0.83 mmHg, 95% CI: -1.21 to -0.45, $p < 0.001$), indicating compromised corneal integrity. Severe OSA (AHI ≥30) was associated with greater CCT thinning (MD: -14.20 µm, $p < 0.001$). No significant differences were observed in keratometry values.
Conclusion: OSA is associated with corneal thinning and reduced biomechanical stability, which may increase susceptibility to ectatic disorders such as keratoconus. Given these findings, routine ophthalmologic evaluation is recommended for OSA patients to facilitate early detection and Management of corneal abnormalities. Further longitudinal studies are warranted to explore the underlying mechanisms.

Registration Number: 206R125EIVOC2025



Title: Diurnal Modulation of Pupillary Dynamics in Concussions: A Quantitative Pupillometric Analysis

Author(s): Pritam Dutta,Reeta Baishya,Shubhra Das

Affilition(s): Ridley College Of Optometry

Abstract content:

Purpose: Concussion-related autonomic dysfunction can affect pupillary responses, but the role of time-of-day variations in these impairments remains unclear. This study aimed to evaluate the influence of diurnal fluctuations on pupillary dynamics in individuals with a history of concussion compared to non-concussed controls.

Methods: A total of 140 participants (70 concussion patients and 70 age-matched controls) were included. Chronotype was assessed using the Morningness-Eveningness Questionnaire (MEQ).Pupillary measurements were performed in the morning (7–9 AM) and evening (7–9 PM) using a validated iPhone-based pupillometry application under standardized lighting conditions. Key parameters analyzed included baseline pupil diameter, constriction latency, constriction amplitude, constriction velocity, and dilation latency.

Results: Concussion patients exhibited significant diurnal fluctuations in pupillary parameters, while nonconcussed controls showed minimal variations. Constriction latency was significantly prolonged in concussion patients in the evening (Morning: 250 ± 18 ms vs. Evening: 275 ± 22 ms, $p < 0.001$), whereas controls demonstrated only a slight delay (Morning: 220 ± 15 ms vs. Evening: 230 ± 18 ms, $p < 0.05$). Constriction amplitude decreased markedly in the concussion group during evening assessments (Morning: 19.2 ± 2.4% vs. Evening: 16.5 ± 2.1%, $p < 0.001$), while controls exhibited a smaller reduction (Morning: 26.8 ± 2.6% vs. Evening: 24.5 ± 2.4%, $p < 0.05$). Concussion patients with an evening chronotype exhibited the most pronounced impairments, suggesting a potential link between circadian misalignment and autonomic dysfunction.

Conclusion: This study demonstrates that diurnal variations significantly impact pupillary dynamics in concussion patients, with greater impairments observed in the evening. These findings suggest that circadianrelated autonomic dysregulation may be a key factor in post-concussion symptoms. Pupillometry may serve as a sensitive and non-invasive biomarker for assessing concussion-related autonomic dysfunction

Registration ID Number: 245P033EIVOC2025

Title: Does the etiology of congenital cataract affect the "fixation to light" reaction time?

Author(s): Monika Thakur, Miriam Conway, Ahalya Subramanian, Goura Chattannavar, Ramesh Kekunnaya, PremNandhini Satgunam

Affiliation(s): L V Prasad Eye Institute, Hyderabad, India
City St. George's, University of London

Abstract Content:

Purpose: "Fixates and Follows Light" is a common infant vision assessment but offers limited insight, especially for conditions like different types of congenital cataract. Our study uses the Baby Vision Screener (BaViS) to quantify light fixation behavior, potentially aiding visual function monitoring until advanced tests like grating acuity, are feasible.

Methods: Light fixation behavior was quantified using BaViS, a device built in house. BaViS consists of dome shaped structure with multiple LEDs placed inside it. The infrared mounted at the apex of the dome helps to visualize the infant's behavior and monitor the eye movements during the real-time test. Infants diagnosed with bilateral congenital cataract

were recruited with parent's written consent. During testing, the infant was placed in a supine position inside BaViS and tested binocularly. The static light stimuli (LED strips) at 30°, 60°, 120° or 150° meridians presented in a random order, at least twice at each location. The time taken by the infant to look at the presented stimuli was considered as the reaction time (RT). A real-time test recording was analyzed to calculate the reaction time.

Results: 28 infants (median age of 3.9 months, range: 18 days to 10.7 months old) with bilateral congenital cataracts were tested using BaViS. Reaction time (RT) was successfully measured in all infants, demonstrating high testability. The median RTs was 690ms (ranged from 225 ms to 2211 ms). Of the 28 infants, 15 had cataracts caused by infections (TORCHS: toxoplasmosis, rubella, cytomegalovirus, herpes, syphilis) and 13 had hereditary cataracts. The TORCHS group (1.4 to 10.7 months) had a median [Q1, Q2] RT of 891 ms [610.5, 1353], while the hereditary group (18 days to 10.5 months) had a median RT of 429 ms [346.5, 849.75]. Infants in the TORCHS group had significantly longer RTs than those in the hereditary group ($Z = -2.1$, $p = 0.03$, Mann-Whitney test).

Conclusion: The incidental finding of the differences in RT to fixate light between the two groups of is interesting and novel. Fixation to light, involves light perception, spatial processing, and eye movements—all engaging different brain regions. Further studies are needed to understand the underlying mechanisms.

Registration ID Number: 196R116EIVOC2025

Title: Changes in Binocular Vision Parameters After Strabismus Surgery in Patients with Intermittent Exotropia

Author(s): Sejal Ram Ashrey Singh, Praveen Kumar P, Ayisha Atiya, Amit Bhowmick

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To compare Binocular Vision (BV) parameters pre and post strabismus surgery and evaluate the surgical outcome

Methods: In this prospective observational study, patients with Intermittent Exotropia (IXT) who were advised for strabismus surgery were included. All patients underwent comprehensive eye examination followed by Binocular Vision (BV) assessment. BV parameters include sensory assessment (stereopsis and Worth's four dot test) fusional vergence amplitudes, vergence facility, amplitude of accommodation, accommodative response and accommodative facility were measured. All these BV parameters were compared before and after six weeks of strabismus surgery.

Results: The mean (SD) age of all participants were 15.13 ± 8.55 years and among fifteen participants ten were females. According to Burian's classification of IXT, 11 (73%) patients were IXT Basic type and 4 (27%) were Divergence Excess type. The median (IQR) for distance horizontal and vertical deviation preoperatively were -35 (-30 to -45) ΔD, 0 (2 to 0) ΔD and postoperatively were and -4 (0 to -6) ΔD and orthophoria respectively. The median (IQR)for near horizontal deviation preoperatively was -35 (-25 to -40) ΔD and postoperatively was -2 PD (2 to -6) ΔD respectively. Among all the BV parameters, horizontal deviation, near point of convergence with red/green filter, distance and near positive fusional vergence amplitudes and vergence facility, were found significant improved at post operatively (Wilcoxon Sign Rank test, $p<0.05$). However, distance and near stereopsis, divergence amplitude and accommodative parameters were not statistically significant (Wilcoxon Sign Rank test, $p>0.05$).

Conclusion: Strabismus surgery effectively improves ocular alignment along with fusional vergence amplitudes in patients with Intermittent Exotropia (IXT), leading to enhance binocular motor control. Comprehensive preoperative binocular vision assessments and close postoperative monitoring are crucial for IXT patients.

Registration ID Number: 194R114EIVOC2025

Title: The Meibum Lipid Profile and Its Relationship with Clinical Dry Eye Measurement in a Sample of Kuala Lumpur Young Adults

Author(s): Mohamad Hanif Hajar Maidin, Zainora Mohammed, Bariah Mohd Ali, Jamaludin Mohamed

Affiliation(s): Islamic International University, Malaysia

Abstract Content:

Purpose: The tear film's lipid layer, especially non-polar lipids, helps reduce evaporation and maintain stability. Asian populations often have less stable tear films, possibly leading to more dry eye disease. This study analyzed meibum lipids and their link to dry eye symptoms in young adults in Kuala Lumpur, Malaysia. Methods: Using reverse-phase high-performance liquid chromatography-electrospray ionization mass spectrometry (RP-HPLC-ESI-MS), we analyzed meibum samples from 28 participants, stratified into dry eye (DE) and non-dry eye (NDE) groups based on prior clinical studies.

Results: The study identified 14 lipid analytes, with the DE group showing a 12% reduction in non-polar lipids (NPoL) compared to the NDE group ($p < 0.05$). Phosphatidylserine (PS) was significantly elevated in the DE group ($p < 0.01$), while other lipids showed no significant differences. Cholesterol ester (CE), the only NPoL, moderately correlated with tear lipid layer thickness ($rs = 0.61$, $p < 0.05$) and the phenol red thread test (PRT) ($r = 0.66$, $p < 0.05$). Among polar lipids, PS correlated with lid wiper epitheliopathy (LWE) ($rs = 0.69$, $p < 0.01$), McMonnies Dry Eye Questionnaire scores ($rs = 0.57$, $p < 0.05$), and tear osmolarity ($rs = 0.56$, $p < 0.05$). Sphingomyelin (SM) strongly correlated with conjunctival redness ($rs = 0.73$, $p < 0.01$). Reduced NPoL inversely correlated with LWE ($rs = -0.66$, $p < 0.05$) and positively with PRT ($r = 0.56$, $p < 0.05$).

Conclusion: Sphingomyelin (SM) strongly correlated with conjunctival redness ($rs = 0.73$, $p < 0.01$). Reduced NPoL inversely correlated with LWE ($rs = -0.66$, $p < 0.05$) and positively with PRT ($r = 0.56$, $p < 0.05$), suggesting its role in dry eye disease signs.

Registration ID Number: 176R098EIVOC2025

Title: Prescribing Patterns and Challenges Faced by Contact Lens Practitioners in India

Author(s): Ankur Banik, Aditya Goyal

Affiliation(s): CT University, Ludhiana, Punjab

Abstract Content:

Purpose: To analyze contact lens prescribing patterns among practitioners across different regions of India, identify the challenges they encounter in clinical practice, and explore strategies to enhance contact lens practice in the country.

Methods: This cross-sectional survey study aimed to assess prescribing patterns and challenges faced by contact lens practitioners in India. A structured questionnaire was distributed to 125 practitioners across all regions via email, WhatsApp, and other social media platforms. The survey collected data on demographic details (practice type, educational qualifications, experience, and location), details of the last 10 contact lens fittings (lens design, material, and modality), challenges encountered during fitting, follow-up, and dispensing, as well as strategies used to address these challenges. The survey was hosted on Google Forms, with participants given three weeks to respond, followed by reminder notifications. Statistical analysis included the Chi-square test for comparing various aspects of lens fitting patterns and ANOVA to evaluate challenges faced by practitioners across different regions.

Results: A total of 99 responses were collected from contact lens practitioners, including 96.9% optometrists and 3.03% ophthalmologists, across various regions in India. The average age of patients was 28.9 ± 6.1 years. Vision correction (26.48%) was the primary reason for prescribing contact lenses, followed by cosmetic/aesthetic purpose (17.75%). Soft lenses were dispensed to 26.76% of patients, while only 17.75% received RGP lenses. Among soft lenses, silicone hydrogel was the most prescribed material (24.01%), consisting of sphere (25.71%) and toric lenses (22.6%). Disposable modality was preferred by 50.28%, with 23.73% opting for monthly replacement lenses. High Dk (13.28%) and Mid Dk (8.47%) were the most prescribed RGP materials. West India practitioners reported limited trial lenses.

Conclusion: This study highlights regional variations in contact lens prescribing patterns, key challenges faced by practitioners, and opportunities for improvement. Addressing cost concerns, increasing availability of trial lenses, and promoting proactive recommendations can enhance contact lens practice and accessibility in India.

Registration ID Number: 159R083EIVOC2025

Title: A Delphi study to determine the need for national curriculum for optometry education and key recommendations for optometry in India

Author(s): Anitha Arvind, Peter Clarke-Farr, Kovin Naidoo

Affiliation(s): G D Goenka University, Gurgaon, Haryana

Abstract Content:
Purpose: This study aimed to elicit the views of key stakeholders regarding the existing state of optometry in terms of education, service delivery as well as key recommendations for optometry in India by utilizing the consensus-building Delphi technique.

Methods: A three-round Delphi study was carried out with the participation of 20 experts. The questionnaire developed for the Delphi panel comprised seven sections comprising optometry education, recommendations for national curriculum, optometry service, minimum clinical skills required by an optometrist, regulations pertaining to optometrists in the country, concerns for the profession of optometry in the country and recommendations for the profession of optometry in India in terms of education, service delivery and regulations.

Results: A total of twenty panellists took part in the Delphi study (n=20): 80% were male (n=16), while 20% were female (n=4). The overall consensus for the Delphi questionnaire by the end of Round Three stood at 58%, with 83 out of 142 statements reaching consensus. Panellists unanimously agreed on the necessity of a uniform national competency-based curriculum for optometry education and training (95%). There was 100% consensus on including all subjects under basic sciences and core optometry in the curriculum. A significant majority (95%) supported granting optometrists independent practice rights. All panellists concurred that unstandardized skill and vocational courses in eye care pose a public health threat (100%). Furthermore, all panellists recommended regulating optometry in India with a defined scope of practice (100%).

Conclusion: The expert panel involved in the study expressed the need for the implementation of a uniform national competency-based optometry curriculum.The study contends that regulating and legislating the optometry profession would ensure the protection of public needs and professionals will be responsible for delivering on their knowledge and skills received.

Registration ID Number: 372R201EIVOC2025

Title: Angle Kappa Changes After One Year of Overnight Orthokeratology Treatment For Myopia

Author(s): Sima kumari

Affiliation(s): Ridley college of Optometry, Dulia Gaon, Assam

Abstract Content:
Purpose: This study evaluated changes in angle kappa after one year of overnight orthokeratology (Ortho-K) lens wear and its correlation with corneal parameters.

Methods: A prospective cross-sectional study was conducted at Chandraprabha Eye Hospital, Assam, with 65 myopic subjects aged 5 to 21 years. Corneal topography and angle kappa measurements were obtained using the Scheimpflug-based Wavelight Oculyzer II before and after 12 months of Ortho-K wear. Analyzed parameters included keratometry values (K1, K2), central corneal thickness (CCT), corneal astigmatism (CA), and angle kappa (AK). Statistical analysis involved a paired sample t-test and Pearson correlation.

Results: Angle kappa increased significantly after 12 months ($p < 0.01$), from 0.22 ± 0.21 mm to 0.32 ± 0.19 mm. Corneal flattening was indicated by reduced K1 (43.23 ± 1.7 D to 41.94 ± 1.9 D, $p < 0.01$) and K2 (44.27 ± 1.7 D to 43.23 ± 1.7 D, $p < 0.01$). CCT decreased from 546.36 ± 35.03 µm to 537.12 ± 35.85 µm ($p < 0.01$), while CA increased from -1.12 ± 0.68 D to -2.10 ± 1.29 D ($p < 0.01$). Angle kappa positively correlated with lens power ($r = 0.22$), CA ($r = 0.30$), and K1 ($r = 0.30$), while negatively correlating with CCT ($r = -0.52$) and K2 ($r = -0.37$).

Conclusion: One year of overnight Ortho-K lens wear significantly increased angle kappa and altered corneal shape, but changes remained within safe limits without major visual issues. These findings highlight the need to consider angle kappa in Ortho-K lens design and fitting to optimize visual outcomes and enhance patient satisfaction.

Registration ID Number: 410R232EIVOC2025

Title: Dry Eye Disease in Young Adults: Data from Eastern India

Author(s): Moutusi Nath, Rituparna Ghoshal, Debarun Dutta

Affiliation(s): NSHM Knowledge Campus Kolkata, Durgapur, West Bengal

Abstract Content:
Purpose: Dry eye disease (DED) is known to affect elderly population leading to significant ocular discomfort, blurred vision, emotional distress and reduced quality of life. However, its effect on the younger population is relatively unknown. Thereby, the present study aimed to investigate proportion of DED among young population of Eastern India.

Methods: Participants aged between 18-25 years were recruited in this prospective observational study, following approval from human ethics board and written consent. The participants were screened based on inclusion and exclusion criteria, including detailed eye examinations and assessment of DED. A variety of questionnaires including OSDI, DEQ-5, PSQI were administered, followed by a measurement of Tear Meniscus Height (TMH), Tear Lipid Layer grading, Non-Invasive Tear Break-up Time (NTBUT), assessment of conjunctival redness and roughness, lid wiper epitheliopathy grading, expression of Meibomian glands, grading of corneal and conjunctival staining, Schirmer's test. Diagnosis of DED was based on TFOS DEWS II criteria.

Registration ID Number: 357P065EIVOC2025

Title: Higher order aberrations and glare disability in Mild Keratoconus: A comparative study

Author(s): Sayak Banerjee, Akshaya C Balakrishnan, Madhumathi S, Rashima Asokan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: To quantify glare-induced contrast sensitivity deficits across spatial frequencies in mild keratoconus (KC) patients, evaluate their correlation with higher-order aberrations (HOAs), and compare these functional impairments to age-matched controls.

Methods: This cross-sectional study evaluated 18 eyes with grade 0-1 KC (Belin ABCD classification) and age-matched controls. Participants underwent visual acuity testing, wavefront aberrometry, and CSV-1000HGT-based contrast sensitivity assessments with their best spectacle correction under baseline (no glare) and standardized glare conditions. Contrast thresholds were measured across four spatial frequencies (3, 6, 12, 18 cycles per degree) at 10 graded levels. Statistical comparisons between KC and controls employed the Whitney U test, Wilcoxon Signed Ranked Tests, and Spearman Correlation.

Results: The median age and best corrected logMAR visual acuity were 22 (1) years and 0 (0) logMAR in controls, and 23 (7) years and 0.13 (0.11) logMAR in the Mild Keratoconus (KC) group. The Wilcoxon Signed Rank Test showed significantly higher median higher-order aberrations (HOA) in Mild KC [0.139] vs controls [0.028] ($p < 0.05$). The area under the log contrast sensitivity function (AULCSF) was calculated in glare and no-glare using Simpson's rule, with glare disability defined as the AULCSF ratio. Both groups showed reduced contrast sensitivity (CS) under glare, but significance was found only in controls. The Mild KC group had a 4% CS drop, while controls showed a 3% drop. A strong, statistically significant positive correlation was observed between HOA and AULCSF in Mild KC ($R = 0.82$, $p < 0.05$).

Conclusion: Mild keratoconus shows significantly higher HOA and a greater AULCSF reduction under glare, despite similar median visual acuity. Contrast sensitivity declines more in Mild KC under glare, though glare disability itself doesn't differ significantly between the groups.

Registration ID Number: 484R286EIVOC2025

Title: Tear film layers and meibomian gland assessment in patients with thyroid eye disease using a noninvasive ocular surface analyzer: a cross?sectional case-control study

Author(s): Ramkailash Gujar, Ramkailash Gujar, Namita Kumari

Affiliation(s): Dr Shroff's Charity Eye Hospital

Abstract Content:

Purpose: To assess the tear film layers and Meibomian glands by a noninvasive ocular surface analyzer in patients with thyroid eye disease (TED).

Methods: One hundred sixty participants were enrolled in this study: 82 patients with TED, and 80 patients as a control group, between 18 and 60 years old. Lipid layer thickness (LLT), tear meniscus height (TMH), blink quality, blink count, number of full blinks, number of partial blinks, first and mean noninvasive tear break-up time (FNIBUT and MNIBUT, respectively), and Meibomian glands loss (MGL) were assessment through the ICP Ocular Surface Analyzer (OSA). OSDI and DEQ questionnaires were also administered.

Results: The TED group showed higher lower LLT ($p<0.001$), TMH ($p<0.001$), FNIBUT ($p < 0.001$), MNIBUT ($p < 0.001$), Blink quality ($p = 0.001$), number of blink count ($p<0.001$), full blinks ($p=0.001$) and number of partial blinks ($p < 0.001$) than the control group. A higher percentage of MGL was found in the TED group in the upper ($p = 0.008$) and lower ($p < 0.001$) eyelids. Statistically significant differences between the two groups were found in dry eye symptoms across the OSDI and DEQ questionnaires.

Conclusion: Using a noninvasive OSA, patients with TED showed involvement of the mucoaqueous and lipid layers of the tear film and a higher percentage of MGL. Dry eye disease in people with TED cannot be ruled out by subjective symptom questionnaires alone; therefore, these patients should undergo regular ocular surface examinations

Registration ID Number: 350P062EIVOC2025

Title: Understanding Contact Lens-Related Quality of Life: Why Scleral Lenses Need a Dedicated Questionnaire

Author(s): Yashoda Khanna, Madhumathi S, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Contact lenses aid vision and ocular health, but 23% of users discontinue wear, primarily due to discomfort. Existing questionnaires assess comfort and quality of life but lack specificity for scleral lenses. Given their unique challenges, this review analyzes current tools and their applicability to scleral lens wearers.

Methods: The review followed the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA). A comprehensive literature search was conducted using PubMed, Scopus and Google Scholar. The keywords "contact lens questionnaires" and "quality of life (QOL) questionnaires AND contact lenses" were used to identify and assess existing validated QOL questionnaires. The inclusion criteria included studies that assessed the patient-reported QOL outcomes through questionnaires, and the exclusion criteria included non-questionnaire-based studies, duplicated reports, and non-English studies. The questionnaires were assessed for their psychometric properties (sensitivity and specificity), domains assessed, their applicability to different contact lens modalities and whether any specific items could be useful for scleral lenses.

Results: Eight commonly used contact lens-related questionnaires (CLDEQ-8, McMonnies, DEQ-5, OSDI, CLUE, CLIQ, NEI-VFQ, SPEED) were assessed. Three (CLDEQ-8, CLIQ, CLUE) focused on overall contact lens experience, while the rest addressed dry eye-related QOL. Key domains included vision stability, comfort, dry eye symptoms, and lens wear satisfaction. The development studies of most of these questionnaires excluded patients with irregular corneas and severe dry eye disease, which are indications of scleral lenses. While these questionnaires addressed discomfort, they primarily focused on dryness-related discomfort, which is alleviated by the fluid reservoir provided by scleral lenses. Scleral lens wearers face unique visual distortions (fogging, ghosting, suction-related vision changes) and plunger-aided removal and insertion difficulties that the existing questionnaires failed to capture. Therefore, there is a pressing need for a comprehensive, dedicated and validated questionnaire addressing patient-reported QOL with scleral lenses.

Conclusion: Given the unique challenges of scleral lenses, future research should develop and validate a scleral lens-specific QOL questionnaire. This will aid in understanding the patient profile, assist practitioners during follow-up visits in assessing whether the patient's concerns have been addressed, and help monitor progress over time.

Registration ID Number: 286R168EIVOC2025

Title: Prescribing Trends of Scleral Lenses Over a Decade at a Tertiary Eye Care Center in India: A 12-Year Retrospective Study

Author(s): Janani Balaji, Madhumathi S

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: This study aims to evaluate prescribing patterns of scleral lenses (SLs) over a 12-year-period in a tertiary eye care center in India. It mainly focuses on clinical indications, age distribution, material choices, and diameter preferences to understand evolving trends and the growing role of SLs in specialty contact lens practice.

Methods: A retrospective review was conducted using clinical records of SLs dispensed between 2011 and 2022. Age, indication, lens material, diameter, and year of prescription were extracted from the electronic medical record. Diagnoses were categorized into irregular cornea, ocular surface disease, and others (high refractive error). Age groups were categorized as children (4–18 years), young adults (19–30 years), middle-aged adults (31–50 years), older adults (51–65 years), and elderly (66–87 years) for analysis. Data were entered and analysed using Microsoft Excel 2021 and SPSS version 25. Descriptive statistics were performed. As the variables were not normally distributed, the median (IQR) is reported. The primary outcome was to evaluate year-wise changes in lens usage, diameter, and material. Spearman's rank correlation was performed to assess the relationship between the year of dispensing and variables such as age, diameter, and material. A p-value less than 0.05 was considered statistically significant.

Results: A total of 1,445 SLs were dispensed between 2011 and 2022. Most common indication was irregular cornea (76.2%), followed by ocular surface disease (23.5%) and high refractive error (0.4%). The median (IQR) age was 30(18) years (range: 4–87 years). Young adults consistently reported the highest prescriptions (49%), with increasing trends observed in children (21%) after 2014 and older adults (11%) after 2018. The median (IQR) lens diameter prescribed was 18.5(1) mm (range: 13.5- 23.0 mm). A statistically significant negative correlation was observed between lens diameter and year of dispensing ($\rho = -0.329$, $p < 0.001$), indicating a trend toward smaller diameter lenses over time. A strong negative correlation was found between material type and dispensing year ($\rho = -0.753$, $p < 0.001$), indicating a shift in preference over time. Equalens II usage declined over time, while prescriptions of Contamac Optimum Extra, Extreme increased, with Boston XO2 rising from 2020.

Conclusion: This study shows a distinct change in SLs' prescribing patterns, with increased acceptance in pediatric and

geriatric populations. Shifts in material and diameter preferences indicate the changing fitting practices. Further studies are needed to explore variation in patient comfort and, prevalence of ocular complications over the years.

Registration ID Number: 494R296EIVOC2025

Title: Knowledge, Attitude, and Barriers towards Contact Lenses among Spectacle Wearers in the Indian Population

Author(s): Varsa Harinya, Krishna Shah, Madhumathi S, Anuradha N

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To assess the knowledge, attitude and barriers toward contact lenses among spectacle wearers in the Indian population

Methods: A cross-sectional survey was conducted from November 2024 to March 2025. The survey questions were designed using existing literature, professional knowledge, and expert opinion (evaluating participants' awareness and perceptions of contact lenses as an alternative to spectacles) and were distributed via Google Forms to friends, acquaintances, and patients visiting a tertiary eye care center. Participants aged 18 years and older, with a history of spectacle use for at least six months, were included in the study after providing informed consent. Ethical clearance for the study was obtained from the Institutional Review Board prior to data collection. Data collected from the survey were analyzed using SPSS version 20.0.

Results: A total of 265 participants [Female 146 (55.1%); mean age 23.68 ± 5.73 years] were included in the study. Nearly half (123, 46.4%) were unaware of their refractive error. Awareness of contact lenses (CLs) was moderate: 148 (55.8%) participants had heard of them, 78 (29.4%) were aware, but had limited knowledge and 19 (7.2%) were completely unaware. A majority (159, 58.8%) believed CLs were suitable only for younger adults, not for children or older adults. Additionally, 65 (24.5%) participants expressed no interest in replacing spectacles with CLs. Barriers to CLs use included maintenance difficulties (185, 69.8%), fear of infections (170, 64.2%), concerns about comfort (163, 60.8%), cost (133, 50.2%) and satisfaction with spectacles (126, 47.5%)

Conclusion: The low willingness to adopt CLs was primarily due to difficulty in maintenance, safety concern and satisfaction with spectacles. These findings highlight the need for targeted educational strategies by eye care professionals to dispel myths, promote safe CLs practices, and enhance user confidence and acceptance.

Scientific Free Paper Session 5
Optometric Education / Public health and Community Optometry

Registration ID Number: 581R348EIVOC2025

Title: Unseen Burden: Prevalence of Childhood Ocular Morbidity in a Rural Indian District

Author(s): Baby kumari, Ajit Kumar Poddar, Mritunjay Kumar Tiwary

Affiliation(s): Akhand Jyoti Eye Hospital, Mastichak Saran, Bihar

Abstract Content:

Purpose: To determine the prevalence and nature of ocular morbidity among school-aged and anganwadi-attending children in the rural region of Saran, Bihar, highlighting the importance of early detection, intervention, and community-based optometric care.

Methods: A retrospective analysis was conducted on data from school and anganwadi-based eye screening programs conducted from January to June 2023. A total of 15,417 children across 161 institutions underwent comprehensive vision screening, including uncorrected and best-corrected visual acuity (LogMAR chart), objective refraction (retinoscopy), and fundus examination (direct ophthalmoscopy). Children with subnormal vision (≤6/9), abnormal fundus findings, or other ocular morbidities were referred to Akhand Jyoti Eye Hospital for advanced assessment and management.

Results: The overall prevalence of ocular morbidity was found to be 9.4% (n=1456). Refractive errors were the most common morbidity (36.1%), followed by asthenopic symptoms (20.5%), conjunctivitis (9.1%), and vitamin A deficiency (7.9%). Additional conditions included squint (9.4%), epiphora (5.4%), retinal diseases (4.0%), and congenital anomalies (2.2%). The age group >5–10 years constituted the highest proportion of screened children (44.5%), followed closely by the 1–5-year group (31.7%).

Conclusion: This study underscores the significant burden of ocular morbidity among children in rural Bihar, predominantly due to preventable and treatable conditions like refractive errors and vitamin A deficiency. Findings emphasize the critical role of routine community-based eye screening programs and interventions, including school vision screening, nutritional supplementation, public health education

Registration ID Number: 439R257EIVOC2025

Title: Evaluating the Impact of Annual Follow-Up in a School Eye Screening Program: A Longitudinal Study from Rural Tamil Nadu

Author(s): Kaviyarasan S, Ambika C, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: School Eye Screening(SES) is an effective model to address uncorrected refractive errors in children. However, in rural areas, limited access, poor health-seeking behavior, low awareness, and economic constraints often hinder follow-up. Thus, this study aimed to evaluate the significance of annual follow-up among school-going children in rural Tamil Nadu.

Methods: A school-based longitudinal study was conducted in January 2024 and January 2025 among children aged 6–17 years across 20 rural government schools in Kanchipuram district, Tamil Nadu. Vision screening followed a three-phase protocol at both baseline and follow-up: basic screening, refraction assessment, and referral management. Children diagnosed with refractive errors received free spectacles, while those requiring further care were referred. Data was entered in Microsoft Excel, matched, cleaned, and coded for analysis. Associations between demographic factors and changes in management, as well as the incidence and progression of refractive errors, were analyzed and reported.

Results: A total of 5007 school children were screened during baseline visit in 2024, of whom 2698 (53.88%) children were rescreened during the annual follow up visit in 2025. The remaining 2309 (46.11%) children either completed/left the school or were absent during the screening. The mean age of the children was 12.63±2.83 years and 55.33% were female. Among the children screened in the follow up visit, 146 (5.41%) required either change in management or new management. The mean Spherical Equivalent Refraction (SER) in 2024 was SER -1.46D ±0.38D, and in 2025 was -1.69D± 0.49D. The mean SER difference between 2024 and 2025 was -0.22D ± 0.29D. Myopia progression was noted in 18 (21.43%) children with the mean SER was -1.15 ±0.72D. The incidence of myopia was observed in 69(2.76%) children.

Conclusion: During the annual follow-up, 5 out of 100 children required new or modified management. Although not directly comparable to urban populations, children in rural areas also exhibited progression and incidence of myopia. Integrating annual follow-up into the SES model helps monitor changes and ensures continuous care for long-term eye health.

Registration ID Number: 428R249EIVOC2025

Title: Compliance to Referral among Visually Impaired People in Urban Slums of Chennai

Author(s): Naveenkumar B, Subhiksha R, Ambika C, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: In India, about 25% of individuals with vision impairment are referred after eye screenings for further examination in hospital. Referral compliance is essential to complete the treatment cycle. In low-resource settings like urban slums, poor compliance hampers access to care. This study investigates referral compliance patterns among adults in Chennai.

Methods: A cross-sectional study was conducted between February 2023 and June 2024 in the urban slum areas of Chennai District, Tamil Nadu. Comprehensive eye screening was provided, including history taking, vision testing and refraction, anterior segment evaluation using a slit lamp, intraocular pressure measurement with non-contact tonometry, and posterior segment examination using a fundus camera. Individuals requiring further evaluation were referred to a base hospital for free treatment, with transport arranged via a pick-up vehicle. Referral compliance was assessed through telephonic interviews using a structured questionnaire. Calls were made by optometrists, with a minimum of three contact attempts per individual. Those who visited the hospital for further care were considered compliant. Demographic details, hospital visits, treatment advice, and reasons for non-compliance were recorded. Data were entered in Microsoft Excel, and variables associated with referral compliance were analyzed.

Results: A total of 429 individuals (23.61%) were referred for further examination, including 272 females (63.40%) with a mean age of 56.9 ± 12.51 years. The primary reasons for referral were cataract (217, 50.58%), retinal conditions (85, 19.81%), glaucoma (45, 10.49%), high refractive errors (34, 7.93%), and posterior capsular opacification (22, 5.13%). Of those referred, 186 individuals (43.4%) visited the hospital, and among them, 159 (85.5%) were compliant with the advised treatment. Surgery was performed on 75 individuals (23.51%), spectacles were provided to 77 (24.14%) individuals, and 9 (2.82%) required medical management. However, 133 individuals (31%) were non-compliant. The main reasons for non-compliance included lack of time (53, 39.85%), being out of town (20, 15.04%), long distance to the hospital (18, 13.53%), other health issues (15, 11.28%), and personal reasons (6, 4.51%).

Conclusion: The study reveals more than 50% of individuals in Chennai's urban slums were non-compliant with free treatment despite transport facilities. Major barriers to poor compliance were lack of time and being out of town. It is important to address these specific barriers to provide proper counseling to people during referrals.

Registration ID Number: 030R031EIVOC2025

Title: Ocular Health Status among Adults Living in Urban Slums of Chennai, South India

Author(s): Ambika Chandrasekar, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Visual impairment and blindness are major public health concerns. Despite available services, urban slum residents often avoid eye care due to cost and poor awareness. Ocular health data from Indian slums, especially in South India, are limited. This study assessed the ocular health status of individuals in Chennai's slums.

Methods: This cross-sectional study was conducted between February 2024 and March 2025 in the slums of Chennai district, Tamil Nadu. Individuals aged above 19 years were screened for ocular morbidities using a comprehensive screening protocol. The protocol included a detailed medical history, assessment of visual acuity using the LogMAR chart, objective refraction, subjective refraction, non-contact intraocular pressure measurement, anterior segment evaluation using a slit lamp, and posterior segment evaluation using a fundus camera. Free spectacles were provided to individuals with refractive errors, and those requiring further ocular evaluation were referred for free treatment. Visual impairment (VI) and blindness were categorized based on World Health Organization (WHO) criteria. Age was classified into two groups young adults (20-39 years) and Older adults (>39 years). Demographic and clinical data were recorded in Microsoft Excel, and statistical analyses were performed using SPSS software.

Results: A total of 2,203 individuals were examined, with a mean age of 48.50 years (standard deviation: ±13.23 years). Among them, 63.91% (n = 1,408) were female. Ocular complaints were reported by 39.49% (n = 870) of participants, and 21.33% (n = 470) had previously undergone an ocular examination elsewhere. The prevalence of distance visual impairment (VI) was 23.83% (n = 525), while the prevalence of blindness was 1.27% (n = 28). Near visual impairment was observed in 72.63% (n = 1,600) of the study population. The distance VI is associated with female gender (OR= 1.26, 95% CI(1.02 -1.55), P<0.031).

Conclusion: To the best of our knowledge, this is the first study reporting ocular health status in South Indian slums. The study highlights a high burden of VI and near VI among adults living in Chennai's slums, with distance VI significantly associated with female gender and older age.

Registration ID Number: 653R368EIVOC2025

Title: Implementation Model to Improve Spectacle Compliance among School Children through Behavior Change Model

Author(s): Deepa Arumugam, Ambika Chandrasekar, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: The aim of the study is to explore the perspectives of children with spectacle compliance barriers and to proposed interventions strategies using behavior change models.

Methods: A qualitative study utilizing a snapshot design previously reported on spectacle compliance among children. This earlier study reported a total of twelve Focus Group Discussions (FGD)s, three each with children, parents, and eye care professionals, two with teachers, and one with social workers. From those results, this study aimed to create strategic interventions to improve spectacle compliance in school eye health programs. The coded data on barriers and facilitators were fitted into the domains of the Theoretical Domains Framework (TDF). To each of the domains, one or more intervention functions were identified from the Behavior Change Wheel (BCW) and fitted under the individual, family and societal levels of the Socio-Ecological Model. Identified interventions were further considered using the APEASE criteria (Affordability, Practicability, Effectiveness/Cost-effectiveness, Acceptability, Safety/Side effects, and Equity) to finalize a behavior change model for spectacle compliance.

Results: Major Key barriers identified were lack of awareness, teasing by peers, unattractive frames and lack of encouragement. Key facilitators identified were an engaging awareness, reinforcement strategies, stylish frames, and rewards based encouragement. From the 14 domains of the Theoretical Domains Framework (TDF), 12 domains were applicable to the development of interventions except 'optimism' and 'goals'. The final functions were grouped into a model through the identified intervention functions given in brackets and named C.L.E.A.R. viz., Connect with stakeholders (Education, Persuasion, Enablement, Modelling), Learn and educate (Education, Training, Modelling), Enable access (Enablement, Environmental Restructuring), Assist and reinforce (Reinforcement, Incentivisation, Modelling, Persuasion), Restructure the environment and ensure Follow-up (Environmental Restructuring).

Conclusion: This study developed the C.L.E.A.R. strategy to improve spectacle compliance among children. Implementation and effectiveness of C.L.E.A.R. strategy will be prospectively tested in school eye programs

Scientific Free Paper Session 6
Paediatric Optometry / Refractive error correction

Registration ID Number: 252P035EIVOC2025

Title: A Comparative Study of Conventional Eye Drop Versus Novel Vaporized Spray of Cycloplegic - Mydriatic Protocol in An Indian Paediatric Cohort

Author(s): Subashreelakshmi C, Gayathri R

Affiliation(s): MN College of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: To compare the cycloplegic and mydriatic effects of cyclopentolate, tropicamide, and cyclopentolate (CTC) administered via conventional eye drops versus a novel spray instillation in paediatric eye examinations. Additionally, the study evaluates patient comfort, ease of administration and efficiency.

Methods: This prospective, randomized and contralateral eye study included paediatric patients aged 6-15 years, where one eye received CTC via drops, and the fellow eye received the same agents in spray form for direct intra-individual comparison. MEM retinoscopy and pupil size measurements were performed by an independent optometrist masked to drug instillation to avoid bias. Post-instillation, patient comfort was assessed using the Likert Scale and Wong-Baker Faces Pain Scale. Depth and stability of cycloplegia were evaluated using post-cycloplegia MEM retinoscopy and near vision testing. Parent-child questionnaires gathered feedback on comfort and preference. Statistical analysis compared both methods.

Results: Both methods achieved significant pupil dilation, with no statistical difference (t = 0.4868, p = 0.6308; small effect size). Median Wong-Baker score was 1 (IQR = 0–1), but burning/stinging (p = 0.0192), blurred vision (p = 0.0020), and excessive eye rubbing (p = 0.0416) were significant symptoms. Spray instillation showed a faster onset of action in some cases, though variability was noted. Children reported greater acceptance of spray instillation, citing reduced fear compared to drops. Preference for spray over drops was statistically significant (p = 0.0001).

Conclusion: Both methods were effective in cycloplegia and mydriasis, but spray-based delivery demonstrated comparable efficacy with potential advantages in comfort and ease of administration. It may serve as a viable alternative to conventional drops in paediatric eye care.

Registration ID Number: 408P074EIVOC2025

Title: Prevalence, Incidence and Progression of Myopia among School Children in Tamil Nadu. The Sankara Nethralaya Tamil Nadu Essilor Myopia (STEM) Study

Author(s): Nandhini C, Amirthaa M, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Evidence on the prevalence estimate on myopia are widely available, whereas limited information is available on the incidence and progression, especially from India. Therefore, this study aims to report the current prevalence, incidence and progression of myopia and associated risk factors among school children in Tamil Nadu.

Methods: The Sankara Nethralaya Tamil Nadu Essilor Myopia (STEM) Study is a school-based prospective cohort study conducted for children in grades 1 to 10 from 11 schools in Tamil Nadu from 2019 to 2025. All children underwent vision screening, objective refraction with open-field auto refraction (Grand Seiko WAM-5500), and binocular vision assessment. Ocular biometry measurements using non-contact biometry (IOL Master Version 500) were performed for children with refractive errors. The modified Sydney Myopia Questionnaire was administered to students in grades 8 to 10 to assess the risk factors for myopia. The annual and 2-year cumulative incidence and progression of myopia were reported from follow-up 1 (2021-2022) and follow-up 2 visits (2023-2025). Myopia and high myopia were defined as Spherical Equivalent Refraction (SER) of ≤ -0.75D and ≤ - 6.00D, respectively.

Results: A total of 12,824 children were screened at the follow-up 2 visit, with a mean age of 10.9 years (range: 5-16 years, SD: 3.03). The current prevalence of myopia was found to be 20.8%, with a mean SER of -2.19±1.48D. A total of 5487 children's data were available at both follow-up 1 and follow-up 2 visits. The annual incidence of myopia is 5.5%, and the 2-year cumulative incidence is 9.6%. Among myopic children, 33.4% showed annual progression of myopia with mean SER change of -0.82±0.34D, and 60.2% showed 2-year cumulative progression of myopia with SER change of -1.05±0.56D. Higher progression of myopia (OR: 1.69, CI: 1.11-2.54, P=0.013) was observed in secondary-grade children. Myopic children displayed a 52% axial length change with a mean of 0.46±0.26mm. Non-myopic children (2.11 hrs/day) spent more time on outdoor activities than myopic children (1.94hrs/day) (P=0.016).

Conclusion: This is the first study to report the incidence (5.5%) and progression (33.4%) among Indian schoolchildren in terms of both SER and axial length changes. The magnitude of the incidence and progression is significant, and immediate steps are essential to tackle the burden of myopia, considering the Indian population

Registration ID Number: 182R102EIVOC2025

Title: Combination treatment modality for myopia progression in Indian children: Evidence from real-world clinical setting

Author(s): Nikesh Kangane, Swapnil Thakur, Pavan Verkicharla

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Combination therapy for myopia control have received significant attention among practioners. It is demonstrated to improve the treatment efficacy in poor responders to monotherapy. This pilot study aimed to compare treatment efficacy of two combination therapy modalities: 0.01% atropine with bifocal spectacles (ABS) and 0.01% atropine with defocus spectacles (APS)

Methods: Refractive error and axial length data of 39 children aged between 5 to 15 years (n=20 -ABS group, and n=19 -APS group) were retrospectively extracted from the electronic medical record of LV Prasad Eye Institute. The presenting data is age (ABS, 9.1 ±2.2 years vs. 10.6 ±2.3 years, p = 0.06) and baseline refractive error matched (ABS, -6.24 ± 2.24 D vs. -6.42 ±1.50 D, p =0.8). The axial length measurements and final subjective refractive error and at baseline, 6-months, and 12 months were included for the analysis. The mean follow-up for 6-months was (ABS group, 5.5 ± 1.28 months; APS group, 6.32 ±1.53 months, p =0.08) and 12 months was (ABS group 11.5±2.37 months; APS group,12.26±2.28 months, p =0.31). The historical age-matched control participants wearing single vision spectacles (n=37) were used to calculate the percentage efficacy and Cumulative Absolute Reduction in Axial Elongation (C.A.R.E) value for both combination group

Results: Children in the APS group exhibited slower rate of axial elongation compared to the ABS group at both 6-months and 12-months period (6 months: APS, 0.05 ± 0.08 mm vs. ABS, 0.11 ± 0.11, Independent t-test, p=0.03; 12 months: APS, 0.12 ± 0.10 mm vs. ABS, 0.20 ± 12, p=0.02). However, the difference in the final subjective refraction value was not statistically significant between the two-combination therapy group (6 months: APS, -0.05 ± 21 D vs. ABS, -0.13 ± 0.17, Independent t-test, p=0.26; 12 months: APS, -0.18 ± 30 D vs. ABS, -0.31 ± 31, p=0.21). The annual progression rate for axial length in the historical control group was 0.22 ± 0.03 mm. The C.A.R.E value for the APS and ABS group was 0.1 (45% treatment efficacy) and 0.02 (9% treatment efficacy)

Conclusion: Combining peripheral defocus with 0.01% atropine showed a better treatment efficacy based on axial length changes compared to bifocal with atropine eye drops in both 6 and 12-month time period

Registration ID Number: 310R174EIVOC2025

Title: Investigation of Eye Movements Using the Oculomotor Assessment Tool (OMAT) In Young Indian Adults

Author(s): Abdul Subhan Mohammad, PremNandhini Satgunam, Chang Yaramothu, Tara Alvarez, Shrikant Bharadwaj

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: To determine, 1) the normative values of saccades, vergence and vestibulo-ocular reflexes in young Indian adults using the Oculomotor Assessment Tool (OMAT) and compare with established data on Caucasians; 2) the association between participant's oculomotor parameters, motor binocular vision status and vision-related symptoms associated with mild traumatic brain injury.

Methods: The OMAT uses consistent target eccentricities for assessing the frequency of horizontal/vertical saccades, vergence and horizontal/vertical vestibulo-ocular reflex (VOR) eye movements elicited by participants within a minute. Herein, participants performed saccades by changing their binocular gaze between targets at 25° eccentricity from the midline, vergence jumps by switching between two targets placed at 24 and 8.9 cm viewing distances and horizontal/vertical vestibulo-ocular reflexes by rotating their head to the maximum possible extent along the yaw and pitch axes while fixating on a target. All participants also completed the Brain Injury Vision Symptom Survey (BIVSS). 204 visually healthy adults (17 – 33 years), recruited from local education institutions and sports clubs, participated in the study. A subset of 75 participants also underwent a detailed sensory and motor binocular vision assessment using routine orthoptic techniques.

Results: 138 participants passed the normative limits for NPC (<6 cm), stereoacuity (<70 arcsec) and BIVSS scores (<31 out of maximum score of 112) (limit-pass cohort). Their median (25 – 75 quartiles) frequency of saccades [horizontal: 122 (106 – 138) counts/min; vertical: 118 (105.5 – 134) counts/min], vergence jumps [76 (64 – 86) counts/min], and VOR [horizontal: 78 (64 – 96) counts/min; vertical: 76 (60 – 92) counts/min] were lower than the published age-similar Caucasian data in USA (T-test; $p \leq 0.05$), but not in Israel ($p \geq 0.05$). The differences between the USA and Indian cohorts were eliminated when matched for sports-related levels of physical activity (25 amongst 138 participants). The remaining 66 participants (limit-fail cohort) generated lower frequency of vergence jumps, relative to the limit-pass cohort ($p<0.001$), but with comparable frequency of saccades and VOR. There was no correlation between binocular vision and oculomotor parameters across the entire cohort ($|r| \leq 0.068$).

Conclusion: This study provides the normative ranges of oculomotor parameters in young Indian adults and highlights the positive influence of physical activity on oculomotor performance. Routine orthoptic evaluation may not be a surrogate for oculomotor performance; the latter needs dedicated assessments using standardized tools like OMAT for identifying deficiencies.

Registration ID Number: 421R243EIVOC2025

Title: Comparison of Non-Cycloplegic Autorefraction Using Open-Field and Closed-Field Autorefractometers in Preschool Children

Author(s): Selva Hariharan, Ambika C, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:
Purpose: To identify the refractive status among children aged 3 to 5 years, as this period is critical due to the ongoing process of emmetropization that influences refractive error development. Using non-cycloplegic refraction methods, the study aims to establish the agreement between open and closed-field autorefractometers in measuring refractive errors.

Methods: A cross-sectional study was conducted among preschool children from two districts in Tamil Nadu from June 2024 to April 2025. All children underwent a comprehensive vision screening protocol, including assessments of stereoacuity, Worth Four Dot test, cover test, colour vision, visual acuity, contrast sensitivity, refraction, and a torchlight examination. Non-cycloplegic refractive measurements were recorded using both an open-field autorefractometer (Grand Seiko WAM-5500) and a closed-field autorefractometer (Welch Allyn Spot Vision Screener). Three refractive components of the right eye were analyzed and converted into their vector components: spherical equivalent (M) and Jackson cross cylinders (J0 and J45). Agreement between the two devices was evaluated using the Intraclass Correlation Coefficient (ICC). ICC values below 0.5 indicate poor agreement; values between 0.5 and 0.75 indicate moderate agreement; values between 0.75 and 0.9 indicate good agreement; and values above 0.9 indicate excellent agreement.

Results: A total of 545 children were included in the study, with a mean age of 3.93 ± 0.79 years and 50.3% were male. The mean spherical power in the right eye was 0.10 ± 0.61 D and 0.61 ± 0.75 D with the open- and closed-field autorefractometers, respectively. Comparison between the devices showed moderate agreement for spherical equivalent (ICC = 0.671), and good agreement for the astigmatic components J0 (ICC = 0.789) and J45 (ICC = 0.757). The closed-field autorefractometer measured more hyperopic spherical power than the open-field AR. The 95% limits of agreement for M, J0, and J45 were 1.75 and -0.88, 0.79 and -0.51, and 0.49 and -0.50, respectively.

Conclusion: There were moderate agreement in spherical power and good agreement in astigmatism measurements (J0 and J45) between open- and closed-field autorefractometers in preschool children. These findings have implications for pediatric vision screening protocols and device selection in community settings.

Scientific Free Paper Session 7
Occupational Optometry and Sports Optometry

Registration ID Number: 161R085EIVOC2025

Title: Employers' Perspective of Employability Skills among Optometry Graduates in India

Author(s): Saranya Sachi Balasubramaniam, Amy Sheppard, Hannah E Barlett, Debarun Dutta, Gopinath Madheswaran, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: Indian optometrists need to understand diverse roles and required skills. Limited literature exists on employability skills. Collaboration among employers, graduates, and institutions is vital to workforce development. Aligning curricula with employer needs through skill analysis and practical training is essential for bridging the gap between education and industry demands.

Methods: Listening exercises, including focus group discussions and individual interviews, were conducted based on participant preferences and company policies to explore key competencies in the optical industry and academia sectors of optometry employment. The study included Indian optometrist employers or recruiters with three years of experience and willingness to participate, excluding

Results: Employers emphasize the need for comprehensive training in technical and soft skills, including communication, critical thinking, and problem-solving. Recruitment relied on professional networks, while retention strategies involved incentives and flexible work arrangements, especially for female staff, highlighting the importance of supportive workplace policies in both sectors. In the optical sector, key employer expectations include customer service, communication, professionalism, adaptability, initiative, interview skills, and realistic expectations of remuneration and work hours. In the academic sector, essential skills include teaching ability, pedagogical knowledge, familiarity with current research, paper-writing skills, continuous learning, passion for teaching, strong work ethics, and role modeling for students. A common concern was skill gaps, CV exaggerations / discrepancies, and the lack of formal employment training. Both sectors acknowledged the effort required to integrate graduates and advocated for curriculum-integrated training modules to enhance employability and salary prospects, viewing them as valuable workforce investments.

Conclusion: Showcasing job opportunities and competitive earnings can attract students to optometry. Aligning the curriculum with industry needs and emphasizing employability skills ensure a smooth graduate transition. Ongoing efforts by this team aims to identify specific skill requirements in hospital eye care, the corporate sector, and NGOs in India.

Registration ID Number: 306U089EIVOC2025

Title: Effect of Blue Light Filter (BLF) on Visual Fatigue (VF) and Image Quality (QI) among Optometry students

Author(s): Dhivya Dharshini, Susanna Grace. Y, Divya D, Dinesh B, Bharghavy S, Maheswari Srinivasan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: This study evaluates the effects of blue light filters on visual fatigue and image quality in young adults using laptops. It investigates whether blue light filters enhance visual performance or introduce trade-offs during prolonged screen use, providing insights into their potential benefits and drawbacks for digital device users.

Methods: This observational study recruited optometry students aged 18–23 years using a convenience sampling method. Participants with emmetropia and ametropia (refractive errors up to ±3.00D, including myopia, hyperopia, and astigmatism) were included, while those using spectacles with lens coatings, contact lenses, or with significant ocular/systemic diseases were excluded. Participants were tested under two conditions—one with a blue light filter blocking 92% of blue light

(450–490 nm) adhered to the laptop screen and one without. The order of conditions was randomized to reduce bias. Each session included a 40-minute visual task (30 minutes of cartoon viewing and 10 minutes of reading), followed by assessments of reading speed, focusing ability, and validated visual fatigue (17-item) and image quality (8-item) questionnaires. A 48-hour washout period was maintained to minimize residual adaptation effects.

Results: A total of 50 participants (mean age: 19.2 ± 1.3 years; 15 male, 35 female) were included. The Shapiro-Wilk test confirmed normal distribution for pre-flippers ($p = .611$), flippers with BLF ($p = .254$), flippers without BLF ($p = .425$), and pre-NRA ($p = .129$), while NRA with and without BLF, WPM without BLF, and the number of mistakes with and without BLF exhibited non-normal distributions ($p < 0.05$). A paired t-test indicated a significant decrease in focusing ability without the blue light filter ($p < 0.001$) and a notable improvement in reading speed ($p < 0.001$), with fewer errors ($p < 0.001$). The Wilcoxon signed-rank test showed no significant differences in other focusing ability measures ($p > 0.05$). Participants reported significantly better perceived image quality with the blue light filter ($p < 0.001$), but visual fatigue scores were also significantly higher ($p = 0.034$), suggesting increased strain.

C**onclusion:** Blue light filters improve perceived image quality and reading efficiency but may contribute to increased visual fatigue. These findings highlight both benefits and potential drawbacks, emphasizing the need for further research on their long-term impact. While filters may be useful for enhancing screen clarity, their effects on visual strain should

Registration ID Number: 342R184EIVOC2025

Title: Comprehensive visual assessment of Public Transport drivers in Mumbai, Maharashtra: A study on visual standards

Author(s): Mumtaz Qazi, Prema Chande, Shabnam Shaikh

Affiliation(s): Lotus College of Optometry, Mumbai, Maharashtra

Abstract Content:

Purpose: This study evaluates the visual standards and ocular health of public transport drivers in Mumbai, emphasizing mandatory screening to address refractive errors, ocular pathologies, and binocular vision anomalies for improved road safety

Methods: A cross-sectional study was conducted among public transport drivers in Mumbai to assess their visual standards, ocular health, and binocular vision status. Each participant underwent a comprehensive eye examination, including presenting visual acuity assessment using a standardized LogMAR chart, followed by objective and subjective refraction to determine refractive errors. Anterior and posterior segment evaluations were performed. Intra-ocular pressure (IOP) was measured using a Non-contact tonometer. Additionally, color vision was assessed using an Ishihara Color vision test, and stereopsis was measured with the Titmus Fly test. A subset of participants was screened using Visiolite vision screeners for functional vision assessment including glare test and peripheral vision test. 170 drivers underwent Non strabismic Binocular Vision Anomaly (NSBVA) evaluation. Mean values for key parameters were calculated, and statistical analysis was conducted using IBM SPSS 29.0. All the findings were compared with Kerala state visual standards for drivers.

Results: 1819 drivers participated in the study. The mean age of participants was 46 ± 9.7 years. The mean presenting visual acuity was 0.14 ± 0.21 LogMAR for distance and 1.32 ± 0.70 M for near. The mean stereopsis value was 128.44 ± 105.91 seconds of arc, and the mean IOP was 15 ± 2 mmHg. Ocular morbidity prevalence included refractive errors (61.1%), cataracts (10.7%), pterygium (1.97%), and color vision defects (1.7%). 36.2% of drivers failed to meet the recommended visual standards for driving, rendering them unfit to drive. NSBVA assessment revealed a high prevalence of convergence insufficiency with accommodative infacility (24%) and convergence insufficiency alone (13%). A statistically significant difference ($p < 0.05$) was observed between the study group and normative data, indicating deviations from standard visual function.

Conclusion: The findings emphasize that standardization is critical in driving. Establishing vision screening facilities at RTO staffed by qualified optometrists would mitigate accident risks. The high prevalence of binocular vision anomalies underscores the necessity of integrating comprehensive binocular assessments into routine driver screening protocols.

Registration ID Number: 188R108EIVOC2025

Title: Evaluation of visual task analysis and vision standards in cricket batting

Author(s): Thenmozhi Velumani, Chandrika Ravishankar

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: Batting, in cricket, requires awareness of technical strength and combining tactical and visual perceptual skills for optimal performance. The process of visual task analysis (VTA) helps in establishing vision standards and quantification of visual demand. This study aims to perform VTA in batsmen to establish vision standards.

Methods: Visual task analysis was conducted using Grundy's method, focusing on observing and quantifying the work environment. Gameplay was recorded using three cameras behind the batsman, bowler, and a wide-angle view to capture a comprehensive field perspective. Each batsman faced 30 consecutive balls without breaks. Observations on working distance, target size, and frequency of head and body movements were documented in a proforma. The Tracker app and MATLAB were used to analyse ball trajectory, release, pitch point, and whether the batsman hit or missed the ball, as well as relative changes in ball size. Batsman underwent comprehensive eye examinations, including general and sports-specific visual history. Visual acuity for distance and near and cues used during batting were assessed contextual (e.g., trajectory, bowler tendencies) and kinematic. Binocular vision evaluation included near point of convergence, amplitude of accommodation, and stereo-acuity. Ocular dominance was assessed using Mile's test, and interpupillary distance (IPD) was measured

Results: The study involved 27 male batsmen aged 21 ± 3.6 years, with 5.3 ± 2.8 years of experience and regular practice 5–6 days a week, 3–4 hours daily. Comprehensive eye exams showed all had 6/6 distance and N6 near vision, normal stereopsis (40 arc sec), and age-appropriate binocular function. Two showed near exophoria without symptoms. 22 had right eye dominance; 26 were right-handed. No ocular injuries were reported, all used protective gear consistently. Observations using Grundy's nomogram revealed a preference for contextual over kinematic cues. The task involved dynamic movement, shifting working distance from 17.14 m to 2 m, with a target size (71.3 mm). Players exhibited frequent head and body movement, working in a standing position. Established vision standards included 6/5 and N6 acuity, 0.16 D accommodation demand, and 0.053 D vergence demand. Stereopsis was essential, though unquantifiable at this range, and color vision was of limited requirement

Conclusion: This study identifies key visual factors and standards essential for effective cricket batting performance. These low-level visual skills may vary with changes in the playing environment. The findings can support visual skill training to enhance performance and helps in evaluating improvement before and after training.

Registration ID Number: 293U077EIVOC2025

Title: Assessment of Visual Performance in Aari Workers

Author(s): Budideti Trisha, Aswitha S, Meenakshi Narayanan, Maheswari Srinivasan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Aari embroidery is a precise needlework technique demanding prolonged near vision, potentially leading to visual fatigue and NSBVA. This study examines its impact on binocular function by comparing pre- and post-task parameters and evaluates the efficacy of orthoptic training in alleviating strain, addressing the existing research gap.
Methods: This cross-sectional study included 30 Aari workers selected based on predefined inclusion and exclusion criteria. Baseline and post-work binocular vision parameters such as Near Point of Convergence (NPC), Near Point of Accommodation (NPA), Accommodative Facility (AF), and Vergence Facility (VF) were assessed. Orthoptic exercises, including pencil push-ups, Hart chart training, parquetry blocks, and saccadic accuracy workbook tasks, were introduced over a standardized training regimen. Data analysis was conducted using SPSS ver. 26, with normality assessed using the Shapiro-Wilk test. A paired t-test was performed for statistical comparisons (p

Results: The mean age of participants was 29.1 ± 6.67 years (range: 20–39 years), with a majority being female (93%). The Shapiro-Wilk test confirmed that the data followed a normal distribution ($p > 0.05$). The paired t-test showed significant improvements in all assessed binocular vision parameters post-training: Near Point of Convergence (NPC) improved from

9.2 ± 2.1 cm to 6.5 ± 1.8 cm (p = 0.001), Near Point of Accommodation (NPA) improved from 7.8 ± 1.3 cm to 5.9 ± 1.1 cm (p = 0.002), Accommodative Facility (AF) increased from 6.2 ± 2.5 cpm to 9.1 ± 2.2 cpm (p = 0.001), and Vergence Facility (VF) increased from 11.4 ± 3.6 cpm to 15.2 ± 3.1 cpm (p = 0.003). These findings suggest that orthoptic exercises effectively alleviated visual strain caused by prolonged near work.

Conclusion: This study examines the impact of prolonged Aari embroidery on binocular vision and emphasizes the benefits of orthoptic training. Regular vision assessments and training can enhance visual performance and occupational health. Future research should investigate long-term adaptations and preventive strategies to sustain visual efficiency in fine motor-intensive tasks.

Registration ID Number: 506R305EIVOC2025

Title: Improving Work-Related Vision: Impact of Spectacle Correction for Uncorrected Refractive Errors in Commercial Drivers in Chennai

Author(s): Pavithra R, Luouie Bastin K, Nandhini R, Indira R, Jeevitha A, Janani S, Rashima A

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To determine the prevalence of visual impairment (VI) due to uncorrected refractive errors among commercial drivers in the unorganized sector, and to assess spectacle compliance and its impact on work performance.

Methods: A cross-sectional study was conducted over a two-year period among commercial drivers from various districts of Tamil Nadu. The study was carried out in two phases at camp sites: Phase 1. Comprehensive eye examination, Phase 2. Telephonic compliance assessment conducted three weeks after spectacle distribution and its impact at work. Descriptive analysis was performed using Microsoft Excel.

Results: A total of 1,071 commercial drivers participated in the study (mean age 47.4 ± 9.3 years). Based on presenting visual acuity, the distribution of VI was as follows: No VI (49.1%), mild (37.3%), moderate (13%), severe (0.2%), and profound (0.5%). Common visual difficulties reported included headlight glare (42.1%) and identifying speed breakers (5%). Self-reported vision while working was rated as good by 83.4% drivers, fair by 14%, and poor by 2.6%. Only 7.3% drivers reported using spectacles while driving prior to the study. Following comprehensive eye examinations, spectacles were prescribed to 83.9% drivers. Post-correction visual acuity significantly improved: No VI (93.7%), mild (4.8%), moderate (1.4%), severe (0.1%), and profound (0.1%). A total of 16.8% drivers were referred for further evaluation. Of those dispensed with spectacles, 51.2% were available for compliance. Among them, 96% reported regular spectacle use while working and noted an improvement in visual ability at work.

Conclusion: This study highlights the high prevalence of visual impairment due to uncorrected refractive errors among drivers. Appropriate spectacle correction significantly improved visual acuity and had a positive impact on drivers work performance and safety.

Scientific Free Paper Session 8
Ocular Disease and Diagnostics

Registration ID Number: 226P024EIVOC2025

Title: Ocular Biometric Profile of Cornea Plana

Author(s): Aakanksha Sawaiker, Meena Lakshmipathy, J Jothi Balaji

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Purpose: Cornea plana is a rare, often asymmetric, and bilateral congenital condition characterized by an abnormally flat cornea that results in a high hyperopic refractive state. The aim of this study is to comprehensively report the ocular biometric parameters.

Methods: This retrospective study included clinically diagnosed cornea plana subjects who visited from 2022 to 2024. Ocular biometry and corneal tomography were investigated using IOLMaster 700 (swept-source optical coherence tomography-based optical biometry, Carl Zeiss, Germany), Oculus Pentacam HR (Scheimpflug system, Oculus Incorporation, Wetzlar, Germany) and MS-39 AS-OCT (CSO, Firenze, Italy). Lens power was calculated using a modified Bennett's method. Refractive error and best-corrected visual acuity (BCVA) were retrieved from medical records.

Results: A total of 9 cornea plana cases (18 eyes) were included, of which 5 were male. The median (IRQ) age was 8.00 (4.0–11.0) years with a range of 2.0–48.0 years. The median (IRQ) of spherical equivalent, axial length, anterior corneal radius, anterior chamber depth, lens thickness, central corneal thickness, corneal epithelial thickness, white-to-white distance, calculated lens power, total corneal power, axial-corneal ratio, and BCVA were +9.81D (+8.13–+12.00), 21.51 mm (20.59–23.15), 30.9 D (27.0–34.7), 2.2 mm (1.9–2.4), 3.7 mm (3.5–3.8), 465µm (424–490), 45µm (42–49), 10.28 mm (9.93–10.46), +31.7 D (+28.7–+34.6), +30.84 D (25.94–32.16), 2.1 (1.8–2.2), and 0.54 log units (0.18–0.63) respectively. Conclusion: Cornea plana cases exhibited severe flat anterior corneal curvature (by ~10.0D), shallow chamber depth (by ~1.30 mm), thicker lens (by ~0.30 mm), and high-plus contributing power (+10.00 D).

Registration ID Number: 331P056EIVOC2025

Title: Rim Changes Vs RNFL Defects in Glaucoma; Do They Always Correlate?

Author(s): Sabrina Antonia Nazareth, Vishnupriya S, Trupti Sudhir Patil, Girish Kumar, Mani Baskaran

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: To analyze the agreement of RNFL defects with Rim changes (as standard), in color and red free fundus images of normal and glaucomatous eyes. To analyze the agreement of detecting RNFL defects in Color Vs Red free images

Methods: This retrospective study approved by the Institutional Research Board included coloured and red free optic disc photographs of 60 patients. All patients who fulfilled the inclusion criteria underwent complete ophthalmic examination along with fundus photography using non- non-mydriatic fundus camera (TRC – NW400). These images were extracted, red free images were generated and presented in randomized order to an ophthalmologist who was masked to patient data. The intra observer agreement was analyzed using Kappa and ROC analysis done to compare outcomes.

Results: The study included 120 images of 60 patients (76.7% glaucoma, 46/60 eyes) out of which 43.3% (26/60 eyes) were females. RNFL defects were noted only in 12/120 images (10%), of which 5 were identified in colour images. The agreement between Rim changes Vs RNFL defects was $\kappa = 0.26$ (95% CI 0.14, 0.41), whereas agreement between Colour and Red free photos for RNFL defect showed good agreement (AC1 = 0.95). The ROC analysis showed moderate performance for RNFL defects compared to Rim changes (ROC = 0.62, 95% CI 0.52, 0.73).

Conclusion: This pilot study showed that the RNFL defects had poor yield compared to rim changes, red free images tend to show greater RNFL defects than coloured images. Other Modalities like enhancement of red free images or high-resolution OCT may be explored to identify RNFL defects on disc photos.

Registration ID Number: 363P069EIVOC2025

Title: Facial Recognition Testing in Glaucoma: A Narrative Review of Protocol Gaps and Technological Advancements

Author(s): Anitha Chandrasekhar

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Purpose: To review Facial Recognition (FR) impairments in glaucoma, identify gaps in current assessment protocols, and explore the utility of advanced techniques to bridge these gaps.

Methods: We conducted a literature search using PubMed and Google Scholar to identify studies published between 2003 and 2025. The search included keywords such as "facial recognition test," "glaucoma," "Cambridge Face Memory Test (CFMT)," "The Benton facial recognition test," "gaze," "eye-tracking," and "artificial intelligence." Peer-reviewed observational and experimental studies involving facial recognition tasks in individuals diagnosed with glaucoma were included. Studies were grouped into five key categories: (1) available facial recognition protocols, (2) facial recognition across ethnicities, (3) Eye movements during FR, and (4) options for creation of ethnic-specific facial stimuli. Findings were synthesized through descriptive categorization to highlight patterns, research gaps, and future directions.

Results: A total of twenty-three studies were reviewed, comprising six cross-sectional observational studies and seventeen experimental studies, which examined facial recognition (FR) impairment in glaucoma patients, particularly those with central visual field loss within 10 degrees. The CFMT protocol was utilized in 52% of the research, with the majority (seventeen studies) using static Caucasian faces as stimuli, while only two studies included East and Western Asians. Notably, no studies were conducted in India or involved Indian or South Asian faces. Eye-tracking methods were employed in only six studies, revealing that individuals with glaucoma exhibit disruptive eye movements during FR tasks. The absence of ethnically specific facial datasets hampers test accuracy due to own-race bias. Several studies suggested that Artificial Intelligence could be a valuable resource for creating standardized and diverse facial stimuli for future research.

Conclusion: FR and eye movement disruptions are functional aspects of vision loss in glaucoma. Assessment of these parameters can provide deeper insights into defect status and visual processing. There is a need to develop ethnic-specific facial recognition protocols, which can be facilitated by AI through the generation of standardized facial images

Registration ID Number: 466R271EIVOC2025

Title: Evaluating the Efficacy of Non-Mydriatic Fundus Imaging in Community Outreach Program

Author(s): Deepak Kumar S, Ambika C, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Comprehensive eye screening with fundus imaging in community outreach plays a major role in early ocular disease detection. Although image quality may vary due to optical media changes, this study aimed to evaluate image gradability in three regions and its impact on diagnosis and referral in outreach camps

Methods: A cross-sectional study was conducted across various slum areas in Chennai between March and June 2024. Comprehensive eye screening included history taking, visual acuity testing, refraction, anterior segment evaluation using a hand-held slit lamp, intraocular pressure measurement with a non-contact tonometer, and posterior segment imaging with a non-mydriatic handheld fundus camera (Remidio FOP NM-10). Based on findings, spectacles were dispensed or patients referred to a base hospital. Fundus images were extracted from the manufacturer's database and assessed for gradability. Each image was divided into three regions: optic nerve head, macula, and retinal vessels. Images were categorized as gradable (all regions visible), partially gradable (one or two regions visible), or non-gradable (none visible). Data on demographics (age & sex). BCVA was graded using WHO criteria of visual impairment and clinical features (ocular surgery history, media opacities) were recorded. Associations between image gradability and clinical/demographic factors were analyzed using logistic regression.

Results: A total of 3498 eyes (1749 patients) were included for the analysis, excluding 106 eyes (53 patients) due to unavail ability of images. The mean age of the participants was 43.12 years with a standard deviation of ± 17.14 years, of which 1113 (63.64%) were female. Out of 3498 eyes, 2152 (61.52%) eyes had gradable images. Gradability was commonly affected by media opacities. All the eyes with mature cataract were non-gradable, while 57.04% of eyes with early lens changes were gradable. Multinomial logistic regression analysis revealed that higher the visual impairment was strongly significant; with a 2.8x increase in odds of image being non gradable (Exp(B)=2.803, 95% CI: [2.361-3.328], P<0.001.

Conclusion: The non-contact fundus camera demonstrated good usability in outreach settings, enabling rapid imaging with adequate training. Gradability decreases with increasing age and in patients with moderate to severe visual impairment. To minimize time consumption during community outreach activities, it is advisable to defer fundus imaging for patients over 60 year.

Scientific Free Paper Session 9
Optometric Education / Public health and Community Optometry

Registration ID Number: 482R284EIVOC2025

Title: Assessing the Impact of Online and Offline Learning Modalities in Optometry Professional Development: Insights from OCI's Educational Series

Author(s): Harshada Kale, Harshada Kale, Paula Mukherjee, Bhavya M, Lakshmi Shinde

Affiliation(s): **Optometry Confederation of India**

Abstract Content:

Purpose: To assess the impact of OCI's Educational Series and workshops conducted both online and offline, aiming to optimise educational outcomes and enhance the overall professional development experience for optometry practitioners.

Methods: OCI offers an extensive educational series on optometry-related topics through online sessions, which are a series of structured webinars and discussions. In addition to the online offerings, OCI conducts hands-on workshops focused on paediatric optometry, providing valuable in-person experiences. The study compares these two modalities, examining how online and offline learning address key topics such as clinical skills, patient management and emerging technologies. By analysing participant feedback, learning outcomes, and engagement data, the study aims to assess how each learning modality influences knowledge acquisition, skill development, and the practical application of optometry practices.
Results: Preliminary findings indicate that online learning provides flexibility, accessibility, and the advantage of self-paced progress, which is particularly beneficial for busy optometry professionals. In contrast, offline learning, especially in the form of hands-on workshops, fosters greater interaction, direct supervision, and networking opportunities. Both modalities have been effective in delivering critical content; however, they show different impacts on long-term retention and practical clinical application. Till now, in OCI's online programs, about 677 participants have participated where in Physical programs 189 participants have joined in. Online learning is preferred by those with time constraints, as it allows participants to engage with materials on their own schedule. On the other hand, in-person workshops are favoured for more complex and tactile skills, where direct feedback and hands-on practice are necessary for proficiency.

Conclusion: This study offers valuable insights for optometry educators and professional development providers, highlighting the importance of a hybrid approach that combines the strengths of both online and offline learning experiences. By integrating the benefits of online and in-person workshops, this research aims to optimise learning outcomes.

Registration ID Number: 528R322EIVOC2025

Title: Optometry Under Regulation: Why Continuing Education Matters More Than Ever

Author(s): Lakshmi Shinde, Harshada K, Swetha S

Affiliation(s): Optometry Confederation of India, Bangalore, Karnataka.

Abstract Content:

Purpose: The National Commission for Allied and Healthcare Professions (NCAHP) Act 2021 mandates continuing education for optometry license renewal, aligning the profession with other regulated healthcare fields. This study evaluates how India's established Optometry Confederation of India (OCI) CE framework can be adapted to meet NCAHP requirements while addressing India's optometry practice needs.

Methods: We conducted a detailed analysis of OCI's current CE guidelines (50 points over 3 years across scholarly, educational, recipient, and skills upgradation activities) alongside NCAHP provisions. A comparative review was performed with CE systems for medical professionals (NMC's 30-50 CME credits/5 years) and dentists (DCI's 20 CDE points/5 years), focusing on structure, credit allocation, and quality assurance mechanisms.

Results: OCI's framework shows strong alignment with NCAHP objectives: 1) Its four-category structure ensures comprehensive learning comparable to NMC's system; 2) Point-based credits (e.g., 10 points for research publications, 4 points/hour for workshops) provide clear metrics; 3) Accreditation and audit processes match regulatory rigor. Required adaptations include extending renewal cycles to 5 years and expanding digital learning options (currently only 22% of activities are online). The system outperforms some healthcare fields in standardization while maintaining flexibility.

Conclusion: India can efficiently implement NCAHP's mandate by formalizing OCI's proven framework with three key upgrades: 1) Adjusted 5-year renewal cycles; 2) Enhanced digital learning infrastructure; 3) Rural access provisions. This approach offers immediate compliance while preserving the profession's learning culture, ensuring all optometrists meet evolving practice standards.

Registration ID Number: 657R371EIVOC2025

Title: Competency Based Assessment of Community Based Training for the Students of Optometry

Author(s): Subhiksha R, Ambika C, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Medical education should align with community needs through practical training across all levels. While generic competencies for clinical practice are outlined in the prescribed optometry curriculum specific competencies related to community are unavailable. This study aims to map the competencies of the community based training and validated amongst optometry students.

Methods: This cross sectional study was conducted in two phases. In phase one, a survey was developed through review of literature, opinions of experts and competencies outlined by the World Council of Optometry. The survey included a list of domains and items under each domain were added with the scoring system. A five point Likert response scale was used with the total scores ranging from 42 to 210. Content verification was done and internal consistency was assessed using Cronbach's alpha. In phase two, the survey was distributed in April 2025 via Google Forms to third-year, final-year undergraduate, and postgraduate optometry students at an educational institution in Tamil Nadu, India. The responses were compiled using Microsoft Excel and analyzed using SPSS software. Mean scores were calculated, and comparisons were made with demographic variables. A p-value of less than 0.05 was considered as statistically significant.

Results: The 42-question survey covered seven domains namely 'Public Health' (14 items), 'Cultural Competence' (3),' Leadership and Management' (8), 'Community Development and Advocacy' (2), 'Research and Evidence-Based Practice' (3), 'Generic Competence' (6), and 'Community Engagement and Professional Development' (6). A total of 64 students responded to survey (53 females, 82.81%, mean age of 21.39 ± 1.82 years) including 47 (73.43%) undergraduates and 17 (26.56%) postgraduates. The overall mean score was 140.95 ± 29.02. The mean score of Public Health was 41.42 ± 9.92, Cultural Competence was 8.97±2.37, Leadership and Management : was 28.25 ±8.06, Community Development and advocacy was 5.78 ±2.25, Research and Evidence Based Practice was 9.19 ± 2.8, Generic Competence was 21.20±6.25 and Community Engagement and Professional was 26.14 ±3.08. The survey had good consistency (0.961). Postgraduates showed significantly higher mean scores (mean: 158.47) than undergraduate students (mean: 134.36) ($P < 0.05$) and no significant gender difference was found (p=0.382)

Conclusion: This study provides a new method of assessment of competencies of community based training in optometry. The tool captured the competencies aligning with the public health domain of WCO and was validated for a pilot sample of optometry students.

Registration ID Number: 038R039EIVOC2025

Title: Mapping Optometry Competency Standard: A Comparative Document Analysis of WCO and IELOCS Framework

Author(s): Amirthaa M, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: The Indian Entry Level Optometry Competency Skill Standard (IELOCS) defines optometry competencies in India. As optometry regulation evolves in India, comparing global standards like WCO with the IELOCS framework helps identify gaps. This study aims to compare WCO and IELOCS competency and practice standards through document analysis.

Methods: A systematic document analysis of World Council of Optometry (WCO) and IELOCS framework was done. The WCO framework was kept as reference. A deductive approach was utilized to extract and organize items from both frameworks and compared for recurring themes, terminology, and structural patterns. Two researchers independently analyzed the frameworks, identifying areas of convergence and divergence. Based on these patterns, sub-domains and descriptors were aligned and integrated into a unified structure. Inconsistencies or gaps led to the proposal of additional domains, while duplications prompted consolidation.
Results: Five overarching competency domains were inductively identified across the WCO and IELOCS frameworks: (i) Knowledge, (ii) Clinical Care, (iii) Advanced Clinical Care in Practice, (iv) Communication, and (v) Professional Practice and Advocacy. Of these, only the Communication domain demonstrated consistency across both frameworks. Gaps were observed on other domains namely, the list of topic on sports vision and vision care for special populations within the Knowledge domain; clinical decision- making and referral protocols within Clinical Care; myopia Management :, occupational eye health, and vision therapy within Advanced Clinical Care; and legal/regulatory responsibilities and task delegation within Professional Practice and Advocacy. Additionally, the WCO framework encompassed several exclusive domains not present in IELOCS, including Public Health, Research and Development, Pharmacology, Health Law and Finance, and Entrepreneurship. While thematic overlaps were evident, notable structural variations emerged between the frameworks.

Conclusion: Gaps remain in aligning the Indian optometry curriculum with the IELOCS framework. While several topics are included, systematic competency mapping is needed. Key domains—such as public health, research, health law, and entrepreneurship—should be integrated to enhance the curriculum's relevance, comprehensiveness, and alignment with national practice standards.
August 16, 2025

Scientific Free Paper Session 10
Occupational Optometry and Sports Optometry - 2

Registration ID Number: 187R107EIVOC2025

Title: Impact of ball parameters on binocular and monocular batting performance

Author(s): Chandrika Ravisankar, Thenmozhi Velumani, Aiswaryah Radhakrishnan

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: In interceptive sports like cricket, successful batting relies on the ability to accurately judge the speed and trajectory of a moving ball. This study investigates how ball velocity and looming influence batting performance under monocular and binocular viewing conditions.

Methods: Five male batsmen (n = 3 right-handed; median age [IQR] = 20 [18–21.5] years) with normal visual acuity (≥20/20) and stereopsis (≤40 arc sec) participated in the study. All had 3–7 years of training and practiced for 1–6 hours per day, 4–7 days a week. Each batsman faced 30 balls under three viewing conditions: binocular, right-eye, and left-eye. A 30-minute adaptation period was provided after patching each eye. While the batsmen were striking the balls, their performance was recorded at 30 fps using three mobile phone cameras mounted on light stands. The cameras were positioned 5 meters behind the stumps on the bowler's side, just behind the stumps on the batsman's side, and at the side to capture a panoramic view of the pitch. Video footage was analyzed using Tracker software and custom MATLAB code to compute ball looming and velocity.

Results: Batting performance increased with increase in looming[Median (IQR): Binocular viewing condition (OU): 9.17cm/s (IQR: 8.89–10.56), right eye viewing condition (OD): 11.95cm/s (IQR: 9.72–11.95)and left eye viewing condition(OS): 10.00cm/s (IQR: 9.45–10.83)] under both binocular (OU: ρ = 0.783, p =0.118) and left-eye (OS: ρ = 0.833, p= 0.167) viewing conditions, whereas this trend was less evident under right-eye viewing (OD: ρ = 0.264, p=0.668). In contrast, performance decreased with increasing velocity [Velocity Median(IQR): OU= 73.64kmph (72.81–82.97); OD = 78.22kmph (77.22–79.13); OS= 75.97kmph (74.53–77.86)] in binocular (ρ = –0.600, p=0.285) and left-eye viewing (ρ = –0.400, p=0.6) conditions, while no clear relationship was observed under right-eye viewing (ρ = 0.100, p= 0.873). Overall, the batting performance was higher in the binocular viewing condition [Median (IQR) = 93.33% (90.00–96.55)] than monocular viewing condition [OD: 86.67% (86.21–89.29); OS: 80.00% (80.00–86.21).

Conclusion: Batting performance was found to improve with greater looming and decline with increasing ball velocity. This suggests that dynamic depth cues like looming aid in better timing and anticipation compared to the velocity of the ball.

Registration ID Number: 328P054EIVOC2025

Title: Comparison Between Static and Dynamic Vision and their Associated Parameters Between Cricketers and Non-cricketers

Author(s): Subrato Mondal, Girish Kumar, Swetha S, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Cricketers require superior Visual Acuity (VA) and Reaction Time (RT) compared to non-cricketers, however there is lack of literature, that compares VA and RT across retinal eccentricity for these groups. This study addresses this gap by comparing three VA measures—minimum size-(SSVA), minimum time-(STVA) and dynamic minimum size-(DSVA) and RT.

Methods: This experimental study at Elite School of Optometry involved participants with VA≤6/9 in both eyes, no history of ocular/brain injuries and no binocular vision anomalies. High-contrast English optotypes of varying sizes were displayed on a 60Hz monitor at retinal eccentricities of 0°, 1°, 2°, 4° and 8°. For SSVA and DSVA, presentation duration was 0.5 seconds, while STVA used fixed optotype size with variable presentation durations. In DSVA, optotypes moved along an imaginary circle at 0.5Hz, 1Hz and 2Hz corresponding to their eccentricity. Stimuli were modified based on the Psi-staircase and Method of Constant Stimuli. Participants used a keyboard to respond, allowing RT measurement, defined as the interval between optotype presentation and participant response. Psychophysical thresholds (VA) and slopes (task difficulty) were estimated by fitting responses to a Cumulative Gaussian function. Data were statistically compared between cricketers and non-cricketers using the Mann-Whitney U test in SPSS Version 20.

Results: Data from 16 non-cricketers and 4 cricketers mean(SD) age 21.62(2.06) and 21(5.35) years respectively, found median(IQR) threshold for non-cricketer at SSVA ranged from -0.24(0.13) at 0° to 0.36(0.05) at 8°, STVA from 0.23(0.21) at 1° to 0.44(0.15) at 8° and DSVA for 0.5Hz from 0.07(0.03) at 1° to 0.61(0.11) at 8°, for 1Hz from 0.15(0.09) at 1° to 0.59(0.07) at 8° and for 2Hz from 0.13(0.12) at 1° to 0.47(0.23) at 8°. Whereas cricketers SSVA ranged from -0.001(0.30) at 0° to 0.36(0.05) at 8°, STVA from 0.47(0.96) at 1° to 0.44(0.35) at 8°& DSVA values for 0.5Hz from 0.22(0.23) at 1° to 0.66(0.29) at 8°, for 1Hz from 0.29(0.28) at 1° to 0.70(0.17) at 8° and for 2Hz from 0.32(0.34) at 1° to 0.61(0.49) at 8°. Statistical analysis showed, non-cricketers have significantly better VA at 0°,1°,2°& 4°($p<0.05$).

Conclusion: This study found that cricketers demonstrated superior RT, particularly at peripheral retinal eccentricities, while non-cricketers exhibited better VA across central and near-peripheral regions. These findings underscore the importance of further investigations with larger participant groups to confirm and build on these observations.

Registration ID Number: 524R318EIVOC2025

Title: Prevalence of Occupational Injuries and Ocular Morbidities among Welders: A Cross-Sectional Study

Author(s): Jeevitha Asokan, Luouie Bastin K, Narmadha R, Pavithra R, Nandhini R, Indira Rengarajan, Janani Suresh, Rashima Asokan

Affiliation(s): Sankara Nethralaya,Chennai, Tamil Nadu.

Abstract Content:

Purpose: More than one million workers are employed as welders worldwide with more than three million performing welding intermittently as part of their work. The purpose of this study is to assess the prevalence of occupational injuries among welders and to recommend preventive strategies for reducing risk in welding environments.

Methods: A descriptive, cross-sectional study was done among welders who visited occupational optometry services camp. Welders above 18 years of age who perform welding 4 hours per day and at least 4 days per week were included after obtaining informed consent. A comprehensive eye examination along with detailed occupational history was performed. Based on the findings and occupational history, tailored management including safety spectacles incorporated with refractive correction and tints were prescribed. Compliance with spectacles was assessed after three weeks of spectacle dispensing.

Results: There were 213 welders, all were males with a mean age of 44.3±8.8 years. The average working hours was found to be 7.8±2.4 hours and average years of experience was 19.2±10.1 years. About (99, 46.5%) reported to have photophobia while welding. Though (200, 93.9%) reported using personal protective equipment, of which (73, 34.3%) reported fall of foreign body. Frequent history of injury (61, 28.3%) while welding was managed by visiting nearby (30, 49.1%) hospital, (21, 34.4%) self-management, (9, 14.7%) self-management and hospital and (1, 1.6%) no treatment. On examination, (68, 31.8%) had conjunctival pigmentation, (37, 17.3%) pingecula, (25, 11.7%) pterygium, and (116, 54.2%) had lens changes. Around (208, 97.6%) were prescribed with spectacles, in which safety spectacles with green tint were prescribed to (195, 91.5%) welders. Spectacle compliance (117, 54.9%) was good among (104, 88.8%) welders, with (55, 52.8%) reported reduced glare and fall of foreign body while welding.

Conclusion: This study highlights high prevalence of ocular injuries and morbidities among welders despite widespread use of personal protective equipment. Regular eye examinations, appropriate protective eyewear, and increased awareness are essential to prevent ocular morbidity. Spectacle compliance indicated improved comfort and reduced workplace hazards among welders.

Registration ID Number: 498R299EIVOC2025

Title: Assessment of Ocular Surface Changes Using Conjunctival UV Autofluorescence Device among Outdoor and Indoor Workers

Author(s): Vijayalakshmi Nivethitha K, Indira Rengarajan, Rashima Asokan

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu

Abstract Content:

Purpose: The aim of this study was to assess Conjunctival Ultraviolet Autofluorescence (CUVAF) device, as an indicator of ocular ultraviolet radiation exposure and its association with the development of ocular surface damage in outdoor and indoor workers.

Methods: This cross-sectional study included both indoor and outdoor working population based on the inclusion criteria. All the study participants underwent a comprehensive ocular examination and ocular surface assessment including Schirmer's test and Tear Break Up Time (TBUT) to find their tear film stability. A standardized Ultraviolet (UV) lifetime exposure questionnaire was administered and erythemal UV dose were found using tropospheric emission monitoring internet service (TEMIS). Autofluorescence photographs of nasal and temporal conjunctiva were taken using the CUVAF device.

Results: This study involved 280 participants (140 outdoor and 140 indoor workers), with a median age of 47 years (IQR 12). Of these, 192 (68.5%) were male and 88 (31.4%) female. Among outdoor and indoor workers, 23.5% and 27.9% were normal, 24.2% and 19.3 % had pinguecula, 15% and 10.7 % had pterygium, and 37.9% and 42.1 % had other conjunctival abnormalities respectively. Median conjunctival damage (mm^2) among outdoor and indoor workers were 6.72 and 1.56 for normal, 8.34 and 10.29 for pinguecula, 16.28 and 15.04 for pterygium respectively, showing significant group differences (p0.05). Conjunctival damage correlated with pterygium (OR: 1.075, p

Conclusion: Increasing conjunctival damages is predominantly associated with the pterygium development. Spectacles, cap and turban were protective factors among indoor and outdoor workers. Hence, this study concludes that there are conjunctival damages because of the risk factors such as lifetime UV exposure, working hours under the UV radiation than work nature

Registration ID Number: 458U107EIVOC2025

Title: Predicting Farnsworth Lantern Signal Test Performance in Color Vision Deficient Individuals Using Pseudoisochromatic Plate Tests

Author(s): Sneha Gupta, Sathish A, Janani S, Rashima A

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu

Abstract Content:

Purpose: To predict Farnsworth Lantern signal test performance using Ishihara and AO H-R-R pseudoisochromatic plates among subjects with color vision deficiency.

Methods: Cross-sectional observational study, included subjects reported to Occupational Optometry Services, Sankara Nethralaya between 2022 and 2024 for Pre-Employment eye examination. All patients were screened for Color Vision Deficiency (CVD) using Ishihara Pseudoisochromatic Plates. If diagnosed with a deficiency, the type and severity were confirmed with AOHRR Pseudoisochromatic Plates. All the subjects underwent Farnsworth Lantern Signal Test, done Monoculary. Color vision deficiency due to ocular or systemic pathology was excluded from the study. The data were entered in MS Excel and SPSS was used for the analysis.

Results: A total of 93 males diagnosed with CVD with mean age of 31.67 (± 9.83) were included in the study. Among them, 25 were classified as Protan and 63 as Deutan and 5 were unclassified. The median Lantern scores of the patient were 4[± 7] and median Ishihara scores of CVD were 1[±1] and normals were 16[0].Logistic regression showed that participants with CVD tend to make 2.36 (95% CI 1.65 ± 3.38) times more errors in the lantern test when compared to normal.

Conclusion: The Lantern test is typically used in occupational settings within tertiary eye care centers, which are often not accessible to clinicians unlike Ishihara which is readily available. If a patient fails the Ishihara test, there is a strong possibility that they will also fail the Lantern signal test.

Scientific Free Paper Session 11
Geriatric Optometry, Low Vision and Rehabilitation – 2

Registration ID Number: 491R293EIVOC2025

Title: **Geriatric Outreach and Ocular Disease Study.**

Author(s): Bhavya M, Paula Mukherjee, Lakshmi Shinde, Anuradha Narayanan, Premjeeth Moodbidri

Affiliation(s): **Optometry Confederation of India**

Abstract Content:

Purpose: To provide a comprehensive eye examination and appropriate management including free spectacles, referral to base hospital and other detailed eye examination for the geriatric population in old age homes across India.

Methods: This program began with optometrist recruitment and clinical training for the first 3 months of the project. Evidence-based comprehensive protocols were established and, the database of the old age homes in participating cities was collected by the social workers. The clinical protocol comprises history taking, vision assessment, refraction, frame measurements, external examination of the eye, anterior segment examination with a slit lamp, intra-ocular pressure measurement, and fundus imaging with a ZEISS non-mydriatic fundus camera.

Results: A total of 2001 adults in 29 homes for the aged underwent the comprehensive eye examination. The mean age of the group was 68.29 + 11.9 years, with majority being females (61%). Overall, 51% were from the South India, followed by west (28%). Overall, 18.34% of the patients gave positive history for ocular conditions. Of them, 95% gave a history of cataract surgery in one or both eyes. There were 461 patients (31.3%) who were referred to the hospital for further management of which 171(11.6%) were diagnosed with cataracts, 72 patients (4.9%) with retinal abnormalities, and 18 patients (1.2%) were glaucoma suspects. 606 (30.28%) of the patients were prescribed with spectacles for refractive error correction.

Conclusion: An optometrist plays an important role in identifying commonly caused age- related ocular disease conditions among the elderly population and timely intervention will help us to achieve the goal of preventable/avoidable blindness. To achieve comprehensive eye health coverage, geriatric services should be brought directly to homes

Registration ID Number: 490R292EIVOC2025

Title: Ocular profiling of patients seen at doorstep eye care services

Author(s): Sivasankari Govindan, Varalakshmi K, Vijayalakshmi A, krishnakumar R

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: India's elderly population is rapidly growing, increasing demand for accessible eye care. Doorstep eye care services offer a solution, providing holistic, home-based assessments and treatments. Ocular profiling of elderly patients helps identify common conditions like cataracts, glaucoma, and diabetic retinopathy, improving early detection and timely interventions for better health outcome.

Methods: This retrospective study analysed data from patients seen through Doorstep Eye Care Services between January and August 2024. The data collected included demographic details (age and gender), chief ocular complaints, systemic illnesses, best corrected visual acuity (BCVA), and the Management advised. All patients aged 60 years and above were included. Patient complaints were categorized, systemic conditions such as diabetes and hypertension were recorded, and ocular findings were profiled. BCVA was measured using standard charts and converted to decimal notation for analysis. Refractive status was recorded as spherical equivalent. Managementoutcome were classified into spectacle prescription, tele-consultation, or referral to a base hospital for further care.

Results: Data from 545 patients were reviewed, with a mean (SD) age of 76.5 (±14) years. Of these, 324 (59.5%) were female and 231 (42%) were male. Blurred vision was the most common complaint, reported by 272 patients (49%), followed by watering in 32 (5.9%) and redness in 23 (4.2%). A total of 450 patients (82.6%) had systemic illnesses, predominantly diabetes and hypertension. History of falls was noted in 107 patients (19.6%). The mean best corrected visual acuity (BCVA) was 0.24 (±0.36) in the right eye and 0.23 (±0.35) in the left. The average spherical equivalent refractive error was -0.06 (±1.96 D), with a range from -16.00 D to +12.00 D. Of the total, 290 patients (53.2%) were prescribed new spectacles, 60 (11%) underwent tele-consultation, and 237 (43.5%) were referred to the base hospital for further management.

Conclusion: The ocular profiling of elderly patients through Doorstep Eye Care Services revealed that blurred vision was the most common complaint, with many also having systemic illnesses and fall risks. The initiative proved effective in identifying vision problems early, offering basic care at home, and ensuring timely referrals for advanced treatment.

Registration ID Number: 329P055EIVOC2025

Title: Beyond Chalk and Talk: Are Teachers Prepared for Visual Impairment Education?

Author(s): Jayanthi S, Indira Rengarajan, Rashima Asokan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: The educational outcomes of students with Visual Impairment(VI) are influenced by teachers' knowledge, attitudes& classroom-practices. Despite their importance in fostering inclusive-education and supporting diverse learning-needs, these elements remain insufficiently studied, with limited systematic evaluation. This study seeks to formulate a framework for evaluating the critical components of teachers' preparedness.

Methods: A cross-sectional study was conducted to explore the knowledge, attitude, and practice of teachers working with students with VI across multiple educational settings in Chennai and Tiruvallur districts. A comprehensive 52-item survey was developed, focusing on four key domains: awareness, knowledge, attitude, and practice. The survey instrument was constructed using the Delphi technique, involving two iterative rounds of expert input from seven professionals with expertise in the field of VI and special education. Revisions were made after each round to ensure content validity, redundancy, and domain selection. Following this, a pilot study was conducted for 9 special educators, and further refinements were made. The current study focuses on a section of the survey. A total of 30 teachers who met the inclusion criteria were selected. After obtaining informed consent, the survey was administered in person. Data was analysed using an Independent-t test and ANOVA in SPSS Version 20.

Results: Data included 10 males, 20 females with mean (SD) age of 39.40 (11.39). Study found 66.7% of the teachers were not aware of the available services offered by the government for students with VI. 16.67% of teachers received comprehensive training in assistive technology operation. Additionally, 73.3% of teachers fail to update themselves regularly with regard to devices and schemes. Based on a 17-question assessment with maximum knowledge score (KS) of 32, 23.3% of participants demonstrated good knowledge (≥26), 43.3% had moderate knowledge (19–25) and 33.3% showed poor knowledge (≤18). Statistical analysis found males had significantly higher KS than females (p=0.007). It also found educational qualification (p=0.005), specialization (p

Conclusion: This study identified gaps in teachers' preparedness for VI education, with KS significantly influenced by gender, qualifications, organization type and specialization. Therefore, addressing training alone is insufficient; teachers must engage in continuous professional development and reflective practice. These findings stress the need for tailored initiatives and informed policy measures.

Registration ID Number: 635R357EIVOC2025

Title: Referral Pattern and Vision Impairment Profile in a Low Vision Clinic: 15-years Experience

Author(s): Lokeshwar Prasad Sahu, Shishir Shukla, Anupam Sahu, Deepshikha Agrawal

Affiliation(s): Avinashi

Abstract Content:

Purpose: To report the referral pattern in a low vision clinic and improvement in vision impairment.
Methods: Retrospective case series of all patients who had under gone for Low vision trial from January 2009 to Dec 2024. Medical records of patient were reviewed for demographic details, ocular disease, pre low vision trial vision, type of low vision device and vision following low vision trial. Binocular vision impairment was categorized as per World Health Organization criteria.

Results: There were 1121patients, of whom 773 (69.0%) were males and 348 (31.1%) were females. The mean age was 31.42 ± 22.03 (range: 3 to 98) years. The most common causes of low vision was retina diseases (585, 52.2%) followed by optic nerve disorders (103, 9.2%), uvea disorders (88, 7.9), lens-related (59, 5.3%0, whole globe (53, 4.7%), glaucoma (38, 3.5%), cornea (36, 3.2%), cortical causes (16, 1.4%) and miscellaneous causes (143, 12.8%). Before low vision trial there were 590 (52.6%) patients with either severe or profound vision impairment or near blind, which reduced to 167 (14.9%) after trial.

Conclusion: Retinal diseases are most common cause of referral to low vision clinic. There is significant improvement in vision impairment following low vision trial.

Scientific Free Paper Session 12 – Binocular Vision and Vision therapy - 2

Registration ID Number: 391P072EIVOC2025

Title: Objective vergence characterization using eye tracker in presbyopia and non-presbyopia – An exploratory pilot study

Author(s): Aasma Marasini, Premnandhini Satgunam, Priyanka Maniarasu

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: In real world near tasks both vergence and accommodation are coupled. With increase in age, accommodation reduces, but vergence does not show any decline. Given accommodative-vergence can be affected with age we hypothesized the objective vergence eye movements with and without presbyopia may have different characteristics. We studied this.

Methods: Individuals without presbyopia (n=5, age: 21-29, mean: 24.8±3 years) and with presbyopia (n=5, age: 44-54, mean: 47.6±3 years) were recruited with informed consent. Participants were asked to fixate and follow a motorized linear line target that was moved from 31 cm to 6 cm, towards their nose. The target moved at a constant speed of 2.2 cm/second. The test duration was 11.4 seconds. The vergence demand for an individual would depend on their interpupillary distance (IPD). At a distance of 6cm, and with an IPD of 6cm, the convergence demand will be 52 degrees. Binocular eye movements were recorded using EyeLink1000 Plus eye tracker (SR Research Ltd.,Ontario, Canada). Prior to the vergence task, 9-point calibration was performed at 34.5 cm following the SR Research guidelines. Vergence amplitude and velocity were measured. Saccadic intrusions if present were also characterized. Non-parametric test was used for data analysis.

Results: Median vergence amplitude was comparable (p=0.69, Mann-Whitney U test) between non-presbyopia (45.50±8.86 degrees) and presbyopia (47.77±8.30 degrees). Similarly, median vergence velocity was also comparable (p=0.30) in non-presbyopia (1.53±0.18 degrees/sec) and presbyopia (1.52±0.56 degrees/sec). Overall saccadic intrusions were comparable (p=0.42) in both non-presbyopia (median count n=36) and presbyopia (n=30). The proportion of small amplitude saccades (0.08) while comparing between two groups

Conclusion: Accommodative vergence can be accompanied with saccadic intrusions. We took two groups where the accommodative vergence will be different, but we found no difference between the groups. Our pilot study showed feasibility to measure vergence eye movements. Larger sample is needed to get a conclusive result.

Registration ID Number: 505U113EIVOC2025

Title: The Effect of Accommodation and Convergence on Emmetropes and Ametropes in Virtual Reality Device

Author(s): Hari Priya V, Hema Malini S, Indira Priya Dharshini K, Abinaya V, Nandhini Elango

Affiliation(s): Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamilnadu

Abstract Content:

Purpose: Virtual Reality (VR) offers immersive 3D experiences and is widely used in fields like gaming, healthcare, and education. However, prolonged use may impact visual functions, particularly accommodation and convergence. This study aimed to assess and compare these effects in emmetropic and ametropic individuals following VR exposure.

Methods: A comparative observational study was conducted on 17 participants, categorized into emmetropes (n = 5) and ametropes (n = 12). All subjects underwent binocular vision assessments before and after a 25-minute of exposure to a VR traffic car race game. Parameters evaluated includes stereopsis, near point of accommodation (NPA), negative and positive relative accommodation (NRA & PRA), accommodative facility, near point of convergence (NPC), negative and positive fusional vergence (NFV & PFV), and vergence facility. The collected data were analysed using SPSS software.

Results: In emmetropes, the median NPC was 8 cm in the pre-VR assessment and 7 cm in the post-VR assessment. The median of NPA was 14 cm in both pre-VR and post-VR assessments. In ametropes, the median NPC was 7 cm in the pre-VR assessment and 7.25 cm in the post-VR assessment. Both emmetropes and ametropes showed slight or no changes in accommodative and convergence parameters after VR exposure; however, the differences between the two groups were not statistically significant ($p > 0.05$). The findings suggest a similar pattern of visual system adaptation to VR stimuli.

Conclusion: The study found no significant difference in the effect of virtual reality usage on accommodation and convergence between emmetropes and ametropes. These results indicate that short-term exposure to VR does not differentially impact visual function based on refractive status, highlighting the adaptability of the binocular visual system across refractive.

Registration ID Number: 303U086EIVOC2025

Title: Pilot Study on the Effect of Digital Video Games on Visual Memory and Visual Attention

Author(s): Rithika S, Boureima Guindo, Meenakshi Narayanan, Maheswari Srinivasan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: The increasing use of digital gadgets, especially video games, has significantly impacted cognitive skills like visual attention and memory. With 3.07 billion gamers worldwide, this study aims to assess the effects of video games on visual attention and memory by comparing pre- and post-gameplay performance among optometry students.

Methods: This prospective experimental study included 30 optometry students (undergraduate and postgraduate), aged 17–30 years, with BCVA of 6/6 and N6, and prior video game experience. Participants with ocular/systemic pathologies or a history of ocular surgery were excluded. Informed consent was obtained. Visual attention was assessed using the Stroop Color and Word Test, which included word, color, and color-word subtests; scores were based on correct responses and interference. Visual memory was evaluated using the Rey-Osterrieth Complex Figure Test (ROCFT), where participants copied and later recalled a complex geometric figure; scoring was based on 18 figure elements rated 0–2. A 20-minute session of "Temple Run", an action-based endless runner game requiring rapid attention and motor response, was used as the video game stimulus. Post-gameplay assessments were conducted immediately. Pre- and post-gameplay scores were compared to evaluate the impact of video game exposure on visual attention and memory.

Results: The study included 30 optometry students (15 undergraduates, 15 postgraduates; 10 males, 20 females) with a mean age of 21.23 ± 1.76 years. Stroop Test interference scores indicated improved visual attention post-gameplay. Among undergraduates, the mean score increased from 5.29 ± 7.30 to 12.59 ± 12.87, and among postgraduates, from 5.76 ± 6.11 to 9.54 ± 12.97. The overall mean rose from 6.95 ± 6.54 to 11.28 ± 12.79. Normality was confirmed using the Shapiro–Wilk test, and paired t-tests showed significant improvements in Stroop performance across word ($p < 0.001$), color ($p = 0.021$), and word-color ($p < 0.001$) conditions. In contrast, ROCFT revealed a significant decline in visual recall memory. The mean pre-gameplay score was 26.00 ± 4.03, which decreased to 23.00 ± 4.31 post-gameplay, with a mean-difference of 2.17 ± 1.32 ($p < 0.001$). These findings suggesting video games enhances visual attention but potentially impair recall memory.

Conclusion: Video game exposure significantly improved visual attention, as evidenced by improved Stroop Test performance, but was associated with reduced visual recall memory, suggesting a potential cognitive trade-off. These findings support prior research and underscore the need for further studies on the long-term effects and underlying mechanisms.

Registration ID Number: 418R240EIVOC2025

Title: Evaluating Vision Therapy and Plus Lenses for Postural Improvement in Accommodative Dysfunction: A Pilot Study

Author(s): Suriya A, Tamilchudar R, Sendilkumar B

Affiliation(s): School of Allied Health Sciences, Vinayaka Mission Research Foundation, Salem, Tamil Nadu

Abstract Content:

Purpose: To evaluate the effect of vision therapy and low-plus lens correction on postural alignment and accommodative function in subjects exhibiting near-work-induced postural abnormalities and signs of accommodative dysfunction.

Methods: This pilot study included participants aged 18–25 years presenting with visual fatigue, accommodative dysfunction, and forward head posture associated with prolonged near tasks. Baseline assessments include amplitude of accommodation, binocular accommodative facility, accommodation response (MEM), and relative accommodation (NRA/PRA). Posture is evaluated using a validated smartphone-based posture analysis application. Subjects are divided into two groups: one receiving in-office accommodative therapy alone, and the other receiving vision therapy in combination with low-plus lens correction. The intervention period is 6 weeks, with structured therapy sessions and adherence monitoring. Post-intervention assessments replicate baseline tests.

Results: Although the study is still ongoing, preliminary observations show promising improvements. In the combined therapy group, the amplitude of accommodation improved by an average of 2.8 ± 0.6 D, compared to 1.9 ± 0.5 D in the therapy-only group. Accommodative facility increased from a baseline of 6.5 cpm to 11.2 cpm in the combined group. MEM retinoscopy showed reduced lag values from +0.75 D to +0.35 D. Postural assessment indicated a mean craniovertebral angle improvement of 4.5° in the combined group versus 2.2° in the single-therapy group. These preliminary trends suggest clinically meaningful improvements in both visual and postural function, highlighting the potential benefit of integrating plus lens correction with vision therapy. Final statistical analysis is underway.

Conclusion: Preliminary observations indicate that combining plus lenses with vision therapy may enhance outcomes in both visual and postural function. This pilot study explores a novel approach linking optometric and postural rehabilitation, offering insights into integrated care for students experiencing visual and ergonomic strain.

Registration ID Number: 266U074EIVOC2025

Title: Design and Development of a Touch Sensor-Based Visual Anticipation Timer for Eye-Hand Coordination Training

Author(s): P.C. Gouravh, Salman Hussain, Janapriya Thirumurugan, Naziya Fathima, Sandhiya Rajendran, Meenakshi Narayanan, Maheswari Srinivasan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: To design and develop a touch sensor-based visual anticipation timer aimed at enhancing eye-hand coordination through a more responsive and intuitive interface compared to traditional button-operated devices.

Methods: A prototype was developed using an Arduino UNO microcontroller, capacitive touch sensor, 16 multi-coloured LEDs, and an inbuilt timer, powered by a 12V 2A adapter. The 3D-printed housing consisted of five interlocking parts with integrated clips for easy assembly. LEDs were spaced uniformly at 1.5 cm intervals across a linear strip, providing consistent visual cues. The first and last LEDs were yellow to mark start and end points, while intermediate LEDs (red, green, and blue) enhanced attentional focus and anticipation. The LED sequence operated in reverse to increase task complexity. The capacitive touch sensor replaced mechanical switches, reducing input lag and improving precision. Although no participant data was collected, the system was tested for functionality and timing precision.

Results: The system successfully simulated the visual anticipation task, demonstrating responsive input through the touch sensor. The use of customizable LED colours and reverse sequencing supports diverse testing scenarios and user engagement.

Conclusion: An indigenous, cost-effective touch sensor-based visual anticipation timer was successfully developed, offering enhanced interactivity through a multi-coloured LED sequence and reverse direction functionality. It lays the groundwork for future validation studies aimed at improving visual-motor coordination in sports, rehabilitation, and training contexts.

Registration ID Number: 518R313EIVOC2025

Title: Evaluation of Nystagmus Dynamics before and after Yoke Prism Using Photo Refractometer

Author(s): Pavithra E, Priyom Parashar, Praveen Kumar, Amit Bhowmick, Kavitha Kalaivani Natarajan

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: The purpose of this study is to investigate the impact of yoke prism on the amplitude and frequency of Nystagmus by using a photo refractometer.

Methods: This prospective observational study was conducted at Binocular Vision of a tertiary eye care centre over a period of 11 months. Thirty-five participants with congenital Nystagmus included in this study. All participants underwent comprehensive ophthalmic evaluation, including clinical history, refraction, anterior and posterior segment, Abnormal head posture (AHP) assessment, and functional visual status. AHP assessment was done using a goniometer to measure the degree of head tilt, turn and chin position. Nystagmus amplitude and frequency were objectively measured using photo refractometer, which track binocular eye movement using infrared reflection.Yoke prisms were prescribed based on participants' AHP followed by 20-30 minutes of prism adaptation. Nystagmus measurement were recorded during fixation in primary gaze position and parameter were analyzed pre and post yoke prism use.

Results: A total of 35 participants with congenital Nystagmus were included among which 24 were males The mean (SD) age of the participants was 11.60 ± 5.98 years.Yoked prism adaptation significantly reduced Nystagmus amplitude (Mean ± SD) for both distance (4.71 ± 1.13 to 3.70 ± 1.15 degrees, $p < 0.001$) and near (3.37 ± 1.18 to 2.84 ± 0.98 degrees, $p < 0.001$). While no significant change was observed in frequency at distance ($p = 0.691$), a notable reduction was recorded for near (1.95 ± 0.66 to 1.64 ± 0.67 Hz, $p = 0.001$). Abnormal head posture improved markedly from 17.94 ± 7.98 degrees to 7.15 ± 5.57 degrees ($p < 0.001$). Visual acuity remained stable, with no significant change in mean logMAR (0.32 ± 0.23).

Conclusion: Yoked prism adaptation significantly reduced Nystagmus amplitude and improved abnormal head posture in congenital Nystagmus. These results highlight its potential as a non-invasive therapeutic option for Nystagmus-related symptoms, supporting it use as an adjunct in clinical management for Congenital Nystagmus.

Registration ID Number: 521P093EIVOC2025

Title: Clinical Profile of Non Strabismic Binocular Vision Anomalies among Adults – A Retrospective Study

Author(s): Asha Slecer, Praveen Kumar P

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Non-strabismic binocular vision anomalies (NSBVAs) refer to either fusional vergence dysfunction or accommodative dysfunction. A study by Procar etal recorded that 32.3% of the subjects showed binocular dysfunctions. Our aim of this study is to understand the clinical profile of NSBVAs among adults in a tertiary eye care setting.

Methods: Data of subjects aged above 34 with a diagnosis of Non strabismic binocular vision anomalies were extracted from the electronic medical records of a tertiary eye care center for inclusion in the study. Subjects with ocular co-morbidities were excluded. The binocular vision parameters of the subjects who presented to the tertiary eye center from January 2022 to December 2022 were analyzed. Binocular vision parameters included distance and near phoria, near point of convergence, accommodation amplitudes, fusional vergence amplitudes, vergence and accommodative facility.

Results: A total of 319 subject's data were extracted, of which 254 subjects met the inclusion criteria. Among these, 160 (63%) were males with mean (SD) age of 40.9 (±7.22) years. Out of the 254 subjects, 128 (51%) subjects were found to have non strabismic binocular vision anomalies. Convergence insufficiency was found to be most prevalent (18%) followed by reduced accommodative facility (10%). The median of NPC with penlight was 16.5 (±9.5), distance phoria was -0.9 (±2), near phoria was -1.9 (±4) and positive fusional vergence was 18 (±8.5).

Conclusion: The study reveals frequency of non-strabismic binocular anomalies among adults with convergence insufficiency vergence dysfunctions being more common. Therefore comprehensive binocular vision assessment is essential for adults, involving evaluation of accommodative and binocular function alongside refraction for timely detection and treatment to enhance visual performance.

Registration ID Number: 387R215EIVOC2025

Title: Efficacy of Neuro-Optometric Rehabilitation for Traumatic Brain Injury.

Author(s): Yuvaraj Chellakkannu, Praveen Kumar P, Amit Bhowmick, Ambika S

Affiliation(s): Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: The purpose of this study was to understand the effectiveness of In-Office vision therapy among patients with Non-Strabismic Binocular Vision Anomalies (NSBVA) along with oculomotor dysfunctions (OMD) in both symptomatic and asymptomatic individuals with Traumatic Brain Injury (TBI).

Methods: Patients with mild to moderate TBI who were referred to Neuro Optometry clinic from Neuro Ophthalmology department of a tertiary eye care center were included. All patients who were included underwent comprehensive eye examination followed by Neuro Optometric evaluation. Binocular vision assessment was also done as a part of the

examination along with oculomotor functions. Following assessment, the patients who were diagnosed with any form of NSBVA and oculomotor dysfunction (OMD) underwent in-office Neuro-Optometric vision therapy with minimum of 5 Sessions to maximum of 10 sessions each session given for 45-60min on consecutive days. A post assessment was performed to understand the efficacy of Neuro-Optometric vision therapy.

Results: A total of 24 patients with the mean (SD) age of 22 ± 2 years.The most common NSBVA was Accommodative Dysfunction (AD) 12 (50%), convergence insufficiency (CI) 4 (16%) CI with AD 5(2%), and accommodative infacility with OMD 3(12.5%). The head injury was accustomed road traffic accidents (RTA) 39%. The Pre and post median (IQR) of near point of convergence break was 7(5-8),6(4-7)cm , Distance positive fusional vergence was 20(18-25),25(20-30) ΔD, near PFV 30(20-40),40(30-45)ΔD, vergence facility 12(10-15),17(11-18)cycles/minute (cpm), and accommodative facility for Right eye 6(5-8), 15(11-18), left eye 6(4-9),15(12-19)and Both eyes 6(4-9),12(7-13)cpm. In beneficially development noted in NSUCO saccadic accuracy 5(5),5(5), reading speed167(140-192),175(157-199) words/minute, and Developmental Eye Movement test scores for both vertical 27(25-29),24(22-26) sec and horizontal 28(26-31),26(23-29) sec. Differences between pre- and post-rehabilitation measurements were assessed using the Wilcoxon Signed-Rank Test ($p<0.05$).

Conclusion: A high incidence of reduced accommodative facility, along with suspected CI as part of NSBVA, was observed among patients with TBI resulting from RTA. An office-based Neuro-Optometric Vision Therapy program demonstrated effectiveness in addressing accommodative and vergence dysfunctions in these patients

Registration ID Number: 384R212EIVOC2025

Title: The Effect of Digital Device Usage on Visual Fatigue among University Students

Author(s): Shenbagam N, Rituparna Ghoshal

Affiliation(s): CT University, Ludhiana, Punjab.

Abstract Content:

Purpose: The study aimed to understand the asthenopia symptoms due to digital device usage among young adult undergraduate university students.

Methods: A pilot, cross sectional study was conducted among young adults aged between 18 to 25 years over a period of Feb to March 2025 involving undergraduate students attending three major faculties at Sushant University. Students were asked to fill the self-administered questionnaire which included the demographics, duration of digital device usage, symptoms of asthenopia and protective measures taken. Chi square test and Correlation tests were performed to find the association between the different variables.

Results: A total of 124 students were enrolled in this study,the prevalence of asthenopia symptoms due to the digital devices (Desktop, Laptop, iPad/Tablet,Android or iPhone) were headache (64.2%),Itchy eyes 27.4%,Eyestrain 25.8%, Red eyes 19.4% and Dry eyes 17.7% respectively.Studying 98.4% and Entertainment 99.2% were the primary reasons for digital device usage,followed by Communication 81.5% and working 45.2%. There was a significant association between the duration of digital device usage(greater than equal to 4 hours) and headache ($p=0.005$). Interestingly it was found that among the total no of hours spent using digital device, for entertainment,the students spend more duration than for other reasons ($p=0.001$).

Conclusion: Although the majority of students reported symptoms of asthenopia, none of the digital device usage parameters except for headache showed a significant association. Further evaluation, including clinical assessment of binocular vision parameters, may help in establishing a more comprehensive understanding of the associations.

Registration ID Number: 461R267EIVOC2025

Title: Binocular Function Score in Patients with Amblyopia Pre and Post Dichoptic Therapy: A Short Term Pilot Study

Author(s): Saujanwita Roy

Affiliation(s): Kanohi eye private limited, Mumbai, Maharashtra.

Abstract Content:

Purpose: While, clinical measures of amblyopia typically use visual acuity to quantify improvement, no differentiation between suppression and simultaneous perception data in nil stereopsis group has been reported. By composite binocular function score, present study aimed to compare visual parameters in patients with amblyopia pre and post dichoptic therapy

Methods: Anisometropic amblyopia underwent BinocularVision Training BYNOCS® for 6 weeks for 30 min/day, 5 days a week. RDS result has been converted to binocular function score by converting into log score, range from 1.6 (log 40 arc sec) to 3.3 (log 2000 arc sec). A score of four (1) was assigned to nil stereoacuity when the Worth 4 Dot test outcome indicated simultaneous perception. A score of five (5) was assigned to nil stereoacuity when the Worth 4 Dot test outcome indicated suppression.

Results: Out of 30 participants, 9 were adults and 21 were children. The Best Corrected Visual Acuity in amblyopic eye significantly improved ($p=0.00$) with median (IQR) of 0.50 (0.13) logMAR to 0.20 (0.10) logMAR post Training. Three patients with suppression and absent stereo scored with 5 log unit and 14 participants with absent of stereo but fusion in W4DT scored 4 log unit. Binocular function score improved with treatment ($p=0.00$) from median (IQR) of 4 (2) log unit at baseline to 2 (1) log unit at 6 weeks. While final visual acuity showed a strong correlation with baseline visual acuity ($r=0.78$) and a moderate correlation with baseline binocular function score ($r=0.47$), final binocular score showed a correlation of 0.65 with baseline binocular score.

Conclusion: Six weeks dichoptic therapy significantly improved binocular function score in patients with anisometropic amblyopia. Future research with large dataset and long term follow up is recommended.

Clinician to Researcher Free Paper Session 1

Registration ID Number: 107P004EIVOC2025

Title: Brown's Syndrome: Unusual Association with Reverse Straatsma Syndrome and Aplasia Cutis Congenita

Author(s): Avani Shah, Siddharth Sheth

Affiliation(s): Isha Netralaya

Abstract Content:

Background: Brown syndrome is a rare motility disorder with restricted elevation in adduction. Reverse Straatsma syndrome (RSS) includes high hypermetropia, amblyopia, and unilateral myelinated nerve fiber layer. Aplasia cutis congenita (ACC) presents as absent skin layers with ocular anomalies. Their association is unreported, with amblyopia Management being the primary treatment.

Case Details: A 10-year-old boy presented with decreased visual acuity in the left eye for a few months. General examination revealed patchy hair loss and a flattened posterior part of the head. Ophthalmic examination showed hyperopia in both eyes. The left eye exhibited 16 prism diopters (PD) esotropia and restricted dextroelevation. Anterior segment examination was normal in both eyes, while dilated fundus evaluation revealed a peripapillary myelinated nerve fiber layer in the left eye.

Management: A computed tomography (CT) scan of the brain and orbit was advised, along with a dermatology consultation. Part-time occlusion therapy was initiated for the left eye to manage amblyopia.

Outcome: This case highlights an unusual association of Brown's syndrome with Reverse Straatsma syndrome and Aplasia cutis congenita. Early diagnosis and appropriate management particularly for amblyopia, are crucial in such cases.

Registration ID Number: 244R140EIVOC2025

Title: The role of cycloplegic refraction in detection of the Accommodative Spasm and the plan of its

Managements: A case report.

Author(s): Ajay Kumar Ray, Purushottam Joshi

Affiliation(s): Mechi Eye Hospital, Birtamode, Jhapa, Nepal

Abstract Content:

Background: Accommodative Spasm (AS) is an asthenopic condition due to prolonged contraction of cilliary muscles, presenting with asthenopic symptoms, along with sudden blurring of vision for distance and near, hyper accommodation to an accommodative stimulus. • Clinical findings mostly show pseudomyopia, lead of accommodation along with fluctuating dry Retinoscopy.

Case Details: We described a case of 12years/female presents to the hospital with the complain of sudden blurring of distance and near vision along with inward deviation of both eyes associated with severe headache and double vision occasionally since last 7 days. She has a history of excessive near work since last 1 month. Clinical findings show high myopia of RE: -11.00DS and LE: -11.00DS with fluctuating dry retincscopy. Orthoptic evaluation shows esodeviation of approx. 30 BO at distance and 40 BO at near with lead of accommodation. Cycloplegic refraction shows +1.00DS in both eyes. Slitlamp examination and dilated Ophthalmoscopy revealed normal findings.

Management: Bifocal glass (full cycloplegic correction with Addition of +2.50DS) was prescribed along with Topical Cycloplegics (Atropine 1%) twice in a week, tapering on follow up was advised. A patient was advised to reduce the overloaded near work, stay stress free, increase outdoor activities and was advised to come for follow up after 15 days. On 1st follow up she has been advised to continue same glass with with atropine 1 % once in a week. Same Managements has been advised on 2nd follow up along with home Vision therapy has been added and asked to visit after 2 weeks.

Outcome: Visual acuity with correction was 6/6p, N10 in both the eyes with decrease in deviation on 1st follow up. On 2nd follow up vision was 6/6 and N6 with correction with BE and orthophoria for both distance and near and was advised to continue same glass, stop cycloplegic drops.

Registration ID Number: 239R135EIVOC2025

Title: An Arc of the Mind – Early Detection of Hypertensive Stress in Young Adults: A Case Study on Retinal Vascular Changes at a Private Optometric Practice.

Author(s): Sanjay Mehta

Affiliation(s): TOWER OPTICS

Abstract Content:

Background: Mental Stress is the emerging reason for the sudden deaths due to CVD in young adults globally with India accounting to one fifth of it. Changes in Retinal vasculature are a direct reflection of cardio vascular health, which on early detection can save a human life.

Case Details: A 27-year-old female moderate myopic with no ocular complaints had visited my clinic for routine eye check up. BCVA OU 6/6 N6. Anterior segment was WNL. Posterior segment of both eyes showed an arc like slit RNFL defect in the inferior quadrant OD >>>OS, generalised arterial attenuation and a deep cupping of optic disc. Fundus picture taken 5 years back on her last visit did not show this defect. On enquiring further, she revealed about her troubled marriage situation 2 years back leading to almost fatal malignant hypertension attack & its complications.

Management: A "slit defect" in the retinal nerve fibre layer is a dark, narrow groove seen on red-free fundus photography, often indicating glaucomatous optic neuropathy. These findings which were confirmed with OCT are of Clinical Significance as they may indicate early glaucoma though VF was WNL. In this case, there is a strong likelihood that the persistent mental stress triggered hypertensive episodes, which could have led to retinal vascular changes. The patient was advised to undergo comprehensive eye examinations every six months, also an expert cardiovascular opinion was recommended apart from informing her regular medical consultant about the ocular findings.

Outcome: Optometrists should adopt a holistic approach when evaluating patients, particularly young adults. A thorough non ocular case history, including physical, psychological and emotional well-being, can reveal underlying systemic and ocular conditions. Maintenance of medical records will prove be a crucial factor for diagnosis as in this case.

Registration ID Number: 296U080EIVOC2025

Title: Rare Case of Vernal Conjunctivitis with Keratoconus: Successful Management with CAIRS and CXL

Author(s): Smruthi Sivakumar, Swetha S

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Vernal keratoconjunctivitis (VKC) is a severe allergic inflammatory disease that primarily affects the conjunctiva in children and young adults. Keratoconus, a bilateral, asymmetric, and progressive thinning and steepening of the cornea, leads to decreased visual acuity. VKC is considered among the most common corneal complications associated with keratoconus

Case Details: An 11-year-old male patient presented with a history of vernal conjunctivitis and progressive vision loss. Clinical examination revealed papillary conjunctivitis, keratoconus, and significant visual impairment in both eyes. The best-corrected visual acuity (BCVA) was recorded as 6/24 in the right eye and 6/36 (P) in the left eye. The patient also exhibited chronic allergy symptoms, including discharge from both eyes, and the keratoconus notably affected his quality of life.

Management: The patient underwent Corneal Cross-Linking (CXL) and received Corneal Allogenic Intra-Stromal Ring Segments (CAIRS) in both eyes, along with Management using antihistamines. The goal of CXL was to stabilize the cornea and halt the progression of keratoconus.

Outcome: Post-operative evaluations demonstrated a significant improvement in visual acuity. The patient reported a substantial reduction in symptoms and an improved quality of life. The combination of CXL and CAIRS proved effective, providing a favourable prognosis for managing this rare condition.

Registration ID Number: 420R242EIVOC2025

Title: Enhancing Scleral Lens Fitting: The Role of Eaglet Eye Surface Profiler in Assessing Scleral Asymmetry and Lens Modifications

Author(s): Kiranmayi Chappidi, Prabhu Manikanda

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Scleral lens fitting can be challenging, requiring multiple visits and extended chair time. The Eaglet Eye Surface Profiler (ESP) enables precise scleral mapping, optimizing lens design for complex cases. This technology enhances lens alignment, reduces patient visits, and ensures a customized fit, particularly for patients with irregular ocular surfaces.

Methods: A 20-year-old male presented with complaints of blurred vision for one year. He was previously diagnosed with keratoconus and Apert syndrome. Initial examination showed right eye vision of 20/200 improving to 20/160 with pinhole and left eye vision of 20/160 improving to 20/100. Both eyes exhibited apical scarring, corneal ectasia, scissoring reflex, and external features suggestive of Apert syndrome, including a flat nasal bridge, syndactyly, widely spaced inner canthi, and bulging eyeballs. Corneal topography confirmed advanced keratoconus, and the patient was recommended for scleral lens fitting.

Results: A diagnostic scleral lens fitting was initially performed, and lenses were ordered. However, the fitting was compromised. Subsequent modifications were made based on ESP data, which provided detailed scleral contour measurements, allowing for precise customization of the lens parameters. Additional adjustments were implemented to improve centration, surface alignment, and overall fit. The use of ESP enhanced the fitting process, resulting in better lens stability, comfort, and improved vision, with the right eye achieving 20/40 and the left eye 20/50.

Conclusion: The customized scleral lens fit improved vision and comfort, aligning well with the ocular surface. Utilizing ESP reduced chair time, minimized the number of clinic visits, and provided a precise, patient-specific fit, demonstrating the value of ESP in managing complex scleral asymmetry cases.

Registration ID Number: 348R190EIVOC2025

Title: Role of visual field in diagnosing Pituitary adenoma – A Case report

Author(s): Sharmila D

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Pituitary Macro adenomas is a benign tumour in the pituitary gland which cause symptoms by pressing on nearby brain structures, leading to headaches, blurry or double vision, loss of peripheral vision.

Case Details: A 46-year-old male presented with complaints of sudden painless diminision of vision with neck pain, headache since a week. He has systemic hypertension for past 6 months and Cervical spondylosis. On examination his best corrected distance Visual acuity was 6/12 in right eye, 6/6 in left eye for distance. Pupils were sluggishly reacting to light, there was no relative afferent pupillary defect. Extra ocular motility was normal, Colour vision was decreased, Normal fundus noted in both eyes. Visual fields revealed incongruous temporal defects and Magnetic resonance imaging of Brain showed Pituitary macroadenoma and patient was referred to Neurosurgeon.

Management: After neurologist consultation, endoscopic pituitary adenoma excision was performed for the patient. Computed tomography (CT) was done in post-operative period, revealed no residual lesion. On ophthalmic examination, best corrected visual acuity was improved to 6/6 in right eye and stable in left eye (6/6). On pupillary examination, there was no relative afferent pupillary defect. Extra ocular motility was normal, Colour vision was within normal. Dilated fundus examination was within normal. Visual fields were normal in both the eyes. New reading glasses were prescribed. The importance of regular follow-up was explained.

Outcome: Pituitary macroadenoma is condition which needs early detection and management. Field of vision should be monitored regularly. Optometrists play an important role in diagnosing the disease by handling special procedures like visual fields.

Registration ID Number: 341P061EIVOC2025

Title: Impact of Visual Stimulation Therapy on Children with Retinopathy of Prematurity

Author(s): N Nikitha, Rani Libiya, Rengarajan Indira

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Retinopathy of Prematurity (ROP) is a leading cause of preventable childhood blindness. Timely screening and interventions—such as laser therapy, intravitreal injections, scleral buckle surgery, and vitrectomy—are critical. In addition to these treatments, visual stimulation therapy has emerged as a promising adjunct to improve visual outcomes.

Case Details: This case series includes seven preterm infants under the age of two years diagnosed with ROP. Among them, three patients underwent lensectomy with vitrectomy, one received laser therapy combined with intravitreal injection, two had laser treatment followed by lensectomy with vitrectomy, and one underwent belt buckling. Despite these treatments, all patients exhibited delayed visual responses and were subsequently referred for a visual stimulation therapy program.

Management: Visual stimulation therapy consisted of exposure to high-contrast environments, light stimuli presented in both dark and normally light rooms, and interactive visual-motor activities. The therapy was home-based, performed by parents twice daily for 40 minutes. After six months of consistent therapy, notable improvements were observed in visual behaviours such as fixation, tracking, and visual attention.

Outcome: Three children demonstrated an improvement in visual acuity from “fixate and follow light” to 4.00 cycles per centimetre (cpcm) at 0.5 meters using Lea paddles. The remaining cases improved from “does not follow light” to “fixate and follow light” over the same period.

Registration ID Number: 347R189EIVOC2025

Title: The role of Atropine in diagnosing and managing accommodative spasm – A case report

Author(s): Thenmozhi Nallathambi

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Accommodation Spasm refers to the excessive exertion of accommodation, the inability to relax accommodation,the ciliary muscle remain in a state of contraction and accommodation occurs subsequently in the absence of an accommodative stimulus.Pupillary constriction, excessive convergence and accommodation are the triad of accommodative spasm leading to blurred vision,diplopia,eyestrain and headache

Case Details: A 17-year-old boy presented with complaints of sudden diminision of vision for the past three years. On examination his best corrected visual acuity was 6/18 with -1.50DS/-1.50DCx20 in the right eye and 6/6 with -2.25DS in left eye, retinoscopy showed varying reflex, dynamic retinoscopy revealed high lag of accommodation, and cover test showed esophoria for distance and near. Anterior and posterior segment was normal in both eyes. Optical Coherence Tomography and Electro-retinogram was normal. Atropine 1% eye ointment was prescribed in both the eyes and advised to review at the clinic after three days of instillation

Management: The diagnosis of accommodative spasm was made based on the vacillating reflex from hyperopic to myopic fluctuation in refractive error with open and closed field auto refractometer. Ocular biometry parameters were documented to correlate the refractive error. The patient was reviewed on 4th day for atropine refraction and the refraction showed -0.50DS/-0.50DCx60 in right eye and -0.75DS/-0.50DCx170 in left eye with clear reflex in retinoscopy. The visual acuity improved with the refractive correction upto 6/7.5 in both eyes,cover test showed flick esophoria for distance and Ortho for near.Biometry parameters were compared from baseline and showed significant improvement in lens thickness.

Outcome: This case report highlights the effectiveness of 1% atropine in both diagnosing and treating accommodative spasm. Atropine 1% has been consistently shown to be an effective pharmacological agent in alleviating the symptoms of accommodative spasm by paralyzing the ciliary muscle, thereby preventing the excessive accommodation that leads to visual discomfort

Registration ID Number: 340P060EIVOC2025

Title: Rehabilitation Beyond Vision Stimulation in Children with Optic Atrophy: A Case Series

Author(s): Praveena Venkat, Libiya Rani S D

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Optic Atrophy leads to severe visual impairment due to irreversible axonal damage resulting in guarded visual prognosis. Common causes include neurological and perinatal insults affecting visual pathway. Early detection is vital, while traditional therapy focuses on vision stimulation, the recent approaches advocate compensatory strategies including visual skills training.

Case Details: This case series presents three pediatric patients (aged under 8 months, 1 year, and 4 years, respectively) who underwent comprehensive ocular examinations, in which two were diagnosed with optic atrophy and one with disc pallor on fundus evaluation. Commonly they are characterized with the signs of nystagmus, myopia and associated neurological conditions such as hydrocephalus, hypoxic-ischemic encephalopathy (HIE), and microcephaly. The children also underwent a functional vision assessment at the special children clinic to identify visual delays followed by referral to the vision enhancement clinic for an evaluation on their overall developmental milestones

Management: Each child received a personalized, holistic therapy plan comprising vision stimulation, visual skills training, perceptual therapy, and higher-level concept development. Over a consistent follow-up period ranging from 1 to 4 years, all three children showed significant improvements in their ability to utilize functional vision with better visual fixation, scanning, discrimination and orientation along with increased sitting tolerance, responsiveness to command, sustained eye contact, controlled behavior and fair development in finger grip and object holding skills.

Outcome: This case series highlights that in children with optic atrophy the residual vision can be enhanced with structured and individualized visual skills therapy that goes beyond traditional vision stimulation therapy and maximizes their potential of functional independence

Registration ID Number: 424R246EIVOC2025

Title: Indian Paediatric Compliance and Parental Acceptance in Ortho-K lenses

Author(s): Sweta Chitranshi, Neha Kapur, Virender Sangwan

Affiliation(s): Dr. Shroff's Charity Eye Hospital, New Delhi

Abstract Content:

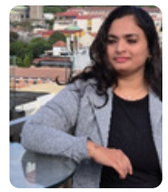
Background: Myopia is increasing among children, which is raising concerns about long-term ocular health. Common treatments to control its progression include low-dose atropine, myopia-controlling spectacles, and orthokeratology. The success of treatment depends on how well the child follows the prescribed regimen and how confident the parents feel about the treatment.

Case Details: A 10-year-old boy visited at SCEH Delhi with complaints of increasing glasses prescription. Aided vision was 6/6 in right eye (RE) and 6/12p in the left eye (LE). The patient was diagnosed with moderate myopia in both eyes and had been using DIMS glasses and low-dose atropine eye(LDA)0.01% drop for the last 2 years. His best corrected vision was 6/6 in both eyes with new glasses. In the follow up, patient was suggested for ortho-k, In the CL trial, patient achieved 6/6 vision in both eyes. The parents had concern about contact lenses, as applying eye drops was easier.

Management: After counselling, Ortho-K lens was dispensed with the combination of LDA. After a 3-months, a reduction in axial length (AL) was noticed. After 3 months, we observed 0.21mm reduction for RE and 0.30mm for LE in the AL, compared to the combination of DIMS glasses and LDA. In 6 months, a slight increase in AL was observed 0.10mm in RE and 0.23 in LE with the Ortho-K-LDA combination. A less increase was noticed ortho-k lenses with LDA in AL when compared to the DIMS-LDA combination as it was 0.22mm in RE and 0.35mm in LE.

Outcome: Compliance was improved when the treatment is well-tolerated. Despite parent's concern, improved vision and the effectiveness of the treatment are likely to lead to better acceptance and long-term adherence. The combination of Ortho-K lenses and LDA 0.01% successfully reduced axial length, slowing myopia progression.

Registration ID Number: 523R317EIVOC2025



Title: Breaking Barriers: Overcoming Learning Disabilities through Visual Skills Therapy – A Case Report

Author(s): Indira Rengarajan, Libiya Rani, Rashima Asokan

Affiliation(s): Sankara Nethralaya,Chennai, Tamil Nadu.

Abstract Content:

Background: Learning disabilities (LD) are complex neurodevelopmental disorders that often impede academic achievement despite normal intelligence. While conventional remedial education addresses cognitive/language-based deficits, visual processing issues are frequently overlooked. This case highlights the critical role of visual skills training in addressing underlying visual perceptual and motor dysfunctions contributing to LD.

Case Details: A 9-month-old infant was brought for second opinion for poor eye contact and previously diagnosed congenital cataract. Clinical examination revealed bilateral total cataract, micro cornea and nystagmus. The child demonstrated poor fixation and tracking. The vision assessment found to be C/US/UM. Prompt surgical intervention was made, with recommendations for early visual rehabilitation. The intervention included a comprehensive visual skills training program tailored to the child's deficit/needs. Activities for eye-hand coordination, vocabulary development, fine motor strengthening, pre-writing, eye tracking, contrast enhancement, visual discrimination, and approach magnification provided. These were systematically implemented to improve visual and cognitive development according to age.

Management: The child initially presented with poor eye contact and visual acuity of 2/48 and 0.5/30 at 2 meters with HOTV. Despite successful surgical intervention, the child continued to exhibit functional visual challenges, particularly inability to see the blackboard and writing along a straight line, suggestive of visual-motor integration deficits and poor visual perception. Following several sessions of structured visual skills training, along with patching, measurable improvements were observed. At the first follow-up, visual acuity improved to 6/60 and 1/60 for distance, and 6/60 for near. Vision improved to 6/36 and 2/60, with N18 in second visit.

Outcome: Structured visual skills therapy led to notable improvements, underscoring the need for integrating visual skills evaluation/intervention in LD management, advocating for a holistic/multidisciplinary approach in remedial education. It also highlights the vital role of early detection/treatment of congenital cataract to prevent lasting visual impairment and promote optimal visual development.

Clinician to Researcher Free Paper Session 2

Registration ID Number: 452P082EIVOC2025

Title: Management of Advanced Keratoconus in a Paediatric Patient: A Case Report: Do we have to relook into our claims policies for contact lens

Author(s): Sruthi G, Anuja CM, Gopalakrishnan S

Affiliation(s): Sri Jayendhra Saraswathi Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Early detection and proper management are critical in preventing further deterioration in vision, for Keratoconus especially in young. This case presents a 12-year-old male with a history of decreased vision in OS, diagnosed as keratoconus elsewhere, who sought a second opinion for management

Case Details: A 12-year-old male presented to us with a complaint of decreased vision in OS for the past 2 years. Unaided VA was OD: 6/6, N6 @ 40cm OS: 1/60,52D in both horizontal and vertical meridians with doubling. Topography confirmed Keratoconus OS>OD with pachymetry value of OD: 474 microns and OS: 302 microns.

Management: Patient was advised against C3R (OS), owing to the decreased corneal thickness and referred for contact lens clinic. At the contact lens clinic, a Rose K2 lens was initially tried for OS, achieving a visual acuity of 6/15p. Since the visual outcome was still suboptimal, and the fit was unstable, a scleral lens was tried, which resulted in a visual acuity OS: 6/6p, N6. However, due to financial constraints, the patient could not proceed with the contact lens, as the contact lens was not claimable under insurance or claims and was still considered a cosmetic.

Outcome: This case stands as a classic example of reworking on our claim and insurance policies for contact lens such as scleral lenses for Keratoconus, which are not merely cosmesis but essential visual need.

Registration ID Number: 346R188EIVOC2025

Title: Seeing the Forest but Not the Trees: A Detailed Case Report on Simultagnosia

Author(s): Chowthri M.M, Praveen kumar P, Amit Bhowmick, Smita Vittal praveen

Affiliation(s): The Sankara Nethralaya Academy, Chennai

Abstract Content:

Background: Simultagnosia is a rare neurological disorder marked by an inability to perceive multiple objects simultaneously. Linked to dorsal stream lesions, it reflects a narrowed attentional window. This report examines its clinical features, causes, and manifestations, correlating symptoms with neurological findings to enhance understanding, diagnosis, and management of the condition.

Case Details: A 64-year-old male presented with visual difficulties and visual field loss following a cerebrovascular accident (CVA). He was also complaining of dizziness and unsteadiness. His wife noticed that he was walking towards left. He has diabetes mellitus, hypertension, and hypercholesterolemia for five years. Neuroimaging revealed an acute non-hemorrhagic infarct in the left medial occipitotemporal lobe, correlating with right homonymous hemianopia (RHH). Visually evoked potential (VEP) showed mildly delayed responses. Video nystagmography indicated hypermetric saccades and saccadic pursuits. The visual field test confirmed RHH, consistent with the lesion site. These findings support a diagnosis of simultagnosia secondary to CVA.

Management: Separate glasses for distance and near vision with 6 prism diopters base right were prescribed for right homonymous hemianopia. After using the prism glasses, the patient could walk straight, showing better spatial orientation. A follow-up in three months was advised, along with home exercises to improve memory, comprehension, and visual perception.

Outcome: The symptoms and visual findings correlate with simultagnosia and hemispatial neglect following stroke. With a comprehensive approach involving visual rehabilitation, prism adaptation, and cognitive exercise, the patient's condition, especially in terms of mobility and visual awareness, may improve. Regular follow-ups and vision therapy are recommended for optimal recovery.

Registration ID Number: 520R315EIVOC2025

Title: Vision Realigned: Successful Nonsurgical Management of a Complex Esotropia

Author(s): Poojashri G, Praveen Kumar, Tharakeswari T, Abinaya Valliappan

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Hypo-accommodative esotropia is characterized by reduced focusing ability at near, associated with a normal or high AC/A ratio and uncorrected hyperopia. Cyclic esotropia is characterized by alternating phases of normal alignment and esodeviation, often in a periodic manner. The coexistence of both forms presents unique diagnostic and management challenges.

Case Details: A 9-year-old male presented with a complaint of inward deviation of the eyes. According to the father, squint was first noticed at age 3, and developed horizontal binocular diplopia for the past 15 days. No visual complaints were reported. Unaided visual acuity was OD: 6/7.5 and OS: 6/6. Refraction revealed hyperopia. Cover test showed right esotropia with alternating fixation and right hypertropia. Orthotropia was noted on alternate visits. Ocular motility test revealed inferior oblique overreaction in right eye and mild abduction limitation was noted. Diplopia charting demonstrated uncrossed diplopia in all gazes with variable prism measurements.

Management: The patient was prescribed full hyperopic correction to reduce accommodative effort and align ocular posture. Base-out prism lenses were given to relieve diplopia and support fusion. A customized vision therapy program was initiated to improve vergence and accommodation. Following vision therapy and prism glasses, reduction in prism angles noted with improved binocular vision parameters and diplopia was resolved. While surgical intervention is often considered for cyclic esotropia, especially when conservative methods fail, the role of non-surgical, integrative therapies in such combined presentations remains under explored. In this case surgical intervention was deferred due to positive response to conservative treatment.

Outcome: This case highlights the effectiveness of a multimodal approach in managing complex presentations of esotropia involving both hypo-accommodative and cyclic components. Early diagnosis and individualized vision therapy and optical correction can lead to favourable outcome avoiding the need for surgical intervention.

Registration ID Number: 469R274EIVOC2025

Title: Prism therapy as a conservative strategy for patients with Esotropia in High myopia: A Case Report

Author(s): Shrinithi S, Praveen Kumar P, Abinaya Valliappan

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Heavy Eye Syndrome, also known as strabismus fixus convergence, myopic strabismus fixus, or highly myopic strabismus, is a rare strabismus due to high axial myopia. It is characterized by increased axial length, large-angle esotropia, hypotropia, and restricted eye movements, particularly in abduction and elevation.

Case Details: A 37-year-old female presented with a 5-year history of intermittent distance diplopia, headaches, and inward deviation of the eyes. She has high myopia, using spectacles and contact lenses. Magnetic Resonance imaging (MRI) showed nasal displacement of vertical recti and inferior displacement of lateral recti. Her best corrected visual acuity was 6/9 and 6/7.5 in right and left eye with high myopic correction. Early posterior subcapsular cataracts and myopic fundus with lasered lattices. She had 140 arc seconds stereopsis, uncrossed diplopia for both distance and near, and alternating esotropia of 25–30 PD with left hypertropia and mild abduction limitation.

Management: Management options for Heavy Eye Syndrome (HES) include conservative approaches such as prism correction for symptomatic relief and surgical intervention in advanced cases like loop myopexy of the superior and

lateral rectus muscles, often combined with medial rectus recession, are effective in correcting muscle displacement and improving ocular alignment. Following an orthoptic workup, patient found to have gross distance-near disparity in cover test, reduced negative fusional vergence, primary gaze diplopia, and compensatory head posture. Then patient underwent for conservative prism correction, successfully addressing her diplopia and ocular misalignment.

Outcome: Patient was prescribed with 5 prism BO in either eye over contact lenses, which resolved diplopia and abnormal posture. During follow-up, no diplopia or head posture was noted. Divergence training was commenced for residual esophoria. Prisms over contact lenses with divergence training effectively reduced esotropia in Heavy eye syndrome.

Registration ID Number: 397R223EIVOC2025

Title: Tailoring vision with Modified Monovision

Author(s): Akshaya C Balakrishnan, Ronit Dutta, Madhumathi S

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Traditional monovision correction can be associated with reduced binocular vision and contrast sensitivity. Modified monovision (MMV)aims to mitigate these issues by adjusting the degree of anisometropia or incorporating multifocal optics. This case series discusses the MMV contact lens approach for patients who are hesitant to wear glasses.

Case Details: This case series follows two patients who were fitted with MMV contact lenses. Patient 1 is a myopic 52-year-old female researcher who is a soft contact lens user for the past 10 years. Her spectacle BCVA was 6/6, N6 with -11.50Ds and +2.00 ADD in both eyes. Patient 2 is a 25 year old female physician, a pseudophakic with PCIOL in right eye. Her spectacle BCVA was 6/12,N6 in RE with -3.25Ds and +3.00Add. The LE was 6/6, N6 vision with -0.50Ds/-1.00DCx180. Rest all findings were normal.

Management: Monovision, multifocal contact lenses (MFCL) trial was done which failed to satisfy the patients' visual needs. A MMV trial with MFCL in RE and SV contact lens in LE was tried. Patient 1 was fitted with balafilcon A material in both eyes. RE was fitted with high add MFCL with -10.00Ds and LE with SV -10.50Ds. Patient 2 was fitted with comfilcon A material in both eyes. RE was fitted with +2.50 add MFCL with -3.25Ds and LE with a SV toric power. The MMV lenses were dispensed as the patients were happy with the vision clarity.

Outcome: Modified Monovision offers a unique approach to presbyopia correction, preserving binocular function while providing satisfactory near and distance vision. This case series supports the technique's viability as a customizable solution for patients seeking spectacle independence

Registration ID Number: 209R128EIVOC2025

Title: Visual Outcomewith Contact Lens over Spectacles Among Adult Amblyopia

Author(s): Shakthi Keshini, Praveen Kumar P, Amit Bhowmick, Abinaya Valliappan

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: The aim of the study is to assess and compare the visual outcome in adults with amblyopia using spectacles and contact lenses (CLs).

Methods: A retrospective analysis was conducted using electronic medical records from January 2019 to December 2024. The study included adult patients with amblyopia who underwent refractive correction using contact lenses. Individuals aged between 14 to 35 years were included, while those with retinal or neurological pathologies were excluded. The study evaluated various visual function parameters, including stereopsis, the Worth Four Dot Test (WFDT), visual acuity using the Early Treatment Diabetic Retinopathy Study (ETDRS) LogMAR chart, single optotype acuity, low contrast visual acuity, near point of accommodation (NPA), accommodative facility (AF), monocular estimated method (MEM), and depth of suppression. These assessments were used to analyze the effectiveness of contact lens correction in improving visual function among amblyopic patients within the specified age group

Results: A total of 225 participants, with a mean (SD) age was 24 (± 6) years. Of these 151 (67.11%) were male. Of 225 subjects 158 (70.22%) had anisometropic amblyopia, 37 (16.44%) had mixed amblyopia, 3 (1.33%) had deprivational amblyopia, 12 (5.33%) had bilateral amblyopia, 5 (2.22%) had strabismic amblyopia, 6 (2.66%) had isometropia, 1 (0.44%) had meridional amblyopia, and 2 (0.88%) had microtropia. The median (Inter Quartile Range) spherical equivalent refractive error in amblyopic eyes was -4.88 DS (-12.75 D to +3.88 D). The median (IQR) distance visual acuity with spectacle correction was 0.60 (0.80 to 0.40) log MAR, which improved to 0.50 (0.80 to 0.30)logMAR with contact lens correction. The median near visual acuity remained 0.00 (0.50 to 0.00) logMAR with both corrections. The improvement in distance visual acuity with contact lenses was statistically significant (p = 0.00, Wilcoxon signed-rank test).

Conclusion: This study reveals that contact lens correction results in both clinically and statistically significant improvement in distance visual acuity compared to spectacles in individuals with amblyopia, implying that contact lenses might be a more efficient approach for visual rehabilitation in these cases.

Registration ID Number: 459U108EIVOC2025

Title: Type-B Prosthetic Lenses: A Dual Approach to Adie's Tonic Pupil Symptoms

Author(s): Priyadharshini A, Ronit Dutta, Madhumathi S
Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu.

Abstract Content:

Background: A Prosthetic Type-B lens features a translucent tinted iris with no pupil, which can be beneficial in case of ocular disfigurement and as a part of occlusion therapy. This case report demonstrates the potential of Type-B lenses with refractive correction, offering a solution to mitigate shadowing and enhance vision.

Case Details: A 19-year-old Female patient presented with complaints of shadowing of distant objects in her left eye, diagnosed as Adie's Tonic Pupil. Initial treatment with pilocarpine eye drops was discontinued due to persistent headaches. Visual acuity was 6/6 in both eyes, with Anisocoria (OD 3mm, OS 8mm) observed under scotopic and photopic conditions, and sectoral pupillary palsy noted in the left eye. Following the patient's refusal of tinted glasses, she was referred to the contact lens department for assessment.

Management: Initially, a Type-C prosthetic contact lens with a 3mm pupil size was fitted, which provided some reduction in shadowing but did not meet the patient's expectations. Subsequently, a Type-B prosthetic contact lens with a minimal brownish tint and a +1.00DS was tried, resulting in the complete elimination of shadowing and improved cosmesis and comfort.

Outcome: The patient reported significant improvement in visual symptoms and satisfaction with the Type-B prosthetic contact lens. This case highlights the effectiveness of customized prosthetic contact lenses as a viable alternative for managing visual disturbances in the case of Adie's Tonic Pupil when pharmacological interventions are not tolerated.

Registration ID Number: 405R228EIVOC2025

Title: Microspherophakia – A review of clinical pearls with a case report

Author(s): Yamuna Devi G

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Microspherophakia is a congenital anomaly characterized by a small, sphericallens and zonular laxity.

Lenticular myopia, shallow anterior chamber, angle closure glaucoma, subluxation or dislocation of lens are the clinical signs of Microspherophakia. Marfan's syndrome, Weill–Marchesani syndrome, iridocorneal endothelial syndrome, and Axenfeld–Rieger syndrome are associated with Microspherophakia.

Case Details: A 27year old male presented with complaint of gradual decrease in vision since 3months in both eyes. Systemic condition was normal. Refractive status was -17.50 DS/-2.00DCx150 in right eye, -18.00DS/-2.00DCx150 in left eye, visual acuity was 6/9 in both eyes. Slit lamp examination revealed shallow anterior chamber depth, intraocular pressure was 30mmHg in right eye, 38mmHg in left eye, angle closure in gonioscopy, 0.5-0.6 Cup to disc ratio with healthy NRR, central corneal thickness was 595 and 590 microns in right and left eye respectively. Visual fields were normal in both eyes. Ultrasound biomicroscopy revealed Microspherophakia and Zonular laxity

Management: Based on gonioscopy and ultrasound biomicroscopy findings, YAG peripheral iridotomy was performed in both eyes, to prevent acute angle closure attack. After YAG peripheral iridotomy, intraocular pressure was 12 mmHg in right and left eye and peripheral iridotomy found to be patent, however, gonioscopy revealed narrow angles even on compression in both the eyes. Post dilated intraocular pressure was 18mmHg and 19mmHg in right and left eye respectively. As baseline intraocular pressure was high, anti-glaucoma medication was prescribed. Patient was explained about the importance of monitoring intraocular pressure and visual fields regularly

Outcome: Microspherophakia has high potential risk to develop blindness due to Glaucoma. Hence, early detection and management of lens and glaucoma with regular follow up throughout life in these patients are recommended. Optometrists play an important role in diagnosing the disease by handling special procedures like gonioscopy and ultrasound biomicroscopy

Registration ID Number: 427R248EIVOC2025

Title: Use of the Reverse Piggyback Scleral Lens System to Optimize Visual Rehabilitation in Complex Corneal Disorders.

Author(s): Manish Bhagat

Affiliation(s): L V Prasad Eye Institute, Vijayawada, Telangana.

Abstract Content:

Background: This report demonstrates the effectiveness of a reverse piggyback scleral lens system—placing a scleral lens over a soft contact lens—in correcting residual refractive error. In two cases of post-keratoplasty keratoconus and aphakic SJS, this approach improved visual acuity and comfort while preserving ocular surface stability.

Case Details: These two cases highlight the clinical efficacy of the reverse piggyback scleral lens system—where a scleral lens is first fitted, followed by a soft contact lens on top—to enhance visual rehabilitation in patients with complex corneal conditions. The first case involved a 32-year-old male with advanced keratoconus post-penetrating keratoplasty who experienced suboptimal vision with a scleral lens alone; visual acuity improved to 6/6 following the dual-lens approach. The second case involved a 55-year-old aphakic male with Stevens-Johnson syndrome, where the same strategy improved visual clarity while maintaining excellent comfort. This dual-lens modality effectively corrected residual refractive errors.

Management: Both patients initially underwent scleral lens fittings, but persistent residual refractive errors limited optimal visual outcomes. To address this, a reverse piggyback approach was adopted—where a scleral lens was first fitted to ensure proper alignment and stability, followed by the placement of a powered soft contact lens on top. Over-refraction was used to determine the ideal soft lens power. This dual-lens configuration enhanced refractive correction and significantly increased comfort. In the post-keratoplasty keratoconus case, vision improved to 6/6, while in the aphakic Stevens-Johnson syndrome case, blurred vision resolved. No ocular surface complications were observed on follow-up.

Outcome: The reverse piggyback scleral lens system, combining a scleral lens followed by a soft contact lens, effectively addressed residual refractive errors in two complex corneal cases. A post-keratoplasty keratoconus patient achieved 6/6 visual acuity, while an aphakic Stevens-Johnson syndrome patient experienced improved clarity and enhanced comfort, with no complications.

Registration ID Number: 476P089EIVOC2025

Title: Balancing Vision and Aesthetics with Type B Prosthetic lens: A Case Report

Author(s): Godly Abraham, Ronit Dutta, Madhumati S

Affiliation(s): The Sankara Nethralaya Academy,Chennai, Tamil Nadu.

Abstract Content:

Background: To evaluate the patient preference and visual outcomes of different types of prosthetic contact lenses, with a particular focus on Type B prosthetic contact lenses.

Case Details: A 56 year old male patient came for consultation, he suffered from facial palsy and chicken pox at the age of 10 years followed by which he got redness and developed white opacity in the cornea and was referred to contact lens clinic for better cosmesis. On examination his right eye vision was 1/60, a trial with three different prosthetic contact lenses was done.

Management: Initially trial was done with type D lenses with which patient felt occlusive vision after which further trial was done with type C lenses with which patient was able to read 1/60 but was unhappy with the cosmesis and then trial was done with type B lens with which he was happy cosmetically as well as for the vision. All lenses demonstrated a good fit and comfort. However, the patient preferred type B over type C and type D. The primary reason for selection was not the minimal visual function but rather the cosmetic appeal, comfort, and no occlusion effect.

Outcome: Despite poor vision, the patient's preference for type B highlights the importance of subjective comfort and aesthetic factors in prosthetic contact lens selection. This case emphasizes that cosmetic and sensory perceptions significantly influence patient choices in prosthetic eye management.

Registration ID Number: 406R229EIVOC2025

Title: Acute Myopia and Angle closure glaucoma - A Case Report

Author(s): Suchithra Kannan, Rathini Lillian David

Affiliation(s): Sankara Nethralaya,Chennai, Tamil Nadu.

Abstract Content:

Background: Drug induced acute angle closure glaucoma in an ocular emergency in which the ophthalmologist, general practitioners and optometrist should be familiar with and it's potentially blinding consequences. Demographic risk factors include female sex, Asian ethnicity, family history and older age.

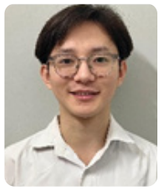
Case Details: A 35-year-old female presented with sudden vision loss and headache for one day, following a 5-day upper respiratory tract infection. She was on oral Topirol. On examination, unaided visual acuity was 3/60 which improved to 6/6 with -3.00DS of correction in both eyes. Slit-lamp examination revealed shallow anterior chambers, with IOP of 34 mmHg in the right eye and 26 mmHg in the left eye. Gonioscopy revealed closed angles in both eyes. Posterior segment was normal. Ultrasound biomicroscopy showed 360-degree supra-ciliary effusion, causing anterior displacement of the lens and iris diaphragm.

Management: She was then immediately advised to discontinue Topirol, and was started on a course of topical steroids and anti-glaucoma medications. After a few days, she returned for a follow-up visit. The patient was symptomatically better, and on examination, the anterior chamber depth was normal, gonioscopy revealed open angles, the myopic shift had reversed and her unaided visual acuity was 6/6 N6 in both the eyes. Ultrasound biomicroscopy (UBM) showed no supraciliary effusion and her intraocular pressure was 13mmHg in both eyes without any anti-glaucoma medication.

Outcome: Topiramate, a sulfa-derivative antiepileptic, may cause ciliochoroidal effusion and anterior displacement of the lens–iris diaphragm, leading to acute angle-closure glaucoma. Optometrists play a key role in diagnosis through refraction and ultrasound biomicroscopy. Awareness and caution with headache medications are essential to prevent such adverse effects.

Dr E Vaithilingam Memorial Scientific Session

Registration ID Number: 327P053EIVOC2025



Title: The Impact of Induced Retinal Image Blur on Monocular and Binocular Depth-related Visuomotor Task Performance

Author(s): Tai Jarkum, Preetirupa Devi, Joshua Solomon, Christopher Tyler, Shrikant Bharadwaj

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: To determine the impact of induced optical blur on a 3D task that probes complex visuomotor performance capabilities.

Methods: 15 visually normal, cyclopleged, adults guided a metal loop along a wire convoluted in depth without making contact, while being video recorded for analysis. The task was performed binocularly and monocularly, without blur, and with two magnitudes (blur strength: 2.2D and 6.2D) of spherical (radially symmetric) and astigmatic (radially asymmetric) blur, induced before both eyes (bilaterally symmetric) or one eye (bilaterally asymmetric), all in random order. Stereo perception thresholds for all conditions were obtained using random dot stimuli.

Results: Binocular error rate (number of loop-to-wire contacts per second) and error duration (time spent making/correcting errors) increased for high blur strength ($p<0.001$).

Conclusion: Performance in visuomotor tasks requiring 3D processing may worsen with high magnitudes of optical blur, independent of their radial or bilateral symmetry. Performance drop arose exclusively from spending more time making/correcting errors, while the overall speed remained undiminished.

Registration ID Number: 186R106EIVOC2025

Title: A Visual Acuity paradigm based on Spatial Frequency-discrimination overcomes cognitive and linguistic barriers of acuity testing while being comparable to the Gold-Standard LogMAR Test

Author(s): Indrani Sirivella, Jonathan Lansey, Rahul Negi, Shaun Patel, Shrikant R Bharadwaj

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: To describe a novel spatial frequency discrimination-based paradigm for visual acuity estimation and to compare the results with gold-standard logMAR acuity for induced and natural vision loss.

Methods: Stimuli were arrow-shaped random noise patterns (8 orientations), each with a 1/f amplitude spectrum overlaid on a low-pass filtered Background. Difficulty was varied logarithmically across 22 levels by adjusting the Background cutoff frequency (-0.9 to 1.2 logCPD). Monocular acuity was measured in 20 adults (21 – 46 years) using a constant stimuli paradigm for noise patterns and for logMAR Sloan optotypes with no blur, 0.50D, and 1 – 4D of induced blur. The measurements were repeated in 34 patients (11 – 77 years) with vision impairment caused by organic eye pathologies and uncorrected refractive error.

Results: Mean random noise acuity at baseline was 0.79 ± 0.14 logCPD, declining at the rate of -0.27 ± 0.05 logCPD per diopter of blur. Noise pattern acuities were linearly related to logMAR acuity, with a slope of -1.08 ± 0.04 logCPD/logMAR and y-intercept of 0.90 ± 0.03 ($r2 = 0.87$). The acuities of 28 patients (82.35%), when transformed into logMAR units using the aforesaid equation, were within ±0.12 units of their logMAR acuity.

Conclusion: Visual acuity estimated using the spatial frequency discrimination task is an effective alternative to the logMAR acuity test, maintaining statistical rigor while eliminating the associated cognitive, linguistic and legibility barriers.

Registration ID Number: 321P051EIVOC2025

Title: Exploring Service Delivery Models for Paediatric Refraction and Spectacle-Dispensing in India and the United Kingdom: A Scoping Review

Author(s): Kalaiyarasi Dhandapani, Swetha Saravanan, Subash Sukumar, Anuradha Narayanan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Uncorrected refractive error, the major cause of vision impairment in children, can be effectively-addressed with spectacles. This review aims to report the service-delivery modes for pediatric refraction and spectacle-dispensing, and best practices in addressing the burden of uncorrected refractive error in children, in two countries, India and the United Kingdom(UK).

Methods: A scoping review for evidence-synthesis was done following the PRISM-ScR guidelines. The review included published literature (between 2010-2024), government reports governing eyecare delivery in 2024, and most-recent annual reports of NGOs (registered with IAPB and WCO) and private eyecare service providers in both countries. The evidence was identified from MEDLINE(PubMed) and Cochrane Library databases, government websites, and websites of eye care organizations. Primary articles and reports (or website-information) reporting refraction or spectacle-dispensing for children (0-18 years) were included. From the included sources, 5Ps influencing service delivery: 'Presence'(availability of refraction services), 'Procurement'(availability of spectacle-dispensing), 'Personnel', 'Protocol', and 'Price' involved in this service, were extracted and synthesized qualitatively, exploring the best practices in both countries.

Results: On screening title and abstract of 1999 articles identified from databases,187 underwent full-text screening, leading to 63 articles in the final review. Evidence from other sources included 52 government,13 annual reports and 107 website information. A total of 13 and 8 modes in India and the UK, respectively were identified and broadly categorized as community-outreach, opticals/optometry-practices, hospitals/clinics and online services.'Presence' and 'Procurement' was evident in all modes in India, but only through opticals/optometry-practices and hospitals, on referral from community-outreach(preschool screening by orthoptists) in the UK.'Personnel' providing services included refractionists, ophthalmic assistants/vision-technicians, optometrists, opticians or ophthalmologists in India, and only orthoptists, optometrists, dispensing-opticians, or ophthalmologists with distinct roles under regulation, in the UK.'Protocol' varied in community-outreach in both countries.'Price' is free through community-outreach in India and through all modes in the UK,except online services.Evidence-gaps exist under 'Personnel','Price' in opticals/optometry-practices in India and 'Protocol' in all modes expect community-outreach in both countries.

Conclusion: Four broad service-delivery modes were identified for pediatric refraction and spectacle-dispensing in India and the UK, involving varied 'Personnel','Protocol' and 'Price'. While the Indian model addresses accessibility to refraction services directly at the grassroot-level and involving different professionals, the UK model has uniform practice-standards and addresses affordability through free-services for children.

Registration ID Number: 183R103EIVOC2025

Title: A Scoping Review on The Potential Applications of Near-infrared Imaging in Ophthalmology beyond the established Use-cases

Author(s): Tithi Bhakta, Monika Thakur, Sunita Chaurasia, PremNandhini Satgunam, Srinivas Marmamula, Shrikant Bharadwaj

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: This scoping review intended to determine 1) the novel use-cases of NIR imaging for the in-vivo identification of ocular abnormalities and, 2) if these technologies involve purpose-built designs or an adaptation of existing technology for achieving its intended usage.

Methods: A search for research articles was conducted on Scopus® PubMed®, and ScienceDirect® data sources using validated query strings. A final search was also conducted from the citations of the finalized articles. Selected articles were filtered based on their title and abstract (primary screening) and on their methods and results (secondary screening). Only articles that detailed the technology used, its intended use-cases and value addition to eye care were included. Technologies that are well-integrated into clinical practice were excluded.

Results: Of the 1431 articles identified, 22 were selected for full-text reading. The selected articles, published between 1978 to 2022, used NIR light for three applications: 1) as a transillumination source for detecting anterior segment abnormalities (n = 17); 2) as a photorefractor for identifying corneal ectasias like keratoconus (n = 3) and 3) as a general illumination source for detecting media opacities using devices not intended for direct ophthalmic use (e.g., iris scanner; n = 3). The first application employed a video slit-lamp biomicroscope or a purpose-built imaging apparatus while placing the NIR transilluminator on the cornea, palpebra or sclera. The remaining applications illuminated the eye non-invasively and analyzed the reflex formed across the pupil. All applications demonstrated high accuracy of NIR light in detecting ocular abnormalities, vis-à-vis, visible light. However, these studies are proofs-of-concept, with limited sample size, relatively homogenous patient samples and lack data on diagnostic accuracy.

Conclusion: NIR imaging holds promise for improved detection and screening of certain ocular abnormalities, relative to visible light imaging. Despite several years after their publication, the low adoption rates of these technologies may stem from the paucity of strong evidence of their utility from large clinical trials and/or lack of commercialization.

Registration ID Number: 040R041EIVOC2025

Title: Quantifying Water-Induced Blur: A Reference-Based approach with Simulated Spherical Blur using Image Quality Metrics and Subjective Perceptual Scores

Author(s): Vivek Suganthan Ramasubramanian, Aiswaryah Radhakrishnan, Karthik Seemakurthy

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: Water-induced blur (WIB) significantly impacts visual functions such as visual acuity and contrast sensitivity function, yet its quantification remains subjective and lacks a standardized metric. This study investigates whether spherical blur (SB) can be used as an equivalent representation for WIB, using image quality metrics (IQM) and subjective scores.

Methods: A 500x500px grayscale test image following natural frequency statistics (1/f) was used. WIB was simulated by splashing water against a glass tank while displaying the test image on a monitor behind it, and twenty WIB images were captured from a distance of 100cm. SB images were generated by convolving the test image with point spread functions corresponding to defocus levels from 0.25D to 5.00D in 0.25D steps using MATLAB. Each WIB image was compared with each SB image (400 comparisons in total), and similarity scores were computed using five IQMs (MSE, PSNR, SSIM, MSSSIM, and FSIM). Higher similarity scores at specific defocus levels suggest dioptric equivalence. For subjective evaluation, a single stimulus categorical rating method was used to present each image (WIB and SB) in random order across ten trials. Ten participants rated them on six perceptual categories converted into numerical scores (very blurred -3 to very sharp +3).

Results: The results showed that with increasing defocus magnitude, a consistent increase in MSE (r^2=0.98), PSNR (r^2=0.99), SSIM (r^2=0.98), MSSSIM (r^2=0.99), and FSIM (r^2=0.94) was observed, indicating progressive image degradation. When comparing WIB images with SB images, the maximum values of these IQMs were observed at different dioptric blur levels: MSE (7992.92 at 1.00D), PSNR (15.36 at 4.75D), SSIM (0.66 at 4.75D), MSSSIM (0.65 at 3.75D), and FSIM (0.77 at 3.50D). SSIM, MSSSIM and FSIM are normalized perceptual metrics, whereas MSE and PSNR represents absolute errors. The mean subjective score of -2.96 ± 0.02 indicated that WIB images were perceived as 'very blur' by all the participants, similar to SB images with defocus levels beyond 3.25D. Together, these findings suggest that WIB images were subjectively equivalent to SB images with blur greater than 3.25D. Both subjective and objective results support that WIB-induced image degradation can be quantified in dioptric terms.

Conclusion: This study demonstrates that image degradation caused by WIB can be quantified using dioptric blur levels, with SB serving as an equivalent representation. The strong alignment between subjective perception and objective IQM-based measurements supports the validity of using SB as standardized metric for assessing WIB, offering a quantitative approach.

Registration ID Number: 418R240EIVOC2025

Title: Visual Function at Hypersonic Speeds: A Theoretical Model of Human Perception

Author(s): Suriya A, Tamilchudar R, Sendilkumar B

Affiliation(s): School of Allied Health Sciences, Vinayaka Mission Research Foundation, Salem, Tamil Nadu

Abstract Content:

Purpose: This theoretical study explores how high-velocity travel affects human visual function, focusing on visual field and color perception. By applying principles from Special Relativity, it models perceptual changes due to Lorentz contraction and Doppler effects, aiming to inform safety and design considerations for emerging high-speed and aerospace transport systems.

Methods: A theoretical framework was developed using psychophysical and physiological data from the literature. Parameters included minimum visual angle (1 arc minute), average reaction time (220–250 ms), and contrast sensitivity thresholds. Using trigonometric relationships, object visibility and size were modeled based on velocity and distance. This model-based investigation employs physics-based formulas to predict perceptual distortions. Lorentz contraction ($L = L_0\sqrt{[1 - v^2/c^2]}$) was used to estimate the reduction in horizontal visual field with increasing velocity (v), assuming a stationary visual target. The relativistic Doppler shift was applied to assess how color perception may shift due to motion toward or away from light sources.

Results: Theoretical modeling suggests that as velocity increases toward the speed of light (c), the human horizontal visual field could compress significantly from ~180°at rest to <40° at 0.9c ($f = f_0\sqrt{[(1 + v/c)/(1 - v/c)]}$). Simultaneously, incoming light from the direction of motion is predicted to shift toward shorter wavelengths (blue or ultraviolet), while light from behind shifts toward red or infrared, potentially outside the visible spectrum. The impact of motion blur, reduced exposure time, and shifting gaze dynamics on visual field coverage was examined. Additionally, color vision was analyzed in relation to temporal resolution and cone response delay under brief exposure conditions at high speeds. The model also briefly explores speculative implications near relativistic velocities. This dual effect could cause profound alterations in both spatial awareness and color perception during travel at relativistic speeds

Conclusion: This work bridges vision science and physics, presenting a theoretical framework for visual challenges in high-speed travel. It emphasizes the need for adaptive visual systems and automation, guiding future interdisciplinary research.Future studies should explore simulation-based or neuro-ophthalmic evaluations to refine perceptual safety standards.

Registration ID Number: 333P057EIVOC2025

Title: Effect of Contra-Lateral Occlusion Methods on Monocular Visual Acuity

Author(s): Varsha M, Praveen Kumar P, Girish Kumar

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Monocular visual acuity requires the contra-lateral, untested eye to be occluded. This study aims to assess the effect of different contra-lateral occlusion methods on the measurement of monocular visual acuity (VA).

Methods: Participants were randomly chosen from the Elite School of Optometry, students who had a Best Corrected Visual Acuity (BCVA) of 6/12 or better in both eyes. The PsychoPy® software package version 2024.2.4 was used to display high-contrast letters of varying sizes on a 60Hz monitor for a duration of 0.5 seconds, monocularly viewed by the participant. Each participant underwent testing with frosted and traditional block occlusion in the untested eye. The size of the letter displayed was varied according to two psychophysical methods, Psi(Ψ) Adaptive Staircase and the Method of Constant Stimuli, and participant's responses were recorded using a keyboard. The individual participant's responses were combined and fitted using a Cumulative Gaussian function, and the threshold (VA) was signified by the mean of the function. Thresholds were compared between the two conditions using the Wilcoxon signed-rank test in SPSS Version 20.

Results: We collected data of thirty-two eyes from 16 participants who had a mean age of 22.43+2.71 years. The median frosted occlusion threshold was -0.109 LogMAR with an IQR of 0.192 (-0.189 to 0.003), while the median threshold for the traditional block was -0.074 LogMAR with an IQR of 0.176 (-0.149 to 0.027). The Wilcoxon signed-rank test revealed a significant difference between the thresholds (p=0.024). The median difference between the thresholds of the two conditions was -0.028 LogMAR with an IQR of 0.094 (-0.075 to 0.018).

Conclusion: Our results show a statistically significant difference in measured VA when two different occlusion methods, frosted and block, are used. However, the difference between the two conditions was just over a single LogMAR letter, which is not clinically significant.

Registration ID Number: 290R171EIVOC2025

Title: Contribution of Visual Saliency in Free Viewing: Similarity Between Computational Fixation Predictions and Actual Gaze Behaviour Among Healthy and Glaucoma Participants

Author(s): Sangeetha Nagarajan, Najiya Sundus K. Meethal, Ronnie George, Johan J.M. Pel

Affiliation(s): Sankara Nethralaya, Chennai and Erasmus MC, Rotterdam, The Netherlands

Abstract Content:

Purpose: The bottom-up process guides human gaze by directing attention to visually salient features while viewing real-world scenes. Here, we investigated the similarity between saliency-based fixation predictions from a computational model and actual fixations among healthy and glaucoma participants, along with the shift in gaze allocation as a function of time.

Methods: Forty-nine participants (45 healthy and 4 glaucoma participants) completed a free-viewing task using a customised gaze assessment paradigm integrated into a remote eye-tracking setting. Real-time gaze data were recorded while participants viewed a series of real-world static images (15s each). Fixation heatmaps were generated, and corresponding gaze parameters were computed. Each static image was processed using a computational model (Itti & Koch) to predict dominant regions of attention represented as 'saliency' maps. These predictions were evaluated against the measured human fixation maps using Jensen–Shannon Divergence (JSD). This method evaluates the similarity between the two probability distributions of pixel intensities derived from saliency and fixation maps (JSD= 0: identical maps, JSD = 1: no similarity). Fixations aligning with predicted salient regions were labelled as 'salient' and remaining as 'non-salient'. Influence of saliency across the initial and subsequent viewing phases was assessed through temporal segmentation of gaze regions and fixation duration.

Results: Saliency–fixation map comparison revealed that healthy adults exhibited significantly greater overlap with saliency predictions than glaucoma participants (median JSD: 0.49 vs. 0.60; p = 0.001). Further, a comparison of gaze distribution between healthy adults and glaucoma showed moderate differences (JSD range: 0.39–0.52). Analysis of initial fixations revealed that both groups predominantly fixated on salient regions (70–73%; p > 0.05). Despite the initial focus on salient regions, temporal analysis revealed that glaucoma patients spent significantly more time on non-salient regions across initial and subsequent viewing phases (28–52%) compared to healthy adults (23%; p < 0.001).

Conclusion: The reliance on bottom-up saliency cues was more pronounced among healthy adults when compared to glaucoma participants during free viewing. A thorough analysis of fixation spread among glaucoma participants considering the visual field defect area might be worthwhile in better understanding their compensatory gaze strategies.

Registration ID Number: 415R237EIVOC2025

Title: Red Light Exposure Stimulates Ocular Elongation in Zebrafish

Author(s): Megha Antony, Divya Pidishetty, Santosh Damera, Indumathi Mariappan, Pavan Kumar Verkicharla

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana.

Abstract Content:

Purpose: Given the potential role of spectral light composition in regulating ocular growth, this study investigated the effects of different wavelengths of light on eye development in zebrafish.

Methods: Wildtype zebrafish at 5 days post fertilization (dpf) were exposed to monochromatic light conditions: red (626 nm), blue (451 nm), green (512 nm), neutral white light (3651 K), under a 14: 10 hour light-dark cycle. Each group included 5 fishes (10 eyes). The irradiance of the LEDs was set to 1W/m2. Two control groups were maintained under standard laboratory conditions: 500 lux and 1000 lux (cool white). Microscopy imaging was performed at 2 months post fertilization following tricaine anaesthesia, and eye dimensions were analysed using ImageJ software. Eye size was defined as the linear distance from the cornea to the posterior end of the eye. Equatorial length was measured as the horizontal width of the eye.

Results: At 2 months post fertilization, significant differences in eye size were observed across lighting conditions. The fishes in the red (Mean±SD: 917±31 nm) and neutral light (926±45 nm) conditions had significantly larger eye sizes ($p< 0.01$) compared to green (807±70 nm), blue (814±82 nm), control (756±37 nm), and high lux groups (826±65 nm). Additionally, the fishes in the red-light condition (1217±55 nm) showed the longest equatorial length, significantly greater than green (1069±130 nm), blue (1112±55 nm), control (990±21 nm), and high lux (1072±63 nm) conditions.

Conclusion: Exposure to red and neutral-white light during early days-post-fertilization induced greater increase in eye size of zebrafish in comparison to other light conditions. This pilot study highlights the potential role of specific wavelength of lights in modulating ocular growth and supports its application in myopia management which needs further investigation.

Registration ID Number: 352P063EIVOC2025

Title: Comparison of Displacement Thresholds across Individuals with Various Experience Levels During Simulated Cover Test

Author(s): Sayantika Chakrabarti, Amirthaa M, Girish Kumar, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Previous literature has shown that multiple factors influence manual phoria assessment outcomes. This experiment is part of a larger effort to quantify and reduce subjective factors contributing to inter-examiner variability across various experience levels by assessing whether the ability to detect small eye displacements is one of these factors.

Methods: This pilot experiment to assess the smallest eye movement that can be detected by an observer included

participants from four cohorts with different experiential levels. The stimulus used was a simulated image of a circular cornea embedded within an oval palpebral fissure, which was created using Python. This cornea was displaced with varying magnitudes either to the left or right. Each participant completed a single session consisting of 15 unique displacements, each repeated 15 times, using the Method of Constant Stimuli. A total of five sessions were conducted, each corresponding to a horizontal eye size ranging from 1° to 16°. Participants indicated the displacement direction via keyboard responses, which were fitted with a Cumulative Gaussian to determine the displacement threshold (DT). Data analysis was performed using SPSS v20.0.

Results: A total of 12 participants were included in the study, with 3 participants in each of the 4 cohorts: BV specialists and general optometrists (>1 year experience in their respective domains), fourth-year students, and third-year students. For the smallest stimulus size of 1°, DT ranged from 0.0176 (General Optometrists) to 0.0341 (Interns), while for the largest stimulus size of 16°, DT ranged from 0.0632 (Interns) to 0.1274 (Third-year students). The Kruskal-Wallis test showed that examiner category did not have a significant effect on thresholds ($p>0.05$), whereas stimulus size did ($p< 0.05$).

Conclusion: The findings of this experiment suggest that variations in phoria estimation across various experience levels cannot be attributed to participants' ability to detect small eye movements. The novel simulated cover test for measuring displacement thresholds holds potential for further development as a training tool for future optometrists.

Registration ID Number: 294U078EIVOC2025

Title: Construction of infrared camera on virtual reality headset for assessment of blink-rate

Author(s): Shivani C, Rithika s, kaviya priya S, Gayathri A, Shaik Ashraf, Mathangi S, Maheswari Srinivasan, sharmilan S, Subin Jenson, Jon Thomas saji, Lohith Simma M N, Sanjeevkumar S, Pradhul S, Anni Nancy G

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: This project developed a wearable eye-blink monitoring system integrated into a VR headset, aimed at evaluating blink rate dynamics and ocular surface health during immersive visual experience.

Methods: The system was developed in four phases: Phase 1 involved planning, requirement analysis, and prototyping with an IR camera embedded in a VR headset. Phase 2 focused on software development using Python, OpenCV, and Dlib to implement blink detection based on Eye Aspect Ratio (EAR). Phase 3 tested system accuracy, ensuring real-time processing and detection reliability. Phase 4 included data analysis and result reporting. The compact IR camera inside the headset tracked eye blinks during 30-minute VR sessions and connected to a mobile device for real-time monitoring and data logging. The pre- and post-test protocol assessed ocular surface health using Tear Break-Up Time (TBUT) and Schirmer's test. Blink rate was recorded before and during VR, and all collected data were compiled and analyzed to evaluate changes in blink dynamics and ocular health.

Results: Initial trials used an Arduino with an IR sensor but faced issues such as sensitivity to lighting, skin tones, and reflections, causing false positives or missed blinks. Detection also depended heavily on precise sensor positioning. The ESP32-CAM was later tested but showed limitations, including low processing power, frame drops, lag in real-time blink counting, and insufficient memory for advanced image processing. The final implementation successfully developed a reliable eye-blink detection system. Hardware included a Raspberry Pi 3A+ as the processor, an IR camera for real-time eye tracking, and a VR headset for blink rate monitoring. Software components included OpenCV and Dlib for facial landmark detection, Python for data processing, Blynk for real-time visualization, and Pandas/Matplotlib for statistical analysis. The system calculated the Eye Aspect Ratio (EAR) using Dlib landmarks, detected blinks via EAR thresholds, and recorded blink timelines and videos for accurate, downloadable analysis in immersive VR environments.

Conclusion: The study developed a real-time blink detection system using a Raspberry Pi-based IR-camera embedded in a VR headset. Initial trials demonstrated accurate blink-rate monitoring and ocular surface evaluations. This system holds potential for assessing dry eye symptoms during immersive VR exposure, with clinical and research applications.

Registration ID Number: 527R321EIVOC2025

Title: Peripheral Refraction with Simplified Peripheral Ancillary Refractive Component (SPARC) and Open-Field Autorefractor in Children

Author(s): Sayoki Ghosh, Megha Antony, Swapnil Thakur, Pavan Kumar Verkicharla

Affiliation(s): Vidyasagar College of Optometry and Vision Science, Kolkata, West Bengal.

Abstract Content:

Purpose: Given the growing interest in using retinoscope for determining peripheral refraction, we investigated how peripheral refraction determined with Simplified Peripheral Ancillary Refractive Component (SPARC) – a simple, affordable, and easy-to-use retinoscope-based peripheral refraction guiding tool agrees with that of Open Field autorefractor in children.

Methods: This prospective cross-sectional study included 31 children (10.7 ± 2.2 years old). The central and peripheral refraction were determined using objective retinoscopy enabled by SPARC and open-field auto-refractor (Grand Seiko, Japan) in the temporal (T22°) and nasal (N22°) retinas. Measurements were obtained for the participant's right eye under non cycloplegic conditions. Peripheral refraction with SPARC was compared with open-field auto refractor. We also tested ability of SPARC based retinoscopy to identify relative peripheral hyperopia (N=31) and on a subset the inter examiner variability (N=17).

Results: Bland-Altman analysis demonstrated minimal bias in spherical equivalent across central and peripheral locations. The error margin in the peripheral refraction with SPARC assessed based on mean difference in relative peripheral spherical equivalent refraction between the two techniques and LOA showed comparable values: +0.12 D (LoA: -0.57 D to +0.80 D) at centre, and a bias +0.04 D and -0.13D, at T22° and N22° respectively. SPARC enabled examiner to identify relative peripheral hyperopia in most of the participants (T22: 71%, N22: 90%, T22&N22 combined: 80%). The inter-examiner variability assessed via Intraclass Correlation Coefficient (ICC), showed good agreement between the examiners for spherical equivalent refraction for all tested locations (ICC central = 0.956, T22° = 0.91, and N22° = 0.88).

Conclusion: Peripheral retinoscopy with SPARC gave reasonable and repeatable results and is particularly effective in identifying Relative Peripheral Hyperopia (RPH), a key factor known to be crucial in myopia Management.

Scientific Free Paper Session 13
Pediatric Optometry / Refractive error correction- 2

Registration ID Number: 175R097EIVOC2025

Title: Profile of peripheral refraction, choroidal thickness and its correlation with refraction among children with myopia.

Author(s): Janarthanam Jothi Balaji, Anusha Paritala, Aparna Gopalakrishnan, Viswanathan Sivaraman, Meenakshi Swaminathan, Rajiv Raman

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: Relative peripheral refraction (RPR) and choroidal thickness (ChT) are two of the important components associated with the progression of myopia. There is a paucity of knowledge on the distribution profile of these components among Indian children.

Methods: This is a prospective cross-sectional study involving 58 participants of age group 6-12 years. Axial length (ARGOS, Suntec, Inc., Aichi, Japan), peripheral refraction (WAM-5500, Grand Seiko CO. LTD., Hiroshima, Japan), and ChT (Deep Range Imaging, OCT-1, Atlantis, Topcon, Tokyo, Japan) of myopic children (-1.00 to -6.00 D) were assessed. Both RPR and ChT were assessed up to 20° at nasal and temporal eccentricities.

Results: The RPR showed mean hyperopia at both nasal and temporal 20° eccentricities (mean ± SD; 20° nasal: +0.30 ± 1.36 D; temporal 20°: +1.24 ± 1.52 D) and the difference in refraction was significant with temporal 20° showing higher hyperopic refraction compared to nasal 20° (-0.94 ± 1.94 D, p

Conclusion: Indian myopic children had hyperopic RPR along the horizontal meridian and thinning of the choroid from the center (SFCT) to the periphery. There is a positive relation between these two parameters.

Registration ID Number: 205U067EIVOC2025

Title: Progressive alterations in pupillary dynamics across myopia severities: A Quantitative Iphone based pupillometry study

Author(s): Taksu Mech, Ritika Mudoi, Reetika Bora, Arnab Handique, Pritam Dutta

Affiliation(s): Ridley college of Optometry, Dulia Gaon, Assam

Abstract Content:

Purpose: Myopia has been associated with structural and functional changes in the visual system, including potential alterations in autonomic regulation. However, the impact of myopic severity on pupillary dynamics remains poorly understood. This study aimed to evaluate pupillary response parameters across different myopic severities using an iPhone-based pupillometry system.

Methods: A total of 160 participants were categorized into four groups based on spherical equivalent refractive error: emmetropes (0.00 to ±0.50 D, n = 30), low myopes (-0.50 to -3.00 D, n = 30), moderate myopes (-3.00 to -6.00 D, n = 30), and high myopes (>-6.00 D, n = 30). Pupillary measurements were recorded under controlled lighting conditions, assessing latency, constriction velocity, maximum constriction speed, constriction amplitude, release amplitude, constriction time, and average pupil diameter.

Results: High myopes exhibited significantly reduced pupillary responses across all parameters compared to emmetropes ($p < 0.001$). Latency was shorter (0.18 ± 0.02 s vs. 0.23 ± 0.02 s, $p < 0.001$), constriction velocity slower (2.62 ± 0.14 mm/s vs. 3.12 ± 0.18 mm/s, $p < 0.001$), maximum constriction speed lower (3.50 ± 0.21 mm/s vs. 4.08 ± 0.24 mm/s, $p < 0.001$), and constriction amplitude reduced (2.20 ± 0.18 mm vs. 2.70 ± 0.25 mm, $p < 0.001$). Release amplitude (1.80 ± 0.16 mm vs. 2.30 ± 0.20 mm, $p < 0.001$) and constriction time (0.65 ± 0.05 s vs. 0.72 ± 0.06 s, $p = 0.01$) were also lower. Moderate myopes showed reduced latency (0.20 ± 0.03 s, $p = 0.01$), constriction velocity (2.85 ± 0.15 mm/s, $p = 0.02$), and amplitude (2.30 ± 0.20 mm, $p = 0.03$) but no differences in pupil diameter ($p = 0.54$).

Conclusion: Pupillary dynamics decline with increasing myopia, with high myopes showing deficits across all parameters. Moderate myopes exhibit reduced latency, constriction velocity, and amplitude, while low myopes resemble emmetropes.

Registration ID Number: 218R131EIVOC2025

Title: Impact of Prismatic correction on field of binocular single vision in Incomitant Strabismus

Author(s): Jegatheeswari J, Shashikant Shetty, Sangeetha S

Affiliation(s): Aravind eye hospital, Madurai

Abstract Content:

Purpose: To assess the improvement in fields of binocular single vision in patients having diplopia due to incomitant strabismus.

Methods: This study was done in 86 patients who will be undergoing conservative treatment with prisms for incomitant strabismus. Prisms were tried in patients who had small angle deviation and demonstrable fusion with prisms. Binocular field improvement will be measured in patients before and after using prism. Patients will be selected based on inclusion and exclusion criteria after getting an informed consent.

Results: Percentage of significant improvement in fields noted. Of the 86 patients, 46 had a 50% improvement in horizontal prisms, 15 had a 30% improvement in vertical prisms, 15 patients who had diplopia at primary gaze like Thyroid eye disease and 10 patients who had blowout fractures; these patients also showed a 20% improvement after using the prism. Hence in chronic cases with diplopia in primary gaze and in patients who are not willing for surgery, Prism can be used as an alternate option

Conclusion: Assessment of the field of binocular single vision is more useful because we are testing under physiological conditions, as opposed to other tests such as diplopia, Hess charting and prism cover test, where we were using red-green goggles that would dissociate both eyes.

Registration ID Number: 338R182EIVOC2025

Title: Morphometric Study of Primary Congenital Aphakia Using AS-OCT: Unveiling Structural Insights

Author(s): Sai Sivani Koonapareddy, Muralidhar Ramappa, Divya Sree Ramya Achanta

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: To investigate the corneal structural morphology in congenital primary aphakia (CPA) using anterior segment optical coherence tomography (AS-OCT).

Methods: In a prospective case-control study involving 309 eyes of 160 children diagnosed with congenital primary aphakia CPA, 22 eyes from 11 cooperative children underwent AS-OCT imaging. These were compared with 16 clear corneas from 8 age-matched healthy controls. The study included comprehensive ophthalmic examinations, such as visual acuity, anterior morphometry, biometry, IOP, slit-lamp examination including detailed imaging. AS-OCT imaging was employed to analyze the cornea's central corneal thickness (CCT) and structural morphology.

Results: The mean age at presentation was 1.25 ± 1.84 years, while the mean age at the time of investigation was 7.04 ± 3.05 years. Majority of participants were male, comprising 63.6% (n=7) of the cohort. Vision was classified as non-ambulatory in 18 eyes (81.8%) and ambulatory in 4 eyes (18.1%). Clinical findings included a silvery sheen-like appearance in 16 eyes (72%), microphthalmos in 16 eyes (72%), and anterior staphyloma in 3 eyes (13.6%). The average intraocular pressure (IOP) was 21.27 ± 8.08 mmHg, and the axial length (AXL) was 18.3 ± 3.3 mm. Secondary glaucoma was observed in 11 eyes (50%). Central corneal thickness (CCT) was significantly lower in the study group compared to age-matched controls (447 ± 24.2 µm vs. 544 ± 28.6 µm, $p = 0.0007$). All eyes exhibited significant anterior layer non-uniformity, high reflectivity in central layer due to pan-corneal opacification, and irregularities in posterior layer.

Conclusion: Anterior segment optical coherence tomography (AS-OCT) offers an objective assessment of structural changes in congenital primary aphakia, enabling early diagnosis. Early recognition is essential for effective Management, as it helps preemptively detect complications and retain residual functional vision in these cases.

Registration ID Number: 474R278EIVOC2025

Title: Clinical Realities of Low-Dose Atropine Use in High and Pathologic Myopia

Author(s): Sruthi Chamarty, Ramesh Kekunnaya

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana.

Abstract Content:

Purpose: Low-dose atropine (LDA) is ubiquitously used to manage myopia progression. However, its efficacy in individuals with high myopia and pathologic myopia remains unclear. The current study aimed to evaluate the rate of axial elongation over one year in individuals with high myopia, with and without pathologic myopia, using clinical data.

Methods: A retrospective study was conducted in which information about demographics, spherical equivalent refractive error (SER), axial length, and remarks on pathologic myopia complications from two visits over a year was obtained from electronic medical records. The study included 102 myopic individuals aged 4 to 16 years who were using LDA for myopia control. Individuals with myopia were classified into 3 groups: 18 high myopes (SER ≤ -6.00 D) without pathologic myopia (as per Meta-Analysis for Pathologic Myopia (META-PM) classification); 21 high myopes with pathologic myopia; and 63 controls (SER ≤-0.50 to >-6.00 D without any reported ocular or systemic conditions).

Results: The median [inter quartile] age at baseline (11 [4] years) did not vary across the three groups. The baseline axial length in high myopes with and without pathologic myopia (26.95 [1.75] mm vs. 26.24 [1.38] mm] was similar. The median rate of change in axial length with LDA was 0.21 [0.19] mm/year, and 0.19 [0.20] mm/year in high myopes with and without pathologic myopia, respectively which was not statistically different ($p > 0.05$) among these two groups or from controls (0.21 [0.36] mm/year). Despite LDA treatment, a high proportion of progressors (change in axial length ≥ 0.20 mm/year) was observed (44-55%) in all three groups.

Conclusion: About one in two individuals with myopia treated with low-dose atropine showed axial elongation, with comparable response observed irrespective of degree of myopia and presence of pathologic myopia.

Scientific Free Paper Session 14
Ocular Disease and Diagnostics - 3

Registration ID Number: 332R179EIVOC2025

Title: Evaluation and Prediction of Postoperative Visual Acuity in Cataract Patient Using RFT.

Author(s): Nuzhat Khan, Nuzhat Khan, Joyce Verghese

Affiliation(s): Lotus College of Optometry, Mumbai, Maharashtra

Abstract Content:

Purpose: To validate a newly developed Retinal Function Test (RFT) as a predictor of visual prognosis in patients with cataract as predicting visual Outcomes before the surgery may help avoid unsatisfactory surgery Outcomes or at least reduce the number of patients who experience such disappointments.

Methods: This study included participants aged 50 and above with senile cataracts. Those with other ocular diagnoses, planned surgeries outside the research period, or factors affecting final vision were excluded. A thorough eye exam included history, uncorrected visual acuity (UCVA), refraction, best corrected visual acuity (BCVA), slit lamp examination, fundoscopy, and intraocular pressure (IOP) measurement. Cataracts were graded by the ophthalmologist, and potential vision was recorded using the RFT. Postoperative BCVA was assessed 15 days post-surgery and compared to the predicted RFT value. Based on previous literature, A BCVA more than two lines above RFT indicated overestimation and more than two lines below the RFT indicated underestimation. Values within two lines of the RFT prediction were classified as accurate.

Results: A sample of 303 eyes was calculated for the study; and post-operative responses from all 303 responses have been further analyzed. The gender distribution was 63% female and 37% male. The mean age of the participants was 63.12±2 years. Among the 303 eyes, 267 eyes were accurately predicted vision using the RFT, while 36 eyes were underestimated, specifically in cases of dense posterior subcapsular cataracts with nuclear sclerosis grade IV, brown II, and mature/advanced cataracts. Bland Altman Plot indicated that 88.9% of cases demonstrated an accurate estimation of visual acuity, with this accuracy observed in both early and mature cataracts. However, 11.9% of cases, predominantly in mature and hyper-mature cataracts, exhibited an underestimation of visual acuity. No overestimation was recorded in any cases among all responses.

Conclusion: The RFT was found to be an accurate method for predicting postoperative visual acuity in eyes with early & mature cataracts. No overestimation in predicted vision indicates that RFT can be a reliable tool. Further studies can be done to predict vision with RFT in other ocular conditions.

Registration ID Number: 304U087EIVOC2025

Title: Association Between Sleep Quality (SQ) and Functional Vision (FV) Among Adults - A Cross-Sectional Study

Author(s): Shakthivel V, Lathika J, Shakthivel V, Bharghavy S, Maheswari Srinivasan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: This study examines the link between sleep quality and functional vision, hypothesizing that poor sleep is significantly associated with visual impairment. Understanding this connection may encourage healthier sleep habits, ultimately improving vision and overall well-being. Findings could guide interventions to enhance both sleep quality and daily visual performance.

Methods: A quantitative cross-sectional study was conducted using convenience sampling of adults aged 18 years and older. SQ was evaluated using the Pittsburgh Sleep Quality Index (PSQI), a 19-item self-rated questionnaire generating seven component scores: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping medication, and daytime dysfunction. The total PSQI score ranges from 0 to 21, categorizing participants into good (≤5), poor (6–10), and very poor sleep quality (>10), FV was assessed with the Functional Vision Screening Questionnaire-4 (FVSQ-4), measuring difficulty in performing daily visual tasks. The total score ranges from 0 to 8, classifying participants into good (0–2), moderate (3–5), and poor functional vision (6–8). The survey was digitally distributed via WhatsApp, and incomplete responses were excluded. Data analysis was performed using SPSS software. Spearman's correlation was applied to non-normally distributed data, and multiple regression analysis adjusted for age and occupational status was

Results: Out of 560 responses, 37 incomplete submissions were excluded, leaving 523 participants for analysis.
The mean age of participants was 26.3 ± 10.5 years, with 234 males and 289 females. The study population comprised 56.8% students and 43.1% working employees. Descriptive analysis of functional vision showed that 22.37% of participants were classified as having poor functional vision, 34.99% as moderate, and 42.45% as good. SQ distribution was 12.45% very poor, 53.45% poor, and 34.10% good. The mean Pittsburgh Sleep Quality Index (PSQI) score was 6.31 ± 3.48. The Shapiro-Wilk test indicated a non-normal data distribution ($p < 0.05$). Spearman's correlation showed a significant association between SQ and FV ($r = .193$, $p < 0.001$). Multiple linear regression analysis confirmed that poor SQ was significantly linked to worse FV ($p < 0.001$), even after adjusting for age and occupational status.

Conclusion: This study finds a significant correlation between poor sleep quality and functional vision impairment, though causation is unproven. Sleep interventions may help high-risk groups. Limitations include selection bias and unaccounted factors like screen time. Future longitudinal studies with diverse sampling are needed to improve validity and generalizability of findings.

Registration ID Number: 305U088EIVOC2025

Title: Ethambutol Toxicity Presenting as Anterior Scleritis and Dyschromatopsia: A Case Report

Author(s): Harshini Rajesh, Gomathi Suresh

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Ethambutol, a first-line anti-tuberculosis drug, is known for its ocular toxicity, primarily optic neuropathy with central field loss and dyschromatopsia, and rarely, drug-induced uveitis. This case highlights a rare presentation of ethambutol-induced anterior scleritis and dyschromatopsia,emphasizing the need for comprehensive ocular monitoring and modified treatment to prevent irreversible damage.

Case Details: A 22-year-old male on ethambutol therapy for sacroiliac tuberculosis for three months presented with redness, pain, watering, and impaired color vision. His visual acuity was 6/6p, N6 with glasses, improving to 6/6, N6 with refraction. Intraocular pressure and angles were normal, but conjunctival and scleral congestion were noted. Anterior uveitis was diagnosed, while posterior involvement was ruled out via B-scan, showing no clinically significant T-sign.

Notably, the patient developed anterior scleritis, a rare ocularmanifestation of ethambutol toxicity. Perimetry revealed no major defects, though color vision impairment was evident. Fundus imaging showed macular changes without vision loss.

Management: Ethambutol was discontinued, and the anti-tuberculosis regimen was modified to minimize ocular toxicity.

High-dose oral corticosteroids were initiated to control inflammation alongside anti-inflammatory eye drops. The patient was placed under strict monitoring with frequent ocular assessments, particularly color vision testing and perimetry. A 10-day medical leave was advised for close follow-up. Despite treatment, persistent dyschromatopsia remained, reinforcing the importance of proactive intervention. Serial color vision tests and fundus photography monitored changes, ensuring no further deterioration. This case highlights the necessity of individualized treatment adjustments for systemic conditions affecting ocular health, especially in tuberculosis cases with rare scleritis presentations.

Outcome: With timely intervention, the patient's ocular symptoms improved significantly, and anterior scleritis was resolved. However, dyschromatopsia persisted despite stopping ethambutol. His ocular health remained stable. This case highlights the importance of early detection and individualized Management to prevent long-term ocular complications of anti-tuberculosis therapy, especially in rare scleritis cases.

Registration ID Number: 288P045EIVOC2025

Title: Can exposure to long, middle, and short-wavelength light alter the vascular properties of the retina and choroid?

Author(s): Swapnil Thakur, Pavan Verkicharla

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: The vascular properties of posterior ocular structures are vulnerable to ocular growth. Given that environmental factors are shown to influence ocular vasculature, this experimental study examined the effect of different wavelengths of light on retinal and choroidal vascular parameters.

Methods: A total of fourteen individuals were exposed to blue light (460 nm, average spectral irradiance, 0.000174 W/nm/m2, and half maximum width =25 nm), green light (521 nm, 0.00021 W/nm/m2, and 37 nm), red light (623 nm, average irradiance, 0.00013 W/nm/m2, and 35 nm) and 10 participants to the broadband light exposure for 60-minutes on four different days. A 6 x 6 mm macular cube Angio scan was performed at baseline and after 60-minutes of light exposure using Zeiss Plex Elite OCT-A without pupillary dilation. The parameters included for the analysis were superficial and deep retinal vessel density (mm-1), retinal perfusion density, choroidal thickness, and choroidal vascularity index (CVI). The lateral magnification correction factor for participants with axial length more than 24 mm was employed for the thickness and vessel density parameters.

Results: After 60 minutes of green light exposure, a small but significant reduction in superficial vessel density was observed in the inner superior quadrant (3 mm from the fovea: median (IQR); baseline: 20.58 (2.02) mm^2 vs. post-exposure: 19.77 (1.23) mm^2, Wilcoxon test, p = 0.03) and the outer superior quadrant (6 mm from the fovea: 20.41 (1.33) mm^2 vs. 19.52 (2.2) mm^2, p = 0.006) compared to red (3 mm: 19.95 (1.84) mm^2 vs. 19.29 (3.05) mm^2; 6 mm: 19.96 (1.48) vs. 19.97(1.18) mm^2) and blue light exposure (3 mm: 19.79 (2.21) mm^2 vs. 20.28 (1.75) mm^2; 6 mm: 19.49 (2.21) mm^2 vs. 19.99 (1.67) mm^2). Broadband light exposure had no effect on retinal vascularity. Overall, choroidal thinning was noted after green light exposure in the inner superior quadrant (351.82 µm (82.98) vs. 333.89 µm (54.16), p = 0.013), but there was no change in the choroidal vascularity index.

Conclusion: At the low irradiance level used in the current study, short-term exposure to green light resulted in a slight reduction in retinal vessel density and choroidal thinning. However, exposure to red and blue light showed no effect on the vascular parameters of the retina and choroid.

Scientific Free Paper Session 15
Ocular Disease and Diagnostics

Registration ID Number: 495R297EIVOC2025

Title: MMP-9 as a Biomarker for Dry Eye Diagnosis: A Systematic Review and Meta-analysis

Author(s): Sowmya V K, Ashish Ranjan, Sayan Basu, Swati Singh

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Tear MMP-9 levels are postulated to be a diagnostic marker of dry eye disease (DED), whose levels reduce with treatment. The meta-analysis critically appraises the diagnostic accuracy of MMP-9 for DED to address whether DED clinics should include it in the DED workup.

Methods: PubMed, Cochrane databases, and Scopus were systematically (PROSPERO registered CRD42024555140) reviewed for MMP-9 measurement studies in DED patients. The outcomes analyzed were sensitivity, specificity, diagnostic odds ratio, and summary receiver operating characteristics (sROC).

Results: Three studies used InflammaDry (Quidel Corporation), and others employed molecular techniques such as ELISA (n=6), antibody microarray (2), and MMP-activity assay (1). Meta-analysis for InflammaDry-based studies showed pooled sensitivity to be 73% (Heterogeneity value I2 of 94.2%), specificity of 95% (I2 46%), a diagnostic odds ratio of 38.2 (I2 62.5%), and 0.96 as the area under the curve. Meta-analysis could not be performed for molecular techniques as those studies involved different methods and had patients with various ocular surface disorders, such as blepharitis, allergic eye disease, and conjunctivochalasis, which coexisted with DED. Tear MMP-9 levels varied across DED severity stages and subtypes. Reference standards for DED diagnosis varied among studies, which can confound the MMP-9 predictability.

Conclusion: The high heterogeneity and low certainty of the evidence make InflammaDry less sensitive for DED diagnosis. Existing studies have tested different ocular surface disorders combined with DED and various molecular techniques, highlighting the need for randomized controlled studies on MMP-9.

Registration ID Number: 353R192EIVOC2025

Title: Measurement of visual field expansion with Peli Prism using Humphrey Visual Field Analyzer(HFA)

Author(s): Roshan Yadav, PremNandhini Satgunam, Priyanka Maniarasu

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Peripheral visual field expansion in Homonymous Hemianopia (HH) can be achieved with Peli prism (or peripheral prisms). The field expansion has been typically demonstrated using kinetic perimetry in Goldmann/ Tangent screen perimeter. Through this study, we aim to demonstrate the visual field expansion using static perimetry thresholding in HFA.

Methods: Participants who were referred by Neuro-ophthalmologist after confirming the diagnosis of HH were recruited. Refraction was performed to prescribe the best spectacles correction. With new spectacles HFA test (30-2) were performed binocularly. Later, Peli prism (oblique press-on Fresnel 40 prism dioptre) trial was done with new spectacles, 30 minutes of adaptation time was given for the same. After prism adaptation HFA test (30-2) was repeated with the Peli prism binocularly.

Results: A total of 6 patients (5 right sided and 1 left sided HH, all males with age ranges from 48 to 71 years) were recruited. One of them was one eyed and another patient had right superior incomplete HH. The difference in visual field expansion before and after introducing the Peli prism was calculated, which showed an increase of about 15 degrees of expansion on the non-seeing side. We also investigated the visual field threshold values before and after the Peli prism,

on the corresponding seeing hemifield for the expansion. This calculation was undertaken as, the expansion actually is an overlap on to the seeing field. We observed that on an average the threshold difference before and after the prism insertion was about -2.23 +/- 6.33SD.

Conclusion: Static perimetry with HFA can also show visual field expansion with Peli prisms in patients with visual field loss. Additionally, we also demonstrated a reduction in visual field threshold on the corresponding seeing hemifield. This reduction is from the visual confusion, or luminance reduction from the Fresnel sheet.

Registration ID Number: 497U111EIVOC2025

Title: Comparision of Corneal Thickness in Lactating & Non-Lactating Women

Author(s): Mary Janifar S, Saayni R, Nandhini Elango

Affiliation(s): Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamilnadu

Abstract Content:

Purpose: Hormonal changes during lactation, marked by increased levels of prolactin, estrogen, and other related hormones, may influence corneal physiology. This study seeks to compare corneal thickness between lactating and non-lactating women to assess the potential effects of lactation on corneal structure.

Methods: A cross-sectional comparative study was conducted on 11 women, divided into two groups: lactating (n = 6) and non-lactating (n = 5). Central corneal thickness (CCT) was measured using pentacam. CCT data were extracted at the pupil center, to ensure standardization across all participants. Statistical analysis was performed using the Mann-Whitney U test and a p-value < 0.05 was considered statistically significant.

Results: A significant correlation (p=0.000) was observed between right and left eye measurements within each group therefore, only right eye data were analysed. The median central corneal thickness in the lactating group was 545.5 µm ± 40.5, while in the non-lactating group, it was 505 µm ± 40.5. The difference in corneal thickness between the two groups was not statistically significant (p = 0.931).

Conclusion: This study found no significant difference in central corneal thickness between lactating and non-lactating women. These findings suggest that lactation, despite ongoing hormonal changes, may not have a measurable impact on corneal thickness in healthy postpartum women.

Registration ID Number: 448R262EIVOC2025

Title: Multimodal Visual Function Analysis in Diabetic Macular Edema Post Anti-VEGF Treatment

Author(s): Suchana S shet Shirodker, Brijesh Takkar, Amithavikram R Hathibelagal

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Visual acuity alone may not accurately represent treatment outcome in Diabetic Macular Edema (DME). This study aimed to evaluate a range of visual functions before and after treatment and to explore the relationship between structural changes and functional outcome in patients with DME.

Methods: A prospective cross-sectional study was conducted on patients with clinically significant DME. Both treatment-naïve and previously treated patients (no anti-VEGF in past 3 months or steroids in past 6 months) with best corrected visual acuity ≥20/100 were included. Assessments included colour vision using the CAD test, flicker thresholds using Flicker-plus, and retinal sensitivity via NIDEK MP-3 microperimetry. Stimuli were tested at five retinal locations: central (0°) and four eccentricities (5° at 45°, 135°, -45°, and -135°). Structural assessments included OCT and OCT-A (Zeiss Plex Elite 9000), and photopic ERG (3.0 and flicker) was recorded using hand-held RetEval. Follow-up assessments were conducted 4–6 weeks post anti-VEGF injection.

Results: The study included nine patients (mean age: 56.67±9.0 years; five males). Only two showed improvements in visual acuity post-treatment. A functional improvement of ≥30% was observed in 5 out of 9 patients for red-green colour vision, 2 out of 9 for yellow-blue colour vision, 5 out of 9 for flicker thresholds, 3 out of 8 for microperimetry, and 5 out of 7 for ERG flicker amplitudes. Mean baseline macular thickness was 472.56±139µm, reduced to 360.02±69µm at follow-up. Vessel density decreased slightly from 8.47 ± 3.3mm ^{1} to 7.55 ± 5.2mm ^{1}. No significant correlation (p >0.05) was found between structural (macular thickness, vessel density) and functional (acuity, flicker, microperimetry, colour vision) parameters.

Conclusion: Functional assessments beyond standard visual acuity testing revealed greater treatment-related improvements in patients with DME. While not substitutes for visual acuity, these tests offer valuable adjunct information for monitoring therapeutic response and disease progression.

Registration ID Number: 269R153EIVOC2025

Title: Subclinical Blue-Yellow and Flicker Sensitivity Losses in Patients with Diabetes

Author(s): Vinitha Mingi, Brijesh Takkar, Amithavikram R Hathibelagal

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Diabetes disrupts the cellular architecture of the retina, leading to photoreceptor degeneration and subsequent visual dysfunction. This study aims to evaluate chromatic and flicker sensitivity in patients with Type II Diabetes.

Methods: A cross-sectional study was conducted involving two groups: Healthy Controls (HC) and patients with Type II Diabetes. Inclusion criteria included absence of ocular pathology, cataract grade ≤2, and best corrected visual acuity (BCVA) of 20/30 or better. All participants underwent comprehensive eye examinations, including dilated fundus evaluation and Goldmann Applanation Tonometry. Chromatic sensitivity for Red-Green (RG) and Yellow-Blue (YB) channels was assessed monocularly using the Colour Assessment and Diagnosis (CAD) test. Flicker Modulation Thresholds (FMT), enhanced for cone function, were measured centrally and at four parafoveal locations (5° eccentricity at 45°, 135°, –45°, and –135°) using Flicker-Plus. Diabetic Retinopathy (DR) risk assessment was performed in patients with diabetes using a handheld ERG device (RetEval, LKC Technologies).

Results: The study included nine participants (4 males, 5 females; mean age: 51.4 ± 10.9 years). Patients with diabetes (n=6) exhibited significantly elevated YB thresholds (5.19 ± 3.04 CAD units) compared to healthy controls (n=3; 3.33 ± 0.35 CAD units). RG thresholds remained within the normal range for both patients with diabetes (2.90 ± 1.67 CAD units) and healthy controls (2.43 ± 0.15 CAD units), with no significant difference. Central flicker thresholds were higher in patients with diabetes (9.75 ± 5.15%) than in healthy controls (6.69 ± 1.46%). The average DR risk score among patients with diabetes was 20.6 ± 2.1.

Conclusion: Despite normal BCVA, patients with diabetes showed impairments in YB chromatic and flicker sensitivity, indicating early functional retinal changes. CAD and flicker sensitivity testing may be valuable tools for detecting subclinical visual dysfunction in patients with diabetes.

Registration ID Number: 636R358EIVOC2025

Title: Clinico-Demographic Profile of Custom Ocular Prosthesis in a Tertiary Care Eye Center in Central India

Author(s): Shishir Shukla, Lokeshwar Prasad Sahu, Varsha Ghosh, Mihir Mishra, Deepshikha Agrawal

Affiliation(s): MGM Eye Institute, Raipur, Chhattisgarh

Abstract Content:

Purpose: To report the demographic characteristics and indications of Custom ocular prosthesis (COP).

Methods: Retrospective case series of all patients who had under gone COP fitting from January 2009 to December 2024. Patient data related to age, gender, clinical indication and other relevant information was noted from records.

Results: There was total 774 patients during the study period of whom males predominated - 456 (58.91%) and 318 (341.09%) females. The mean age was 34.01 (range: 1-91) years with most common age group being between 18-39 years. Most common indication for COP was Phthisis bulbi (28.76%) followed by Absolute eye (17.37%) and Anterior/Ciliary staphyloma(14.09%).

Conclusion: Custom ocular prosthesis is most common in middle aged people with active lifestyle and mostly related to trauma leading to Phthisis bulbi (28.76 %).

Scientific Sessions

E - Poster Session

E poster
Scientific E-Poster Session 1
Binocular Vision and Vision therapy

Registration ID Number: 212U069EIVOC2025

Title: Diurnal Variations in Binocular Vision and Pupillary Dynamics among Young Adults

Author(s): Florina Deka, chitra singh, Dhanjit Borah, Antarip Kalita, Pritam Dutta

Affiliation(s): Ridley college of Optometry, Dulia Gaon, Assam

Abstract Content:

Purpose: This study aimed to examine diurnal variations in binocular vision and pupillary dynamics among young adults aged 18 to 35 years. Since circadian rhythms influence autonomic and visual function, we hypothesized significant differences between morning and evening measurements.

Methods: Fifty participants (mean age: 24.3 ± 3.9 years) underwent assessments in the morning (9–11 AM) and evening (3–6 PM). Binocular vision parameters, including monocular and binocular amplitude of accommodation (AA), near point of convergence (NPC), distance and near phoria, accommodative flippers (AF) for both eyes, and fusional vergences (PFV, NFV) at distance and near, were evaluated. Pupillary measurements, including latency, constriction speed, maximum constriction speed, constriction time, constriction amplitude, release amplitude, and average pupil diameter, were recorded using a smartphone-based pupillometry technique.

Results: Evening assessments revealed a decline in monocular and binocular amplitude of accommodation i.e. morning v/s evening: 11.5 ± 1.8 D v/s 10.2 ± 1.6 D ($p = 0.02$) and (12.1 ± 2.0 D to 10.8 ± 1.7 D; $p = 0.01$). The near point of convergence increased from 5.4 ± 1.2 cm to 6.7 ± 1.5 cm ($p = 0.03$). Near phoria showed a greater exophoric shift (morning: -2.1 ± 0.8 PD; evening: -3.5 ± 1.1 PD; $p = 0.04$). Accommodative flipper rates declined (monocular: 12.6 ± 1.9 to 10.9 ± 2.1 cpm; $p = 0.03$; binocular: 13.4 ± 2.2 to 11.5 ± 2.0 cpm; $p = 0.02$). Positive fusional vergence decreased (22.5 ± 3.8 to 19.3 ± 3.1 PD; $p = 0.04$). Pupillary latency increased ($p = 0.04$), and constriction speed, maximum constriction speed, and amplitude were significantly lower in the evening ($p < 0.05$).

Conclusion: Significant diurnal variations were observed in binocular vision and pupillary responses, with evening reductions in accommodation, vergence, and pupillary constriction dynamics. These findings highlight the impact of time-of-day effects on visual performance and suggest the need to consider diurnal changes in clinical and occupational settings.

Registration ID Number: 166R088EIVOC2025

Title: Impact of Continuous Mobile Gaming on Binocular Vision Functions and Ocular and Physical Symptoms in Young Healthy Individuals

Author(s): Sushant Kumar Shah, Tilottama Basnet, Nistha Thapa

Affiliation(s): Acharya Institute of Allied Health Sciences, Bangalore, Karnataka

Abstract Content:

Purpose: Mobile gaming has rapidly gained popularity, raising concerns about its potential adverse effects on ocular health. Given the risk of visual strain, this study aimed to evaluate the impact of continuous mobile gaming on binocular vision functions, ocular symptoms, and physical discomfort in young healthy Indian individuals.

Methods: Healthy college students with no history of binocular vision anomalies or ocular disease were recruited. Participants underwent a comprehensive examination before and immediately after a continuous 2-hour mobile gaming session from 10 AM to 12 PM, conducted under standardized environmental conditions. The assessment included the measurement of various binocular vision functions including stereopsis, phoria, convergence, and accommodation. In addition, subjective ocular and physical symptoms scores were quantified using a validated questionnaire.

Results: A total of 38 students participated in the study, with a median (IQR) age of 20 (17-27) years, predominantly male (57.9%). Post continuous mobile gaming, median (IQR) NPC and binocular NPA receded from 5 (3-10) cm and 4 (3-6) cm to 6 (3-13) cm and 5 (3-8) cm respectively (p

Conclusion: Continuous mobile gaming significantly affects binocular vision functions and increases ocular and physical discomfort in young healthy individuals. These findings highlight the need for implementing strategic breaks and ergonomic guidelines to overcome the discomfort associated with extended mobile gaming sessions.

Registration ID Number: 193R113EIVOC2025

Title: The Impact of Green Tea Extract Oral Supplement and Its Catechins on Intraocular Pressure in Patients Diagnosed with Glaucoma

Author(s): Prema Chande, Aaryan Gawde

Affiliation(s): Lotus College of Optometry, Mumbai, Maharashtra

Abstract Content:

Purpose: To investigate the impact of green tea extract on intraocular pressure (IOP) in individuals with glaucoma. Pressure-lowering effects have been reported among normal subjects. However, literature is not available among those with glaucoma. Understanding the effects of green tea may offer new avenues for adjuvant therapy for glaucoma management.

Methods: This was a cross-sectional study design. Based on inclusion criteria, patients with glaucoma were invited to participate in the study. Following informed consent, 40 patients, previously diagnosed with glaucoma in both eyes agreed to participate. IOP was measured using the Keeler Intellipuff tonometer before, and the intervention phase involved administering a 400 mg Green Tea Extract Capsule to the participants as an oral supplement. Thirty minutes after administration of the capsule, IOP was reassessed using the same device. Baseline data on the types of glaucoma, severity, cup-disc ratio, mean deviation from the last Humphery Visual field analyzer test, and retinal nerve fiber layer thickness was captured from the existing records. Data analysis was performed using IBM SPSS software to compare changes in IOP and correlate them with functional and structural ocular parameters.

Results: Data analysis of 80 eyes indicated a mean pre-consumption intraocular pressure (IOP) of 15.83 mmHg, which decreased to 15.62 mmHg post-consumption, and the difference was statistically significant with a p-value

Conclusion: The study findings suggest that green tea extract supplements exhibit significant potential in IOP lowering in patients with early Glaucoma, indicating their usefulness as a complementary approach to glaucoma management. Further clinical trials are warranted to validate these findings and explore their implications for broader therapeutic applications.

Registration ID Number: 218R131EIVOC2025

Title: Impact of Prismatic correction on field of binocular single vision in Incomitant Strabismus

Author(s): Jegatheeswari J, Shashikant Shetty, Sangeetha S

Affiliation(s): Aravind eye hospital, Madurai

Abstract Content:

Purpose: To assess the improvement in fields of binocular single vision in patients having diplopia due to incomitant strabismus.

Methods: This study was done in 86 patients who will be undergoing conservative treatment with prisms for incomitant strabismus. Prisms were tried in patients who had small angle deviation and demonstrable fusion with prisms. Binocular

field improvement will be measured in patients before and after using prism. Patients will be selected based on inclusion and exclusion criteria after getting an informed consent.

Results: Percentage of significant improvement in fields noted. Of the 86 patients, 46 had a 50% improvement in horizontal prisms, 15 had a 30% improvement in vertical prisms, 15 patients who had diplopia at primary gaze like Thyroid eye disease and 10 patients who had blowout fractures; these patients also showed a 20% improvement after using the prism. Hence in chronic cases with diplopia in primary gaze and in patients who are not willing for surgery, Prism can be used as an alternate option

Conclusion: Assessment of the field of binocular single vision is more useful because we are testing under physiological conditions, as opposed to other tests such as diplopia, Hess charting and prism cover test, where we were using red-green goggles that would dissociate both eyes

Registration ID Number: 281R163EIVOC2025

Title: Vision and Psychiatric Disorders: A Pilot Study on The Impact of Psychiatric Disorders on Visual Functions

Author(s): Manju Varshini B, Dharani Ramamurthy, Arul Saravanan Ramachandran

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: Psychiatric disorders are conditions that affect a person's emotion, cognition and impairment in important areas of functioning. The association of visual functions with psychiatric disorders remains often-overlooked and underexplored. This study aims to assess the visual functions namely visual acuity, color vision, contrast sensitivity and stereopsis among this population.

Methods: A total of 21 patients (10 females; 11 males) with mean age of 28.10 ± 6.41 years (range: 18-35 years) diagnosed with psychiatric disorders, without history of any ocular trauma, surgery or hereditary ocular diseases and 20 healthy controls (10 females; 10 males) with mean age of 27.80 ± 5.98 years (range: 20-35 years) were included in the study. Visual functions: visual acuity, color vision, contrast sensitivity and stereopsis were assessed using Snellen chart, D-15 test, Pelli Robson chart and Randot stereopsis respectively. Statistical analysis was conducted to compare visual functions between persons with psychiatric disorders and healthy controls.

Results: There was a significant deficit in stereopsis among individuals with psychiatric disorders (median = 30.00 arc secs; IQR = 20.00 arc secs) compared to controls (median = 20.00 arc secs; IQR = 0.00 arc secs); ($p < 0.05$). No significant differences were observed in other visual functions tested, including visual acuity, color vision and contrast sensitivity ($p > 0.05$).

Conclusion: These findings underscore the importance of recognizing visual function deficits among individuals with psychiatric disorders. Visual functions can be used as psychophysical markers and pave way for planning interventions accordingly and provide a more holistic approach to its Management thereby enhancing both visual performance and overall quality of life.

Registration ID Number: 337P059EIVOC2025

Title: Association between Accommodative Function and Refractive Error in Late Adolescence.

Author(s): Balakeerthiga M.L, Ananth Sailoganathan, Yamini S

Affiliation(s): Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu

Abstract Content:

Purpose: Late adolescence is a critical period of visual development characterized by increased visual demands, especially due to prolonged use of digital devices for education and recreational purposes. Refractive error can alter accommodative function. Changes in accommodation can affect quality of life and academic performance in late adolescents.

Methods: This cross-sectional study was conducted in late adolescents between the age of 18 to 21 in the outpatient department of Sri Ramachandra Hospital. Comprehensive eye examination was performed including cycloplegic refraction. Accommodative function: near point of accommodation (NPA), amplitude of accommodation, AC/A ratio, MEM retinoscopy, and accommodative facility was measured during post-mydriatic test to assess the relationship between accommodative function and refractive errors.

Results: Out of 40 subjects, 47.5% were female and 52.5% male. Refractive errors included 20% emmetropic, 27.5% myopic, 10% hypermetropic, 20% with compound myopic astigmatism, 15% with compound hypermetropic astigmatism, and 7.5% with mixed astigmatism. Myopes had low amplitude of accommodation, lag of accommodation from MEM retinoscopy, and lower accommodative facility. Hypermetropies had higher amplitude, lead of accommodation from MEM retinoscopy, and higher accommodative facility. Compound myopic astigmatism showed high amplitude, lag of accommodation from MEM retinoscopy, and lower facility, while simple myopic astigmatism had low amplitude, lag of accommodation from MEM retinoscopy, and lower facility. Mixed astigmatism showed high amplitude, lead of accommodation from MEM retinoscopy, and higher facility.

Conclusion: This study elicited that refractive error is associated with accommodative function. Refractive error spectrum had a change in the accommodation function among late adolescents. These changes may affect the quality of life and academic performance of late adolescents.

Registration ID Number: 359P067EIVOC2025

Title: Control Of Intermittent Exotropia and Vision Therapy

Author(s): Yesha Chotalia

Affiliation(s): Nagar School of Optometry

Abstract Content:

Purpose: To assess the control of deviation in patients with intermittent exotropia using two scoring methods: the Newcastle Control Score (NCS) and Look And Cover, then Ten seconds of Observation Scale for Exotropia (LACTOSE) score before and after vision therapy.

Methods: This study was a prospective clinical study conducted at a tertiary eye care hospital in Ahmedabad from September 2023 to February 2025. The subjects who met inclusion criteria underwent initial assessments that included refraction, orthoptic evaluation, Newcastle Control Score (NCS) and Look And Cover, then Ten seconds of Observation Scale for Exotropia (LACTOSE) score, in addition to examinations of the anterior and posterior segments of the eye. The subjects received vision therapy, which consisted of either Office-based Vision Therapy (OVT), Home-based Vision Therapy (HVT), or a combination of both. Follow-up clinical assessments were conducted at one month and three months post-therapy. Comparative and statistical analyses were performed during the follow-up period.

Results: Among 40 subjects, 5 underwent strabismic surgery, and 14 were lost to follow-up. 21 subjects were included in the vision therapy groups. Significant improvements in distance control of deviation were seen in OVT and HVT after three months of follow-up (each with a p-value of 0.04). Near control of deviation showed improvements, but that was not statistically significant. However, significant improvements were noted in the NCS and LACTOSE scores, with p-values of 0.007 and 0.006, respectively.

Conclusion: This study shows that vision therapy effectively improves control of intermittent exotropia (IXT), particularly for distance.

Scientific E-Poster Session 2
Geriatric Optometry, Low Vision and Rehabilitation - 1

Registration ID Number: 248P034EIVOC2025

Title: Childhood Glaucoma–Related Low Vision: Referral Patterns and Low Vision Clinic Service Uptake in a Tertiary Eye Care Center

Author(s): Keerthana G, Sangeetha N, Mona Khurana

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Purpose: Childhood Glaucoma is a group of diseases which can lead to functional vision loss and blindness. Management of low vision in CG remains less explored. We aim to study the prevalence of LV in CG, clinical and referral patterns to the Low Vision Clinic (LVC) in tertiary eye care centre.

Methods: Electronic Medical Records of children with childhood glaucoma (CG) aged greater than 4 and lesser or equal to 18 years at a tertiary eye care center between November 2022 and March 2025 were reviewed. Glaucoma was classified using the Childhood Glaucoma Research Network (CGRN) criteria. Low vision was defined as per WHO ICD-10 criteria (visual acuity < 6/18 or visual field < 10° in the better eye). Prevalence of low vision (LV) in children with CG was calculated. Demographics, clinical findings, type of glaucoma, management and details of children with CG and details of LV management and education were extracted from the records. Data were organized in MS Excel, and analyzed using SPSS version 27.

Results: Among 670 children with CG, 132 (20%) had low vision. The median age was [12 (IQR: 6) years], with a male predominance (64%). 70.4% of the children with LV had secondary CG. Referral rate to the LV clinic was 63%, with referred children having significantly lower vision in the better eye [median VA: 1.0 (IQR: 1.0)] (p = 0.02, U-test) as compared to the children who were not referred. Service uptake among those referred was 51%. Single or multiple LV interventions (range: 2-3) were advised per child. Among that, majority of the children received customized refractive spectacles (79%), followed by near LV devices (optical/electronic magnifiers: 31%) and distance devices (telescope: 14%). Non-optical interventions and environmental modifications were advised in 36% children. Regarding education, 61% attended regular schools, 6% attended blind schools, and 24% had discontinued education. Most LVC non-attendees (85%) were from rural areas and had lower visual acuity [Median: 1.8(IQR: 1.8),p=0.02].

Conclusion: CG-related LV showed fair referral rates but with suboptimal uptake and service utilization. Rural residence and poorer vision were key barriers to uptake, highlighting the need for greater awareness of referral adherence. Evaluation of LV device effectiveness on daily life performance necessitates compliance assessment in this clinical populations.

Registration ID Number: 442R258EIVOC2025

Title: The effect of psychological disorders in colour perception: A Review

Author(s): Nandhini Elango, Srividya S

Affiliation(s): Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamilnadu

Abstract Content:

Purpose: Colour perception is a fundamental aspect of human vision, influenced by both physiological and psychological factors. The purpose of this narrative review is to explore the impact of psychological disorders on colour perception.

Methods: Studies focusing on the relationship between psychological disorders and colour perception. was searched in PubMed, Scopus & Google Scholar for citations of articles in English published between Jan2010 to Feb2025 using the following keywords: Colour perception, psychological disorders, depression, anxiety, schizophrenia, bipolar disorder, autism spectrum disorder. Peer-reviewed journal articles, relevant reviews were included. Studies were excluded if they are case repots or series.

Results: A total of 148 studies were retrieved from data base, of which 21 were included in this review. Depression is linked to reduced sensitivity in the blue-yellow spectrum, while anxiety heightens responsiveness to red hues. Schizophrenia patients exhibit impaired colour discrimination, particularly in the blue-green range, whereas bipolar disorder shows state-dependent variations in colour perception. Post-traumatic stress disorder (PTSD) is associated with hypersensitivity to threat-related colours, and individuals with autism spectrum disorder (ASD) often experience heightened sensitivity to bright colours.

Conclusion: Psychological disorders significantly impact colour perception. These alterations are influenced by neurobiological, cognitive, and emotional factors, highlighting the complex interplay between mental health and visual processing.

Registration ID Number: 438R256EIVOC2025

Title: Colour vision deficiency in mild to moderate dementia patients seen in a memory clinic of Kolkata

Author(s): Somdatta Maitra, Rituparna Ghosal, Debasish Sanyal, Ankur Banik

Affiliation(s): NSHM Knowledge Campus Kolkata, Durgapur, West Bengal

Abstract Content:

Purpose: Dementia is a progressive syndrome that affects the cognitive process, memory, and daily living skills. There is a significant lack of reported data on this aspect in patients with dementia. Therefore, the present study aims to evaluate colour vision in patients with mild to moderate dementia.

Methods: Eighty-two dementia patients aged between 50-80 years were recruited from a memory clinic in Kolkata, and colour vision was checked using the Ishihara colour vision chart.

Results: Among 82 dementia patients, 28% are female ,71% are male; among 47 control group patients, 40% are female and 57% are male. While categorising the severity of dementia, 57% are reported as mild, remaining 43% had moderate dementia. 31% (26) of them were unable to perform the test due to cognitive deficits, 2% (2) of them deferred the test due to aphasia, highlighting the language-related problems in dementia,1% (1) of them could not finish the test due to poor vision. Out of the rest, 66% (60) of the patients with dementia could complete the test. Among them, 21% (18) showed no deficiency in colour vision, while 41% (34) showed deficiency in colour vision, particular pattern in their response was observed (47% of 60 patients made mistakes in plate numbers 9 and 17). Fisher's exact test revealed significant difference in colour vision between dementia patients and aged matched control(p<.001).

Conclusion: The present study reported colour vision deficiency in patients with mild to moderate dementia. Thereby the study result emphasizes the need for early detection of colour vision deficiency in these patients, along with further investigation on the possible cause and implications of it on dementia, if any.

Registration ID Number: 336R181EIVOC2025

Title: Assessing the Usability of Bifocal Spectacles and Its Impact on Falls Risk Perception among Senior Adults

Author(s): Priyanka J, Vijayalakshmi A, Ramya Sachidanandam, Ramani Krishnakumar

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To understand the effective usage of bifocal spectacles in daily activities and to assess falls risk perception while wearing them among the senior adults.

Methods: This cross-sectional study was performed among participants aged 60 and above who were dispensed bifocal spectacles at a tertiary eye care hospital in January 2024. A telephone survey was conducted one month after purchase, with oral informed consent being obtained from all the participants. The survey included questions regarding the comfort of the spectacles, their usage duration and location of use (indoor vs. outdoor). Additionally, participants were asked about specific tasks related to falls risk perception, including wearing bifocal spectacles on uneven surfaces, while using stairs (up and down), and their fear of falling while engaging in those activities.

Results: A total of 389 bifocal spectacles were dispensed and 122 subjects met the eligibility criteria. Among them, 100 (63 males: 37 females, age: 69±7 years) participated in the survey. Of these, 12% were new bifocal users, and 8% had low vision. Overall, 92% were comfortable with their spectacles, 86% used glasses regularly and 94% used them for both indoor tasks such as reading and outdoor activities such as walking, while 2% used primarily for walking. Related to falls risk perception, 50% had difficulty in climbing upstairs, 48% had difficulty in climbing downstairs and 48% had difficulty in uneven surfaces while wearing bifocal spectacles. Overall, 32% avoided using glasses due to fear of falling, among them 5% were new users and one subject had low vision. Falls were reported by 3 subjects while using stairs, who were old bifocal users having normal visual acuity.

Conclusion: Most participants used bifocal spectacles and felt comfortable with daily activities. However, nearly half experienced a fear of falling on stairs due to bifocals, with some reporting actual falls. Hence, we recommend that senior adults should remove their spectacles while using stairs to reduce falls and fear of falling.

Registration ID Number: 189R109EIVOC2025

Title: Perception Towards Use of Smart Vision Glasses Among Visually Impaired Adults and Low Vision Practitioners: A Qualitative Study

Author(s): Raisul Azam, Dharani Ramamurthy

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: Smart Vision Glasses (SVGs) offer assistive features such as text-to-speech, object recognition, and navigation for visually impaired (VI) individuals. However, the challenges SVGs users encounter in daily life remain unexplored. This qualitative study aims to assess these barriers and limitations through in-depth interviews.

Methods: In-depth interviews were conducted separately with VI patients using SVGs for at least six months, and low vision (LV) practitioners giving training and practice of SVGs. Audio consent was obtained through telephone calls from all eligible participants before their involvement in the study. Interviews were audio-recorded, transcribed verbatim, and thematically analyzed using inductive coding. Themes and subthemes were identified to categorize key challenges.

Results: Twenty interviews were conducted, with 10 VI patients (mean age: 26.5 ± 3.64 years), 80% (n=8) were males, and 10 LV practitioners. Thematic analysis generated 72 codes (30 from VI patients, 42 from LV practitioners), grouped into five themes for each group. VI patient's themes included (i) Usability and Functional Barriers, (ii) Technological and Connectivity Barriers, (iii) Design and Aesthetic Concerns, (iv) User Comfort and Wearability and (v) Device Performance and Reliability. LV practitioner's themes included (i) Usability and Learning Barriers, (ii) Technical Barriers, (iii) Accessibility and Compatibility, (iv) Functional Limitations, and (v) Non-compliance with Device Use. Both the groups identified usability, technical, and comfort challenges with SVGs. Key issues included training difficulties, cognitive overload, poor object recognition, and connectivity problems. Strategies like structured training, hardware upgrades, and better assistive tool integration can improve user experience and acceptance.

Conclusion: These findings highlight key areas for enhancing SVGs functionality to improve usability, user experience, and overall effectiveness of this device for individuals with visual impairment.

Registration ID Number: 190R110EIVOC2025

Title: Effectiveness of Eccentric Viewing Training (EVT) techniques for Low Vision Rehabilitation in individuals with Central Field Loss: A Scoping Review

Author(s): Vidya N, Gopinath Madheswaran, Raisul Azam, Dharani Ramamurthy

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: Central field loss caused by macular disorders affects daily activities. Patients develop pseudo fovea for fixation through Eccentric Viewing Training (EVT). EVT improves reading and quality of life, though its effectiveness varies. This scoping review maps evidence of EVT techniques and their impact on functional vision and visual functions.

Methods: A population, intervention, and outcome approach was used to develop the search strategy. Eight electronic databases (EMBASE, Scopus, PubMed, IEEE Xplore, ProQuest, Web of Science, CINAHL, and Cochrane) were used for the literature search. Central field loss, macular disorders, eccentric viewing training, microperimetry, and quality of life were key search terms used for searching. Primary research studies, systematic reviews and grey literature that provided EVT and reported outcomes such as visual functions, daily life activities and quality of life were included. Opinion pieces, editorials, and conference abstracts were excluded.

Results: Thirty-two studies were included in the review of which five were randomized controlled trials, nine interventional, two case-control, three observational, three cohort, two retrospective, three experimental, one longitudinal, one mixed-method studies and three systematic reviews. Studies provided EVT using microperimetry (n=16), slit lamp ophthalmoscopy (n=2), clock face method (n=1), best retinal area test (n=1), computer-based rehabilitation (n=5), visual evoked potential training (n=2), and combined methods (n=5). EVT improved visual parameters such as visual acuity, contrast sensitivity, fixation stability, retinal sensitivity, reading performance, daily living activities, and overall quality of life.

Conclusion: Biofeedback training using microperimetry is the commonly used technique for providing EVT. It is proven to improve visual functions and functional vision in people with central field loss. Variability in training duration and frequency was noted, suggesting that individualized treatment customization is required to maximize the benefits of EVT.

Registration ID Number: 110P007EIVOC2025

Title: Perceptions of Indian Ophthalmologists towards Low Vision Rehabilitation Referral: Preliminary Analysis

Author(s): V Rajalakshmi, Gopinath Madheswaran, Sahithya Bhaskaran, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam, Vijayalakshmi P

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: This cross-sectional study aimed to understand the attitudes, awareness, and barriers among Indian ophthalmologists regarding low vision rehabilitation (LVR) referrals. It seeks to identify gaps in knowledge, accessibility challenges, and strategies to enhance LVR referrals and expand access to essential services for individuals with low vision

Methods: An online survey using a pre-validated questionnaire was conducted among Indian Ophthalmologists between February 2025 and March 2025 to assess their attitudes, awareness, and perceived barriers toward LVR referrals. Practising ophthalmologists with over 2 years of experience were invited to participate, and the questionnaire link was circulated to professional bodies via WhatsApp groups, LinkedIn and other social media platforms. This anonymised survey collected the basic demographic details such as age, gender, qualification, years of practice, location of practice, and whether they had in-house low vision clinics if not distance to the nearest LVA clinic. The questionnaire explored referral criteria, factors influencing referrals, confidence in counselling patients, barriers to uptake, and strategies to improve referrals. Collected responses were analysed to identify gaps in LVR services and potential interventions to enhance awareness and accessibility

Results: One hundred and seventy-five (65.7% male) opthalmologists, 65.1% with MS Ophthalmology, experience between 2 and 38 years, and 77.7% practicing in Urban locations responded.Majority worked for academic-teaching institutions (74.3%) and practiced in tertiary eye care hospitals (86.3%). 77.7% had access to an in-house LVR clinic and 23.3% did not; among those, 67.2% could access LVR clinic within a 10-50km radius. 78.9% of participants felt magnification devices was the most effective tool, followed by assistive technology (69.7%), mobility training (62.9%) and counselling (58.3%). Confidence in explaining benefits of LVR was low (57.8%).Perceived uptake of LVR services among their patients was low to moderate (88%) and key barriers were lack of awareness (71.4%), financial constraints (69.7%),limited-service availability (63.4%), costs of assistive devices (87.4%) and transportation challenges (42.3%). Suggested strategies to improve the referrals were increased awareness & training (82.9%) and collaboration with LVR clinics (70%).

Conclusion: Preliminary analysis highlights gaps in knowledge and barriers that Indian ophthalmologists face when referring patients for low vision rehabilitation. Improved training, collaboration with local clinics, and addressing financial constraints are essential for enhancing access and support for individuals with low vision, ultimately improving their quality of life.

Scientific E-Poster Session 3
Pediatric Optometry / Refractive error correction - 1

Registration ID Number: 532R325EIVOC2025

Title: Vision Correction Needs in Presbyopia: Can Reading Glasses Alone Meet the Demand?

Author(s): Manikandan C, Ambika C, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Presbyopia significantly affects 1.8 billion people globally. Correction can be in the form of single vision reading glasses or bifocals or multifocals. There are multiple outreach initiatives that target prescribing only reading glasses. This study investigates whether reading glasses alone sufficiently meet the demands of vision impairment.

Methods: A cross sectional study was conducted in Chennai district of Tamil Nadu between February 2023 and June 2024. A comprehensive eye screening protocol including history taking, visual acuity, refraction, spectacle dispensing, anterior segment evaluation, Intra Ocular Pressure(IOP) measurement and posterior segment examination (non-mydriatic fundus camera) were performed. Among those screened, patients aged over 35 years were included for analysis. Vision Impairment(VI) was graded based on World Health Organization (WHO) classification. Subjects were enquired about the visual demands in detail. The predominant demands were classified into three categories namely near vision, distance vision and both near and distance vision. Previous and current management methods were compared with patient's VI and occupation.

Results: Out of 2065 individuals screened,342 (16.56%) were referred to the base hospital for ocular conditions and 1330 (64.40%) were prescribed with new spectacles.Among those individuals aged above 35 years (1150(55.69%));mean ±SD age 50.01 ±9.33 years),the study prescribed 736 (64.00%) with bifocals, 29 (2.52%) with single vision for distance,359 (31.22%) with reading glasses,and 26 (2.26%) were advised to continue the same glasses based on the demands.The demand for vision correction was distributed as follows: 93 individuals(8.08%) required glasses for distance vision,231(20.08%) for near vision, and 826(71.82%) for both distance and near vision.Among individuals already using spectacles (128; 11.13%),only 7(0.60%) were using them appropriately for distance, 23 (2.00%) for near, and 57 (4.95%) for both distance and near vision. Based on assessments, 70 individuals (6.08%) required no change in their glasses, 32 (2.78%) needed a change in the type of glasses, and 26 (2.26%) were advised to continue with their current spectacles.

Conclusion: Approximately 30% of subjects alone required standalone reading glasses, while the major bulk needed multifocal prescriptions. In outreach programs, advocacy and policy decisions should consider this rather than concluding that reading glasses alone would eradicate the burden of near vision impairment in the population.

Registration ID Number: 109P006EIVOC2025

Title: Sudden Diplopia in Stilling-Turk-Duane Retraction Syndrome: A Rare Case

Author(s): Vineeta P Shaji, Sivarasu Manjunathan, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Institute of Optometry, Erode

Abstract Content:

Background: Stilling-Turk-Duane Retraction Syndrome (DRS) is a congenital cranial dysinnervation disorder that affects horizontal eye movements, usually stable and asymptomatic. However, external factors like prolonged near work may trigger decompensation, leading to sudden diplopia on attempted abduction, even though diplopia is not a clinical feature of DRS

Case Details: 23-year-old female with known case of DRS Type 1 in her left eye developed sudden onset diplopia in the right gaze along with mild shadowing of letters in primary gaze, with dizziness, nausea, and headache. She reported prolonged near-work and screen use one week before the symptoms. On examination, exotropia in the primary gaze was observed, with left eye suppression on the left gaze and crossed diplopia on her right gaze was reported. The sudden visual disruption suggested that excessive near work had triggered a shift in her condition, potentially transitioning from Type 1 to Type 3 DRS

Management: Further tests showed crowded optic discs and suspected blurred optic disc margins, which initially raised concerns about increased intracranial pressure, but MRI and neurological evaluations ruled out severe underlying conditions. To enhance her accommodative control, fusional capacity, and convergence, she was advised to start orthoptic exercises, including synaptophore, brocks string, cat card and push-up test. Additionally, she was advised to follow the 20-20-20 rule (taking breaks every 20 minutes while working up close) and to limit prolonged near tasks.

Outcome: Significant improvement in symptoms within 10 days was observed here; however, limitations remained in the right gaze with restricted adduction and abduction of the left eye, suggesting DRS type 3 not type 1. This highlights the importance of identifying early signs of decompensation and implementing strategies to regain balance.

Registration ID Number: 220P018EIVOC2025

Title: Clinical Risk Factors and Visual Outcomes in Preterm Infants with Retinopathy of Prematurity under Different Treatment Regimens

Author(s): Avantika Bind, Suganeswari G, Jeba Cynthia J E

Affiliation(s): MGM

Abstract Content:

Purpose: In Infants with retinopathy of prematurity(ROP), the low gestational age and birth weight are the key risk factors. Screening, clinical presentation, staging, and treatment outcomes in preterm infants (≤34weeks gestation,<2000g birth weight) is limited in Indian research. This study aims to evaluates ROP screening, staging, risk factors and visual outcomes.

Methods: This study collected data from Sankara Nethralaya, Rainbow, Madras Medical Mission, Motherhood Hospitals for the period 2019 to 2022 from existing medical records. The demographics, birth and maternal history, first screening date, and ROP zones and stages were documented. The study tracked ROP screening and treatments for 4 groups, including monotherapy (Anti-VEGF), monotherapy (laser anti-VEGF) and combination therapy (Anti-VEGF & Laser), and retinal vascularization without any treatment. Refraction assessments were performed at six months of age for all groups to evaluate the refractive Outcomes following treatment.

Results: The study included 116 infants (232 eyes; 50.4% males), with an average gestational age of 28.74±2.57 weeks and birth weight of 1111±328 grams. The initial screening postmenstrual age (PMA) was 32.3±3.0 weeks. About 36% of mothers had gestational diabetes, 83.8% of infants had respiratory distress, and 28.2% showed immature anterior segment features. Group 1 (8 eyes) treated with Anti-VEGF for Zone I-II, Stage 0 at PMA 54.93weeks showed regression at 21.36weeks, with myopia of -5.19D±2.6 and hyperopia +3.16D±1.7. Group 2 (116 eyes) treated with laser for Zone I-II, Stage 1-3 at PMA 38.58weeks showed regression 5.33weeks later, with myopia -2.18D±2.1 and hyperopia +1.96D±1.7. Group 3 (32 eyes) with Zone I APROP treated with Anti-VEGF at PMA 33.63weeks followed by laser showed regression at 9weeks, with myopia -1.97D±1.69 and hyperopia +1.49D±1.1. Group 4 (76 eyes) treated for (Zone I-III, Stage 1-3) with laser showed regression at 8.97weeks, PMA 42.67weeks, hyperopia +2.35D±1.27.

Conclusion: This study highlights the importance of early detection and intervention for refractive errors in preterm infants. Identifying the patterns and magnitude of refractive errors enables timely treatment, potentially reducing the risk of long-term visual impairments. Early Management is essential for optimizing visual development and improving overall Outcome :s.

Registration ID Number: 076R047EIVOC2025

Title: Changes in Refractive characteristics in premature infants with or without treatable Retinopathy of Prematurity: A Retrospective study

Author(s): Nisha Jha, Kalpita Das, Debmalya Das

Affiliation(s): Sankara Nethralaya, Kolkata

Abstract Content:

Purpose: To evaluate the changes in refractive status in premature infants with or without ROP and analysed the associated risk factors with refractive errors in pre-term infants as compared with full-term infants.

Methods: This was a retrospective observational study conducted on 191 eyes of premature infants, between Jan 2017-Dec 2022 were included. The data for patient characteristics including BBW,GA,sex,ROP status were collected.Data analysis were done and categorised into following different groups : non- ROP,Regressed ROP, laser -treated threshold ROP and full term control group. All premature infants underwent ROP screening by Indirect Ophthalmoscopy.Measurement of refractive errors done initially at 3months and reviewed upto 4yrs.Cycloplegic refraction was determined to find the changes in astigmatism and spherical power value. The data was entered in MS excel spreadsheet and analysis using Statistical Package for Social services (SPSS). Paired t-test was done to compare changes in spherical equivalence and astigmatism of initial visit with final visit.Within-group comparisons were made using ANOVA test to compare changes in refractive status in different groups.

Results: A total of 97 infants were enrolled in the study.There were 39 subjects in ROP group,40subjects in Non-ROP group and 18subjects in the control group.The average follow-up time period was 2.557 +/- 0.51years.The average birth weight and gestational age found in the control group,in ROP and in the non-ROP group was compared.Statistical significance was found in the comparison of spherical equivalence and spherical power across different groups.Mean spherical equivalence in regressed and in threshold ROP was reduced as compared from initial to final visit. Preterm infants showed statistical significance in changes of astigmatism in regressed ROP group(p=0.013).Comparison and analysis of spherical equivalence between 4 groups showed statistical significance(p= 0.019).Preterm infants with laser treated threshold ROP had lowest value of MSE at both refraction (+3.26,+1.37)and highest level of astigmatism(-1.32,-1.45D)among 4 study groups.The value of MSE in eyes with regressed & threshold ROP at both refractions was lower than in control eyes.

Conclusion: This study highlights the importance of monitoring refractive errors in premature infants, particularly those with a history of ROP, as they are at higher risk for developing myopia and astigmatism.The study also suggests that birth weight and gestational age are critical risk factors influencing refractive errors in this vulnerable population.

Registration ID Number: 207R126EIVOC2025

Title: Normative Data for Visual Functions among the Preschool Children from the SN-SEEKS study

Author(s): Vipin G, Aparna Raghuram, Anuradha Narayanan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Understanding the development of visual functions during the emmetropization period can help in the early detection of ocular conditions before the end of the critical period, utilizing normative values. This study aimed to report normative data on visual functions among preschoolers.

Methods: This cross-sectional study developed a screening protocol comprising assessments of stereoacuity using the PASS II (Pediatric Assessment of Stereopsis with a Smile) and Random Dot 2 Stereoacuity tests, visual acuity with the LEA Symbols® 3-Meter Chart; and contrast sensitivity using the LEA Symbols® Low Contrast 10M Optotype and the LEA Symbols® Low Contrast Pediatric Booklet (both from Good-Lite Co., Elgin, IL, USA). Near Worth Four Dot test; cover test at distance and near; colour vision using Ishihara plates; Refraction was assessed using the Spot Vision Screener (Welch Allyn, Skaneateles Falls, NY) and the Open-field Autorefractor (WAM-5500, Grand Seiko Co. Ltd., Japan). An external eye examination was performed, and a non-cycloplegic prescribing guideline along with age-specific referral criteria were developed using the Delphi method. Clinical examinations were conducted by trained optometrists among 3- to 5-year-old children attending schools in South India. Descriptive statistics with mean ± standard deviation (SD) is presented.

Results: From a total of 574 children screened, the PASS II test could be performed for 97.9% children, the RS2 test on 92.1%, colour vision testing on 85.6%, WFDT on 97.7%, visual acuity for 91.9%, contrast for 91.6% and cover test for 100%. The Mean±SD values of the visual functions are presented among 3-, 4- and 5-year-olds respectively. Visual acuity: 0.14 ± 0.12, 0.11 ± 0.12, and 0.11 ± 0.11; Stereopsis (Randot): 103 ± 110, 60 ± 58, and 51 ± 48 arc seconds, spherical equivalent was 0.27±0.38, 0.37±0.50 and 0.23±0. 25D. Contrast acuity was almost 2.8 ± 1.5% for all the age groups.

Conclusion: This study reports results of diverse visual function among preschool children to the best of our knowledge in India.

Registration ID Number: 386R214EIVOC2025

Title: Ocular Profiling of Children with Hearing Impairment

Author(s): Praveen Kumar, Tharakeswari T, Gowsalya K, Asha Slecer, Vijayalakshmi A, Krishna Kumar R

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To understand the ocular health and visual response in children with hearing impairment.

Methods: A comprehensive eye examination was conducted for children with hearing impairment at their doorstep. The examination included detailed ocular and medical history, age-appropriate vision assessment, subjective and objective refraction, ocular alignment, anterior segment evaluation, intraocular pressure measurement, and posterior segment examination. Posterior segment evaluation was performed using a non-mydriatic fundus camera.

Results: A total of 417 children underwent a comprehensive examination with a mean (SD) age of 14 (±4) years, of which 248 (59%) were female. Out of 417 children, 279 (66%) were emmetropic, 42 (10%) had hyperopia and 52 (12%) myopia, and 44 (10.5%) had astigmatism. The mean (SD) spherical equivalent refractive error was -0.41 (±1.60) Dioptre(D) in the right eye (range: -18.50 to 4.50D) and -0.45(±1.73) D in the left eye (range: -17.50 to 4.50D). The best-corrected visual acuity in the right eye was 0.06 (0.13) logMAR and 0.07 (0.18) logMAR in the left eye. Strabismus was seen 22(5%) children, and strabismus syndrome was noted in 6 (1.2%) children. Amblyopia was observed in 10(4.6%) children and 20(4.7%) children had some form of retinal issues. Optic atrophy and Toxoplasma scar was observed in 2 children.

Conclusion: This report demonstrates the clinical ocular profile of children with hearing impairment. To the best of our knowledge, no data from India are available regarding the profile among this special group.

Registration ID Number: 321P051EIVOC2025

Title: Exploring Service Delivery Models for Paediatric Refraction and Spectacle-Dispensing in India and the United Kingdom: A Scoping Review

Author(s): Kalaiyarasi Dhandapani, Swetha Saravanan, Subash Sukumar, Anuradha Narayanan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Uncorrected refractive error, the major cause of vision impairment in children, can be effectively-addressed with spectacles. This review aims to report the service-delivery modes for pediatric refraction and spectacle-dispensing, and best practices in addressing the burden of uncorrected refractive error in children, in two countries, India and the United Kingdom(UK).

Methods: A scoping review for evidence-synthesis was done following the PRISM-ScR guidelines. The review included published literature (between 2010-2024), government reports governing eyecare delivery in 2024, and most-recent annual reports of NGOs (registered with IAPB and WCO) and private eyecare service providers in both countries. The evidence was identified from MEDLINE(PubMed) and Cochrane Library databases, government websites, and websites of eye care organizations. Primary articles and reports (or website-information) reporting refraction or spectacle-dispensing for children (0-18 years) were included. From the included sources, 5Ps influencing service delivery: 'Presence'(availability of refraction services), 'Procurement'(availability of spectacle-dispensing), 'Personnel', 'Protocol', and 'Price' involved in this service, were extracted and synthesized qualitatively, exploring the best practices in both countries.

Results: On screening title and abstract of 1999 articles identified from databases,187 underwent full-text screening, leading to 63 articles in the final review. Evidence from other sources included 52 government,13 annual reports and 107 website information. A total of 13 and 8 modes in India and the UK, respectively were identified and broadly categorized as community-outreach, opticals/optometry-practices, hospitals/clinics and online services.'Presence' and 'Procurement' was evident in all modes in India, but only through opticals/optometry-practices and hospitals, on referral from community-outreach(preschool screening by orthoptists) in the UK.'Personnel' providing services included refractionists, ophthalmic assistants/vision-technicians, optometrists, opticians or ophthalmologists in India, and only orthoptists, optometrists, dispensing-opticians, or ophthalmologists with distinct roles under regulation, in the UK.'Protocol' varied in community-outreach in both countries.'Price' is free through community-outreach in India and through all modes in the UK,except online services.Evidence-gaps exist under 'Personnel','Price' in opticals/optometry-practices in India and 'Protocol' in all modes expect community-outreach in both countries.

Conclusion: Four broad service-delivery modes were identified for pediatric refraction and spectacle-dispensing in India and the UK, involving varied 'Personnel','Protocol' and 'Price'. While the Indian model addresses accessibility to refraction services directly at the grassroot-level and involving different professionals, the UK model has uniform practice-standards and addresses affordability through free-services for children.

Registration ID Number: 432R253EIVOC2025

Title: Profiling of Near and Outdoor Activities among Children of 13-15 Years

Author(s): Latha Chandran, Amirthaa M, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Profiling of near and outdoor activity of working visual hygiene among students, knowledge regarding students and their parents, and identify any differences or agreements in their understanding.

Methods: The STEM Study is a longitudinal, school-based cohort study involving children aged 5–16 years from 11 schools in Tamil Nadu, India. All participants underwent a standardized vision assessment, including objective refraction using an open-field autorefractor (Grand Seiko WAM-5500) and a basic binocular vision evaluation. Ocular biometry was measured using non-contact biometry (IOL Master Version 500) in children with refractive error. The Modified Sydney Myopia Questionnaire was administered to all children, as well as to the parents of students in grades 8, 9, and 10. Descriptive statistics were used to analyze patterns of near work and outdoor activity. Agreement between student and parent questionnaire responses was assessed to evaluate response reliability.

Results: A total of 2187 students provided complete data on questionnaires and objective refraction. The mean age was 14.0 ± 1.0 years, with 50.8% females. Among participants, 579 were myopic. Mean spherical equivalent refraction was -2.17 ± 1.26 DS for myopes and 0.005 ± 1.26 DS for non-myopes. Average daily near work time was 6.18 ± 0.31hrs (grade 8), 6.48 ± 0.34hrs (grade 9), and 6.41 ± 0.36hrs (grade 10), with mobile (14.6%) and TV (11.2%) as the major contributors. Near work duration did not significantly differ by grade (p=0.082) or refractive status (p=0.882). Mean outdoor time was 2.37, 2.38, and 2.25 hours for grades 8, 9, and 10, respectively. Myopes spent significantly less time outdoors than non-myopes (p=0.016), while grade 9 students reported slightly more outdoor activity (p=0.045). Bland-Altman analysis showed poor agreement between student- and parent-reported activity durations.

Conclusion: Myopic students reported spending less time outdoors than their non-myopic peers. Discrepancies between student and parent reports of near work and outdoor activity durations underscore key methodological and practical considerations for future research.

Scientific E-Poster Session 4
Ocular Disease and Diagnostics - 1

Registration ID Number: 509R308EIVOC2025

Title: Impact of sex hormones on tear film parameters and proteomics of healthy women during menstrual cycle

Author(s): Moumi Maity, Marlies Gijs, Swati Singh, Sayan Basu

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: The current study assessed the cyclical changes in tear film parameters during menstrual and follicular phases of healthy women.

Methods: Forty-six eyes of 23 healthy women with regular menstruation had their tear film parameters (Schirmer test, Lipid layer thickness (LLT), Tear osmolarity, Tear meniscus height (TMH), Non-invasive tear break-up time (NIBUT) assessed along with tear proteomic analysis during day 1 (menstruation) and day 14 (follicular) of the menstrual cycle for three months.

Results: During the menstrual phase, NIBUT (P=0.0003) values showed a marked (7.8±4.6 seconds) reduction compared to the follicular phase (12.3±5.9 seconds) over all three months. LLT (P=0.99) and TMH (0.58) values did not vary between menstrual and follicular phases in three months. Schirmer value (P=0.02) changed significantly only in one month of three months. Tear proteomics showed 92 upregulated and 171 downregulated proteins in the follicular phase, mainly involved with cellular processes of protein synthesis, for example cell cycle OR cell proliferation, cell organization and biogenesis, protein metabolism, other metabolic process etc.

Conclusion: Tear film stability is reduced during the menstrual phase compared to the follicular phase, along with alterations in tear proteomics. The impact of the menstrual cycle should be considered while collecting tears or testing dry eye parameters.

Registration ID Number: 213R129EIVOC2025

Title: Recent advances and Innovation in Glaucoma Screening: A review

Author(s): Akshaya Viyasan

Affiliation(s): Sri Manakula Vinayagar Medical College, Salem

Abstract Content:

Purpose: Glaucoma is a chronic progressive condition which causes damage to the Optic nerve a layer which connects from eye to brain. This review article will discuss about the Recent advances and Innovation in Glaucoma Screening. The purpose of this study is how recent innovation playing major role in field of Glaucoma and mentioning about its importance and role

Methods: Internet database used was Google scholar with relevant articles searched using keywords “Glaucoma Screening” AND “Artificial intelligence”; “Optical Coherence Tomography”; “Digital fundus photograph”; “Teleophthalmology”. Inclusion criteria involves peer reviewed articles; articles written n English language; articles mentioning about Glaucoma screening; 131 articles published in open access journals between 2020-2023. Exclusion criteria involves duplicate articles; articles written in other languages; articles published in non peer reviewed journals; articles published as thesis articles published in closed access journal; articles mentioning apart from Glaucoma screening. Based on Inclusion and Exclusion criteria 16 articles were involved in the study.

Results: Studies depicted that AI helps in early detection and progression of Glaucoma which is proved as useful diagnostic tool in field of Optometry.

Conclusion: As generation passes by Artificial intelligence usage as diagnostic tool is used commonly in area of Optometry. Innovation needs to be revolutionised further globally in improving awareness of Glaucoma as well as reducing prevalence and incidence of Glaucoma.

Registration ID Number: 183R103EIVOC2025

Title: Monocular Blur-driven Accommodation in Keratoconus is Governedby the Strength of the Defocus-induced Degradation in Retinal Image Quality

Author(s): Tithi Bhakta, Ketakee Jain, Santiago Sager, Adrian Gambin, Pablo Artal, Shrikant Bharadwaj

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Monocular, blur-driven accommodation is attenuated from the weak contrast signals available for response generation, when the baseline retinal image is blurred from exaggerated wavefront aberrations. This hypothesis was tested in keratoconus by comparing their accommodative performance against controls and after manipulating their retinal image quality (IQ) using adaptive optics technology.

Methods: The pattern of IQ degradation for different defoci (0 to 4D in 0.02D steps) was computationally derived from the higher-order wavefront aberrations of 6 cases with mild to moderate keratoconus (13 – 29yrs) and 6 age-similar controls, using standard Fourier Optics techniques. For accommodation measurements, subjects monocularly fixated on a high-contrast, grayscale Maltese cross while the eye was corrected for only lower-order (LOA-corrected) or both lower- and higher-order aberrations (diffraction-limited; LOA+HOA-corrected) using a binocular adaptive optics device. Accommodative step responses were induced by changing the hyperopic defoci from 0.5 – 4D thrice for 6-seconds each in random order by manipulating the spatial light modulator in the adaptive optics device. The resultant accommodative responses were derived from the changes in the Zernike defocus term (Z20) of the Shack-Hartmann aberrometer in the AO device. All IQ computations and optical manipulation using the adaptive optics device were performed over a 4.5mm pupil diameter.

Results: The baseline IQ was lower in cases (intersubject range: -1.18 to -0.71 logSTD) than in controls (-0.70 to -0.45 logSTD) in the LOA-corrected condition. The IQ gradient and accommodative responses of both cohorts changed monotonically with induced defocus, before saturating at larger values. These trends, described using sigmoid fits (r^2≥0.98), showed the IQ gradient to be attenuated in all cases (0.84 – 2.84; unitless), relative to controls (2.87 – 4.91). The accommodative responses were attenuated in four cases (≤0.8D, over the 4D stimulus range) and comparable to controls (1.13 – 4.26D, over the same range) in the remaining two (2.73D and 3.64D). The IQ gradient and accommodative responses were well-correlated across all controls and cases (r≥0.9; p

Conclusion: Compromised blur-driven accommodation in keratoconus strongly reflects the underlying attenuation of IQ signal available for driving these responses. The lack of improvement in accommodation under diffraction-limited conditions, despite enhanced fidelity in the retinal image, might reflect the visual system’s inability to use pure defocus as a veridical cue for accommodation.

Registration ID Number: 193R113EIVOC2025

Title: The Impact of Green Tea Extract Oral Supplement and Its Catechins on Intraocular Pressure in Patients Diagnosed with Glaucoma

Author(s): Prema Chande, Aaryan Gawde

Affiliation(s): Lotus College of Optometry, Mumbai, Maharashtra

Abstract Content:

Purpose: To investigate the impact of green tea extract on intraocular pressure (IOP) in individuals with glaucoma. Pressure-lowering effects have been reported among normal subjects. However, literature is not available among those with glaucoma. Understanding the effects of green tea may offer new avenues for adjuvant therapy for glaucoma management.

Methods: This was a cross-sectional study design. Based on inclusion criteria, patients with glaucoma were invited to participate in the study. Following informed consent, 40 patients, previously diagnosed with glaucoma in both eyes agreed to participate. IOP was measured using the Keeler Intellipuff tonometer before, and the intervention phase involved administering a 400 mg Green Tea Extract Capsule to the participants as an oral supplement. Thirty minutes after administration of the capsule, IOP was reassessed using the same device. Baseline data on the types of glaucoma, severity, cup-disc ratio, mean deviation from the last Humphery Visual field analyzer test, and retinal nerve fiber layer thickness was captured from the existing records. Data analysis was performed using IBM SPSS software to compare changes in IOP and correlate them with functional and structural ocular parameters.

Results: Data analysis of 80 eyes indicated a mean pre-consumption intraocular pressure (IOP) of 15.83 mmHg, which decreased to 15.62 mmHg post-consumption, and the difference was statistically significant with a p-value

Conclusion: The study findings suggest that green tea extract supplements exhibit significant potential in IOP lowering in patients with early Glaucoma, indicating their usefulness as a complementary approach to glaucoma management. Further clinical trials are warranted to validate these findings and explore their implications for broader therapeutic applications.

Registration ID Number: 338R182EIVOC2025

Title: Morphometric Study of Primary Congenital Aphakia Using AS-OCT: Unveiling Structural Insights

Author(s): Sai Sivani Koonapareddy, Muralidhar Ramappa, Divya Sree Ramya Achanta

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: To investigate the corneal structural morphology in congenital primary aphakia (CPA) using anterior segment optical coherence tomography (AS-OCT).

Methods: In a prospective case-control study involving 309 eyes of 160 children diagnosed with congenital primary aphakia CPA, 22 eyes from 11 cooperative children underwent AS-OCT imaging. These were compared with 16 clear corneas from 8 age-matched healthy controls. The study included comprehensive ophthalmic examinations, such as visual acuity, anterior morphometry, biometry, IOP, slit-lamp examination including detailed imaging. AS-OCT imaging was employed to analyze the cornea's central corneal thickness (CCT) and structural morphology.

Results: The mean age at presentation was 1.25 ± 1.84 years, while the mean age at the time of investigation was 7.04 ± 3.05 years. Majority of participants were male, comprising 63.6% (n=7) of the cohort. Vision was classified as non-ambulatory in 18 eyes (81.8%) and ambulatory in 4 eyes (18.1%). Clinical findings included a silvery sheen-like appearance in 16 eyes (72%), microphthalmos in 16 eyes (72%), and anterior staphyloma in 3 eyes (13.6%). The average intraocular pressure (IOP) was 21.27 ± 8.08 mmHg, and the axial length (AXL) was 18.3 ± 3.3 mm. Secondary glaucoma was observed in 11 eyes (50%). Central corneal thickness (CCT) was significantly lower in the study group compared to age-matched controls (447 ± 24.2 µm vs. 544 ± 28.6 µm, p = 0.0007). All eyes exhibited significant anterior layer non-uniformity, high reflectivity in central layer due to pan-corneal opacification, and irregularities in posterior layer.

Conclusion: Anterior segment optical coherence tomography (AS-OCT) offers an objective assessment of structural changes in congenital primary aphakia, enabling early diagnosis. Early recognition is essential for effective Management, as it helps preemptively detect complications and retain residual functional vision in these cases.

Registration ID Number: 172R094EIVOC2025

Title: Descriptive analysis of structure - function test parameters in primary glaucoma subtypes

Author(s): Sweety Sharma

Affiliation(s): Dr. Shroff Charity Eye Hospital, New Delhi

Abstract Content:

Purpose: To analyse the structural and function correlation in glaucoma subtypes in North Indian population

Methods: This was a retrospective study carried out in a North Indian eye hospital. The study included 420 eyes. A review of medical history, best corrected visual acuity, slit lamp examination, van herick grading, Goldman applanation tonometer and gonioscopy was conducted. The patients underwent complete ophthalmologic examinations including visual field analysis with SAP and SD-OCT imaging with Zeiss Cirrus HD OCT 5000. All patients were more than 18 years of age with diagnosis of disc suspect, POAG, PACG, JOAG or NTG was included in the study.

Results: Total 420 eyes of 222 patient's data was analyzed. We found that 46% was disc suspect, 37% was POAG, 10% was PACG, 4% was JOAG & 3% was NTG. In disc suspect 84% time, VFA was normal. In JOAG, 47.1%-time advance field defect followed by 11.8%-time Nasal Step was present. In NTG superior altitude field defect (18.2%) was more frequent followed by Bi arcuate (11.6%). In PACG superior arcuate (11.6%) was present. In POAG, advanced field defect (21.2%) was more frequent followed by superior arcuate (17.3%). For NTG, there was strong linear correlation between VFI and average RNFL thickness. Mean deviation value was more dependent on inferior RNFL thickness for POAG, PACG and NTG.

Conclusion: Superior field defect is more common for all primary glaucoma subtypes. Inferior RNFL thickness loss is important factor for visual field defect. There is a linear correlation between inferior RNFL loss and severity of field defect.

Registration ID Number: 388R216EIVOC2025

Title: Factors Associated with Follow-up Compliance of Ocular Trauma Patients at a Tertiary Care Hospital

Author(s): Anandi Bhatiwal, Mona Duggal, Sonam Kumar, Gursimran Singh Rana, Neha Neha

Affiliation(s): Post Graduate Institute of Medical Education and Research, Chandigarh

Abstract Content:

Purpose: Ocular trauma is a significant global health concern, leading to visual impairment and blindness. Despite available treatments, follow-up noncompliance hinders recovery. This study investigates factors influencing follow-up adherence among ocular trauma patients, aiming to improve patient care, optimize outcomes, and enhance long-term visual prognosis through better follow-up strategies.

Methods: A retrospective observational study was conducted at the Advanced Eye Centre and Advanced Trauma Centre of PGIMER, Chandigarh. A list of patients with eye injuries registered between January 1, 2023, and December 31, 2023, was prepared. From 595 patients advised for follow-up, 334 were randomly selected for telephonic interviews, of whom 282 responded. The chi-square test was used to assess associations between follow-up adherence and demographic or socio-economic factors. Fisher's exact test was applied when any cell frequency was below five. A p-value of

Results: Overall, 35% of patients did not attend any follow-up visits. Patients with health insurance and those living within 1–9 km of PGIMER were more likely to follow-up. Compliance was higher among patients with chemical/thermal trauma than those with mechanical trauma (56% vs. 43%). Financial constraints significantly impacted adherence, with 62% of those who borrowed money for treatment failing to follow-up. Additionally, 51% of patients who relied on non-family members for accompaniment did not return for follow-up care.

Conclusion: Follow-up non-adherence is influenced by financial constraints, travel distance, and reliance on non-family members. Addressing these barriers can improve compliance and visual outcomes.

Scientific E-Poster Session 5
Optometric Education / Public health and Community Optometry – 1

Registration ID Number: 159R083EIVOC2025

Title: A Delphi study to determine the need for national curriculum for optometry education and key recommendations for optometry in India

Author(s): Anitha Arvind, Peter Clarke-Farr, Kovin Naidoo

Affiliation(s): G D Goenka University, Gurgaon, Haryana

Abstract Content:

Purpose: This study aimed to elicit the views of key stakeholders regarding the existing state of optometry in terms of education, service delivery as well as key recommendations for optometry in India by utilizing the consensus-building Delphi technique.

Methods: A three-round Delphi study was carried out with the participation of 20 experts. The questionnaire developed for the Delphi panel comprised seven sections comprising optometry education, recommendations for national curriculum, optometry service, minimum clinical skills required by an optometrist, regulations pertaining to optometrists in the country, concerns for the profession of optometry in the country and recommendations for the profession of optometry in India in terms of education, service delivery and regulations.

Results: A total of twenty panellists took part in the Delphi study (n=20): 80% were male (n=16), while 20% were female (n=4). The overall consensus for the Delphi questionnaire by the end of Round Three stood at 58%, with 83 out of 142 statements reaching consensus. Panellists unanimously agreed on the necessity of a uniform national competency-based curriculum for optometry education and training (95%). There was 100% consensus on including all subjects under basic sciences and core optometry in the curriculum. A significant majority (95%) supported granting optometrists independent practice rights. All panellists concurred that unstandardized skill and vocational courses in eye care pose a public health threat (100%). Furthermore, all panellists recommended regulating optometry in India with a defined scope of practice (100%).

Conclusion: The expert panel involved in the study expressed the need for the implementation of a uniform national competency-based optometry curriculum.The study contends that regulating and legislating the optometry profession would ensure the protection of public needs and professionals will be responsible for delivering on their knowledge and skills received

Registration ID Number: 430R251EIVOC2025

Title: Spectacle Compliance in Urban Slum Settings: A Community-Based Study from Tamil Nadu

Author(s): Shalini R, Ambika C, Anuradha N

Affiliation(s): Elite School of Optometry, Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Compliance with spectacle wear among adults has been underexplored, particularly in urban slum areas. A study in Mumbai slums reported a compliance rate of 73.48%.The uptake of spectacle services through community outreach camps remains unexplored. This study aimed to assess spectacle wear compliance among adults in Chennai's urban slums.

Methods: A cross-sectional study was conducted between February 2023 and June 2024 among individuals residing in urban slum areas of Chennai district, Tamil Nadu. The clinical examination included history taking, vision testing and refraction, anterior segment evaluation using a slit lamp, intraocular pressure measurement using a non-contact tonometer, and posterior segment examination using a fundus camera. Individuals identified with refractive errors were provided with spectacles, and those requiring further ocular evaluation were referred. Spectacle compliance was assessed through a structured telephonic survey after receiving oral consent for participation. The survey collected information on demographic details, presence of visual impairment (VI), spectacle usage, duration of use, any complaints related to spectacle use, satisfaction with spectacles, current status of the spectacles, need for replacement, and reasons for non-compliance. Individuals who reported using the spectacles were considered compliant. Data was entered into Microsoft Excel, and variables associated with compliance and non-compliance were analyzed.

Results: A total of 1,517 individuals were screened, and 1,130 (74.48%) were prescribed spectacles. Among those prescribed, 585 (51.76%) responded to the follow-up survey, while 545 (48.23%) could not be reached due to incorrect contact details or unavailability. The mean age of respondents was 49.72 ± 8.70 years, with a majority being female (373, 63.76%). Among the 585 respondents, 536 (91.62%) were compliant with spectacle use, with 347 (59.32%) of them being female. Compliance was higher among individuals aged 46-55 years (215, 36.75%), those using bifocal spectacles (343, 58.63%), and those with occupations requiring both distance and near vision (440, 75.21%). Of the compliant users, 193 (32.99%) reported using spectacles for more than four hours daily. Among the 49 non-compliant individuals (8.38%), the most common reasons for non-compliance were discomfort (28, 4.78%), loss (11, 1.88%), and breakage (10, 1.70%).

Conclusion: Spectacle compliance was high among adults in Chennai's slums, Tamil Nadu. However, only one-third used spectacles for more than four hours daily. This highlights the need for proper counselling to promote consistent spectacle use, ensuring alignment with individuals' daily activities.

Registration ID Number: 299U082EIVOC2025

Title: Perceptual learning style preferences among GenZ optometry students

Author(s): Poojasri S, Mahalakshmi U, Harini Y, Kejiro Jolex, Anshika Shah, Maheswari S

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Perceptual learning style preferences refer to an individual's favored way of processing and understanding information through sensory modalities such as visual, auditory, kinesthetic, and tactile. This study aimed to assess these preferences among GenZ optometry students.

Methods: A cross-sectional study design was used. "Perceptual Learning Style Questionnaire (PLSQ)," a 30-item survey that evaluates six learning styles (visual, tactile, auditory, kinesthetic, group, and individual), was circulated online to optometry students in Chennai via Google Forms. Scores ranged from 0 to 50 per category, with greater than 37 indicating a major preference.

Results: Among 166 respondents (115 females, 51 males, aged 18–23 years), auditory (69%) was preferred learning style, followed by kinesthetic (65%), visual and individual (63%), tactile (58%), and group (57%). When assessed by academic year, third-years (n=68) exhibited multimodal preference, with all learning styles scoring above 37. Second-years (n=35) showed highest (average±SD) preference score for individual (39.8±7.1), auditory (38.5±5.1), and kinesthetic (38.9±5.3) learning, while first-years (n=37) favored an auditory approach (40±4.7) followed by group and kinesthetic learning styles. Final-years (n=18) preferred individual learning style (40±6.6), followed by auditory. Gender-based analysis revealed significant differences in visual (p=0.06), tactile (p=0.01), and auditory (p=0.00) learning preferences, while no significant differences were found in group (p>0.05), kinesthetic (p=0.07), and individual (p=0.35) styles. Kruskal Walis test indicated no statistically significant differences in learning preferences across academic years (p>0.05). The limitation is an uneven distribution of genders and students across academic years.

Conclusion: Overall, GenZ optometry students primarily preferred auditory learning (68%), followed by a multimodal preference for kinesthetic, visual, and individual learning styles.

Registration ID Number: 253R146EIVOC2025

Title: Prevalence of Diabetes in Cataract Patient-Crossectional Study

Author(s): Ayush wilson

Affiliation(s): Sushant University, Gurgaon

Abstract Content:

Purpose: This study investigates the association between diabetes mellitus and cataract formation, emphasizing the impact of chronic hyperglycemia, oxidative stress, and metabolic disturbances on lens sclerosis and cataract progression.

Methods: a cross-sectional observational study was conducted over six months (october 2023 – march 2024) involving 320 cataract patients. comprehensive ophthalmic examinations, including slit-lamp biomicroscopy for cataract grading and random blood sugar level (rbsl) screening, were performed. participants were categorized into diabetic (bsl >110 mg/dl) and non-diabetic (bsl
Results: In the study we found a significantly higher prevalence of cataracts among diabetic individuals (52.9%) compared to non-diabetics (47.0%). advanced cataract stages were more frequent in diabetic patients, with long-standing diabetes (>10 years) associated with an earlier onset of cataracts. the findings highlight the role of glucose dysregulation and oxidative stress in cataract formation. this study reinforces the strong association between diabetes and cataract development, underscoring the importance of glycemic control and proactive ophthalmic care.

Conclusion: This study highlights a significant association between diabetes and cataract formation, emphasizing the need for proactive screening, early diagnosis, and lifestyle modifications to mitigate the risk of visual impairment.

Registration ID Number: 168R090EIVOC2025

Title: Tele-optometry in India: Adoption, Barriers &The Road Ahead

Author(s): Roshni Sengupta, Anitha Arvind, Tsering Shongmu Lamu, Debanjali Bhattacharjee

Affiliation(s): G D Goenka University, Gurgaon, Haryana

Abstract Content:

Purpose: Tele-optometry, the remote delivery of eye care via digital technology, is emerging in India to combat blindness, especially in underserved areas. This review explores its adoption, challenges, and future potential by analyzing existing literature on implementation, frameworks, barriers, and patient perception, highlighting its role in expanding eye care access.

Methods: A systematic literature search was conducted using Google Scholar, PubMed, and ResearchGate. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) approach was followed to identify relevant studies. The search strategy included keywords such as "Teleoptometry adoption," "Teleophthalmology adoption," "Teleophthalmology AND teleoptometry in India," "Frameworks AND Teleoptometry," "Barriers AND Teleoptometry," "Knowledge AND Teleoptometry," and "Patient perception AND Teleoptometry OR Teleophthalmology". Only open-access articles published between 2014 and 2024 were considered. Articles were screened for relevance, and duplicates were removed, resulting in 28 selected studies that provided insights into tele-optometry adoption, telemedicine frameworks, and existing barriers.

Results: The review highlights a growing adoption of tele-optometry in India, particularly during the COVID-19 pandemic, where remote consultations and tele-refraction gained momentum. However, challenges such as inadequate digital infrastructure, lack of regulatory policies, data security concerns, and resistance from healthcare providers and patients hinder widespread implementation. Notable telemedicine initiatives, including those by ISRO and major eye care institutions, demonstrate the feasibility of tele-optometry. Emerging technologies, including artificial intelligence (AI) and mobile health (mHealth) applications, are expected to enhance accessibility and diagnostic accuracy in the future.

Conclusion: Tele-optometry can transform eye care in India by enhancing access, early detection, and Management of vision impairment. Overcoming infrastructure, policy, and training challenges is essential. Future research should establish standardized protocols and assess long-term Outcomes to ensure seamless integration into mainstream eye care, improving services for underserved populations.

Registration ID Number: 339R183EIVOC2025

Title: Knowledge, Attitude, and Practice of Eye Care Practitioners Towards the Prescription of Spectacle Lenses for Myopia Control in India

Author(s): Isha Dave

Affiliation(s): Lotus College of Optometry, Mumbai, Maharashtra

Abstract Content:

Purpose: This study aims to assess the knowledge, attitude, and practice (KAP) of eye care practitioners (ECPs) in India regarding the prescription of spectacle lenses for myopia control.

Methods: A cross-sectional survey was conducted among Indian ECPs, including optometrists, ophthalmic assistants, and ophthalmologists. A structured and validated questionnaire was distributed online through professional bodies and social media. The survey covered five key sections: informed consent, demographic data, knowledge assessment, attitude assessment, and practice patterns. Statistical analysis was performed using IBM SPSS v29 with the help of chi-square test to identify associations between demographic factors and KAP levels.

Results: A total of 217 responses were analyzed, with a mean respondent age of 31.3 ± 9.2 years. The majority (64%) demonstrated average knowledge regarding myopia control interventions, with higher education levels correlating with better knowledge scores ($p < 0.001$). Attitudinal analysis indicated that 45.6% of respondents held a positive stance on prescribing myopia control spectacle lenses, though high costs and parental resistance were cited as major barriers. In practice, 61% of practitioners were actively prescribing myopia control spectacle lenses, with postgraduate professionals and ophthalmologists demonstrating a statistically significant association with good practice patterns ($p < 0.001$).

Conclusion: Despite increasing awareness and a positive attitude towards spectacle lenses for myopia control among Indian ECPs, knowledge and practice gaps persist. Targeted educational initiatives and policy-driven strategies are essential to enhance adoption and improve long-term visual Outcomes for myopic patients in India.

Registration ID Number: 265R151EIVOC2025

Title: Unmet Need of Spectacle/Lens Among Middle-Aged and Older Adults in India: Evidence from LASI Wave-1.

Author(s): Gursimran Singh Rana, Mona Duggal, Sonam Kumar

Affiliation(s): Postgraduate Institute of Medical Education and Research, Chandigarh

Abstract Content:

Purpose: Refractive error (RE) affects all ages, reducing productivity in middle-aged adults (45–59) and limiting independence in older people (60+). Despite affordable solutions like spectacles, uncorrected refractive error (URE) remains a public health issue. This study estimates the unmet need for spectacle/lens and its associated demographic and socioeconomic factors.

Methods: This study uses data from the Longitudinal Ageing Study in India (LASI Wave-1 (2017-18)), a nationally representative dataset covering individuals aged 45 and above. It includes 58,744 individuals aged 45 and above with E LogMAR chart data for vision assessment. Unmet need refers to individuals whose presenting vision in the better eye is less than 20/40, while met need includes those who use spectacles or lenses and have a presenting vision in the better eye that is better than or equal to 20/40. Bivariate analysis was conducted using the chi-square test, and logistic regression was used to understand the factors associated with the unmet need for spectacle/lens for near and distance vision.

Results: The unmet need for spectacles/lenses for distance vision among individuals aged 45 & above is 35.4%, while that for near vision is 76.9%. Results from logistic regression show that Females, Older persons, Widows, Uneducated Muslims, and Rural Residents are more likely to have an unmet need for spectacles than their counterparts. As compared to the age group 45-59, those aged 80+ are 7.2 times more likely (95% CI: 6.53–7.93) to have an unmet need for distance vision. Also, the unmet need for near vision was 2 times in those aged 70-79 as compared to 45–59-year-olds. Currently-working individuals have a lower unmet need for spectacles/lenses for distance (O.R.=0.8, $p<0.001$).

Conclusion: The study's results indicate barriers to spectacle/Lens access and the need for targeted interventions. Addressing the high unmet need among vulnerable populations through affordable and accessible vision care services can improve the quality of life and overall well-being.

Scientific E-Poster Session 6
Dr Rajeswari Mahadevan Memorial Scientific Session 1

Registration ID Number: 016U001EIVOC2025

Title: The contact lens: A study on discontinuation and reluctance among spectacle wearers

Author(s): Revathi Saravanan, Sini Thomas
Affiliation(s): Vasan institute of ophthalmology and research, Chennai

Abstract Content:

Purpose: The aim of this project is to find the reason behind contact lens discontinuation and why spectacle wearers are not converting to contact lens.

Methods: Data was collected through a structured Google form, targeting contact lens users, former users, and spectacle wearers. The survey explored reasons for contact lens discontinuation and reluctance among spectacle users to adopt them. This survey was made with the reference of literature reviews.
Results: A total of 130 responses were collected from participants aged 17-49, the majority of respondents were 21 years old. In this contact lens users were 27(20.8%), contact lens discontinued persons were 19(18.4%) and spectacle users were 84(61.6%). In these responses, the majority were females 78(60%) followed by male 51(39.2%) and transgender 1(0.8%). Most of the contact lens users used contact lenses successfully for more than 4 years (25.9%), more than - between 3 to 4 years (22.2%), more than - between 2 to 3 years (22.2%) and more than - between 1 to 2 years (3.7%). Most common reasons for contact lens discontinuation were maintenance (15.9%), irritation and allergy (26.5%). The primary reasons why spectacle users not converting to contact lenses were no one suggested (22.6%), not comfortable like spectacle (33.3%), costly (17.9%), fear of wearing contact lenses (17.9%).

Conclusion: Based on the results and analysis, contact lens discontinuation is primarily due to discomfort and handling issues, while spectacle users hesitate due to fear and lack of recommendations. Educating users on proper handling and maintenance can reduce discontinuation rates and encourage adaptation.

Registration ID Number: 127P011EIVOC2025

Title: Exploring Quality of Life in Long-Term Speciality Contact Lens Users: Perspectives from Patients, Caregivers, and Practitioners

Author(s): Anushiya R, Gopinath Madheswaran, Naveen T, Rajkumar V, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: This qualitative study aimed to explore the perspectives and experiences of long-term specialty contact lens (SCL) users, their caregivers, and practitioners regarding visual-related quality of life, challenges in caregiving, and the experiences faced by practitioners

Methods: Nineteen in-depth interviews were conducted among eight long-term SCLs users, five caregivers, and six SCLs practitioners. Participants were selected through purposive sampling. Interviews were conducted in person, via Zoom or through phone calls, depending on participants availability and preference. The interviews were transcribed and analysed thematically to identify key patterns in vision related quality of life, adaptation to SCLs, psychosocial well-being, caregiving responsibilities, and practitioners' clinical experiences

Results: Patients expressed that SCLs provided long-term visual stability and independence, enabling them to perform daily activities confidently. However, challenges included adaptation difficulties, financial burdens, and anxiety over long-term lens dependency. Caregivers noted significant improvements in their loved ones' vision and quality of life, but expressed ongoing concerns regarding future eye health, financial constraints, and the effort required for continuous lens maintenance. Practitioners shared that while SCLs offered life-changing vision correction, long-term challenges included ensuring patients compliance with follow-ups, maintaining corneal health, and addressing the economic barriers. Additionally patient education on lens care and evolving technological advancements were mentioned to be crucial for successful long-term Outcomes.

Conclusion: SCLs significantly improve vision, independence, and quality of life but they come with challenges such as adaptation, financial burden, and long-term dependency. Caregivers and practitioners highlight compliance, maintenance, and accessibility concerns. Enhancing patient education, affordability, and technological advancements can improve long-term outcomes for SCLs.

Registration ID Number: 399R224EIVOC2025

Title: Effect of Different Multipurpose Contact Lens Solutions against Common Ocular Pathogens on Different Material of Contact Lens

Author(s): Padmapriyaa M, Vandana Kamath, Sanila Lawrance, Rishikesh B

Affiliation(s): Sankara College of Optometry, Bangalore, Karnataka

Abstract Content:

Purpose: To evaluate the effect of different multipurpose contact lens solutions against common ocular pathogens on different material of contact lens

Methods: Samples of Staphylococcus aureus and Aspergillus flavus were sourced from the microbiology lab, while the trial contact lenses consisted of Balafilcon A and Lotrafilcon B for soft lenses, along with Fluoro-silicone acrylate and F2 low contamac material for RGP lenses. The microorganisms were inoculated onto contact lenses made of different materials placed in a lens case with saline and incubated at 35°C for 4 hours to allow microorganism adherence. After incubation, the solution samples were streaked onto blood agar for S. aureus and onto SDA for Aspergillus flavus and then incubated for 24 hours for bacterial growth and 48 hours for fungal growth. The saline was replaced with MPS solutions and incubated for 24hrs of disinfection period. The samples were streaked after disinfection period. The colony counts before and after disinfection were compared, with bacterial growth evaluated using log reduction and fungal growth assessed based on the percentage of growth

Results: The effectiveness of these solutions varies across four different materials for both soft and RGP contact lenses, with two lenses of each type tested during the disinfection period. In comparison, the povidone iodine-based disinfection solution exhibited a superior reduction in microbial growth of both S. aureus and Aspergillus flavus on Balafilcon A, Fluorosilicone Acrylate, and F2 Low Contamac materials, except for Lotrafilcon B. Furthermore, Biotrue showed significantly less growth only on Lotrafilcon B when treated with Aspergillus flavus.

Conclusion: In this study the povidone iodine-based disinfection solution exhibited a more significant reduction in microbial growth of both S. aureus and Aspergillus flavus on Balafilcon A, Fluorosilicone Acrylate, and F2 Low Contamac materials, except for Lotrafilcon B.

Registration ID Number: 475R279EIVOC2025

Title: Short-Term Assessment of Conjunctival Prolapse Variation in Keratoconic Eyes Wearing Scleral Lenses

Author(s): Ronit Dutta, Karpagavalli Subramanian, Madhumathi S, Jothi Balaji

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: Modern scleral lenses (SL) present unique fitting challenges, including conjunctival prolapse, where perilimbal

tissue is drawn beneath the lens due to negative pressure. This study aims to quantify Conjunctival Prolapse in keratoconic eyes fitted with SL and examine its relationship with limbal and central fluid reservoir thickness (FRT).

Methods: In this prospective study, 24 consecutive moderate-advanced keratoconic eyes were fitted with Boston Sight scleral lenses (12 eyes with 16 mm and the remaining 12 eyes with 18 mm diameters). Anterior-segment OCT (MS-39, CSO) was used to image eyes after one hour and six hours (9: 00 – 15: 00 hrs) of lens wear. Horizontal and vertical cross-sections were measured to determine central corneal clearance, limbal clearance, and Conjunctival prolapse using the ImageJ application (National Library of Medicine, USA). Written informed consent was obtained from all participants.

Results: The mean±SD age of participants was 23.43±4.35 years. The overall conjunctival prolapse length was 244.01±44.82µm at 1 hour to 259.39±51.09µm at 6 hours post lens wear (p=0.11). Initial conjunctival prolapse length was greatest in the inferior quadrant (337.82±148.78µm), shifting to the superior quadrant (304.05±156.02µm) at 6 hours. When comparing eyes fitted with 18 mm and 16 mm diameter lenses, the conjunctival prolapse length was 265.71±103.03µm, and 249.49±84.10µm, respectively, showing no significant difference after 6 hours of lens wear (p=0.43). The overall central corneal and limbal clearance was 432.62±25.14µm and 135.14±38.62µm at the initial hour, and reduced to 357.86±36.13µm and 95.16±28.55µm after 6 hours. conjunctival prolapse correlated with limbal (r=0.185), but not central FRT.

Conclusion: Conjunctival prolapse was greater with larger diameter lenses, especially superiorly, which reversed to the inferior region post 6 hours of SL wear. It correlated with limbal clearance but not central FRT. Further research is needed on its long-term impact on keratoconus subjects.

Registration ID Number: 312R175EIVOC2025

Title: Profile of Contact Lens Fitting in Ocular Injury over 10 years in a Tertiary Eye Care Center - A Retrospective Study

Author(s): Karpagavalli Subramanian, Ronit Dutta, Akshaya C Balakrishnan

Affiliation(s): Sankara Nethralaya

Abstract Content:

Purpose: This study aims to investigate the profile and trend of contact lens (CL) fitting in patients with ocular injury reported in a tertiary eye care center. Also, to understand patient demographics, type of injury, prescribed CL and associated outcomes to improve patient care.

Methods: Retrospective data of 148 patients who visited for CL fitting following ocular injury from 2014 to 2024 were collected. Data includes the demographic details, type of injury, visual outcome with CL, hours of CL wear, reason for discontinuation of CL, surgical procedures underwent and years of follow up.

Results: 148 patients reported for CL trial with the mean age of 21.56±14.87 (5-71) years among which 84.4% (n=125) are males and 15.5% (n=23) are females. Most Common type of injury was penetrating trauma (63.5%) followed by blunt trauma (22.2%). 130/148 (87.8%) patients underwent lensectomy, vitrectomy and corneal tear repair. 67/148(45.2%) patients fitted with Corneal GP, 54/148 (36.4%) with soft lens. 13/148(8.7%) patients needed BCL for therapeutic purpose. CL AWT was 8.22±2.59 (4-15) hours. The mean VA with glasses was 0.59±0.47 log MAR improved to 0.53±0.45 log MAR (P value 0.54) with soft and 0.67±0.5 log MAR with glasses improved to 0.52±0.49 log MAR (P value 0.095) with RGP. 43/148(29%) patients discontinued CL due to IOL Implantation (n=26), discomfort, handling issues (n=17). 2.7 % (n=4) patients developed minor complication like BSK (n=2) and raised IOP (n=2). 74/148 (50 %) patients lost follow up after their first visit.

Conclusion: This study witnessed the significant role of CL in visual rehabilitation in ocular injury, with a relatively low incidence of complications. Approximately 50% of the patients did not adhere to recommended follow up care. Establishing evidence- based recommendations to follow up is crucial for improving outcomes in post- injury.

Registration ID Number: 195R115EIVOC2025

Title: Knowledge, Attitude, and Practices (KAP)of Contact Lens Use Among Contact Lens Users visiting a Tertiary Eye Care Centre

Author(s): Krishna shah, Varsa harinya, Madhumathi S, Anuradha N

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: This study aims to assess the knowledge, attitude, and practice (KAP) of contact lens usage among patients visiting a tertiary eye care center

Methods: A cross-sectional survey was conducted between July 2024-March 2025 among contact lens (CL) users at a tertiary eye care center. The survey assessed three domains: knowledge, attitude, and practice. Each domain was further categorized into two aspects; lens wear (handling, application, removal) and lens care (maintenance, cleaning, storage, and hygiene practice). The survey was administered in person by 3 qualified optometrists. Descriptive statistic was performed, and the median (IQR) score of KAP was reported. Spearman rank correlation was performed to check for association between total score and demographic data. Binary logistic regression was performed to find the predictor of practice.

Results: A total of 260 CL users with an age of 28 (16) years were included. The median (IQR) scores were 60(37.50) for knowledge, 95(6.81) for attitude, 75(25) for practice wear and 0(75) for practice care. Among the 260 respondents, 65 (25%) demonstrated poor knowledge of contact lens, 19 (7.3%) reported poor practice related to contact lens wear, and 160 (61.5%) reported poor practices related to contact lens care. A positive correlation was found between age and years of experience (p= 0.001). Binary logistic regression revealed that knowledge significantly predicted practice (p = 0.001), but the attitude towards contact lens did not significantly predict the practice (p = 0.363).

Conclusion: This study highlights notable gaps in CL knowledge and care practices despite generally positive attitude. Many users demonstrated poor hygiene-related practices, particularly in lens care.These findings highlight essential role of eye care professionals in delivering structured education and reinforcing appropriate CL handling and hygiene to reduce the risk of infection

Registration ID Number: 229P027EIVOC2025

Title: Corneal Edema Changes following 6 hours of Piggyback Scleral Lens Wear in Patients with Keratoconus: A Pilot Study

Author(s): Varsha Singh, Madhumathi S, Janani B

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

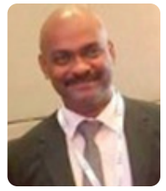
Purpose: Piggyback scleral lenses, where a soft lens is placed beneath a scleral lens reported to reduce reservoir debris, improve vault uniformity. However, the additional soft lens may restrict oxygen transmission, increasing the risk of corneal edema. Evaluating edema is essential to ensure the safety and effectiveness of this fitting approach.

Methods: Six patients diagnosed with keratoconus (average age: 23 ± 6 years) were fitted with a piggyback scleral lens system, consisting of scleral lens made up of Boston XO2 material (central thickness: 300–400 µm) worn over a soft silicone hydrogel lens made of Senofilcon C (Dk: 147×10^{-9} $cm^2/s \bullet (ml\ O_2/ml \bullet mmHg)$). Baseline corneal pachymetry was measured using the MS39 AS-OCT across five corneal quadrants. After six hours of continuous lens wear, the same pachymetric parameters were reassessed immediately following lens removal.

Results: A statistically significant increase in central corneal edema was observed after six hours, with a mean percentage change of 1.7 ± 1.4% (p = 0.045; 95% CI). The highest edema was noted in the inferior quadrant, showing a mean percentage change of 4.0 ± 3.0% (p = 0.027; 95% CI), indicating regional variation in corneal response.

Conclusion: After six hours of wear, piggyback scleral lenses caused a slight increase in corneal thickness, most noticeably in the inferior quadrant. However, the changes were not clinically significant, indicating that this fitting method remains a safe and effective option for managing fitting issues in keratoconus with scleral lenses.

Scientific E-Poster Session 7
Occupational Optometry and Sports Optometry – 1



Registration ID Number: 382R210EIVOC2025

Title: A Study on Visual Function, Driving Behaviour, and Experience Using MMDQ, VND-Q, and VFQ-25 among Drivers.

Author(s): Prem Sudhakar L, Aiswaryah Radhakrishnan

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: This study aims to explore the impact of visual function, driving behaviour, and driving experience among drivers using the MMDQ, VND-Q, and VFQ-25, examining how vision and experience influence errors, lapses, violations, and night-driving difficulties.

Methods: This is a cross-sectional, observational study that used self-reported questionnaires. This study included 62 drivers (31 experienced, 31 novice) aged 18–54 years. Participants completed three questionnaires which were translated in to Tamil and validated: the Vision Function Questionnaire (VFQ-25) to assess visual function, the Vision and Night Driving Questionnaire (VND-Q) to measure night-driving difficulties, and the Modified Manchester Driving Questionnaire (MMDQ) to evaluate driving errors, lapses, and violations. The VFQ-25 measured difficulty with response to vision problems. The VND-Q assessed night-driving challenges, where lower scores indicated fewer difficulties. The MMDQ categorized driving behaviours into errors, lapses, and violations, comparing between experienced and novice drivers. Spearman's correlation analysis was used to examine relationships between visual function, driving behaviour, and night-driving difficulties. Median scores were compared between groups. Statistical significance was set at $p < 0.05$. The study aimed to understand how vision and experience influence driving performance and safety.

Results: Participants had median age of 38 (8.64) for experienced and 20 (7.75) for Novice drivers. VND-Q: Experienced drivers had a median night-driving difficulty score of -4.87 logit, while novice drivers had -7.72 logit, indicating fewer difficulties among novices. MMDQ: Experienced drivers had median scores of 0.40 (errors), 0.33 (lapses), and 0.50 (violations), while novice drivers had 0.30, 0.33, and 0.75. Errors correlated strongly with lapses ($r = 0.687$, $p < 0.001$) and violations ($r = 0.694$, $p < 0.001$), while lapses correlated with violations ($r = 0.512$, $p < 0.001$). VFQ-25: Novice drivers reported slightly better visual function, with higher median scores for difficulty with activities (81.25 vs. 79.69) and response to vision problems (94.05 vs. 92.26). NDQ scores negatively correlated with difficulty in activities ($r = -0.270$, $p = 0.034$) and response to vision problems ($r = -0.308$, $p = 0.015$), suggesting night-driving difficulties are linked to lower visual

Conclusion: Experienced drivers reported greater night-driving difficulties despite similar visual function scores to novices. Driving errors, lapses, and violations were interrelated, with errors correlating strongly with violations. Higher night-driving difficulty were linked to poorer visual function, emphasizing role of vision in driving performance across experience levels and its impact on safety.

Registration ID Number: 368U101EIVOC2025

Title: Visual demand and task analysis of embroidery workers.

Author(s): SHARIKA H V

Affiliation(s): Vittala international Institute of ophthalmology, Bangalore, Karnataka

Abstract Content:

Purpose: The process of embroidery design making involves the embroidery worker, working with tiny visual tasks at closer working distances, which demands high visual ability. The purpose of this study is to understand the visual demand, accommodation demand and convergence demand of embroidery workers.

Methods: Visual task analysis was carried out in different embroidery work shops. The minimal visual demands of the jobs were determined based on Grundy's nomogram. The objective of this study was to investigate accommodation changes after a period of high demand for near-vision activity.

Results: Visual task analysis was carried out in 46 embroidery workers aged between 18 to 39. The median of working distance, work area, critical size of the task, and illuminance were 29cm, 9,643Sq cm , and 0.17mm, and 536.5lux, respectively. The visual acuity demand was found to be 6/12 and N3, for distance and near, respectively. The appropriate Spectacle were prescribed for 12 embroidery workers. The mean working distance was 29cm, the accommodative demand for the job was found to be 3.4D, Convergence demand is 2.1PD, respectively. In participants 4% population found to be accommodation excess, 2% accommodation insufficiency.

Conclusion: The vision standards so obtained could be used as minimum visual requirements for the entry level embroidery workers. From the visual task analysis, embroidery working tasks were found to be visually demanding

Registration ID Number: 471R276EIVOC2025

Title: Early Detection of Diabetic Retinopathy in Truck Drivers: A Critical Need for Proactive Screening

Author(s): Meenakshi Jha, Dickson Charles, Poulami Datta

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To assess the prevalence of diabetic retinopathy (DR) risk among truck drivers in Kanpur, India, a high-risk population with limited healthcare access, utilizing a portable fundus camera for screening.

Methods: The RAAHI Drishti Kendra initiative conducted a cross-sectional screening program in Kanpur, India (February 24, 2024 – March 4, 2025). Truck drivers (n=1,995) were voluntarily recruited at transportation hubs, providing informed consent. Retinal images of both eyes were captured using a non-mydriatic Oivi fundus camera by trained personnel. Participants completed a demographic questionnaire including age and self-reported diabetes status. Trained ophthalmology professionals reviewed the images, identifying "DR suspects" based on retinopathy signs, who were recommended for comprehensive eye examinations. Data analysis involved descriptive statistics to determine the prevalence of self-reported diabetes and the proportion of DR suspects, examining their relationship with age and diabetes status.

Results: Among the screened drivers, 6.4% (127) self-reported diabetes, with 78.8% (1,574) aged 40 years and above. DR was suspected in 0.9% (18) of drivers, all aged ≥40 years. Among DR suspects, 8 had mild, 9 had moderate, and 1 had severe non-proliferative DR. Notably, 94.4% (17) of DR suspects were self-reported diabetics, representing 13.4% of this group, while one DR suspect was newly identified as diabetic.

Conclusion: This initiative highlights a high DR risk among older, diabetic truck drivers, revealing undiagnosed diabetes. Portable fundus cameras show promise for early detection in non-clinical settings, enabling timely intervention, preventing vision loss, and ensuring truck drivers' safety and economic stability.

Registration ID Number: 491R293EIVOC2025

Title: Geriatric Outreach and Ocular Disease Study.

Author(s): Bhavya M, Paula Mukherjee, Lakshmi Shinde, Anuradha Narayanan, Premjeeth Moodbidri

Affiliation(s): Optometry Confederation of India

Abstract Content:

Purpose: To provide a comprehensive eye examination and appropriate management including free spectacles, referral to base hospital and other detailed eye examination for the geriatric population in old age homes across India.

Methods: This program began with optometrist recruitment and clinical training for the first 3 months of the project. Evidence-based comprehensive protocols were established and, the database of the old age homes in participating cities was collected by the social workers. The clinical protocol comprises history taking, vision assessment, refraction, frame measurements, external examination of the eye, anterior segment examination with a slit lamp, intra-ocular pressure measurement, and fundus imaging with a ZEISS non-mydriatic fundus camera.

Results: A total of 2001 adults in 29 homes for the aged underwent the comprehensive eye examination. The mean age of the group was 68.29 + 11.9 years, with majority being females (61%). Overall, 51% were from the South India, followed by west (28%). Overall, 18.34% of the patients gave positive history for ocular conditions. Of them, 95% gave a history of cataract surgery in one or both eyes. There were 461 patients (31.3%) who were referred to the hospital for further management of which 171(11.6%) were diagnosed with cataracts, 72 patients (4.9%) with retinal abnormalities, and 18 patients (1.2%) were glaucoma suspects. 606 (30.28%) of the patients were prescribed with spectacles for refractive error correction.

Conclusion: An optometrist plays an important role in identifying commonly caused age- related ocular disease conditions among the elderly population and timely intervention will help us to achieve the goal of preventable/avoidable blindness. To achieve comprehensive eye health coverage, geriatric services should be brought directly to homes

Registration ID Number: 162P014EIVOC2025

Title: Survey on the Impact of Colour Vision Deficiency in the activities of daily living and at the workplace

Author(s): Sathish A, Janani S, Rashima Asokan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Colour Vision Deficiency (CVD) affects one's ability to perceive colours. Individuals with CVD have reported experiencing various difficulties in daily activities from childhood to adulthood, including challenges in the workplace. This research aims to develop a survey to understand the impact of CVD on daily activities and the workplace.

Methods: This study had three phases: the first was developing the survey using the Delphi technique with 10 experts. Delphi rounds continued until the experts reached a consensus. The survey had 2 sections: 8 questions on daily activities and 8 on the workplace, with 5-point Likert scale options and a Not Applicable choice. The second phase was survey validation through pilot testing with 10 participants. Reliability analysis showed Cronbach's alpha >0.80 for all questions. The third phase involved administering the survey via telephone and collecting responses.

Results: A total of 128 male and 2 female completed the survey. There were 39 (30%) protans, 89 (68.5%) deutans and 2 (1.5%) had unspecified CVD. The mean difficulty score for the activities of daily living was 2.06(±0.96) and for the workplace was 1.58(±0.72). The occupations were categorised as colour-discriminating occupations 68 (52.3%), signal perceiving occupations 27 (20.8%) and non-colour demanding occupations 35 (26.9%). On the analysis of occupations and the mean difficulty scores the results showed that individuals in colour-discriminating occupations faced more difficulties with a median score of 1.50 [0.97] (H test: 6.245, p = 0.04).
Conclusion: Individuals with CVD face difficulties in daily life and at work, especially in jobs that require colour discrimination. These findings highlight the need for inclusive workplace adaptations and awareness to support individuals with CVD.

Registration ID Number: 478R281EIVOC2025

Title: The Role of Visual Ergonomics in Mitigating Digital Eye Strain (DES) among IT Professionals

Author(s): Nandhini R, Pavithra R, Indira R, Jeevitha A, Janani S, Rashima A

Affiliation(s): Sankara Nethralaya, Chennai, Tamil Nadu.

Abstract Content:

Purpose: This study aims to understand the critical role of visual ergonomics in mitigating Digital Eye Strain (DES) among IT professionals, the impact of occupational optometrist role in their workplace and comparing vision demand within the recommendation

Methods: A cross sectional study was conducted among IT professionals in an organized sector company for two years. All employees underwent comprehensive eye examination and occupation specific test. The study specifically focuses on profiling their work and comparing their vision recommendations. The descriptive analysis was performed using Microsoft Excel.

Results: A total of 104 employees, male 81 (77.8%) and female 23 (22.1%) with mean age 38.9 ± 10.9 years; mean experience 8.2 ± 7.9 years; mean working 8.4 ± 1.0 hours per day, and mean visual display units usage 7.2 ± 2.4 hours per day. During the first visit, the most commonly reported visual symptoms were eye strain (10.6%) and blurred vision after prolong near work (2.9%); and headache (8.7%). All the employees were within the recommended vision demand for both distance (6/38) and near (N12). After comprehensive eye examination, found that 36% of employees were working with uncorrected refractive error. Overall, 52% of employees were prescribed with spectacles and 12.5 % were referred for further examination. After occupational optometry intervention, the compliance towards micro visual breaks increased to 7.7% comparing to the previous visit; the visual symptoms were reduced: eyestrain (5.8%) and headache (6.7%).

Conclusion: This study emphasizes providing appropriate spectacle correction and the importance of following visual and ergonomic protocol at the workplace to work comfortably and productively for a long duration.

Registration ID Number: 164R086EIVOC2025

Title: Scoping Review: Development of Normative Visual Skills Benchmarks for Youth Athletes in Racket Sports.

Author(s): Ritvika Raj Verma, Anitha Arvind

Affiliation(s): G D Goenka University, Gurgaon, Haryana

Abstract Content:

Purpose: This scoping review aims to consolidate and analyze literature on the development of visual skills in young athletes specializing in racket sports. It focuses on key abilities like Eye-Hand Coordination, Visual-Motor skills, and Visual Memory, offering a clear understanding and proposing standard benchmarks for these skills in youth athletes.

Methods: A scoping review approach was used to summarize 30 relevant studies from 1998 to 2024. The articles were selected based on their relevance to visual skill development and athletic performance in racket sports including tennis, badminton, and similar games. Emphasis was placed on how visual skills change with age and training.

Results: The reviewed literature highlights that visual skills such as eye-hand coordination, visual tracking, and spatial awareness significantly influence performance Outcomes in youth racket sports athletes. However, there is a considerable gap in establishing standardized visual skill benchmarks for various age groups.

This review emphasizes the critical need for creating standardized assessment tools and benchmarks for visual skills in youth athletes participating in racket sports. Future research should focus on establishing age-specific normative values and improving training methods to enhance visual performance. Keywords: Visual skills, youth athletes, racket sports, hand-eye coordination.

Scientific E-Poster Session 8
Binocular Vision and Vision therapy CtoR - 1

Registration ID Number: 109P006EIVOC2025

Title: Sudden Diplopia in Stilling-Turk-Duane Retraction Syndrome: A Rare Case

Author(s): Vineeta P Shaji, Sivarasu Manjunathan, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Institute of Optometry, Erode

Abstract Content:

Background: Stilling-Turk-Duane Retraction Syndrome (DRS) is a congenital cranial dysinnervation disorder that affects horizontal eye movements, usually stable and asymptomatic. However, external factors like prolonged near work may trigger decompensation, leading to sudden diplopia on attempted abduction, even though diplopia is not a clinical feature of DRS

Case Details: 23-year-old female with known case of DRS Type 1 in her left eye developed sudden onset diplopia in the right gaze along with mild shadowing of letters in primary gaze, with dizziness, nausea, and headache. She reported prolonged near-work and screen use one week before the symptoms. On examination, exotropia in the primary gaze was observed, with left eye suppression on the left gaze and crossed diplopia on her right gaze was reported. The sudden visual disruption suggested that excessive near work had triggered a shift in her condition, potentially transitioning from Type 1 to Type 3 DRS

Management: Further tests showed crowded optic discs and suspected blurred optic disc margins, which initially raised concerns about increased intracranial pressure, but MRI and neurological evaluations ruled out severe underlying conditions. To enhance her accommodative control, fusional capacity, and convergence, she was advised to start orthoptic exercises, including synaptophore, brocks string, cat card and push-up test. Additionally, she was advised to follow the 20-20-20 rule (taking breaks every 20 minutes while working up close) and to limit prolonged near tasks.

Outcome: Significant improvement in symptoms within 10 days was observed here; however, limitations remained in the right gaze with restricted adduction and abduction of the left eye, suggesting DRS type 3 not type 1. This highlights the importance of identifying early signs of decompensation and implementing strategies to regain balance.

Registration ID Number: 179R099EIVOC2025

Title: Cost-Effective Prism Management: Technique to Manage Acute Acquired Comitant Esotropia: 2 Case reports

Author(s): Rinki Gupta, PremNandhini Satgunam, Manali Sikder, Rohan Nalawade, Ramesh Kekunnaya

Affiliation(s): L.v. Prasad Eye Institute

Abstract Content:

Background: Acute acquired comitant esotropia (AACE) has become more prevalent post-COVID. Management includes surgery, botulinum toxin, and prism therapy. Surgery may be delayed with variable deviations, while botulinum toxin risks recurrence and high costs. Fresnel stick-on prisms offer an adaptable, cost-effective alternative. We present two AACE cases managed with prism correction.

Case Details: We report two cases of AACE, managed with Fresnel prisms and divergence exercises. Case 1: A 20-year-old male (non-local) presented with constant horizontal diplopia and left eye esotropia for 3 months. He had 8–10 hours/day screen time. Visual acuity was 20/20, N6 in each eye. Refraction was unremarkable (OU). Cover test revealed 40PD esotropia for distance and near. Case 2: A 16-year-old male presented with constant horizontal diplopia since 1 year. He reported 8–10 hours/day screen time. Best-corrected visual acuity was 20/20p with his myopic correction (RE: -8.0/-1.0×160 and LE: -8.0/-1.0×10). Cover test showed 35/40PD esotropia for distance/near.

Management: For cost-effectiveness, a single Fresnel prism sheet was cut to two for each eye. Case 1: Initially, 35PD BO (RE) was prescribed along with Brock string home exercises. In 3-months review visit, 20PD BO (10PD for each eye) was prescribed. After six months, one Fresnel sheet was removed. By 11 months, 3PD BO ground prism was prescribed. Case 2: This patient was prescribed 10PD BO for each eye. After one week of in-office vision therapy, one Fresnel sheet was removed. Later, Brock string exercises were continued at home. At 7 months this patient had single vision without any prisms.

Outcome: Non-surgical Management using Fresnel prisms and vision therapy proved effective in reducing eso deviation and alleviating diplopia in both cases. A cost-effective approach, involving a single Fresnel sheet split between both eyes, facilitated gradual prism weaning. These findings highlight the potential of non-surgical, optical Management in select cases of AACE.

Registration ID Number: 283R165EIVOC2025

Title: Effectiveness of In-House Exercises in Intermittent Exotropia: A Case Report on Initial Improvement and Regression Due to Poor Home Therapy Compliance

Author(s): Rajeswari Kesavan, Namratha Hegde, Shruti MS, Kaushik Murali

Affiliation(s): Sankara Academy of Vision, Valasaravakkam, Chennai

Abstract Content:

Background: Intermittent exotropia (IXT) Management includes in-house exercises and home therapy to improve control. While supervised exercises can show significant improvement, long-term success relies on patient compliance. This case highlights the impact of poor adherence to home therapy, leading to regression despite initial progress with in-house intervention.

Case Details: A 10-year-old girl was referred from an Eye Screening Program with a known case of squint. Glasses were prescribed two months prior, and she was advised for squint evaluation and vision therapy. Her visual acuity with glasses was 6/6 N6 in both eyes. Under fogging, acceptance was OD: -3.00/-0.75×20 and OS: -2.75/-0.75×170. Squint evaluation showed CSUM fixation, full ocular movements, 200 arc sec stereopsis, fusion at all distances, distance exotropia (25PD), and near exophoria. Convergence was 6cm/8cm, torch convergence 7cm/8.5cm. MEM was +0.50DS, NFV D: X/25/20, PFV D: X/30/25, vergence facility 12CPM, and accommodative facility M/O 14CPM, B/O 12CPM.

Management: The patient underwent structured vision therapy over multiple phases. Initially, Phase 1 included saccades, pursuits with vestibular control, Brock String, stereopsis, and accommodative facility exercises. In 2 months, significant improvement in distance fusion control was noted, leading to Phase 2, continuing vergence exercises with flippers and stereopsis training. Eventually, home therapy was advised, but non-compliance led to regression in 2 months. HTS resumed with monitoring, improving fusion control in 2 months. Throughout therapy, convergence, NFV, PFV, and vergence facility showed fluctuations, correlating with compliance. The patient was continuously monitored, with adjustments in therapy based on response and compliance levels

Outcome: After 2 months of in-house therapy, stereopsis improved to 120 arc sec, and distance fusion control showed significant improvement. In the next 4 months, stereopsis reached 50 arc sec with good control, but home therapy non-compliance led to regression. After resuming in-house therapy for 2 months, control improved, but stereopsis

Registration ID Number: 458U107EIVOC2025

Title: Fusion or Confusion? The Diagnostic Dilemma of Acute Esotropia

Author(s): Sneha Gupta, Praveen Kumar P, Abinaya Valliapan, Smita Praveen

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Acute Acquired Comitant Esotropia (AACE) characterized by sudden onset of inward deviation often associated with diplopia. Type III AACE (Bielschowsky) is typically linked with excessive near work and high AC/A ratio and usually associated with myopia. AACE can mimic neurological or long-standing ocular conditions, creating a diagnostic dilemma

Case Details: A 12-year-old male presented with a one-year history of constant inward squint and persistent horizontal diplopia. History revealed prolonged mobile screen use for online classes and gaming prior to squint onset. The patient had previously been prescribed bifocals and underwent alternating patching for the same complaints. Refraction revealed -3.00 D in both eyes with distance visual acuity of 6/6 and N6 for near. Prism bar cover test revealed comitant esotropia of 35 PD at distance and 40 PD at near with high AC/A ratio. A complete neurological evaluation was done to rule out other causes of sudden esotropia.

Management: The patient was advised botulinum toxin injection for symptomatic diplopia associated with variable esotropia measurements. During the interim period, a Fresnel prism trial with 25 PD base-out in left eye was prescribed to aid in fusion and relieve diplopia which improved stereopsis to 160 arc seconds which has previously been unmeasurable. He was also advised to discontinue bifocals, as they were not indicated in his case

Outcome: This case presented a diagnostic challenge in identifying AACE, given its overlapping features with esotropia and convergence excess linked to a high AC/A ratio. Since its presentation can resemble both neurological and long-standing ocular conditions, careful evaluation is essential to ensure accurate diagnosis and appropriate management.

Registration ID Number: 209R128EIVOC2025

Title: Visual Outcomewith Contact Lens over Spectacles Among Adult Amblyopia

Author(s): Shakthi Keshini, Praveen Kumar P, Amit Bhowmick, Abinaya Valliappan

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: The aim of the study is to assess and compare the visual outcome in adults with amblyopia using spectacles and contact lenses (CLs).

Methods: A retrospective analysis was conducted using electronic medical records from January 2019 to December 2024. The study included adult patients with amblyopia who underwent refractive correction using contact lenses. Individuals aged between 14 to 35 years were included, while those with retinal or neurological pathologies were excluded. The study evaluated various visual function parameters, including stereopsis, the Worth Four Dot Test (WFDT), visual acuity using the Early Treatment Diabetic Retinopathy Study (ETDRS) LogMAR chart, single optotype acuity, low contrast visual acuity, near point of accommodation (NPA), accommodative facility (AF), monocular estimated method (MEM), and depth of suppression. These assessments were used to analyze the effectiveness of contact lens correction in improving visual function among amblyopic patients within the specified age group
Results: A total of 225 participants, with a mean (SD) age was 24 (± 6) years. Of these 151 (67.11%) were male. Of 225 subjects 158 (70.22%) had anisometropic amblyopia, 37 (16.44%) had mixed amblyopia, 3 (1.33%) had deprivational amblyopia, 12 (5.33%) had bilateral amblyopia, 5 (2.22%) had strabismic amblyopia, 6 (2.66%) had isometropia, 1 (0.44%) had meridional amblyopia, and 2 (0.88%) had microtropia. The median (Inter Quartile Range) spherical equivalent refractive error in amblyopic eyes was -4.88 DS (-12.75 D to +3.88 D). The median (IQR) distance visual acuity with spectacle correction was 0.60 (0.80 to 0.40) log MAR, which improved to 0.50 (0.80 to 0.30)logMAR with contact lens correction. The median near visual acuity remained 0.00 (0.50 to 0.00) logMAR with both corrections. The improvement in distance visual acuity with contact lenses was statistically significant (p = 0.00, Wilcoxon signed-rank test).

Conclusion: This study reveals that contact lens correction results in both clinically and statistically significant improvement in distance visual acuity compared to spectacles in individuals with amblyopia, implying that contact lenses might be a more efficient approach for visual rehabilitation in these cases.

Registration ID Number: 227P025EIVOC2025

Title: Functional Recovery of Accommodative Parameters in Adie's Tonic Pupil with Vision Therapy: A Case Series

Author(s): Sunny Kant, Praveen Kumar P

Affiliation(s): TheSankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: Adie's tonic pupil is a rare neurological condition characterized by parasympathetic denervation of the pupil, leading to light-near dissociation, accommodative paresis, and photophobia. Traditional Management often involves pharmacological interventions such as pilocarpine; however, non-invasive approaches have also been explored as alternative methods to improve accommodative functions.
Case Details: This case series presents three patients diagnosed with idiopathic Adie's tonic pupil who reported symptoms of blurred vision, headache, and difficulty for near. Comprehensive binocular vision assessments were done which showed reduced amplitude of accommodation compared with age matched normative values for both monocular and binocular in all three cases. Dynamic retinoscopy showed high lag of accommodation for two patients where as one patient showed lead of accommodation. Accommodative facility reported as 0 cycles per minute (cpm) for OD and OS in all three patients however for one patient it was found to be 5cpm while evaluating for OU.

Management: Each patient underwent a structured in-office vision therapy program for idiopathic Adie's tonic pupil aimed at improving accommodative flexibility. We integrated vision therapy such that, the progression typically begins with improving accommodative amplitude, followed by enhancing accommodative facility, then addressing vergence, and finally integrating both accommodation and vergence functions. Therapy included accommodative rock exercises, jump focus exercises, and vergence training. The pre-therapy baseline data were compared to the re-evaluation data obtained at the last therapy session. No pharmacological agents were administered during this period.

Outcome: Post-therapy significant improvements seen in accommodative amplitudes, accommodative facility, along with vergence parameters. There was a marked reduction in symptoms of visual discomfort, enhanced near vision clarity, and reduced photophobia. These findings suggest that vision therapy may facilitate neural adaptation, reinnervation and functional recovery in idiopathic Adie's tonic pupil.

Registration ID Number: 228P026EIVOC2025

Title: Post-Traumatic Third Nerve Palsy with Homonymous Hemianopia: A Case Report on Adaptive Non-Surgical Management and Visual Rehabilitation

Author(s): Anindita Chowdhury, Amit Bhowmick, Praveen Kumar P

Affiliation(s): TheSankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: Palsy refers to the involuntary motor restriction from ischemia or neurological insult. Various reasons for third cranial nerve ranges from aneurysms, microvascular disease to external insult leading to motor restriction, double vision and drooping of effected eyelid. The conservative Management includes diplopia with monocular patching, grounded prisms, or surgeries.

Case Details: A 34-year-old male presented with binocular diplopia and right eye ptosis following Road traffic accident seven months earlier, with a history of two days of unconsciousness. Neuroimaging showed resolving haemorrhagic contusions in the left frontal and anterior temporal cortex. Best-corrected visual acuity was 6/7.5and 6/6 in right and left

eye with normal posterior segments. He was referred to neuro-optometry clinic Examination revealed exotropia of 25PD with 9PD left hypertropia, with restricted right eye elevation and depression, mid-dilated sluggish pupil, and eye positioned down and out. Diagnosis of right third nerve palsy was made. Visual fields showed right homonymous hemianopia.

Management: The Management of post-traumatic third nerve palsy involved both non-surgical and surgical options. Initial treatment aimed to eliminate diplopia using a Fresnel prism. A trial with 25PD base-in and base-up Fresnel prism at 30° in front of the right eye enabled comfortable fusion at both distance and near in the clinic. After adaptation, the patient was initially comfortable; however, during follow-up, he reported difficulty with his field of vision at home. A 40PD Peli prism trial was then conducted in the right eye, and based on the results, a 40PD base-out Peli prism was prescribed.

Outcome: The Management of post-traumatic third nerve palsy with prisms highlights the effectiveness of non-surgical interventions in addressing complex visual disturbances. Early intervention with prisms can significantly improve functional outcomes and patient quality of life.

Registration ID Number: 314P047EIVOC2025

Title: Paradoxical diplopia post-strabismus surgery: Role of vision therapy beyond surgical alignment

Author(s): Palla Deepika, Praveen kumar P, Amit Bhowmick

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Dissociated Vertical Deviation (DVD) is a binocular vision anomaly characterized by upward drift of one eye when the fellow eye is fixating, appears following strabismus surgery. Surgical corrections achieve ocular alignment but fails to address sensory adaptations causing recurrence. Vision Therapy (VT) offers comprehensive approach, rehabilitating the visual system by targeting accommodative-convergence mechanisms.

Case Details: A 11-year-old-girl presented with the complaints of binocular horizontal diplopia following squint correction. On examination, her best corrected visual acuity was 6/6 and N6 for distance and near. Worth four dot test revealed crossed diplopia for distance and near. Hirschberg indicated ortho. Cover Test (CT) showed esophoria at distance and exophoria at near with DVD. Prism bar cover test showed 4Prism dioptre (PD) of Eso with 5PD DVD for distance and 14 PD Exo with 6DVD for near. Visuoscopy identified unstable foveal fixation, Bagolini striated glasses test reported harmonious abnormal retinal correspondence.

Management: Initially a prism trial was done for fusion, however patient could not fuse for both distance and near with any of the prism combinations. Office based VT was recommended to the patient. Ten sessions were advised, each session given for 45-60 min every day on consecutive days. VT focused on improving the gross vergence followed by jump vergence training. Felt symptomatically better with minimal diplopia in free space after undergoing VT. During follow-up CT reported esophoria for distance and exophoria for near. PBCT showed 4 PD of Eso for distance and 2 PD Exo for near.

Outcome: DVD does not resolve completely with intervention and sometimes treatment may not be feasible or may provide only partial improvement. This is primarily due to the underlying neurological and sensory adaptations associated with DVD. VT helps in treating sensory and motor dysfunctions. Enhances fusional reserves and reduces the frequency of DVD.

Scientific E-Poster Session 9
Dr Rajeswari Mahadevan Memorial Session CtoR

Registration ID Number: 059U015EIVOC2025

Title: Effectiveness of contact lenses and photochromic glasses in reducing halos and starburst patterns in a 29-year-old male with higher-order aberrations

Author(s): Monica Balu

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Higher-order aberrations including spherical, coma, and trefoil, can significantly degrade visual quality, leading to symptoms such as halos, glare, and starbursts. These aberrations are measured using an aberrometer. This case study evaluates the efficacy of contact lenses and photochromic glasses in managing visual disturbances in a 29-year-old male.

Case Details: A 29-year-old male presented with complaints of halos and starburst patterns around lights, along with occasional dryness in his eyes. He had a history of astigmatism and higher-order aberrations but reported no significant issues with distance or near vision. Eye examination revealed normal best-corrected visual acuity (BCVA) of 6/6 for distance and N6 for near. Corneal analysis showed with-the-rule astigmatism and an oblate shape. Aberrometry identified significant trefoil, leading to contact lens trials with RGP, Boston Scleral, and Purecon lenses. Although there was some improvement in vision, glare and halos persisted. Photochromatic glasses and lubricating drops were recommended.

Management: The patient was fitted with customized contact lenses to correct higher-order aberrations, specifically addressing issues like halos and starbursts. These lenses were selected based on his unique aberration profile to improve visual clarity, particularly at night. Additionally, photochromic glasses were recommended to manage light sensitivity and reduce glare, offering enhanced visual comfort in varying light conditions. This combined approach aimed to improve functional vision while considering aesthetic preferences. Regular follow-up visits were scheduled to assess the effectiveness of these interventions and ensure optimal symptom relief, enhancing the patient's overall quality of life.

Outcome: After a period of adaptation, the patient reported a significant reduction in visual disturbances, with marked improvement in nighttime vision. Follow-up assessments confirmed a positive Outcome, with both contact lenses and photochromic glasses proving effective in managing the higher-order aberrations. The patient achieved a higher level of visual satisfaction.

Registration ID Number: 046R045EIVOC2025

Title: Visual Rehabilitation of Long-Term Soft Contact Lens Wearer and Pellucid Marginal Degeneration: A Case Report

Author(s): Zalak Shah

Affiliation(s): C. H. Nagri Eye Hospital, Ahmedabad

Abstract Content:

Background: To report a case of a long-term user of soft contact lenses (CLs) who was diagnosed with pellucid marginal degeneration (PMD) and showed severe progression over a 4-year period and its Management

Case Details: A 34-year-old high myopic female presented in 2018 with decreased vision in both eyes (OU) for three months. She had been wearing conventional hydrogel CLs for 20 years without using glasses. Slit-lamp examination revealed corneal protrusion and thinning. After a two-week lens-free period, corneal tomography showed a crab claw pattern, with apical keratometry front (AKF) and posterior elevation values of 55.07 D and 73 µm OD, and 45.94 D and 26 µm OS, confirming PMD. She was lost to follow-up and returned in 2022; reporting continued soft CLs use.

Management: Her best spectacle corrected visual acuity was CF @ 2m with refraction of -22.0/-4.0*50 OD and 6/36 with-14.0/-3.5*130 OS respectively. On examination, she showed her AKF and posterior elevation values increased to 88.42 D and 193 µm OD, and 45.94 D and 48 µm OS respectively. She was advised to undergo corneal collagen crosslinking in OU. Later on, she was managed with a Rose K2 XL lens in her right eye and a Rose K2 soft lens in her left eye, and with that, her visual acuity improved to 6/12 and 6/9, respectively.

Outcome: Long-term use of thick, low-oxygen-permeable soft CLs worn over long hours daily may cause corneal epithelial thinning and have contributed to the disease trigger. Coreno- scleral lens successfully used for sight restoration in such an advanced case of PMD.

Registration ID Number: 427R248EIVOC2025

Title: Innovative Use of Piggyback Scleral Lens in a Pediatric Symblepharon Case

Author(s): Manish Bhagat, Anahita Kate, Daddi Fadel

Affiliation(s): L V Prasad Eye Institute, Vijayawada, Andhra Pradesh

Abstract Content:

Background: A 13-year-old with epidermolysis bullosa simplex and symblepharon couldn't undergo surgery. Multiple scleral lenses failed due to edge lift and instability. A piggyback system using a soft lens over a 13 mm PROSE lens provided stability, improved vision, and resolved symptoms—marking the first reported success in such a complex case

Case Details: A young boy with epidermolysis bullosa simplex presented with diminished vision in the left eye (LE). High-contrast distance visual acuity was CF 1m, and near visionnear vision was <N36 @30 cm. No glow wasobserved on retinoscopy, with no subjective improvement. Slit-lamp exam revealed conjunctivalization, cornealopacity with LSCD, pannus, symblepharon, ectropion, and lagophthalmos. Corneal topography couldn't beperformed due to dense opacity and symblepharon. Intraocular pressure and posterior segment were normal.Based on clinical findings, a diagnosis of epidermolysis bullosa simplex with severe LSCD and associated ocular surface complications in the LE was made

Management: The child was prescribed a PROSE in piggyback system (Massachusetts, USA) contact lens for the left eye. The initial trial lens was selected based on the child's ocular specifications. The specifications of the PROSE lenses used in the LE were 13 mm diameter, 2600-micron vault, 8.00 mm base curve, -3.0 DS power, and front surface eccentricity of 0.6 with standard haptics and a bi-weekly soft contact lens (J & J Acuvue Oasys) was ordered

Outcome: After an extended trial, the piggyback lenses showed good stability on slit-lamp and AS-OCT. His best-corrected HCDVA improved to 20/125. Lenses with similar specifications were ordered, and hygiene instructions were provided. At the 6-month follow-up, the patient was satisfied with the visual outcome and lens performance

Registration ID Number: 424R246EIVOC2025

Title: Indian Paediatric Compliance and Parental Acceptance in Ortho-K lenses

Author(s): Sweta Chitranshi, Neha Kapur, Virender Sangwan

Affiliation(s): Dr. Shroff's Charity Eye Hospital, New Delhi

Abstract Content:

Background: Myopia is increasing among children, which is raising concerns about long-term ocular health. Common treatments to control its progression include low-dose atropine, myopia-controlling spectacles, and orthokeratology. The success of treatment depends on how well the child follows the prescribed regimen and how confident the parents feel about the treatment.

Case Details: A 10-year-old boy visited at SCEH Delhi with complaints of increasing glasses prescription. Aided vision was 6/6 in right eye (RE) and 6/12p in the left eye (LE). The patient was diagnosed with moderate myopia in both eyes and had been using DIMS glasses and low-dose atropine eye(LDA)0.01% drop for the last 2 years. His best corrected vision was 6/6 in both eyes with new glasses. In the follow up, patient was suggested for ortho-k, In the CL trial, patient achieved 6/6 vision in both eyes. The parents had concern about contact lenses, as applying eye drops was easier.

Management: After counselling, Ortho-K lens was dispensed with the combination of LDA. After a 3-months, a reduction in axial length (AL) was noticed. After 3 months, we observed 0.21mm reduction for RE and 0.30mm for LE in the AL, compared to the combination of DIMS glasses and LDA. In 6 months, a slight increase in AL was observed 0.10mm in RE and 0.23 in LE with the Ortho-K-LDA combination. A less increase was noticed ortho-k lenses with LDA in AL when compared to the DIMS-LDA combination as it was 0.22mm in RE and 0.35mm in LE.

Outcome: Compliance was improved when the treatment is well-tolerated. Despite parent's concern, improved vision and the effectiveness of the treatment are likely to lead to better acceptance and long-term adherence. The combination of Ortho-K lenses and LDA 0.01% successfully reduced axial length, slowing myopia progression.

Registration ID Number: 195R115EIVOC2025

Title: Unilateral Jelly Bump Deposits on a Contact Lens Due to Inconsistent Lens Hygiene and Reduced Hand Dexterity: A Case Report

Author(s): Krishna shah, Madhumathi S

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Jelly bumps are discrete, elevated deposits on contact lenses, often composed of lipids like cholesterol. This case presents evidence of a rare case of unilateral jelly bump deposits on a contact lens caused by unique combination of inconsistent lens hygiene and the patient's hand dexterity, in lens care practices

Case Details: A 13-year-old female, a regular yearly disposable contact lens wearer for two years, presented with irritation and blurred vision in OD for three weeks. She reported no issues with glasses. Best corrected visual acuity with CL was 6/9.5OD and 6/6OS.In anterior-segment significant jelly bump deposits (OD), with mild deposits (OS) were noted. Detailed history taking uniquely revealed, the patient's left-handedness played a pivotal role in her inconsistent lens cleaning habits, with more meticulous care given to the left lens and inadequate cleaning of the right lens. Asymmetrical cleaning habit contributed to heavy deposits on the right lens, leading to her symptoms.

Management: Jelly bumps are typically reported as a bilateral complication associated with extended lens use and poor hygiene. However, this case highlights a highly unusual scenario where patient-specific factors, such as handedness and disparity in cleaning habits led to the asymmetric accumulation of jelly bump deposits on a contact lens. The right lens, which had received less attention, exhibited a significantly worse clinical presentation, with discomfort and visual disturbances more prominent compared to the left eye. This case highlights the impact of inconsistent contact lens hygiene on lens-related ocular complications, particularly the formation of jelly bump deposits.

Outcome: Patient's handedness and inconsistent cleaning practices led to a unique ocular presentation of unilateral jelly bump deposits, which is not commonly observed in clinical practice. This case serves as a reminder to eye-care professionals to consider behavioral factors when educating patients about optimal lens hygiene to prevent such complications.

Registration ID Number: 219P017EIVOC2025

Title: Restoring Ocular Surface Integrity in Toxic Epidermal Necrolysis with Scleral Lenses: A Case Report

Author(s): Rahufa Abdulgani Mulla, Madhumathi S

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: Toxic Epidermal Necrolysis (TEN) is a rare, life-threatening mucocutaneous disorder, primarily triggered by medications, leading to extensive epidermal and mucosal injury. Ocular involvement is common and often severe, with conventional therapies providing limited efficacy. Advanced interventions are crucial to prevent irreversible damage and preserve visual function in affected individuals.

Case Details: A 30-year-old male developed TEN following administrations of quinolones, cephalosporins, and tetracyclines. Post-acute recovery, he reported persistent ocular discomfort, including dryness, photophobia, irritation, and decreased visual acuity. Examination revealed corneal epithelial disruption, stromal scarring, conjunctival hyperaemia, reduced tear meniscus, and a tear breakup time of three seconds in both eyes. Initial treatment with autologous serum eye drops and lubricants yielded minimal improvement. Given the refractory symptoms, scleral lenses were introduced to enhance ocular surface protection and promote healing. This intervention aimed to restore tear film stability, alleviate discomfort, and improve visual outcomes in the setting of chronic ocular surface
Management: Scleral lenses created a therapeutic reservoir over the cornea, promoting epithelial healing and maintaining surface hydration. The patient reported significant relief from dryness, photophobia, and irritation, with visual acuity improving to 6/6 in both eyes. Continued use resulted in sustained ocular surface stability and resolution of inflammation, effectively obviating the need for surgical intervention. Regular follow-up demonstrated sustained improvement and preserved vision. This case highlights scleral lenses as an effective, non-invasive option for refractory ocular surface disease in TEN, providing both structural support and functional restoration, with meaningful impact on long-term prognosis and quality of life.

Outcome: Scleral lenses demonstrated substantial efficacy in addressing severe ocular sequelae of TEN, restoring vision and alleviating chronic symptoms. Early ophthalmologic intervention with scleral lens therapy offers a valuable, non-surgical approach to preserve visual function and enhance patient outcome in complex cases of TEN-related ocular surface disease.

Registration ID Number: 531R324EIVOC2025

Title: Troubleshooting Rotation of Channels in a Scleral Lens Fitting

Author(s): Savita B S

Affiliation(s): Eyeful Optometry Clinic, Chennai, Tamil Nadu.

Abstract Content:

Background: Fitting of scleral lens over anatomical obstacle is difficult. Channels are scalloped paths provided in the inner side of scleral lens to facilitate fits over anatomical obstacles, promote tear exchange,and reduce suction. To achieve proper positioning of the channel, the lens should be rotational stable fit.

Case Details: 27/male who had been fitted elsewhere with a scleral lens which has been impinging over the pinguecula nasally (OD) presented with complaint of pain and redness since few months. He had been fit with Bosten Sight scleral lens with two channels (different depths), one nasally to accommodate the pinguecula inside the channel and another temporally to reduce the impingement which was extending to 10 degrees after achieving rotational stability. In spite of it, the channel rotated and the desired fitting wasn't achieved.

Management: A diagrammatic representation of the dispensed lens with the quadrants and dot markings have been sent to lab to troubleshoot the case and it had been found that the quadrant markings are marked in anticlockwise direction in the trial set which is used to fit the patient and the software which is updated by the lab has clockwise quadrant markings. The lens is re ordered according to the updated software and the desired fit was achieved.

Outcome: It would be beneficial to update the trial lens markings which matches the updated software of the lab if the practitioner is using the older trial sets. Documentation and diagrammatic representation is always important to troubleshoot any difficulty which may arise in fitting and dispensing any super speciality lenses.

Registration ID Number: 373R202EIVOC2025

Title: Catch Me If You Can: Atypical Keratoconus Or Atypical Pellucid Marginal Degeneration Or A Combination Of Both?

Author(s): Priya Dutta, Monika Mukherjee

Affiliation(s): Sankara Nethralaya, Kolkata, West Bengal.

Abstract Content:

Background: Clinically, it is essential to distinguish between atypical keratoconus (KC), atypical pellucid marginal degeneration (PMD), or a combination of the two, as their management and prognoses differ significantly. Careful evaluation of corneal tomography with sagital curvature map, elevation map, pachymetry map and Belin/ Ambrosio Enhanced Ectasia Display map is mandatory.

Case Details: A 31 year old male reported with a C/O DOV since last 10 years associated with itching of eyes. With subjective refraction both eyes BCVA improved to 6/36, N10 at 20cms. Slit lamp examination showed both eyes inferior corneal thinning, Fleischer's ring; vogt's striae with left eye peripheral corneal scarring. In pentacam sagital curvature map showed vertical bow-tie pattern with superior steepening and inferior corneal thinning in both eyes. Belin/ Ambrosio Enhanced Ectasia Display map showed normal maps with D value of OD: 10.92 and OS: 44.47. Pachymetry progression map showed dipping at 4 mm zone in both eyes.

Management: The patient had a history of eye rubbing. Cold compress, anti-allergic eye drops and lubricants were prescribed to avoid the same to reduce the chances of further progression. There was no h/o spectacle or contact lens use. Boston lenses trial was done. Both eyes BCVA improved to 6/6P, N6 at 20cms with good central, superior, inferior and limbal vaults. Patient was comfortable and satisfied with the vision achieved. He was advised to review after 2 months to look for the rate of progression and further management.

Outcome: Both eyes keratometric values are suggestive towards PMD. The superior steepening pattern does not support a classic KC as well as PMD. A typical KC shows central or para-central corneal thinning unlike inferior thinning as in this case. Probable diagnosis could be a case of "not as classical PMD".

Registration ID Number: 115R058EIVOC2025

Title: Pellucid-like Keratoconus Associated with Orbital Xanthogranulomatous Disease Managed with Scleral Lens

Author(s): Suraj Chaurasiya, Ashi Khurana, Sanjay Chanda

Affiliation(s): CL Gupta Eye Institute, Mordabad, Uttar Pradesh

Abstract Content:

Background: Adult orbital xanthogranulomatous disease (AOXGD) is a rare orbital inflammatory condition often linked with systemic illnesses. Pellucid marginal degeneration (PMD) and pellucid-like keratoconus (PLK) are non-inflammatory ectatic corneal disorders. This case highlights a unique coexistence of AOXGD, Graves' disease, and corneal ectasia managed successfully with scleral lenses.

Case Details: A 46-year-old male presented with progressive bilateral eyelid swelling and visual decline over five years. Medical history included hypothyroidism, Graves' disease, and type 2 diabetes. Histopathology confirmed AOXGD following orbital biopsy. Visual acuity was 20/320 (right eye) and 20/80 (left eye). A slit-lamp exam revealed xanthogranulomatous eyelid lesions and inferior corneal thinning in the right eye. Corneal topography showed non-specific superior steepening in the right eye (PMD) and a crab claw pattern with kissing bird sign in the left eye (PLK). This rare combination of AOXGD with differing corneal ectasia patterns in each eye has not been previously reported.

Management: The patient was referred to a contact lens clinic after oculoplastic evaluation. Initial trials with BostonSight Scleral (BSS) lenses revealed suboptimal fit in the right eye, prompting a switch to a BostonSight PROSE device, which achieved optimal vaulting and scleral alignment. Both lenses were fabricated from high Dk Boston Equalens II material. Fluorescein dye confirmed adequate central clearance (250–300 µm), proper haptic landing, and absence of staining. Training for insertion, removal, and care was provided. The patient was advised to wear lenses up to 12 hours daily with periodic breaks to reduce mid-day fogging and maintain ocular surface health.

Outcome: Final best-corrected visual acuity was 20/40 in the right eye (PROSE) and 20/20 in the left eye (BSS), with N6 near vision. Lens fit remained optimal and stable at follow-ups. The patient reported excellent comfort and visual satisfaction, demonstrating successful vision rehabilitation in this rare clinical presentation.

Scientific E-Poster Session 10
Ocular Disease and Diagnostics CtoR -1

Registration ID Number: 107P004EIVOC2025

Title: Brown's Syndrome: Unusual Association with Reverse Straatsma Syndrome and Aplasia Cutis Congenita

Author(s): Avani Shah, Siddharth Sheth

Affiliation(s): Isha Netralaya

Abstract Content:

Background: Brown syndrome is a rare motility disorder with restricted elevation in adduction. Reverse Straatsma syndrome (RSS) includes high hypermetropia, amblyopia, and unilateral myelinated nerve fiber layer. Aplasia cutis congenita (ACC) presents as absent skin layers with ocular anomalies. Their association is unreported, with amblyopia Management being the primary treatment.

Case Details: A 10-year-old boy presented with decreased visual acuity in the left eye for a few months. General examination revealed patchy hair loss and a flattened posterior part of the head. Ophthalmic examination showed hyperopia in both eyes. The left eye exhibited 16 prism diopters (PD) esotropia and restricted dextroelevation. Anterior segment examination was normal in both eyes, while dilated fundus evaluation revealed a peripapillary myelinated nerve fiber layer in the left eye.

Management: A computed tomography (CT) scan of the brain and orbit was advised, along with a dermatology consultation. Part-time occlusion therapy was initiated for the left eye to manage amblyopia.

Outcome: This case highlights an unusual association of Brown's syndrome with Reverse Straatsma syndrome and Aplasia cutis congenita. Early diagnosis and appropriate management particularly for amblyopia, are crucial in such cases.

Registration ID Number: 249R143EIVOC2025

Title: An Unusual Manifestation of Peter's Anomaly: Insights from A Rare Case

Author(s): Aparesh Maity

Affiliation(s): Sankara Nethralaya, kolkata

Abstract Content:

Background: Peter's Anomaly is a rare congenital eye disorder causing corneal opacity, adhesions between the cornea and iris or lens which is associated with increased risk of glaucoma, cataracts, or microphthalmia. It results from abnormal anterior segment development due to genetic mutations, leading to vision impairment.

Case Details: A 1-year-old female child reported along with her mother with chief complaint of white spot on left eye since birth. On clinical examination, right eye fixates and follows light whereas left eye revealed poor fixation. Child started crying after right eye occlusion. Hirschberg also reported LXT. Sluggish and irregular pupil of left eye was also disclosed. In slit lamp analysis iridocorneal adhesion and adherent leucoma was appreciated with peripheral anterior synechiae. Therefore, this case was provisionally diagnosed as Peter's anomaly.

Management: Patient was put under constant follow-up for 5 years with conservative approach. Tropicamide 1% thrice a day was prescribed. After 1 year, no increase in opacity over left eye was noted with angle of anterior chamber open upto scleral spur in three quadrant (peripheral anterior synechia was noted in temporo-nasal quadrant) and intra-ocular pressure was 10 mmHg. Cup-disc ratio was healthy, macula normal. After three years of follow-up vision was slightly improved upto 2/60 in Snellen chart for distance vision and 6/36 in reduced Snellen chart for near vision. New spectacle prescription was advised along with tropicamide.

Outcome: Treatment for Peter's anomaly depends on severity. Mild cases may need lubricants, steroids, antiglaucoma drops, systemic medications, glasses, or contact lenses. Severe cases require surgery, including keratoplasty, glaucoma surgery, cataract removal, or anterior segment reconstruction for vision improvement and complication Management.

Registration ID Number: 051U007EIVOC2025

Title: Is Tropicamide Truly Harmless? A case of An Atypical Presentation of Allergic Conjunctivitis Following Tropicamide Use in an 87-Year-Old: A Case Report

Author(s): Vasundhara Vijayaraghavan

Affiliation(s): Elite school of Optometry, Chennai

Abstract Content:

Background: Tropicamide is widely regarded as safe and is commonly used in day- to-day OPD's due to its short-lasting effects. This report aims to highlight a unique presentation of allergic conjunctivitis following the use of tropicamide, challenging its nature to be harmless.

Case Details: An 87-year-old male presented to the clinic with acute swelling and redness of both eyes following the use of tropicamide for pupil dilation during the examination that had happened the previous day. After a thorough clinical examination, he was diagnosed with acute atopic conjunctivitis. Given its routine use in OPD, hypersensitivity to Tropicamide is rare, making this an unusual clinical occurrence.

Management: The patient was managed with a combination of corticosteroids, artificial tears, and antihistamines to control inflammation and allergic symptoms. Cold compresses and ocular hygiene were advised as supportive measures in order to manage pain. Additionally, the patient was educated on recognizing allergic symptoms and the importance of informing healthcare providers about drug reactions. Conjunctival swabbing was recommended in order to further investigate the cause.

Outcome: This case highlights the need for patient considerations particular to that individual and to take detailed allergy histories even for "harmless" drugs used routinely in OPD's to ensure patient's safety in standard optometric settings.

Registration ID Number: 305U088EIVOC2025

Title: Ethambutol Toxicity Presenting as Anterior Scleritis and Dyschromatopsia: A Case Report

Author(s): Harshini Rajesh, Gomathi Suresh

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Ethambutol, a first-line anti-tuberculosis drug, is known for its ocular toxicity, primarily optic neuropathy with central field loss and dyschromatopsia, and rarely, drug-induced uveitis. This case highlights a rare presentation of ethambutol-induced anterior scleritis and dyschromatopsia,emphasizing the need for comprehensive ocular monitoring and modified treatment to prevent irreversible damage.

Case Details: A 22-year-old male on ethambutol therapy for sacroiliac tuberculosis for three months presented with redness, pain, watering, and impaired color vision. His visual acuity was 6/6p, N6 with glasses, improving to 6/6, N6 with refraction. Intraocular pressure and angles were normal, but conjunctival and scleral congestion were noted. Anterior uveitis was diagnosed, while posterior involvement was ruled out via B-scan, showing no clinically significant T-sign. Notably, the patient developed anterior scleritis, a rare ocularmanifestation of ethambutol toxicity. Perimetry revealed no major defects, though color vision impairment was evident. Fundus imaging showed macular changes without vision loss.

Management: Ethambutol was discontinued, and the anti-tuberculosis regimen was modified to minimize ocular toxicity. High-dose oral corticosteroids were initiated to control inflammation alongside anti-inflammatory eye drops. The patient was placed under strict monitoring with frequent ocular assessments, particularly color vision testing and perimetry. A 10-day medical leave was advised for close follow-up. Despite treatment, persistent dyschromatopsia remained, reinforcing the importance of proactive intervention. Serial color vision tests and fundus photography monitored changes, ensuring no further deterioration. This case highlights the necessity of individualized treatment adjustments for systemic conditions affecting ocular health, especially in tuberculosis cases with rare scleritis presentations.

Outcome: With timely intervention, the patient's ocular symptoms improved significantly, and anterior scleritis was resolved. However, dyschromatopsia persisted despite stopping ethambutol. His ocular health remained stable. This case highlights the importance of early detection and individualized Management to prevent long-term ocular complications of anti-tuberculosis therapy, especially in rare scleritis cases.

Registration ID Number: 292U076EIVOC2025

Title: Marfan Syndrome& Strabismus: A Rare Clinical Encounter

Author(s): Lathika J, Meenakshi Narayanan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Marfan Syndrome is an autosomal dominant disorder affecting the cardiovascular, musculoskeletal, and ocular systems, with a prevalence of 1 in 5000 to 10,000 births. Ocular manifestations such as ectopia lentis, myopia, and phacodonesis are common and can contribute to strabismus, although the exact incidence of this association remains unclear

Case Details: A 14-year-old female with Marfan syndrome and a 6-year history of high myopia presented with congenital bilateral lens subluxation. Examination revealed UCVA of 5/60 (PH: 6/36P), N18 in the right eye and 4/60 (PH: 6/60), N6 with strain in the left eye. She exhibited Marfanoid habitus, superonasal lens subluxation, miosis, phacodonesis, and shallow anterior chambers. Extraocular movements were normal, but 20 PD right exotropia was noted. The diagnosis of bilateral lens subluxation leading to a surgical plan involving pars plana lensectomy (PPL) with glued IOL implantation in both eyes and Faden strabismus surgery for the right eye under sedation.
Management: The patient underwent PPL with glued IOL implantation in both eyes, along with Faden strabismus surgery for the right eye. On the first postoperative day, the right eye showed UCVA improvement to 6/60 (PH: 6/36P), whereas the left eye remained unchanged. Follow-up revealed further improvement in the right eye's visual acuity to 6/18; however, the left eye maintained 6/18 vision with persistent exotropia of 16-18 PD. Due to residual visual limitations, misalignment, and pupillary abnormalities, a second surgery was planned for the left eye, including repeat PPL, strabismus correction, and pupilloplasty

Outcome: Exotropia persisted, necessitating additional surgical intervention. Postoperative complications included corneal epithelial defects and conjunctival congestion, but the prognosis remained positive with gradual recovery over follow-up visits. Intraocular pressure fluctuated postoperatively (19/20/21 mmHg @ 10am), indicating regular glaucoma monitoring to prevent potential long-term complications.

Registration ID Number: 361P068EIVOC2025

Title: A Young Eye, A Small Hit, A Big Hole: Traumatic Macular Hole from Minor Blunt Injury

Author(s): Bharath V, Deepika Arumugam, Gnanapoonkodi Bhaskaran, Chetan Rao

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: A full thickness neuro retina lesion at the fovea following a mechanical ocular impact injury is known as a traumatic ocular impact. The spontaneous closure rates from 10% to 50%. We report a case of Traumatic Full thickness Macular Hole.

Case Details: A 24-year female presented with complaints of diminution of vision in right eye following trauma worsening for 20 days. She was hit on the right eye by the metal attached to the elastic rope of her Hoody while she pulled it. On examination his BCVA was 6/18; N6 in OD and 6/6; N6 in OS. The anterior segment was within normal limits. The dilated fundus examination reveals small macular hole, deep retinal hemorrhages in OD. OCT reveals Full Thickness Macular Hole in OD. She has a small scotoma on Watzke - Allen test in OD.

Management: The patient underwent surgical repair with vitrectomy, internal limiting membrane peeling ,20% SF6 gas tamponade under Local anesthetic. Topical steroids were given. The patient was prone positioning for 15-16 hours a day for 2 weeks and the scotoma due to shrinking gas bubble. At 5 days postoperatively the bubble is 50% of vitreous cavity and patient is comfortable. The postoperative OCT shows closed macular hole gap with glial tissue at 10 days postoperatively.

Outcome: The present case describes a full-thickness macular hole following trauma to the right eye caused by a metal attachment on her hoodie's elastic rope. This type of trauma is unusual. FTMH typically caused by blunt force impact to the eye.

Registration ID Number: 222P020EIVOC2025

Title: Eyes as the clue – Ocular inflammation preceding systemic diagnosis in a young adult

Author(s): Mohanraj Vijaykumar, Gnanapoonkodi Bhaskaran, Amala Elizabeth George

Affiliation(s): TheSankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: Tuberculosis is a bacterial infection that mainly affects the lungs and can affect any part of the body. Ocular tuberculosis ranges from 3.5 - 5.1% mainly with the generalization of a specific process in immunocompromised individuals. Uveitis is the serious problem in ophthalmology due to characteristics of the disease.

Case Details: A 25 years old female came to our clinic for the second opinion of uveitis and retinal vasculitis in both eyes.

Management: After getting physician clearance patient got 3 doses of IVMP 1g, meaPanuveitis. No positive history of systemic illness and in investigations CXR shows normal. On examination visual acuity was 6/18 and 6/36 in right and left eye and then the refraction was carried out followed by subjective acceptance and the BCVA is 6/9 and 6/7.5 in right and left eye. Anterior segment was normal with quiet anterior chamber and the fundus examination revealed Pannwhile oral prednisolone started with a tapering dose for two months. Then HRCT chest shows pulmonary TB and Quantiferon TB gold test shows positive so the patient was diagnosed as both eyes tubercular retinal vasculitis. Then anti TB medication ATT was started and advised the patient to review after 2 months.For ocular treatment flurbiprofen eye drops was started and advised the patient to do home monitoring of amsler grid test.

Outcome: After 1st dose of IVMP fundus shows resolving retinal periphlebitis. In TB the most common site of involvement are lungs, a chest CT scan or X-ray shows active or healed lesions. Negative chest imaging doesn't rule ocular TB. Tuberculin skin test or Q-TB test is needed to confirm the

Registration ID Number: 239R135EIVOC2025

Title: Treat the Patient First & Then the Condition - Haemoclaria - A case report on the need to go for the root cause of any condition to really treat it

Author(s): SANJAY MEHTA

Affiliation(s): TOWER OPTICS

Abstract Content:

Background: HAEMOCLARIA is a rare condition in which the tears are tinged with blood, ranging from a slight red hue to tears that appear to be entirely made of blood. This mysterious condition requires clear understanding of 15 underlying ocular and systemic causes due to which it occurs.

Case Details: A 9-year-old young girl had visited the clinic with the chief complaint being blood oozing from the right lower eyelid for the last 6 months. She was symptomatically treated with lubricants, steroids, antihistamine eye drops at various eye hospitals without any effect. Vision was 6/6 OU. Eye examination revealed accumulation of clotted blood in the

lower middle inner eyelid with all other structures within normal limits. Suspecting the cause requiring an Gynaecologist opinion was recommended and it turned out to be a pre menarche symptom. She was treated & within a week the bleeding stopped.

Management: Haemoclaria also known as crying blood is a very abnormal situation both physically and socially. The possible causes of the haemoclaria are Bacterial conjunctivitis, Injuries, Blepharitis, Anaemia, jaundice, exanthema fever, disturbances of the autonomic nervous system & vascular system, medications, psychiatric conditions, attention seeking disorder, Retrograde epistaxis, Lacrimal gland or sac tumours & as in this case Hormonal changes, before or after during menstruation. The pre menarche symptoms such as cramps, bowel pattern changes and in this case was haemoclaria.

Outcome: This case tells that an Optometrist should be aware of the various underlying systemic conditions and its manifestation in the eyes, many of them are seen in the eye first as in this case. This will help in identifying the root cause of the condition.

Registration ID Number: 210P016EIVOC2025

Title: Goldenhar Syndrome in Infancy: The Optometrist's Role in Monitoring and Management

Author(s): Elakiya Aruchami, Akshay Badakere

Affiliation(s): Elite school of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Goldenhar Syndrome is a rare congenital condition involving eye, ear, and facial structure anomalies. Ocular signs such as epibulbar dermoids and high refractive error pose a significant risk for amblyopia. Early optometric evaluation is essential for monitoring visual development, detecting refractive and vision changes, and preventing visual impairment.

Case Details: A 17-day-old infant presented with a prior suspicion of Goldenhar syndrome. Ocular findings included bilateral epibulbar dermoids sparing the cornea. Systemic anomalies included left preauricular and cheek skin tags and a malformed right ear with normal hearing. The infant was able to fixate and follow light. Initial cycloplegic refraction revealed high hyperopia and astigmatism OD: +7.50 DS; OS: +8.50/-1.50 × 150. By 1 year, the left dermoid had enlarged with increased astigmatism (OS: +6.50/-3.50 × 150). Keratometry readings were 39.00 D/41.75 D × 9 (OD) and 39.00 D/40.50 D × 141 (OS). Fundus examination was within normal limits.

Management: Since the infant's visual parameters remained stable during follow-ups, the child was managed conservatively with regular monitoring. Keratometry was planned based on cooperation, lubricants were prescribed, and MRI orbit was advised along with a referral to oculoplasty. Parents were counseled regarding the risk of amblyopia, possible changes in visual behavior, and the importance of consistent follow-up.

Outcome: The child showed stable vision and no signs of amblyopia progression over time. Early optometric care enabled consistent documentation, timely detection of refractive changes, and effective parental counseling. This case reinforces the crucial role of optometry in detecting subtle signs that may impact visual outcomes in syndromic conditions.

August 16, 2025
Scientific Free Paper Session
E-Poster

Venue: Impression Hall

Registration ID Number: 450R264EIVOC2025

Title: Perspectives on the Quality of Life Among Parents and Children Undergoing Vision Therapy - A Questionnaire Based Study

Author(s): Sherah Benzy S, Anju Kumari Mahato, Praveen Kumar P, Amit Bhowmick, Akshay Badakere

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:
Purpose: To assess the impact of occlusion therapy on the quality of life (QOL) of children and their parents using the APCOQ (Amblyopia Parent and Children Questionnaire).

Methods: This study was conducted in the Pediatric Ophthalmology department of a tertiary eye care centre. Newly diagnosed amblyopes of 7-17 years of age without patching history, visual acuity of ≥6/60, ability to comprehend and answer questions were included. Children with intellectual disabilities and those on occlusion therapy were excluded. After comprehensive eye examination, subjects were evaluated in amblyopia clinic where detailed history, sensory evaluation, distance visual acuity with the standard Early Treatment Diabetic Retinopathy Screening chart (ETDRS) at 100% and 25% contrast and lea symbols single optotype chart, near visual acuity, refraction, cover test and tests for anomalous retinal correspondence were conducted. A three-month period of refractive adaptation was advised when needed, prior to patching. Informed consent and oral assent were obtained from parents and children respectively and the APCOQ was administered to both. QoL was evaluated across four domains, Physical Discomfort, Activities of Daily Living (ADL).

Results: Of the 36 subjects, 17 were male (47.2%) and 19 were female (52.8%) with mean (SD) age of 10.2 (2.96) years. Types of amblyopia types were strabismic (5.55%), refractive (22.22%), deprivational (5.55%) and anisometropic (66.67%). Observed severity levels were mild (19.44%), moderate (63.88%) and severe (16.67%). Refractive errors were myopia (47.22%) and hypermetropia (52.78%). The mean score of children's QoL was 46.5 (SD ± 9.8) and parents reported QoL was 44.9 (SD ± 10.6). Mild amblyopic children reported high QoL in the Social and Emotional Experiences domain, parents perceived slightly lower QOL in ADL domain. Moderate amblyopic children reported moderate to high QoL, parents reported lower QOL in the Physical Discomfort and ADL domains. Severe amblyopic children reported positive QoL in the Social and Emotional Experiences domain, parents reported difficulties in the Physical Discomfort and ADL domains.

Conclusion: While occlusion therapy remains the gold standard for amblyopia therapy, in this study it seemed to affect adults (parents/ caregivers) more than children

Registration ID Number: 151R077EIVOC2025

Title: Binocular Vision Status Among Bridal-Mehndi Artists

Author(s): Preetha Ramprasat, Ambiga T, Ramprasat Kanagaraj

Affiliation(s): Vasan Institute of Ophthalmology & Research, Chennai, Tamil Nadu

Abstract Content:

Purpose: Mehndi artists create intricate designs using henna paste. Mehndi application may take few minutes to several hours depending on the occasion, client requirement, design complexity, extent of application, etc. As their task is visually demanding, we evaluated the binocular vision status and visual-ocular-musculoskeletal symptoms (VOMS) among Bridal-Mehndi artists.

Methods: In this cross-sectional study we assessed the binocular vision status, and visual-ocular-musculoskeletal symptoms (VOMS) of 30 Bridal-Mehndi artists. There were 29 females and 1 male, with mean age of 26years±3.5 (range 21 to 34years). The subjects had best-corrected visual acuity (BCVA) of 6/6, N6 and normal ocular findings. We measured accommodative and vergence parameters like near point of accommodation (NPA), accommodative amplitude (AOA), accommodative facility (AF), accommodative accuracy (AA), relative accommodation (RA), near point of convergence (NPC), vergence facility (VF), phoria, and AC/A-ratio. We assessed the symptoms before and after Bridal-Mehndi work using pre-validated Computer Vision Syndrome Questionnaire (CVS-Q), Convergence Insufficiency Symptoms Survey (CISS), Dry Eye Questionnaire-5 (DEQ-5), and VIOR-Modified Nordic Musculoskeletal Questionnaire (VIOR-MNMQ).

Results: The mean AOA at baseline were 11.0D±2.558(OD), 10.8D± 2.321(OS), and 11.2D±2.373(OU). The mean AF were 10.1cpm±2.703(OD), 10.4cpm±2.814(OS) and 9.5cpm±2.838(OU). The median AA was +0.75D(IQR -0.50D to +1.50D) in OD and +0.75D(-0.75D to +1.50D) in OS. The mean NRA was +2.22D±0.659 and PRA was -3.18D±1.388. The subjective-NPC break/recovery with accommodative target were 10.4cm±2.627 and 12.1cm±2.799, and higher with non-accommodative target. The mean phoria was 0.4pdBI±1.97 (6m) and 3.9pdBI±4.455 (40cm). The mean vergence facility was 11.1cpm±3.487, and the median AC/A ratio was 4.25pd/D(1.8-8.8). The mean task time was 4.3hours±1.12. At baseline, 43.3% subjects were diagnosed as CVS-like (mean CVS-Q score 5.5±3.104) increasing to 80% post task (8.5±3.491, p<.00001.

Conclusion: Bridal-Mehndi artists perform prolonged near work in sitting posture with neck and/or gaze down position leading to convergence problems, headache, and visual-ocular-musculoskeletal symptoms. Regular eye examination, detailed binocular vision and symptom evaluation, recommendations for visual hygiene, vision therapy, ergonomic interventions and routine follow-ups can improve their quality of life.

Registration ID Number: 259R149EIVOC2025

Title: Clinical Profile of Adults with Amblyopia – A Retrospective study

Author(s): Raghul Gurunathan, Praveen Kumar P, Amit Bhowmick, Abinaya Valliappan

Affiliation(s): Sankara Nethralya, Chennai

Abstract Content:

Purpose: This study aims to examine the clinical profile of individuals with amblyopia who were reported to a tertiary eye hospital, as well as the distribution of different subtypes of amblyopia

Methods: A retrospective chart review was conducted on amblyopic patients over a period of 1.4 years (September 2022–December 2023) to analyze their clinical profile based on the age at diagnosis, ranging from 18 to 35 years. Data collected included demographic details and comprehensive eye examination parameters. Key assessments comprised visual acuity, refractive errors, and strabismic measurements. Additionally, the study examined the distribution of different types of amblyopia. By analyzing these parameters, the study aims to identify trends in severity and refractive profiles, outcomes among adult amblyopic patients. The findings may provide valuable insights into late-diagnosed amblyopia, contributing to improved diagnostic strategies, management approaches, and potential interventions for enhancing visual prognosis in adults with amblyopia.

Results: A total of 252 subjects 150 patient's data were included (68% male, mean age 23.69 ± 4.6 years), the rest were excluded due to missing data. Mean best-corrected distance and near visual acuity in amblyopic eyes was 0.29 ± 0.37 and 0.38 ± 0.16 in the right eye, and 0.34 ± 0.38 and 0.38 ± 0.16 in the left eye, respectively. Anisometropic amblyopia was the most prevalent type (73%), especially in patients diagnosed after 18 years followed by combined mechanism amblyopia (11%) was the second most common, often linked with longstanding ocular misalignment. Other types included strabismic (9%), deprivational and meridional (3%), and isometropic amblyopia (1%) were observed in a smaller subset of patients. Patients with anisometropic amblyopia who presented at a later stage tended to have poorer visual acuity on average. These findings emphasize the need for early detection and intervention to improve visual outcomes in adult amblyopic patients.

Conclusion: Delayed amblyopia diagnosis and severe visual impairment often result from insufficient awareness and understanding of the condition. Inadequate knowledge about early detection and proper management leads to missed opportunities for timely intervention. Enhancing education and implementing better screening programs are crucial to reducing long-term visual impairment in affected individuals.

Registration ID Number: 196R116EIVOC2025

Title: Changes in Binocular Vision Parameters After Strabismus Surgery in Patients with Intermittent Exotropia

Author(s): Sejal Ram Ashrey Singh, Praveen Kumar P, Ayisha Atiya, Amit Bhowmick

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To compare Binocular Vision (BV) parameters pre and post strabismus surgery and evaluate the surgical outcome

Methods: In this prospective observational study, patients with Intermittent Exotropia (IXT) who were advised for strabismus surgery were included. All patients underwent comprehensive eye examination followed by Binocular Vision (BV) assessment. BV parameters include sensory assessment (stereopsis and Worth's four dot test) fusional vergence amplitudes, vergence facility, amplitude of accommodation, accommodative response and accommodative facility were measured. All these BV parameters were compared before and after six weeks of strabismus surgery.

Results: The mean (SD) age of all participants were 15.13 ± 8.55 years and among fifteen participants ten were females. According to Burian's classification of IXT, 11 (73%) patients were IXT Basic type and 4 (27%) were Divergence Excess type. The median (IQR) for distance horizontal and vertical deviation preoperatively were -35 (-30 to -45) ΔD, 0 (2 to 0) ΔD and postoperatively were and -4 (0 to -6) ΔD and orthophoria respectively. The median (IQR)for near horizontal deviation preoperatively was -35 (-25 to -40) ΔD and postoperatively was -2 PD (2 to -6) ΔD respectively. Among all the BV parameters, horizontal deviation, near point of convergence with red/green filter, distance and near positive fusional vergence amplitudes and vergence facility, were found significant improved at post operatively (Wilcoxon Sign Rank test, p<0.05). However, distance and near stereopsis, divergence amplitude and accommodative parameters were not statistically significant (Wilcoxon Sign Rank test, p>0.05).

Conclusion: Strabismus surgery effectively improves ocular alignment along with fusional vergence amplitudes in patients with Intermittent Exotropia (IXT), leading to enhance binocular motor control. Comprehensive preoperative binocular vision assessments and close postoperative monitoring are crucial for IXT patients.

Registration ID Number: 504R304EIVOC2025

Title: Comparing the biometric parameters between accommodative spasm and true myopes- A pilot study.

Author(s): Prasannasai K, Praveenkumar P, Akshay Badakere, Abinaya Valliappan

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To evaluate the structural parameters of lens thickness and anterior chamber depth in individuals with accommodative spasm and true myopia using ARGOS ocular biometry.

Methods: Ocular biometry measurements were obtained using ARGOS ocular biometry in subjects diagnosed with accommodative spasm, and true myopia within a similar age group of 10-14 years. Participants who were diagnosed with Accommodative spasm and True myopia were included and Participants with a myopic refractive error greater than -3.00 dioptre sphere and a cylindrical refractive error exceeding -1.50 dioptre, as well as those with retinal or neurological pathology or other ocular comorbidities, were excluded. Three images per eye were captured for each condition, resulting in 15 images across five sets per eye, with 180 data per condition binocularly and a total of 540 ocular biometry data, Root mean square (RMS) analysis, along with mean and standard deviation (SD) calculations, were performed for lens thickness (LT) and anterior chamber depth (ACD).

Results: Twelve subjects were included, with six diagnosed with accommodative spasm and true myopia. The mean (SD) age of the included subjects were 11.8(±1.4) years, and the mean spherical equivalent difference was ≥0.75 D. The mean (SD) Axial length of Accommodative spasm, and true myopia were 22.89 (±0.74), 24.26 (±0.67) of right eye and 23.49 (±1.87), 24.57 (±1.12) of left eye. Anterior chamber depth was 3.36 (0.17), 3.80 (±0.21) of right eye and 3.41 (±0.28), 3.75 (±0.25) of left eye. Lens thickness were 3.87 (±0.24), 3.45 (±0.14) of right eye and 3.83 (±0.28), 3.57 (±0.14) of left eye

Conclusion: The study concluded that significant structural changes were observed between accommodative spasm and true myopia. However, while functional changes were noted between accommodative spasm and relieved spasm, structural changes did not show any significant difference.

Registration ID Number: 318P049EIVOC2025

Title: Relationship Between Eye Movement Control, Academic Performance, and Reading Speed Using the DEM Test

Author(s): Rakshitha R S M, Renuka Perumal, Meenakshi Narayanan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: This study investigated the relationship between eye movement control, academic performance (CGPA), and reading speed in university students, utilizing the Developmental Eye Movement (DEM) test. It aimed to determine if inefficient eye movements are associated with lower academic performance and slower reading speeds.

Methods: An experimental study was conducted with 40 university students with normal visual acuity (BCVA 6/6 and N6 reading ability). Participants with ocular or systemic conditions, including strabismus, amblyopia, or any condition affecting visual tracking, were excluded. A preliminary examination was done. The DEM test was administered following standardized protocols. The test began with a pre-test to ensure number-naming fluency. Subsequently, participants completed DEM Tasks A and B, which involved rapidly naming vertically arranged digits (2 columns of 20 digits each), evaluating vertical saccadic eye movements. Task C assessed horizontal saccadic eye movements, mimicking reading demands, and consisted of 16 rows of 5 horizontally arranged digits. Completion times and error counts were recorded for each task. Reading speed was measured using ReadSpeed.com, which provided words-per-minute (WPM) scores based on online reading passages. Academic performance was represented by the Cumulative Grade Point Average (CGPA) of the participants

Results: Participants had a mean age of 21.42 ± 0.64years, and test data were normally distributed. CGPA was positively correlated with DEM Task C ($r = 0.328$, $p = 0.039$), indicating that higher academic performance was associated with better eye movement control in horizontal reading-tasks. Conversely, reading speed showed significant negative correlations with all DEM tasks: Task A($r = -0.340$, $p = 0.032$), Task B($r = -0.507$, $p = 0.001$), and Task C($r = -0.631$, $p = 0.000$), suggesting that slower reading speeds corresponded with poorer eye movement efficiency. Regression analysis confirmed reading speed as a significant predictor for performance on all DEM tasks (Task A: $\beta = -0.382$, $p = 0.017$; Task B: $\beta = -0.482$, $p = 0.002$; Task C: $\beta = -0.589$, $p = 0.000$). CGPA showed a marginal effect on DEM Task C ($\beta = 0.213$, $p = 0.097$), though this was not statistically significant.

Conclusion: Our study demonstrated that slower reading speeds were significantly linked to decreased eye movement efficiency across all DEM tasks. Additionally, academic performance (CGPA) showed a positive correlation with eye movement control, particularly in more complex tasks (DEM-TASK C), indicating that higher academic achievement is associated with better visual-tracking abilities.

Registration ID Number: 163P015EIVOC2025

Title: Cost effectiveness analysis of amblyopia management in India

Author(s): Shreyasi Biswas, Swetha S, N Anuradha

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Options of Management of amblyopia are multiple with differing durations, costs and benefits. This study aims to understand the most cost-effective amblyopia management strategy for children and adults in India

Methods: A review of the literature was performed to source studies on the Management : of amblyopia in the Indian population based on the presence of evidence regarding line improvements in visual acuity. The management interventions studied were patching, dichoptic therapy, and vision therapy. The cost-effectiveness analysis was based on the patient perspective with the inclusion of only direct costs. These consisted of ongoing consultation charges, consultation from an amblyopia clinic and the market value of each therapy. Effectiveness was elicited from the visual acuity gain and translated into units of QALYs using standard utility weights. The cost per QALY for each of the management interventions was then calculated for comparison of total costs.

Results: Finally, 3 articles were finalized from which the line improvement in visual acuity was taken. Patching was the lowest-cost treatment for amblyopia in India (₹14,231/QALY)($163USD) but also offered the best annual Outcome : of 0.13 QALYs for ₹1,850/year. Dichoptic treatment had higher effectiveness (0.20 QALYs) but had an ICER of ₹78,571/QALY($903USD) compared with patching, which accepted India's willingness to pay (1×GDP/capita ≈ ₹150,000/QALY), thus making dichoptic therapy a credible choice for cases requiring improved outcomes. Vision therapy was dominated economically, yielding equal QALYs for patching but costing 3.4 times as much (₹6,350/year). Using GDP-adjusted standards for cost-effectiveness, patching should be used first, with dichoptic therapy as an option for those not responding. The results justify the resource-efficient treatment of amblyopia using India's economy in the healthcare sector where costs are most critical.

Conclusion: The result shows that patching is the most cost-effective intervention, whereas dichoptic and vision therapies may be considered for cases where additional benefits justify the higher costs.

Registration ID Number: 316R177EIVOC2025

Title: A pilot study on effect of Monocular Visual Degradation (MVD) on Visuomotor task performances in anisometropes

Author(s): Meenakshi Narayanan, Dharani R, Karpagam Damodaran

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: To evaluate and compare fine and gross visuomotor performance among anisometropes with and without anisometropic correction. ii. To compare fine and gross visuomotor performance between corrected anisometropes and controls

Methods: This prospective case-control study included six anisometropic participants and five controls. Inclusion criteria for the anisometropic group comprised individuals aged 5–40 years with corrected anisometropia (≤4D) and aniseikonia 2%, ocular or neurological disorders, non-strabismic binocular vision anomalies (NSBVA), and prior intraocular surgery were excluded. Controls between the age of 5–40 years, spherical equivalent refractive error (SER) within ±0.75D, and stereoacuity better than 40 arc seconds were included. Visuomotor performance was evaluated using water-pouring, needle-threading, and the Purdue Pegboard test to assess manual dexterity, coordination, and visuomotor integration.

Results: articipants' mean age was 19.5 ±1.05years (range: 18–21) for cases and 19.6±0.55years (range: 18–20) for controls. Anisometropes had a mean SER of −3.58D±1.49D(RE) and −2.63D±1.43D(LE), with a median interocular difference of 1.25D (IQR: 1.13–1.38 D) and median aniseikonia effect of 1.31%, IQR: 1.04–1.48%. Controls had a mean SER of 0.15±0.22D(RE) and 0.10±0.29D(LE). Data was not normally distributed (Shapiro-Wilk, $p < 0.05$), thus the Wilcoxon Signed-Rank Test was used. Significant improvements with correction were observed in the anisometropic group for water-pouring accuracy (with-correction: Md = 446.00mL, IQR: 444.75–451.25mL; without-correction: Md = 444.50mL, IQR: 441.75–446.50mL; $p = 0.045$), needle-threading time (with-correction: Md = 59.70s, IQR: 21.92–164.83s; without-correction: Md = 234.41s, IQR: 73.97–315.45s; $p = 0.028$), and Purdue Pegboard total scores (with-correction: Md = 80, IQR: 67–89; without-correction: Md = 77.5, IQR: 60–80.75; $p = 0.027$). No significant differences were found between corrected anisometropes and controls ($p > 0.05$).

Conclusion: There was a significant improvement in precision-based fine motor tasks and bilateral coordination, while manual dexterity did not improve even with anisometropic correction. No significant differences were observed between corrected anisometropes and controls, suggesting that optical correction may help restore visuomotor function to levels comparable to those without anisometropia.

Registration ID Number: 230P028EIVOC2025

Title: Long Term Efficacy of Vision Therapy in Strabismic Amblyopia: Insights from A Case Study.

Author(s): Fasilathunnisa K, Praveen kumar p, Akila Ramkumar

Affiliation(s): TheSankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: Amblyopia is a limitation of visual function of one or both eyes with no pathological cause. It is disorder of spatial vision which cannot be improved by refractive correction. Strabismic amblyopia results from eye misalignment. Management for strabismic amblyopia include optical correction, occlusion therapy, pharmacological treatment, vision therapy and surgery.

Case Details: A 13-year-old boy presented to the Pediatric clinic with complaints of difficulty seeing the blackboard from last bench with his left eye. Best corrected visual acuity was 6/6 in right eye and 6/36 in left. Cover test revealed a left exotropia at both distance and near. He was diagnosed with strabismic amblyopia in the left eye and was advised part time occlusion therapy. A comprehensive amblyopia assessment was performed, including detailed history, sensory and motor evaluation, ETDRS visual acuity, single optotype testing, near vision, Bagolini lens test, monocular estimation method, accommodative response, near point of accommodation, accommodative facility, and visuoscopy.

Management: The patient was followed over 7 years and underwent in-office vision therapy, 10 sessions per visit, including anti-suppression using entoptic phenomena and binocular training software, supported by home exercises. Patching of the right eye for six hours daily with intensive near work was recommended. Between 2018 and 2024, BCVA improved from 6/18 to 6/9, and stereopsis exceeded 600 arc seconds. PBCT measured 40 PD base-in at both distance and near, without diplopia. Vision therapy resulted in measurable functional gains. Following improvement in the visual Outcome child has been advised surgical correction of the strabismus.

Outcome: Regular follow-ups at frequent intervals, combined with good compliance with vision therapy, significantly improve visual Outcome :s and binocular visual function.

Scientific E-Poster Session 12
Geriatric Optometry, Low Vision and Rehabilitation - 2

Registration ID Number: 108P005EIVOC2025

Title: Exploring the Benefits and Challenges of Obtaining Disability Certification for Individuals with Visual Impairment: A Qualitative Study

Author(s): Aarthi Poorani, Gopinath Madheswaran, Nandhini Elango, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: Assistive devices play a crucial role in enhancing functionality and independence for individuals with low vision/ blindness. This scoping review evaluates the effectiveness of optical, non-optical, electronic, artificial intelligence (AI) based assistive devices in improving functional Outcomes, including activities of daily living (ADLs), occupational performance, and quality of life.

Methods: A population, concept, and context framework guided a systematic search across eight databases: PubMed, Scopus, EMBASE, Web of Science, CINAHL, IEEE Xplore, Cochrane Library, and ProQuest. Key search terms included "low vision," "blindness," "assistive devices," and "quality of life." The study selection followed PRISMA-ScR guidelines, including randomized controlled trials, cohort, case-control, and qualitative studies published between 2014 and 2024. Studies focused solely on device development without effectiveness evaluation, case reports, opinion papers, and editorials were excluded.

Results: Forty-eight studies were included, comprising qualitative (n=6), cross-sectional (n=7), cohort (n=8), randomized controlled trials (n=10), exploratory (n=3), experimental (n=8), mixed-methods (n=1), observational (n=4), and empirical (n=1) designs. Studies assessed optical devices (n=8), non-optical devices (n=9), mobile applications (n=5), smartphones (n=3), augmented/virtual reality (n=4), AI-based assistive technology (n=9), and multiple device categories (n=1). All studies reported significant improvements in functionality, including visual acuity, contrast sensitivity, and quality of life. Head-mounted devices (e.g., Onyx, eSight) enhanced functional vision and ADLs, while optical and electronic aids improved reading speed, with high user satisfaction for portable head-mounted devices and OrCam an AI based device. Audio-tactile maps improved navigation, and smartphone applications enhanced accessibility. Training was essential for maximizing device effectiveness. Assistive devices increased the independence, though cost-effectiveness varied. Despite advancements, real-world usability challenges persist, highlighting the need for personalized rehabilitation and device optimization

Conclusion: Assistive devices significantly improve the quality of life for individuals with low vision and blindness, with electronic and optical aids showing strong potential. Further research is needed to address long-term effectiveness and accessibility barriers.

Registration ID Number: 108P005EIVOC2025

Title: Effectiveness of Assistive Devices for Improving Functionality in Individuals with Low Vision and Blindness: A Scoping Review

Author(s): Aarthi Poorani, Raizul Azam, Gopinath Madheswaran, Dharani Ramamurthy, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: Assistive devices play a crucial role in enhancing functionality and independence for individuals with low vision/ blindness. This scoping review evaluates the effectiveness of optical, non-optical, electronic, artificial intelligence (AI) based assistive devices in improving functional outcomes, including activities of daily living (ADLs), occupational performance, and quality of life.

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Results: Forty-eight studies were included, comprising qualitative (n=6), cross-sectional (n=7), cohort (n=8), randomized controlled trials (n=10), exploratory (n=3), experimental (n=8), mixed-methods (n=1), observational (n=4), and empirical (n=1) designs. Studies assessed optical devices (n=8), non-optical devices (n=9), mobile applications (n=5), smartphones (n=3), augmented/virtual reality (n=4), AI-based assistive technology (n=9), and multiple device categories (n=1). All studies reported significant improvements in functionality, including visual acuity, contrast sensitivity, and quality of life. Head-mounted devices (e.g., Onyx, eSight) enhanced functional vision and ADLs, while optical and electronic aids improved reading speed, with high user satisfaction for portable head-mounted devices and OrCam an AI based device. Audio-tactile maps improved navigation, and smartphone applications enhanced accessibility. Training was essential for maximizing device effectiveness. Assistive devices increased the independence, though cost-effectiveness varied. Despite advancements, real-world usability challenges persist, highlighting the need for personalized rehabilitation and device optimization

Conclusion: Assistive devices significantly improve the quality of life for individuals with low vision and blindness, with electronic and optical aids showing strong potential. Further research is needed to address long-term effectiveness and accessibility barriers.

Registration ID Number: 034R035EIVOC2025

Title: Emotion Identification and Categorization in Simulated Central Vision Loss Using Event-Related Potentials

Author(s): Gopinath Madheswaran, Ramesh SVe, Shonraj Ballae Ganeshrao Ganeshrao, Rajiv Raman, Hari Prakash Palaniswamy

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: Simulated central vision loss (SimCVL) can affect visual processing, and low-vision rehabilitation processes should consider these findings for CVL patients. This study aimed to investigate the impact of simulated central vision loss (SimCVL) on emotion identification and categorisation through event-related potentials (ERPs) in individuals with normal vision.

Methods: This ERP study recruited 29 healthy volunteers of young adults (YA: 20-35 years) (n=10), mid-aged (MA: 40-55 years) (n=10) and older adults (OA: 60-75 years) (n=9). The study used human faces with three emotions (neutral, happy, and sad) as stimuli. SimCVL was simulated using custom-made MATLAB programming. Two experiments were developed to investigate emotion identification (experiment 1- oddball design) and categorization (experiment 2-equiprobable design). Participants were asked to identify and respond to the emotions displayed on the monitor. The behavioural responses as performance index and ERP waveforms as mean amplitudes and latencies for P300 and P100, N170, and N250 components were analysed using E-prime and EEG lab toolbox in MATLAB. SPSS V20 was used to analyse the data, and significant differences were determined using a p-value of <0.05.

Results: Experiment 1 showed emotion identification (presence of P300) was present for both happy and sad; however, reduced amplitudes and delayed latencies were observed in OA and more in SimCVL ($P < 0.001$). OA had a poor performance index in the SimCVL compared to MA and YA ($P < 0.001$). Experiment 2 showed no or minimal differences in amplitudes and latencies found for early visual processing (P100) ($P > 0.05$) and encoding of facial features (N170) ($P < 0.001$) across age groups in SimCVL. Delayed latencies and reduced amplitudes were seen in OA for decoding (N250) the facial features ($P < 0.001$). Emotion identification and categorisation are affected more in older individuals with SimCVL than in young and mid-aged adults. Negative emotions had poorer behavioural and linked neural activity than happy across age groups, and this effect was maximum in older adults.

Conclusion: Emotion identification and categorisation are affected in OA in SimCVL compared to YA and MA. Negative emotions had poorer behavioural and linked neural activity than happy across age groups and maximum in OA. Further research is needed to explore the neural basis of emotional processing in CVL patients.

Registration ID Number: 281R163EIVOC2025

Title: Vision and Psychiatric Disorders: A Pilot Study on The Impact of Psychiatric Disorders on Visual Functions

Author(s): Manju Varshini B, Dharani Ramamurthy, Arul Saravanan Ramachandran

Affiliation(s): SRM Institute of Science and Technology, Chennai, Tamil Nadu

Abstract Content:

Purpose: Psychiatric disorders are conditions that affect a person's emotion, cognition and impairment in important areas of functioning. The association of visual functions with psychiatric disorders remains often-overlooked and underexplored. This study aims to assess the visual functions namely visual acuity, color vision, contrast sensitivity and stereopsis among this population.

Methods: A total of 21 patients (10 females; 11 males) with mean age of 28.10 ± 6.41 years (range: 18-35 years) diagnosed with psychiatric disorders, without history of any ocular trauma, surgery or hereditary ocular diseases and 20 healthy controls (10 females; 10 males) with mean age of 27.80 ± 5.98 years (range: 20-35 years) were included in the study. Visual functions: visual acuity, color vision, contrast sensitivity and stereopsis were assessed using Snellen chart, D-15 test, Pelli Robson chart and Randot stereopsis respectively. Statistical analysis was conducted to compare visual functions between persons with psychiatric disorders and healthy controls.

Results: There was a significant deficit in stereopsis among individuals with psychiatric disorders (median = 30.00 arc secs; IQR = 20.00 arc secs) compared to controls (median = 20.00 arc secs; IQR = 0.00 arc secs); ($p < 0.05$). No significant differences were observed in other visual functions tested, including visual acuity, color vision and contrast sensitivity ($p > 0.05$).

Conclusion: These findings underscore the importance of recognizing visual function deficits among individuals with psychiatric disorders. Visual functions can be used as psychophysical markers and pave way for planning interventions accordingly and provide a more holistic approach to its Management thereby enhancing both visual performance and overall quality of life.

Registration ID Number: 581R348EIVOC2025

Title: Insights from the Field: Low Vision Rehabilitation in Eastern India's Largest Eye Network

Author(s): Baby kumari, Ajit Kumar Poddar

Affiliation(s): Akhand Jyoti Eye Hospital, Mastichak Saran, Bihar

Abstract Content:

Purpose: To describe the implementation, effectiveness, and challenges associated with providing low vision aid (LVA) services at Akhand Jyoti Eye Hospital (AJEH), a large-scale non-government eye care network in rural Bihar, India.

Methods: This observational study evaluated the operational framework, patient demographics, uptake of various optical and non-optical LVAs, and qualitative feedback from patients. AJEH's low vision services, managed by optometrist-cum-counselors and supervised by ophthalmologists, offered LVAs to patients with diverse ocular conditions including maculopathies, panretinal dystrophies, optic atrophy, congenital malformations, and corneal dystrophies.

Results: The initiative significantly enhanced accessibility to evidence-based low vision rehabilitation, benefiting an underserved rural population. Patients accepting LVAs reported improvements in quality of life, employment retention, educational inclusion, and overall happiness. However, significant barriers remained, with patients citing affordability, perceived complexity, and limited awareness as key reasons for declining LVAs.

Conclusion: Provision of LVA services by a non-government hospital has successfully addressed critical gaps in rural vision care. To further enhance the impact, public awareness campaigns and integration of LVAs into public health schemes such as PMJAY are recommended. This could substantially improve patient acceptance and quality-of-life outcomes for individuals

Registration ID Number: 429R250EIVOC2025

Title: Impact of Contrast Sensitivity and Visual Field on Driving Performance in Drivers with Visual Impairment

Author(s): Luouie bastin K, Jeevitha Asokan, Janani Suresh, Rashima Asokan

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: The study aims to assess the driving skills of drivers with visual impairment and its impact on contrast sensitivity and visual field.

Methods: A prospective observational study was carried out in two phases. The first phase involved comprehensive eye examination to identify drivers with visual impairment according to the inclusion criteria of visual acuity less than 6/12 in the better eye, along with or without any ocular pathology. The second phase focused on performing a visual field test, contrast sensitivity test with and without glare

wResults: Around 79 drivers reported to the occupational optometry clinic with visual impairment. There were 77 males (97.5%) and 2 females (2.5%) with a median age of 54(52-59) years and the median driving experience of 6 (4-6.5) years. 49 drivers (62.2%) reported difficulty seeing with both eyes and unaided visual acuity in the right eye was 0.47(0.47-0.95) and in the left eye was 0.60 (0.47-0.77). Major causes of impairment were refractive error (n=40, 50.6%) and cataract (n=39,49.36%). A moderate and statistically significant positive correlation was observed between visual acuity and contrast sensitivity under glare conditions and also noted that there is no relationship between visual acuity and visual field.

Conclusion: Refractive error and age-related cataract are the primary causes of visual impairment in these drivers, impacting contrast sensitivity but not visual fields.

Scientific E-Poster Session 13
Pediatric Optometry / Refractive error correction - 2

Registration ID Number: 174R096EIVOC2025

Title: The Role of Peripheral Hyperopia in Myopia Progression and the Efficacy of Myopia Control Glasses in Children

Author(s): Subiksha S, Shashikant Shetty, Sreelekshmi Nair

Affiliation(s): Aravind Eye Hospital, Madurai

Abstract Content:

Purpose: The purpose of this study was to provide insights into whether myopia control glasses could be a viable option for slowing down or preventing the worsening of myopia in children with peripheral hyperopia.

Methods: A cohort of 30 children aged 7 to 15 years with myopia between -1.00 and -6.00 D were recruited for a 6-month longitudinal research. Every participant was assigned twice, before and after using myopia-control glasses. Participants were randomly assigned into two groups 1) a myopic control glasses group and 2) a regular single vision glasses group (control). When the participants focus on the target, the central refractive error is measured at a distance of one meter straight ahead. Peripheral refraction is measured using the Grand Seiko open field autorefractometer. The nasal and temporal retina's peripheral refraction is measured uni-ocularly at 10*, 20*, 30* and 40* angles. Data on peripheral hyperopia and central myopia progression were compared between two groups.
Results: At the end of the 6-month follow-up, children in the myopic control glasses group exhibited significantly slower axial elongation compared to control group. Peripheral refraction analysis showed that the control group had a higher degree of peripheral hyperopia at all measured eccentricities, which was associated with a higher rate of axial elongation. The peripheral defocus control appeared to reduce the stimulus for axial growth in the myopic control group.

Conclusion: This study suggests that relative peripheral hyperopia plays a significant role in driving axial elongation & myopia progression in children. Myopic control spectacles that modify peripheral refraction by reducing relative peripheral hyperopia appear to slow the progression of myopia by limiting the visual cues that contribute to axial growth.

Registration ID Number: 291P046EIVOC2025

Title: Knowledge, Attitude, Practices Related to Myopia Control Spectacle Lenses Among Eye-Care Practitioners in India

Author(s): Swetha S, Samuel Livingstone Kumaran, Ananth Sailoganathan

Affiliation(s): Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu

Abstract Content:

Purpose: Myopia control spectacle lenses have gained considerable attention recently, considering myopia's steep increase globally. However, there remains a gap in understanding the knowledge, attitudes, and practices of eye care practitioners (ECPs) regarding these lenses. Therefore, our study aims to assess ECPs' knowledge, attitudes, and prescribing patterns.

Methods: We conducted this ongoing cross-sectional study among ECPs in India who are actively involved in myopia management. Data were collected through an online survey using Google Forms. The study assessed the knowledge, attitudes, and practices related to myopia control spectacle lenses using a validated questionnaire consisting of 29 item questionnaires.

Results: Among the 49 participants, 38.7% (19) were male and 61.2% (30) female, with a mean age of 28.7 (8.41) years. About 49% (24) prescribed less than five myopia control spectacles quarterly, while 30.6% (15) prescribed 5–10 and 14.7% (7) prescribed more than fifteen. The most preferred myopia control technology was Defocus Incorporated Multiple Segments (D.I.M.S.), chosen by 51%, followed by H.A.L.T. (30.6%), C.A.R.E. (10.2%), and D.O.T. (8.2%). About 49% of participants recommended a wearing time over 12 hours. Common adaptation issues included discomfort (57.1%), headaches (55.1%), and double vision (16.3%). For follow-ups, 53.1% recommended every six months, and 44.9% suggested three months. Most participants (67.3%) were knowledgeable about the power range of D.I.M.S. and H.A.L.T., compared to C.A.R.E. and D.O.T. (38.7%). Knowledge of defocus power and lens specifications varied, with only 34.6% aware of appropriate defocus power for each brand and 32.6% familiar with lens specifications.

Conclusion: While ECPs exhibit awareness of available technologies, particularly D.I.M.S. and H.A.L.T., there are variations in prescribing patterns, ideal wearing time recommendations, and follow-up intervals. Adequate knowledge of currently available myopia control spectacle lenses is crucial in maximizing their efficacy in myopia management.

Registration ID Number: 483R285EIVOC2025

Title: Reasons for spectacle Reassessment in a Tertiary eye care center: A six-year Retrospective Analysis (2019-2024)

Author(s): Arumugam Vijayalakshmi

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: The study aims to investigate the spectacle reassessment rates among dissatisfied patients returning to the optical services of a tertiary eye care center in India over a six year period (2019 to 2024).

Methods: A total of 153,200 spectacles were dispensed from the optical services between January 2019 and December 2024. The spectacle reassessment forms of dissatisfied patients who returned to the optical services with their spectacles were reviewed

Results: Among 359 (0.2%) spectacle reassessments 214 were male, and 145 were female. The primary reasons for spectacle reassessment were error in refractive correction measurement (67% n=239), documentation errors while writing the prescription from the medical records (13.9% n=50) dispensing errors (11% n=42) transcription error occurring at the optical services department (6.12% n =22) and underlying ocular pathology (1.6% n= 6) The annual reassessment rates were as follows: 90 (0.36%) in 2019, 72 (0.59%) in 2020, 67 (0.26%) in 2021, 56 (0.19%) in 2022, 39 (0.13%) in 2023, and 35 (0.11%) in 2024.

Conclusion: The overall spectacle reassessment rate over the six -year period was 0.2% at the tertiary eye care hospital's optical services

Registration ID Number: 496R298EIVOC2025

Title: Impact of Refractive Error on Stereopsis in Emmetropic and Myopic Individuals: A Prospective Study

Author(s): Lingesh M

Affiliation(s): Christian Medical College, Vellore, Tamil Nadu

Abstract Content:

Purpose: To evaluate the effect of refractive status specifically myopia, myopic astigmatism on stereo acuity by comparing stereopsis levels between emmetropic and myopic individuals using a standardized clinical test, with an aim to identify potential sensory compromise despite optimal visual acuity. Also, we compared the effect of latent squint on stereopsis.

Methods: This prospective observational study included 90 subjects (30 each group) aged 18–38 years, categorized into emmetropic and myopic groups. Participants with amblyopia, strabismus, ocular pathology, or history of ocular surgery were excluded. Distance and near logMAR visual acuity were recorded, followed by dry and cycloplegic refraction. Stereopsis assessed using the FRISBY NEAR test at different distances. If the patient unable to perceive at 80cms, test was done at 70,60cms and respective stereo acuity of 20,30,40 sec arc was documented. Frisby plates were used because it doesn't need additional goggles to wear, thus a real stereo test. Statistical analysis included ANOVA test to find significance level between the groups. krus-wallis test was used to find significant relation between age and stereopsis. Also, the effect of latent squint on stereopsis was compared with inbuilt prism maddox rod.

Results: Effect of Refractive error on stereopsis: The mean stereo acuity in the emmetropic group was significantly better (20 sec arc) than in the myopic group (23.103 ± 5.14 arc seconds, p value 0.036) and myopic astigmatism (24.00 ± 9.22). As we observed there is a slight reduction in stereopsis in both refractive groups compared to emmetropes. But the reduced stereopsis still falls in normal clinical range (i.e 20-40 sec arc). Effect of Age on Stereopsis: The mean age of participants 24.66 ± 4.89yrs. Although, the result is statistically significant(p=0.024), the slight decrease remains within normal limits. But this slight decrease is primarily due to refractive error rather than age itself. Effect of latent squint on stereopsis: From the data tables we got, the mean values of squint showed no co-relation with the stereopsis. This shows that latent squint does not contribute to reduction in stereopsis irrespective of spectacle usage duration.

Conclusion: This study concludes that myopic and astigmatic groups show slight reduction. But, this reduction doesnt affect the individuals functionally/occupational difficulties. Since this is pilot study, this study has to be done on large samples with hypermetropes included. Also, we don't know at what threshold/dioptric magnitude the squint(deviation) affects the stereopsis.

Registration ID Number: 203R123EIVOC2025

Title: Siblings and Myopia Study

Author(s): Soubhik Chel, Sruthi Chamarty

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: To understand the role of parental myopia/genetics and environmental factors on myopia, refractive error data of siblings along with lifestyle habits could provide new insights on the interaction given the shared genetics between siblings.

Methods: This is a retrospective descriptive study. We describe here a case series of 50 siblings in an attempt to investigate the association of myopia in siblings, with and without parental myopia, and with time outdoors and near-work. Sibling pairs aged 5 to 24 years were included in this study who were referred to dedicate myopia centre for controlling the progression of myopia. Information including demographics, refractive error, parental myopic status, and environmental factors (self-reported time spent outdoors and near work) were extracted from the electronic medical records of both the siblings.

Results: This retrospective analysis reveals that parental myopia was present only in 1 out of 2 pairs and this necessarily did not induce additional risk for all the children in family to have myopia. Out of the 50 sibling pairs, a positive parental myopia history was found in 25 pairs (50%) only. In 38 pairs, myopia was present in both the siblings and in 12 pairs, only one sibling had myopia with other non-myopic siblings. The pattern of self-reported time outdoors and near-work were not significantly different between the siblings in both the groups (p>0.05).

Conclusion: We did not find differences in the subjectively provided information on time outdoors and nearwork patten between the siblings. Objective measures of behavior or lifestyle factors (not available in our study) could provide deeper insights into why only one sibling from same family develops myopia while other stays non-myopic.

Registration ID Number: 030R031EIVOC2025

Title: Ocular Health Status among Adults Living in Urban Slums of Chennai, South India

Author(s): Ambika Chandrasekar, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu.

Abstract Content:

Purpose: Visual impairment and blindness are major public health concerns. Despite available services, urban slum residents often avoid eye care due to cost and poor awareness. Ocular health data from Indian slums, especially in South India, are limited. This study assessed the ocular health status of individuals in Chennai's slums.

Methods: This cross-sectional study was conducted between February 2024 and March 2025 in the slums of Chennai district, Tamil Nadu. Individuals aged above 19 years were screened for ocular morbidities using a comprehensive screening protocol. The protocol included a detailed medical history, assessment of visual acuity using the LogMAR chart, objective refraction, subjective refraction, non-contact intraocular pressure measurement, anterior segment evaluation using a slit lamp, and posterior segment evaluation using a fundus camera. Free spectacles were provided to individuals with refractive errors, and those requiring further ocular evaluation were referred for free treatment. Visual impairment (VI) and blindness were categorized based on World Health Organization (WHO) criteria. Age was classified into two groups young adults (20-39 years) and Older adults (>39 years). Demographic and clinical data were recorded in Microsoft Excel, and statistical analyses were performed using SPSS software.

Results: A total of 2,203 individuals were examined, with a mean age of 48.50 years (standard deviation: ±13.23 years). Among them, 63.91% (n = 1,408) were female. Ocular complaints were reported by 39.49% (n = 870) of participants, and 21.33% (n = 470) had previously undergone an ocular examination elsewhere. The prevalence of distance visual impairment (VI) was 23.83% (n = 525), while the prevalence of blindness was 1.27% (n = 28). Near visual impairment was observed in 72.63% (n = 1,600) of the study population. The distance VI is associated with female gender (OR= 1.26, 95% CI(1.02 -1.55), P<0.031).
Conclusion: To the best of our knowledge, this is the first study reporting ocular health status in South Indian slums. The study highlights a high burden of VI and near VI among adults living in Chennai's slums, with distance VI significantly associated with female gender and older age.

Scientific E-Poster Session 14
Ocular Disease and Diagnostics - 2

Registration ID Number: 198R118EIVOC2025

Title: Study of Visual Evoked Potential Patterns for Optic Nerve Disorder. The type of my study is Retrospective Cohort Study.

Author(s): Debannita Pal, Md Shahid Alam

Affiliation(s): Sankara Netralaya, Kolkata

Abstract Content:

Purpose: Flash VEP can be used as an important tool for diagnosis of optic neuropathies or revealing of recurrence of disease and for follow up.

Methods: It was a retrospective observational cohort study. 44 patients were included, diagnosed with optic nerve disorders like compressive optic neuropathy, traumatic optic neuropathy (TRON), toxic optic neuropathy, optic neuritis, and congenital optic nerve disorder. Flash VEP was used and amplitude and latency were noted.

Results: Out of total 88 eyes, 63 eyes were affected. Traumatic optic neuropathy (17, 27%) was the most common etiology, followed by compressive optic neuropathy (10, 15.87%), optic neuritis (9, 17.29%), toxic optic neuropathy (5, 7.94%), and congenital Optic nerve disorder (3, 4.76%). Mean latency and amplitude of all affected eyes were117.33 msec and 7.39 microvolt respectively. The patients were classified as, normal latency with reduced amplitude (29, 46.03%),delayed latency with reduced amplitude (20, 31.74%) normal latency with normal amplitude (10, 15.87%), and delayed latency with normal amplitude (4, 6.34%). The most common pattern seen in TRON was normal latency with reduced amplitude while it was normal latency with reduced amplitude for compressive optic neuropathy.

Conclusion: VEP can be used to detect subclinical damage in the fellow eyes of optic neuritis and also useful in differentiating the optic neuritis from ischemic optic neuropathy.

Registration ID Number: 369U102EIVOC2025

Title: The effect of 8-D music and digital screen use on intraocular pressure and corneal thickness

Author(s): Kavana D C

Affiliation(s): Vittala international Institute of ophthalmology, Bangalore, Karnataka

Abstract Content:

Purpose: The purpose of the study is to determine how the effect of 8-D music and digital screen use on intraocular pressure (IOP) & corneal thickness (CT).

Methods: Prospective observational study (Pilot study), this study conducted on two consecutive days with same timings on each day in a dark room with duration of 15 minutes. IOP & CT were measured and compared before and after values. In day 1 IOP and CT measured before and after listening to 8D music for 15min through Earbuds. In day 2 IOP and CT measured before and after listening to 8D music with digital screen for 15min.

Results: A change in intraocular pressure was observed across both sessions. On Day 1, IOP increased from a baseline mean of 14.69 mmHg to 17.38 mmHg after listening to 8D music. On Day 2, where 8D music was combined with digital screen fixation, IOP increased from a baseline mean of 13.81 mmHg to 17.31 mmHg post-intervention. In contrast, corneal thickness remained stable throughout both sessions, showing no appreciable difference between pre- and post-intervention measurements.

Conclusion: In this study, exposure to 8D music, both alone and in combination with digital screen fixation, resulted in increased intraocular pressure, while corneal thickness remained unchanged. These findings suggest that 8D music may influence IOP without affecting corneal thickness.

Registration ID Number: 172R094EIVOC2025

Title: Descriptive analysis of structure - function test parameters in primary glaucoma subtypes

Author(s): Sweety Sharma

Affiliation(s): Dr. Shroff Charity Eye Hospital, New Delhi

Abstract Content:

Purpose: To analyse the structural and function correlation in glaucoma subtypes in North Indian population

Methods: This was a retrospective study carried out in a North Indian eye hospital. The study included 420 eyes. A review of medical history, best corrected visual acuity, slit lamp examination, van herick grading, Goldman applanation tonometer and gonioscopy was conducted. The patients underwent complete ophthalmologic examinations including visual field analysis with SAP and SD-OCT imaging with Zeiss Cirrus HD OCT 5000. All patients were more than 18 years of age with diagnosis of disc suspect, POAG, PACG, JOAG or NTG was included in the study.

Results: Total 420 eyes of 222 patient's data was analyzed. We found that 46% was disc suspect, 37% was POAG, 10% was PACG, 4% was JOAG & 3% was NTG. In disc suspect 84% time, VFA was normal. In JOAG, 47.1%-time advance field defect followed by 11.8%-time Nasal Step was present. In NTG superior altitude field defect (18.2%) was more frequent followed by Bi arcuate (11.6%). In PACG superior arcuate (11.6%) was present. In POAG, advanced field defect (21.2%) was more frequent followed by superior arcuate (17.3%). For NTG, there was strong linear correlation between VFI and average RNFL thickness. Mean deviation value was more dependent on inferior RNFL thickness for POAG, PACG and NTG.

Conclusion: Superior field defect is more common for all primary glaucoma subtypes. Inferior RNFL thickness loss is important factor for visual field defect. There is a linear correlation between inferior RNFL loss and severity of field defect.

Registration ID Number: 227P025EIVOC2025

Title: Ocular profiling of patient with Adie's Pupil: A Retrospective Study from a Tertiary Eye Care Center in South India

Author(s): Sunny Kant, Amit Bhowmick, Praveen Kumar P

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Purpose: The study's objective is to profile the presentation and describe the demographic, refractive, and binocular vision characteristics of patients diagnosed with Adie's Tonic Pupil (ATP) using retrospective clinical data from a tertiary eye care center in South India. Understanding these parameters can guide tailored management strategies for better visual outcomes.

Methods: This retrospective study was conducted at a tertiary eye care hospital in South India. The medical records of patients diagnosed with Adie's Tonic Pupil (ATP) between January 2015 to December 2025 were reviewed using the hospital's electronic medical record (EMR) system. A total of 14 patients with a confirmed clinical diagnosis of ATP with idiopathic cause were identified and included in the study. Patients with incomplete medical records or a known secondary cause for tonic pupil—such as ocular trauma, intraocular surgery, were excluded from the study.

Results: A total of 14 subjects with the mean (SD) age was 30.5(±6.9) years with 8(56%) being male. Unilateral involvement was noted in 9(63%). Myopia and astigmatism were the predominant refractive errors 6(42%), with astigmatism present in 7(50%) Emmetropia was seen in 5(35%) patients. The mean (SD) pupil size was 4.99 ± 1.13 mm in the right eye and 5.08 ± 1.06 mm in the left eye. The mean (SD) monocular accommodative facility was 3 (± 4.11) cycles/minute, Exophoria at near was observed in 4(28%). Intermittent divergence strabismus and alternating convergence strabismus were seen in 2(14%) and 1(7%), respectively. Monocular estimation method (MEM) revealed accommodative lag in 6(42%) in both eyes, with lead in 2(14%) in right and normal responses in 5(35%) in right and 7(50%) in left eye management strategies included additional corrective spectacles 6(42%), contact lenses 2(14%), vision therapy 4(28%), and tinted glasses 2(14%).

Conclusion: Patients with idiopathic Adie's Tonic Pupil often present with myopia, astigmatism, accommodative lag, and strabismus. This highlights the need for comprehensive optometric evaluation. Tailored interventions—such as spectacles, contact lenses, vision therapy, and tinted lenses—are essential for managing visual discomfort and improving functional vision in these individuals.

Registration ID Number: 317P048EIVOC2025

Title: Development of a hybrid low-cost smartphone-based fundus camera using IR and visible light for retinal imaging

Author(s): Nivetha K, Meenakshi Narayanan, Maheswari Srinivasan, Dhivwesh V, Divya Muravina R, Harihanth P, Carolyn Kiruba S

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Conventional fundus cameras are costly and uncomfortable due to bright illumination. This project presents a hybrid fundus camera using infrared for alignment and optional monochromatic imaging, and visible light for detailed retinal capture. The design improves comfort, affordability, and accessibility, making it ideal for low-resource and telemedicine environments.
Methods: This proposed device integrates a smartphone camera, a 20-diopter indirect ophthalmoscopy lens, a 3D-printed optical housing, and a 45-degree beam splitter. Dual illumination is provided through adjacent arrays of infrared (850 nm) and visible LEDs. IR light enables comfortable, non-mydriatic alignment and can also be used to capture monochromatic fundus images, especially in low-light or high-sensitivity scenarios. The beam splitter reflects IR into the eye and allows the returning retinal image to pass through to the smartphone camera. For enhanced imaging. The device is designed for portability, ease of use, and low manufacturing cost.

Results: Initial prototypes faced challenges such as image distortion and excessive reflections, which compromised diagnostic quality. Through iterative refinements in optical alignment, illumination design, and beam splitter positioning, image resolution and clarity were significantly enhanced. The final prototype is optimized for high-contrast imaging, minimizing aberrations and improving overall retinal visualization.

Conclusion: This hybrid fundus camera enables both infrared and visible light imaging, improving patients comfort and imaging flexibility. Its low-cost, portable, and modular design makes it suitable for resource-limited settings and telemedicine. The dual-mode approach broadens diagnostic possibilities, making retinal screening more accessible and adaptable to diverse clinical needs.

Registration ID Number: 370R199EIVOC2025

Title: Comparative Study on Patient Comfort, Ease of Use, and Time Efficiency between Heidelberg Spectralis and SS-Intalight Dream OCT Systems in a Clinical Setting.

Author(s): Amritha Vijayan V L, Unnikrishnan Nair, Manoj S, Zanhar K K

Affiliation(s): Chaithanya Eye Hospital and Research Institute, Kesavadasapuram,Trivandrum,Kerala.

Abstract Content:

Purpose: Optical coherence tomography (OCT) protocols vary in clinical efficiency and patient experience. This study aims to compares Heidelberg spectral-domain (SD) and Intalight swept-source (SS) OCT across time metrics, scan reliability, and patient satisfaction.

Methods: Data from 30 paired observations assessed procedural durations (SD OCT TIME and SS OCT TIME), scan patterns (OCT A, OCT, OCT GMPE-Glaucoma Module Premium Edition), patient satisfaction (5-point Likert scale), and technical performance (repetitions, unusable scans). Descriptive statistics and variability analysis were applied. The study conducted in a tertiary super-speciality hospital where both devices are available.

Results: SS OCT procedures were faster on average (93.8 vs. 129 seconds) but exhibited greater time variability (SD = 165 vs. 72.4). Stratified by scan pattern, SS OCT retained higher variability (e.g., OCT: 95.1 ± 176 vs. 132 ± 75.9). Patient satisfaction favored SS OCT, with 93.5% rating it "Good" versus 80.6% for SD OCT. Technical performance metrics reinforced SS OCT's reliability: fewer repeat scans (5 vs. 15) and unusable scans (2 vs. 5) compared to SD OCT.

Conclusion: This study provided valuable insights into the comparative effectiveness of Spectralis OCT and SS-Intalight Dream OCT. These findings serve to enhance patient compliance and operator comfort, while studying the structural analysis of pathology, thereby enhancing the overall efficiency of ophthalmic practice.

Registration ID Number: 199R119EIVOC2025

Title: Assessing quality of Optometry diagnostic services through peer review in a NABH accredited eye hospital

Author(s): Debalina Guchhait

Affiliation(s): Sanakara Nethralaya, Kolkata

Abstract Content:

Purpose: To assess the quality of optometry diagnostic servicesthrough peer review in a NABH Accredited eye care hospital.

Methods: This observational study was conducted on retrospective clinical audit of case records from January 2023 to December 2024 for anterior and posterior ocular diagnostic proceduressuch as Humphrey Visual fields, Posterior Optical Coherence Tomography and Ocular Electrodiagnostics.Four trained examiners, each with a minimum of twoyears of experience in their respective domains, performed the diagnostic procedures. Two senior reviewers, each with minimum fiveyears of experience were appointed to evaluate and identify errors in documentation and description of findings. Error reviewing data with bench mark was maintained by the reviewers in each domain in Microsoft Excel format. Followed by the review, corrective measurements were ensured and discussed among the examiners in each domain. Bench mark was updated in the process of review. Agreement score between the examiners and peer reviewers were analyzed.

Results: A total of 598 records were included for analysis. The overall agreement score of the year 2023 was 96% which improved to 99% in 2024.The error score for Visual fields, Optical Coherence tomography and Ocular Electrodiagnostics were 2-3% in each diagnostics. In the year 2023 with bench mark of 5%. Image analysis error, Documentation error, Measurement error and missing test parameter were showed significantly reduced. As the error score reduced due to corrective measurements, bench mark was reduced to 2% in the year 2024. The error score for the year 2024 for Visual fields, Optical Coherence tomography and Ocular Electrodiagnostics were 1%.

Conclusion: Agreement score between examiners and senior reviewers on optometry diagnostic services improved following constant monitoring of errors and appropriate corrective measures.

Scientific E-Poster Session 15
Optometric Education / Public Health Community Optometry - 2

Registration ID Number: 414R236EIVOC2025

Title: Impact of Teleophthalmology in Rural Eye Care: A Decade-long Study on Blindness Prevention in Tamil Nadu, India

Author(s): RAMESH BABU, Shiela John, Paulson Purushothaman, Dinesh Kumar

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: This study aims to detail the process of conducting eye camps with the aid of a teleophthalmology bus/unit and review the results to determine the major causes of blindness in Tamil Nadu, India. The mobile teleophthalmology unit enhances access to comprehensive eye care services in rural and underserved regions.

Methods: This study follows a descriptive longitudinal observational design, analyzing data collected over a 10-year period (April 2015 to March 2025) from teleophthalmology-enabled rural eye camps across Tamil Nadu. The teleophthalmology unit consists of a mobile van equipped with state-of-the-art ophthalmic instruments, operated by a team of paramedical staff. The rural teleophthalmology unit of Sankara Nethralaya. At each camp, patients underwent comprehensive eye examinations. The examination process was supported by teleconsultations, where an ophthalmologist at the base hospital provided real-time consultations via internet connectivity (256–512 Kbps) using a laptop and webcam. Patient information was recorded in electronic medical records (EMR) for continuous monitoring and follow-up.

Results: Over the 10-year study period (April 2015 to March 2025), a total of 1,819 camps were conducted in Tamil Nadu, where 184,684 patients were evaluated. Additionally, 5,357 teleconsultations were carried out, facilitating remote expert opinions and improving the quality of care provided at the camps. Among the major causes of blindness identified Uncorrected Refractive Errors was seen in 85,743 cases, Cataract in 25,073 cases and Retinal Diseases in 4705 cases

Conclusion: The teleophthalmology unit effectively delivers comprehensive eye care in rural Tamil Nadu, playing a key role in blindness prevention. By enabling access to quality services in remote areas, it demonstrates the potential of teleophthalmology as a scalable model to reduce avoidable blindness within India's primary healthcare system.

Registration ID Number: 487R289EIVOC2025

Title: Empowering Women for Leadership: Transformative outcomes of the Women Leadership Program

Author(s): Paula Mukherjee, Harshada Kale, Uma Narayanan, Lakshmi Shinde

Affiliation(s): Optometry Confederation of India

Abstract Content:

Purpose: To empower ascending women with the skills, strategies, confidence, and connections they need to achieve their professional goals in the field of optometry.

Methods: The OCI Team launched the Women Leadership Program in celebration of International Women's Day on March 8th, 2024. The program attracted 26 vibrant women participants from various optometry sectors. This hybrid model (virtual + physical) comprised 12 virtual sessions, held on alternate Saturdays from 3: 30-5: 00 PM. Upon completing the virtual course, participants were invited to a two-day face-to-face meeting in Bangalore to consolidate their learning.

Results: The program was attended by 25 participants, including private practitioners, optometry educators, and professionals from retail and corporate backgrounds. The majority had 10-12 years of experience in the field, holding mid-to-senior level roles. Leadership coach facilitated input sessions and shared activities, refresher notes, and materials. Coach provided participants with tools to overcome challenges, and participants openly discussed barriers they encountered in their professional journeys.

Conclusion: Women in optometry must equip themselves with the necessary competencies to address the unique challenges they face in their career advancement. Challenges such as unconscious bias, limited access to high-level roles, and a shrinking peer group can hinder their professional growth. By developing leadership skills that emphasize their unique attributes

Registration ID Number: 035R036EIVOC2025

Title: Prevalence of Refractive Error and Visual Impairment Among School Children in India: Insights from the National 'Vision for a Cause' Screening Initiative

Author(s): Swetha Saravanan, Bhavya M, Spandhana P, Anuradha Narayanan, Paula Mukherjee, Premjith Moodbidri, Joachim Khus, Lakshmi Shinde

Affiliation(s): Elite School of Optometry, Chennai

Abstract Content:

Purpose: The 'Vision for a Cause' program, a nationwide school eye health initiative led by the Optometry Confederation of India, aims to address preventable vision disorders through standardized screenings. This study evaluates the prevalence of refractive error and visual impairment among school-aged children across India.

Methods: This large-scale cross-sectional study was conducted across multiple Indian states using the standardized REACH Protocol. Trained optometry teams conducted these comprehensive eye examinations, including visual acuity testing (presenting and best-corrected), refraction, color vision assessment, and anterior segment evaluation. Data were collected on demographic characteristics, visual acuity levels, refractive status, and ocular abnormalities. Statistical analysis included calculating prevalence rates and categorizing vision impairment according to WHO classifications.

Results: A total of 27,481 children with a mean age of 12.76±2.90 years were screened across six Indian states covering all four geographical zones. Following the initial eye examination, about 6970 (25.36%) were referred for detailed eye examination by optometrists. Among them, Presenting Vision Impairment and blindness was found in 1447 (5.27%) and 70 (0.25%) children respectively. Females (OR:1.517, p<0.001), children from the western (OR:4.735, p<0.001) and southern zones (OR:1.437, p=0.001) had higher ODDs of PVI. Uncorrected refractive error accounted for 36.70% (531 cases) of PVI. Myopia (8.50%) was the most prevalent refractive error, followed by astigmatism (3.33%) and hyperopia (1.68%).

Conclusion: This study highlights URE as a critical public health issue in India, with disparities linked to gender and geography. The Vision for a Cause program demonstrates that large-scale school eye health initiatives are feasible in low-resource settings when using standardized protocols (e.g., REACH) and locally trained optometrists.

Registration ID Number: 207R126EIVOC2025

Title: Normative Data for Visual Functions among the Preschool Children from the SN-SEEKS study

Author(s): Vipin G, Aparna Raghuram, Anuradha Narayanan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Understanding the development of visual functions during the emmetropization period can help in the early detection of ocular conditions before the end of the critical period, utilizing normative values. This study aimed to report normative data on visual functions among preschoolers.

Methods: This cross-sectional study developed a screening protocol comprising assessments of stereoacuity using the PASS II (Pediatric Assessment of Stereopsis with a Smile) and Random Dot 2 Stereoacuity tests, visual acuity with the LEA Symbols® 3-Meter Chart; and contrast sensitivity using the LEA Symbols® Low Contrast 10M Optotype and the LEA Symbols® Low Contrast Pediatric Booklet (both from Good-Lite Co., Elgin, IL, USA). Near Worth Four Dot test; cover test at distance and near; colour vision using Ishihara plates; Refraction was assessed using the Spot Vision Screener (Welch Allyn, Skaneateles Falls, NY) and the Open-field Autorefractor (WAM-5500, Grand Seiko Co. Ltd., Japan). An external eye examination was performed, and a non-cycloplegic prescribing guideline along with age-specific referral criteria were developed using the Delphi method. Clinical examinations were conducted by trained optometrists among 3- to 5-year-old children attending schools in South India. Descriptive statistics with mean ± standard deviation (SD) is presented.

Results: From a total of 574 children screened, the PASS II test could be performed for 97.9% children, the RS2 test on 92.1%, colour vision testing on 85.6%, WFDT on 97.7%, visual acuity for 91.9%, contrast for 91.6% and cover test for 100%. The Mean±SD values of the visual functions are presented among 3-, 4- and 5-year-olds respectively. Visual acuity: 0.14 ± 0.12, 0.11 ± 0.12, and 0.11 ± 0.11; Stereopsis (Randot): 103 ± 110, 60 ± 58, and 51 ± 48 arc seconds, spherical equivalent was 0.27±0.38, 0.37±0.50 and 0.23±0. 25D. Contrast acuity was almost 2.8 ± 1.5% for all the age groups.

Conclusion: This study reports results of diverse visual function among preschool children to the best of our knowledge in India.

Registration ID Number: 211U068EIVOC2025

Title: Cost Analysis of Single-day Mass Vision Screening (SMVS) for School-going Children in India

Author(s): Sneha K, Helan Suruthi S, Kalaiyarasi Dhandapani, Swetha Saravanan, Anuradha Narayanan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Unlike conventional school eye screening, Single-day Mass Vision Screening (SMVS) is a large-scale screening strategy where over 2000 students are screened per-day or involve 5 or more screening teams per-day with maximum utilization of the available resources.This study aimed at analysing the cost incurred to conduct SMVS for school-going children.

Methods: This is a cost analysis study conducted for schools screened by SMVS model in two districts of India in the academic year 2023-2024. The direct costs involved in these screening was identified from the audited financial records of the project. It was categorized into five types: Personnel costs including the salary of optometrist, social worker and project coordinator; Operational costs including the food and transportation expenses; Cost of instruments, Training cost and Cost of the deliverables like spectacles, Vision Therapy (VT) kit and consultation at hospital. The primary outcome of the study was cost per school and cost per child. All costs were calculated in Indian Rupees and converted into US Dollars.

Results: A total of 22,864 children from 102 schools were screened over nine SMVS days,with a median of 2,290 children screened per day and a median of 38 team-members for screening per day. The median cost per school was 3,594 INR ($43.52) for screening and 9,433 INR ($114.24) including deliverables.For each child, the median cost was 17.99 INR ($0.21) for screening and 59.72 INR ($0.72) including deliverables.Deliverables accounted for the largest share of the total expenditure(71%) followed by operational costs(13%).The multivariate linear regression analysis revealed that the number of team members was significantly associated (p>0.001) with total cost per school and per child and, with cost of screening a school.The number of children screened was significantly associated (p>0.001) with the cost of screening a child.

Conclusion: This SMVS model has shown to have lower-costs than conventional screening programmes with large-scale eye screening in a shorter span of time.As there are multiple optometry institutions across the country, resources can be pooled effectively to plan and execute this cost-effective mass screening strategy for better coverage and maximum resource-utilization

Registration ID Number: 489R291EIVOC2025

Title: Spectacle Wear Adherence among Beneficiaries of Community Outreach Programs by a Tertiary Eye Care Hospital

Author(s): Pushpavalli M, Vijayalakshmi A, Ramya Sachinandam, Ramani Krishna Kumar

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Purpose: To assess the adherence to spectacle wear among individuals who received spectacles through community outreach programs conducted by a tertiary eye care hospital.

Methods: This observational study was conducted among beneficiaries of outreach programs where spectacles were prescribed and dispensed following a comprehensive eye examination, between January 2024 and April 2024. Adherence was defined as the continued use of spectacles for at least one year from the date of dispensing. A telephone-based survey was conducted one year after dispensing to assess spectacle usage and comfort. Oral informed consent was obtained from all participants prior to the survey. For individuals under 18 years, responses were collected from their parents or guardians.

Results: Out of 252 individuals who received spectacles, 129 participated in the follow-up survey. Participants ranged in age from 3 to 80 years, with 58.1% (n=75) being male and 41.9% (n=54) female. Single vision spectacles were dispensed to 25.6% (n=33) of the participants, while 74.4% (n=96) received bifocals. At the one-year follow-up, 65% (n=84) reported continued spectacle use, while 35% (n=45) reported discontinuation. Among adherent users, 78% (n=66) were comfortable using their spectacles, 11% (n=9) reported discomfort, and another 11% (n=9) used them occasionally. Among non-adherent users, 58% (n=26) discontinued due to non-use, and 42% (n=19) cited discomfort. Most of the discomfort and non-adherence was noted among bifocal users, primarily due to difficulty in depth perception on uneven surfaces.

Conclusion: The majority of participants adhered to spectacle wear. However, non-adherence and discomfort were more common among bifocal users due to depth perception challenges. Continuous follow-up and proactive support from spectacle

Registration ID Number: 127P011EIVOC2025

Title: Exploring Teaching and Learning in Mastering Retinoscopy Among Optometry Students – A Qualitative Study

Author(s): Anushiya R, Gopinath Madheswaran, Naveen T, Rajkumar V, Saranya Sachi Balasubramaniam, Chinnasamy Balasubramaniam

Affiliation(s): Acchutha Eye Care & Acchutha Institute of Optometry, Erode, TamilNadu

Abstract Content:

Purpose: Retinoscopy the basis of accurate refraction is an essential skill in optometric education. This study addresses what optometry students find challenging in learning retinoscopy, how best to teach them, and how recent technologies assist in learning this clinical skill set.

Methods: This qualitative study involved 23 second and third-year optometry students attending various Optometry institutions in India. An Excel sheet containing participant information and inclusion criteria was sent to potential participants. Interested individuals were then approached and informed consent was obtained before participation. Data was collected through semi-structured face-to-face and telephone interviews based on participant preference. Interviews were audio recorded and transcribed verbatim. Thematic analysis identified key patterns and themes relating to how students experienced learning, challenges faced and coping strategies to master retinoscopy.

Results: The following learning issues were identified: a) early learning needs – students reported difficulties mastering the retinoscopic reflex, matching theory with practice, and handling patients; b) teaching/learning methods — repetition, hands-on practice, and visual aids were beneficial; c) technology and learning – many students used online resources including YouTube videos and mobile applications. Retinoscopy simulators were used to facilitate their understanding, visualize concepts and practice interpreting reflex in a more accessible format; d) practice–related factors – students highlighted peer learning, early exposure to clinical experiences, and formalised support; e) emotional factors – low confidence and anxiety in clinical settings were common but improved with supervision, positive reinforcement and practice.

Conclusion: For most optometry students, retinoscopy can be challenging to learn. Fusing pedagogically supportive teaching approaches with contemporary technologies, including online visuals and simulator applications can enhance understanding and confidence. Combined approaches such as digital tools, improved clinical exposure, and structured guidance can bridge the clinical and theoretical learning divide

Scientific E-Poster Session 16
Dr Rajeswari Mahadevan Memorial Scientific Session 2

Registration ID Number: 516R311EIVOC2025

Title: Impact of Contact Lens Disposal into the Environment – A Review

Author(s): Mohana Sundari S.B, Nandhini E, Supraja K

Affiliation(s): Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu.

Abstract Content:

Purpose: Contact lens has been used for decades to correct vision. Most contact lens have been made of silicone derived hydrogel material, a plastic polymer. A typical CL wearer, generates approximately 1.06 kilograms of waste annually, leading to an adverse effect on the environment.

Methods: PubMed and Scopus databases were searched for reviews on environmental impact of contact lens disposals. Currently, more than 150 million people use contact lens. As reported by International Union for Conservation of Nature (IUCN) in 2021, over 300 million tons of plastics are produced globally each year, with 8 million tons designed for single use items. These single use plastics often end up in water systems, eventually contaminating the ocean. An average contact lens wearer, whether daily disposables or monthly reusable, generates approximately 1.06 kilograms of waste annually.

Results: Around 74% contact lens users weren't aware that contact lenses do not biodegrade. The majority of the CL users dispose of the worn contact lenses by flushing or throwing them away. Each year, millions of discarded contact lenses end up in landfills and water systems, where they break down into microplastics, posing threats to aquatic ecosystems and human health. Annually, more than 132 million kilograms or 291 million pounds of plastic waste associated with contact lenses is produced, with about 40 million kilograms stemming from monthly disposables and more than 50 million kilograms from daily disposables. Insufficient instruction on proper disposal techniques for contact lenses has led to microplastic pollution in water systems

Conclusion: As part of the Sustainable Development Goals in CL manufacturing, biopolymers will be produced in place of traditional polymers to lessen the impact of environmental pollution. The use of recyclable blister packing will introduced, and CL cartons will be made using ecofriendly materials with reduced carbon emissions

Registration ID Number: 046R045EIVOC2025

Title: Distinguishing Superior Suspect Keratoconus and Superior Keratoconus from Normal Eyes Using Corneal Topography, Tomography and Higher Order Aberrations Parameters.

Author(s): Zalak Shah

Affiliation(s): C. H. Nagri Eye Hospital, Ahmedabad

Abstract Content:

Purpose: To establish cutoff values for distinguishing superior suspect keratoconus (SS-KC) and superior keratoconus (KC) from normal eyes using corneal topography, tomography, and higher-order aberration (HOA) parameters.

Methods: A cross-sectional cohort study was conducted on 72 eyes from 72 participants, including 24 healthy controls, 24 SS-KC cases, and 24 superior KC cases, who visited a tertiary eye hospital between June 2018 and December 2024. All participants underwent comprehensive ophthalmic evaluation. Corneal imaging was performed using the Atlas 9000 corneal topography system and the Sirius tomographer. Superior KC was diagnosed based on clinical keratoconus signs, characteristic topographic patterns (asymmetric bowtie with superior steepening or superior steep), an inferior-superior (I-S) ratio of ≥ -2.5D, and posterior elevation ≥ 24 μm. SS-KC was defined by one or no clinical signs, an I-S ratio of ≥ -1.6D, and posterior elevation < 24 μm. Corneal topographic, tomographic, and HOA parameters were compared across the three groups. The Kruskal-Wallis test and receiver operating characteristic (ROC) curve analysis were performed to assess diagnostic accuracy.

Results: The superior KC and SS-KC groups exhibited significantly higher values for steep keratometry, astigmatism, mean inferior-nasal and superior-temporal ratio, toric keratometry mean (TKM), vertical coma, anterior corneal HOA root mean square (RMS), keratoconus vertex front (KVF), surface irregularity (front and back), optical path difference, and total corneal RMS of (HOAs, astigmatism, coma, and residual) compared to controls (P
Conclusion: This study establishes key tomographic and HOA parameters for detecting SS-KC and superior KC. Integrating superior-specific cutoff values into automated diagnostic systems is essential for early and accurate detection, which is crucial for refractive surgery decision-making and preventing post-surgical ectasia.

Registration ID Number: 115R058EIVOC2025

Title: Impact of Corneal Collagen Cross-Linking on Visual Acuity and Higher-Order Aberrations in Keratoconus: A Retrospective Study at a Tertiary Eye Hospital

Author(s): Suraj Chaurasiya, Ashi Khurana, Sanjay Chanda

Affiliation(s): CL Gupta Eye Institute, Mordabad, Uttar Pradesh

Abstract Content:

Purpose: To assess the effect of corneal collagen cross-linking (CXL) on uncorrected and best-corrected visual acuity, as well as higher-order aberrations (HOAS), in keratoconus patients using Scheimpflug-based tomography, and to determine the procedure's efficacy in altering visual and corneal parameters indicative of disease stabilisation and structural improvement.

Methods: This retrospective cross-sectional study was conducted at a tertiary eye hospital in western Uttar Pradesh, India. It included 26 eyes from 22 keratoconus patients aged ≥12 years who underwent CXL using the standard Dresden protocol. Patients were evaluated preoperatively and at least six months postoperatively. Visual acuity Outcomes, including uncorrected visual acuity (UCVA) and best-corrected visual acuity (BCVA), were recorded in Snellen format and converted to LogMAR for statistical analysis. Corneal tomography using the Pentacam system provided data on anterior and posterior higher-order aberrations (HOAs) as well as keratometric parameters (K1, K2, Kmax) and corneal thickness. Specific Zernike coefficients were analyzed for aberrations, including spherical aberration and coma. Statistical analyses were performed using SPSS v21.0, with a p-value ≤ 0.05 considered statistically significant.

Results: Post-CXL, a statistically significant improvement was observed in UCVA, improving from 0.90 ± 0.40 to 0.75 ± 0.40 LogMAR (p = 0.05). However, BCVA showed a non-significant change from 0.30 ± 0.44 to 0.34 ± 0.40 LogMAR (p = 0.43). Significant corneal flattening was indicated by reduced K1 (p = 0.03) and K2 (p = 0.001), while Kmax remained relatively unchanged (p = 0.87). Corneal thickness at the thinnest point decreased significantly from 436.96 ± 41.90 μm to 403.30 ± 50.51 μm (p = 0.0001). Among anterior HOAs, spherical aberration (Z(4,0)) decreased significantly (p = 0.02), while vertical coma (Z(5,-1)) increased (p = 0.01). On the posterior surface, spherical aberration (Z (4,0)) also increased

significantly (p = 0.01). Other HOAs remained relatively stable post-procedure

Conclusion: CXL significantly improves uncorrected visual acuity and induces corneal flattening in keratoconus, though its impact on best-corrected acuity and total HOAs is limited. Alterations in specific aberrations like spherical aberration and coma suggest selective remodelling, supporting CXL as a valuable intervention to halt disease progression and enhance visual Outcomes.

Registration ID Number: 420R242EIVOC2025

Title: Surgical Aphakia in Severe Ocular Surface Disease: Scleral Lens to The Rescue

Author(s): Kiranmayi Chappidi, Simmy Chaudhary, Swapna Shanbhag

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: This study aims to evaluate the benefit of scleral lenses (SCL) in eyes with surgical aphakia following cataract surgery in patients diagnosed with chronic cicatrizing conjunctivitis (CCC) and severe keratopathy.

Methods: This retrospective study includes 18 eyes with CCC and severe keratopathy, all of which underwent cataract surgery and were left aphakic, followed by fitting with SCLs. The primary Outcome was the improvement in best-corrected visual acuity (BCVA) with SCLs in aphakic eyes after cataract surgery.

Results: Eighteen eyes from 15 patients (mean age: 53 years) were analyzed, with females comprising 55.6% (10/18) of the eyes. The leading cause of CCC was Stevens-Johnson Syndrome (SJS) (72.2%), followed by mucous membrane pemphigoid (MMP) (22.2%). Cataract surgery was primarily performed using small incision cataract surgery (SICS) and phacoemulsification, with SICS preferred in advanced keratopathy cases. The median preoperative BCVA was 1.7 logMAR (IQR: 1.3–2.2), improving to 1.5 logMAR (1.2–1.8) at six weeks postoperatively (p=0.056). With scleral contact lenses (SCL), BCVA further improved to a median of 0.8 logMAR (0.7–1.2) (p=0.0003) at the final follow-up. SCL use began at a median of 1.5 months (IQR: 1–2.75) post-surgery. The median follow-up in the SCL clinic after lens dispensing was 19 months (IQR: 2.5–45.75).

Conclusion: SCL offer effective visual rehabilitation for patients with surgical aphakia and advanced keratopathy secondary to CCC, offering a potential solution for individuals who might otherwise experience permanent blindness.

Scientific E-Poster Session 17
Dr E Vaithilingam Memorial Scientific Session

Registration ID Number: 485R287EIVOC2025

Title: Does Altering the Text and Background of Hardcopy have Influence of Ocular Biometry?

Author(s): Bhavani V, Sarada Devi, Suvechha Das, Swapnil Thakur, Pavan Verkicharla

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Near work is considered a potential risk factor for myopia. Modifying the contrast and use of selective filtering of the wavelengths in the near target have shown to affect ocular biometry. We aimed to investigate the effect of short-term near work on ocular biometry with different text and Background combinations.

Methods: 2.7 years, 18 myopes) were recruited for this experimental study. All the participants were instructed to read a novel (The 3 Mistakes of My Life) in a hardcopy for 15 minutes each placed at 20 cm with four different text and Background : combinations: (1) black text on white Background : (luminance = 4.1 cd/m2, CIE value : L*a*b = 5.73*-0.14*4.14), A total of 34 young adults (23.9 (2) white text on black

Background: (160.2 cd/m2, CIE value : L*a*b = 57.16*-13.59*12.68), (3) white text on red Background : (36.9 cd/m2, CIE value : L*a*b = 28.84*40.53*40.80, = 475 nm). Axial length was measured using Lenstar LS 900 before and after 15-minutes reading for all the four text and Background combinations. All the sessions were conducted on a same day with 10 minutes of washout period between each session. = 602nm), (4) white text on blue Background (23.5 cd/m2, CIE value: L*a*b = 22.60*5.36*-39.35,

Results: After 15 minutes of reading with white text on blue background, participants showed no significant change in axial length from baseline (median (IQR): 0.00 µm (10.00 µm), p = 0.07). However, reading with other text and background combinations led to a significant increase in axial length from baseline (black text on a white background 0.00 µm (20.00 µm), p = 0.03; white text on a black background: 0.00 µm (10.00 µm), p = 0.02; white text on a red background: 10.00 µm (30.00 µm), p = 0.02). Despite these individual differences, the magnitude of the axial length change remained similar across all four text and background combinations (Friedman test, $X^2(3) = 0.203$, p = 0.98). Additionally, emmetropes and myopes exhibited no significant difference in axial length change across the four conditions.

Conclusion: Short-term near work led to significant increase in axial length except for white text on blue background. Modifying the characteristic of near target can play a potential role in minimizing the effect of near work on changes in axial length.

Registration ID Number: 352P063EIVOC2025

Title: Comparison of Displacement Thresholds across Individuals with Various Experience Levels During Simulated Cover Test

Author(s): Sayantika Chakrabarti, Amirthaa M, Girish Kumar, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Previous literature has shown that multiple factors influence manual phoria assessment outcomes. This experiment is part of a larger effort to quantify and reduce subjective factors contributing to inter-examiner variability across various experience levels by assessing whether the ability to detect small eye displacements is one of these factors.

Methods: This pilot experiment to assess the smallest eye movement that can be detected by an observer included participants from four cohorts with different experiential levels. The stimulus used was a simulated image of a circular cornea embedded within an oval palpebral fissure, which was created using Python. This cornea was displaced with varying magnitudes either to the left or right. Each participant completed a single session consisting of 15 unique displacements, each repeated 15 times, using the Method of Constant Stimuli. A total of five sessions were conducted, each corresponding to a horizontal eye size ranging from 1° to 16°. Participants indicated the displacement direction via keyboard responses, which were fitted with a Cumulative Gaussian to determine the displacement threshold (DT). Data analysis was performed using SPSS v20.0.
Results: A total of 12 participants were included in the study, with 3 participants in each of the 4 cohorts: BV specialists and general optometrists (>1 year experience in their respective domains), fourth-year students, and third-year students. For the smallest stimulus size of 1°, DT ranged from 0.0176 (General Optometrists) to 0.0341 (Interns), while for the largest stimulus size of 16°, DT ranged from 0.0632 (Interns) to 0.1274 (Third-year students). The Kruskal-Wallis test showed that examiner category did not have a significant effect on thresholds (p>0.05), whereas stimulus size did (p< 0.05).

Conclusion: The findings of this experiment suggest that variations in phoria estimation across various experience levels cannot be attributed to participants' ability to detect small eye movements. The novel simulated cover test for measuring displacement thresholds holds potential for further development as a training tool for future optometrists.

Registration ID Number: 465R270EIVOC2025

Title: Quantitative assessment of the pupillary light reflex in neuro-critical care patients using objective pupillometry

Author(s): Tithi Halder, Rahul Negi, Nisha Erum, Manasa Kalivemula, Ayush Kumar, Nabeel Quadri, Hanny Abdul Rahman, Ramith Vayalali, Manju Bhate, Virender Sachdeva, Shrikant R. Bharadwaj

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: The pupillary light reflex (PLR), a brainstem-mediated autonomic nervous system response, is a critical marker of the neurological health of patients under neuro-critical care. This study evaluated the utility of objective pupillometry in these patients by determining the static and kinetic characteristics of the PLR, relative to age-similar healthy controls.

Methods: Objective pupillometry was performed on 80 adults (aged 22 – 82 yrs) under neuro-critical care for a variety of neurological conditions in four intensive care units and in 80 controls (21 – 55 yrs) under similar testing conditions. PLR was elicited twice in each eye using the PupilN, a monocular handheld pupillometer designed to stimulate PLR with a 1-second-long light pulse of 125 lux intensity, followed by 4-seconds of darkness. Pupil responses were recorded at 30fps using a near-infrared sensitive camera built into the device and analyzed to derive the pre- and post-stimulated pupil diameter (in mm), pupil miosis normalized to the pre-stimulated diameter (in %), constriction and dilation velocities (in mm/sec) and response latency (in mm). These outcome variables were weighed equally or by the inverse of their variances and combined to a maximum score of 5 to derive A consolidated metric for differentiating abnormal from normal PLR's

Results: Unlike controls who elicited robust PLR's, cases showed four patterns of responses: i) no PLRs bilateral (pupil miosis ≤5%; n=10), ii) bilateral PLRs equivalent to controls (pupil miosis ≥30%; n=10), iii) bilaterally attenuated PLRs with sluggish responses (pupil miosis between 5 – 30% in each eye; n=56) and iv) near-normal PLR in one eye and no PLR in the fellow eye (n=4). The median pre-stimulated and post-stimulated pupil diameters, pupil miosis, constriction and dilation velocities of cases were lower than controls ($p<0.001$), while their response latencies were comparable to controls. Combinations of pre-stimulated pupil diameter, pupil miosis and constriction or dilation velocities resulted in consolidated metrics that showed the best discriminatory power between normal and abnormal PLRs [Area under ROC curve: ≥0.87 (0.83 – 0.91); Youden's index: ≥0.61; cut-off score for abnormal PLRs: 1.76 – 2.61].

Conclusion: Objective pupillometry using devices like PupilN allows quantification of sub-normal PLRs in patients under neuro-critical care. A consolidated score involving one or more PLR variables may help differentiate abnormal from normal pupil responses. This score may help longitudinally track the health outcome of patients under neuro-critical care.

Registration ID Number: 479R282EIVOC2025

Title: Do Color Vision Aids Improve Visual Search task?

Author(s): Amithavikram Hathibelagal, Jeffrey Paul

Affiliation(s): L V Prasad Eye Institute, Hyderabad, Telangana

Abstract Content:

Purpose: Previous studies show color vision test scores may improve with specific aids, but their real-world effectiveness remains unclear. This study evaluates how color vision aids affect performance in practical visual tasks, aiming to bridge the gap between clinical improvements and functional benefits in daily life.

Methods: Fifteen male participants (aged 22–36 years) with congenital color vision deficiency, confirmed using HRR screening plates, were recruited. The severity and type of color vision deficiency were quantified using the Colour Assessment and Diagnosis (CAD) test. Written informed consent was obtained from all participants. A visual search task was conducted using natural images (e.g., flowers, birds, animals, and landscapes), selected for specific color combination pairs. Participants performed the task with and without color vision aids (EnChroma Indoor Universal lenses and VINO glasses), with the order of testing randomized. Outcome measures included reaction time, accuracy, and a composite performance index (defined as the product of speed and accuracy). A total of 60 images were presented in random order using PsychoPy software. For each trial, the target object was cued 3 seconds before image presentation, and participants were given a maximum of 3 seconds to respond.

Results: The average red-green CAD score was 25.63 ± 8.63 units, with 8 participants classified as deutan and 7 as protan. Mean reaction times with EnChroma (1.68 ± 0.25 s) and VINO (1.78 ± 0.22 s) did not significantly differ from the baseline (1.65 ± 0.22 s). Similarly, the average performance index with EnChroma (47.11 ± 11.40 %correct•s ^{1}) and VINO (41.81 ± 10.36 %correct•s ^{1}) showed no significant improvement over baseline (47.29 ± 9.86 %correct•s ^{1}).

Conclusion: The use of EnChroma and VINO lenses did not significantly enhance visual search performance in individuals with congenital color vision deficiency. However, the efficacy of these aids may depend on the type and severity of the color vision defect, warranting further investigation

Registration ID Number: 295U079EIVOC2025

Title: The impact of contrast and spatial masking on the perception of letter fragments

Author(s): Nithisha R, Trisha B, Smruthi Sivakumar, Raja Sweety, Nijam Muhaideen F, Meenakshi Narayanan, Maheswari Srinivasan

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: This project developed a software framework to study how contrast, spatial configuration, and temporal masking affect fragmented letter recognition. Phase one focused on system design and stimulus control. Human testing in phase two will evaluate cortical visual integration under varied masking conditions to model perceptual processing and recognition dynamics.

Methods: A custom software platform was developed using C++ to present visual stimuli on an 18 × 31 cm LCD monitor, positioned 1 meter from the observer. Stimuli consisted of 26 English uppercase letters in Arial 30 Outline font, each occupying half the screen height (~9 cm; 2.1° visual angle). Letters were displayed in sequential fragments across 20 randomized orientation strips. The software allows manipulation of stimulus parameters across four paradigms: (1) contrast variation, (2) strip-based masking (light and dark), (3) full-field masking, and (4) spatiotemporal separation of mask and target. Mask contrasts are adjustable in fine increments, and mask presentation can lead or lag target fragments across a ±5-frame range. The system logs stimulus contrast, fragment timing, screen location, and response inputs for future behavioral analysis.

Results: Preliminary simulation confirmed reliable stimulus rendering, precision timing, and full control over visual parameters including luminance contrast, mask type, spatial layout, and stimulus sequence. The system supports high-resolution data capture for behavioral metrics such as recognition probability and error rates across trials.

Conclusion: A software system was developed to investigate visual masking in letter recognition, enabling precise control of contrast and spatiotemporal variables. This framework supports detailed experimental manipulation. Phase 2 will involve human testing to model contrast sensitivity, masking effects, and the temporal dynamics of cortical visual integration.

Registration ID Number: 328P054EIVOC2025

Title: Comparative Analysis of Three Different Types of Visual Acuity Measures and Associated Reaction Times across Retinal Eccentricities in Normal Subjects

Author(s): Subrato Mondal, Girish Kumar, Swetha S, Anuradha N

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Current literature lacks normative Visual Acuity (VA) values with respect to different retinal eccentricities, especially when it comes to non-standard VA measures. This study uses a computerized approach to measure and compare three VA measures—minimum size-(SSVA), minimum time-(STVA) and dynamic minimum size-(DSVA)—alongside

Reaction Times-(RT) in normal subjects.

Methods: This experimental study, conducted at Elite School of Optometry, enrolled participants with VA ≤6/9 in both eyes, no history of ocular/brain injuries and no binocular vision anomalies. Using a 60Hz monitor, high-contrast English optotypes of varying sizes were displayed at retinal eccentricities of 0°, 1°, 2°, 4° and 8°. For SSVA and DSVA, presentation duration was fixed at 0.5 seconds, while STVA used variable presentation durations with fixed optotype size. During DSVA assessments, optotypes moved along an imaginary circle at 0.5Hz, 1Hz and 2Hz corresponding to their eccentricity. Optotypes properties were altered based on the Psi-staircase and Method of Constant Stimuli. Participants responded using a keyboard, enabling RT measurement defined as the interval between optotype presentation and participant response. Psychophysical thresholds (VA) and slopes (task difficulty) were derived by fitting responses to a Cumulative Gaussian function. Data analysis compared those parameters using the Kruskal-Walli's test in SPSS Version 20.

Results: Data from 16 participants (7 male and 9 female) with a mean (SD) age of 21.62 (2.06) years found that the median (IQR) of the thresholds for SSVA ranged from -0.24 (0.13) at 0° to 0.36 (0.05) at 8°, STVA from 0.23 (0.21) at 1° to 0.44 (0.15) at 8° and DSVA values from 0.07 (0.03) at 1° to 0.61 (0.11) at 8° for 0.5Hz, from 0.15 (0.09) at 1° to 0.59 (0.07) at 8° for 1Hz and from 0.13 (0.12) at 1° to 0.47 (23) at 8° for 2Hz With increasing eccentricity—threshold, slope and RT for SSVA significantly increased (p0.05).

Conclusion: This study measured 3 different VA measures and provided normative values across retinal eccentricities. Additionally, it has demonstrated progressive deterioration in VA across increasing retinal eccentricities for all three measures. The findings highlight the utility of computerized methods in assessing visual-processing, paving the way for future research advancements.

Registration ID Number: 333P057EIVOC2025

Title: Comparing the Effects of Optical and Digital Blur in Visual Acuity Assessment

Author(s): Varsha M, Praveen Kumar P, Girish Kumar

Affiliation(s): Elite School of Optometry

Abstract Content:

Purpose: Modern computer systems can digitally induce blur by filtering visual targets, but literature that compares optically induced and digitally induced blur among naive subjects is lacking. This study aims to evaluate the similarity in visual acuity (VA) with different levels of optically and digitally induced blur.

Methods: Participants were taken from the Elite School of Optometry, students who had a Best Corrected Visual Acuity (BCVA) of 6/12 or better in both eyes. Using the PsychoPy® software package Version 2024.2.4, high-contrast letters of varying sizes were displayed on a 60Hz monitor for a duration of 0.5 seconds, which was viewed monocularly (fixating eye chosen randomly) by the participant. Each participant underwent testing with six conditions, optical and digital blur at three different levels (+0.50DS, +1.00DS, +2.00DS). The size of the letter displayed was varied according to the Psi(Ψ) Adaptive Staircase, and participant's responses were recorded using a keyboard. The individual participant's responses were combined and fitted using a Cumulative Gaussian function, whose mean signified the letter recognition threshold (VA). Thresholds were compared between optical and digital blur using the Wilcoxon signed-rank test in SPSS Version 20.

Results: We collected data from fifteen participants who had a mean age of 22.2+2.88 years. The median VA for +0.50DS, +1.00, and +2.00DS optical blur was 0.027, 0.238, and 0.701, and similarly for digital blur, the VA was -0.043, 0.168, and 0.474. The Wilcoxon signed-rank test revealed no significant difference between the thresholds for +0.50DS (p=0.156), +1.00DS (p=0.256), but showed a significant difference between the thresholds for +2.00DS (p=0.005). The median difference between the two conditions for +0.50DS was 0.048 LogMAR with an IQR of 0.268 (-0.065 to 0.202), +1.00DS was 0.153 LogMAR with an IQR of 0.391 (-0.122 to 0.268), and for +2.00DS was 0.219 LogMAR with an IQR of 0.249 (0.062 to 0.311).

Conclusion: The differences between optical and digital blur increase with the increasing amount of blur, with optically induced blur always having worse VA than digital blur. These differences become statistically (and clinically) significant for larger amounts of blur.

Registration ID Number: 163P015EIVOC2025

Title: Cost Analysis of a digital vs conventional psychophysics lab setting for the UG program of Optometry

Author(s): Shreyasi Biswas, Swetha S, Girish Kumar, N Anuradha

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Purpose: Better understanding of concepts underlining clinical optometry is crucial for a prospective professional clinical practice. However, most of the institution of optometry limits them to lecture methods rather than demonstrating such concepts owing to cost, logistics difficulty. This study explores the cost implication for setting up an undergraduate optometry lab.

Methods: This study consists of two phases. The first phase involved listing all the courses in the UG optometry program published by the Ministry of Health and Family Welfare. The units and lessons suitable for demonstration through psychophysical experiments were identified with the help of a few subject experts in psychophysics. The conventional setup for the same lesson plan was compared to a prospective digital psychophysical lab. Cost was divided into setup, capital investment including procurements setup maintenance and personal related costs. The calculations were made assuming 30 students per year for a 4-year program with an assumed replacement of physical-clinical assets once in 10 years. Costs for each of these categories were calculated using market prices in INR and converted to USD, and a cost-minimalization analysis (CMA) was conducted

Results: The first phase outlined 11 subjects under 44 units that could be demonstrated through a digital lab setup. The cumulative capital investment for the setting up of a Conventional laboratory was ₹2,16,85,000(approx.) ~ ($34100-USD), while that for the digital laboratory setting was ₹77,06,000 (approx.) ~ ($10774.47-USD). The depreciation over 10 years for the traditional setting was ₹29,40000(approx.) ($33760-USD) versus ₹928000 (approx.)($10666-USD) for the digital model. The cost of services for Management :, support, spare parts (5%), and Annual maintenance cost (AMC) (10%) were higher for the traditional setting ₹445000(approx.) ($5115- USD) than the digital laboratory setting ₹140600(approx.) ($1616-USD) space for the traditional laboratory setting was 500 sq. ft that would approximately cost ₹85,00000 ($97701-USD) while that for the digital setting was only 300 sq. ft costing ₹51,00,000 ($58620.69-USD). Overall, the digital model had lower recurring and space costs, indicating a more economical and scalable option for the education of optometry.

Conclusion: The digital setup provided minimum cost for setting up an experimental lab for conceptual understanding among the UG students of optometry. Optometry Institution could consider investing in such sustainable and economical model for teaching.

Scientific E-Poster Session 18
Binocular Visionand Vision therapy CtoR - 2

Registration ID Number: 445U106EIVOC2025

Title: NSBV Anomaly: A Complete BV Assessment with A Step-By-Step Guided Vision Therapy in a Compliant Patient -Is All It Needs

Author(s): Sivabala Meenakshi M, Ramya Lakshmikanth, Priyadharshini Prabhakaran, Anuja CM, Gopalakrishnan S
Affiliation(s): Sri Jayendhra Saraswathi Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: This case is a classic example of NSBV anomaly where proper evaluation combined with vision therapy and patient compliance can create a world of difference to the patient.

Case Details: 16-yr/F visited our hospital on Dec'23 with complaints of defective vision(distance)with headache past 1 year. U/A VA- OD: 6/18, N8@40cm; OS: 6/18 p, N8@40 cm (squeezing). AR- OD: -4.75 DS/-0.25DCx155 OS: -5.00/-2.00DCx15. Retinoscopy- OD: -0.50DS OS: -O.75 DS. Cycloplegic refraction- OD: +0.75DS, OS: + /-1.25DCX10. Subjective acceptance (fogging) OD: -1.00DS 6/6; N6, OS: -1.25 DS 6/9; N6. SLE, fundus was normal. Due to varying refraction

and fluctuating vision, BV evaluation was advised. BV evaluation revealed-Retinoscopy OD: +, OS: /-1.50DCX170. Acceptance- OD: + 6/6, N6@40cm OS: + /1.50DCX170 6/9p, N6@30cm. decreased NPA, NPC, NRA, PRA with abnormal accommodative& Vergence facility.

Management: Tentatively diagnosed as accommodative infacility with vergence infacility, Patient was advised vision therapy, (In Office)- loose lens rock, Hart chart, lens sorting. NPA, NRA, PRA, PFV, NFV improved. With the improvement in accommodation values, vergence training was started using Tranaglyphs, Brockstring, computerized therapy and aperture ruler.

Outcome: After Vision therapy, follow up was done and Retinoscopy - OD: +0.50DS, OS: +0.50 DS/-0.50DCx150. With new Rx the vision improved to OU: 6/6, N6@40cm. All the values reached almost normal limits with patient becoming asymptomatic. Patient has been advised to continue glasses with In Office and home therapy.

Registration ID Number: 329P055EIVOC2025

Title: The Hidden Cost of a Blank Stare: The Overlooked Role of Absence Seizures in Vision Therapy Regression

Author(s): Jayanthi S, Indira Rengarajan, Rashima Asokan

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Absence seizures are brief, often missed episodes of impaired consciousness, particularly in children with complex developmental conditions. Their subtle nature leads to frequent misinterpretation as behavioral issues/inattention. In children undergoing vision therapy, these seizures can undermine progress unnoticed, making integrated community screening vital for uncovering such hidden neurological disruptions.

Case Details: An 8-year-old boy with global developmental delay and CVI was brought to community vision screening. Parents reported diminished visual responsiveness and frequent, brief staring episodes at the ceiling/objects, increasing over the past three months. Child was undergoing therapy and was fixating and following light in dark and light illumination. Had a history of seizures, with the last episode occurring two years ago, was currently not on any anti-epileptic medication. Visual acuity was OU: 6/60 (Cardiff) @50cm, doesn't follow light, refraction; OU: +0.50. Fundus evaluation showed bilateral temporal disc pallor. Functional vision assessment and therapy ineffectiveness supported suspicion of undetected absence seizures.

Management: In light of the suspected absence seizures, the child was referred to neurologist for EEG and further evaluation. Vision therapy was temporarily modified to lower visual load and avoid seizure-provoking stimuli. Parents were counseled extensively on absence seizures, recognizing their manifestations and the potential for overlap with behavioral or visual inattentiveness. The case emphasized the value of collaborative care between neurology and vision rehabilitation, reinforcing that individualized therapy must account for neurological contributors to perceived therapy regression. This case underscored how unrecognized absence seizures can silently disrupt therapeutic outcomes, making seizure awareness essential for effective and sustainable vision rehabilitation.

Outcome: Although neurological confirmation was pending, this case highlighted the critical need to consider absence seizures in children with unexplained therapy regression. Therapy adjustments were advised and parents were instructed to return for coordinated-care planning. Community-based-screening served as vital touchpoint, enabling timely redirection of care through interdisciplinary awareness and collaboration.

Registration ID Number: 518R313EIVOC2025

Title: Unilateral pseudo myopia in patient with Adies topic pupil- A case report

Author(s): Pavithra E, Praveen Kumar, Prasannasai K, Amit Bhowmick, Padmalakshmi K

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Adie's tonic pupil is a neurological disorder in which there is a parasympathetic denervation of the affected pupil resulting in poor light illumination but better and tonic at near constriction. Asymmetrical accommodation involves tonic pupillary response, which demonstrates different responses in each eye separately.

Case Details: A 24-year-old female came to the binocular vision clinic with the complaint of sudden intermittent blurring of vision in both eyes for the past 5 days. Her refractive error was -1.50DS, +0.50DS in the right and left eye and best corrected visual acuity for distance was (6/7.5 and 6/9) and Near N6. Pupillary evaluation showed right eye sectoral palsy and after dilated with homatropine her refractive error was +1.75DS/-0.75DCX90, +2.00DS/-0.75DCX90 in the right and left eye. Patient feels fluctuation of vision slightly better after dilation with homide and less myopic values was recorded.
Management: Slit lamp examination shows right eye sectoral palsy. Pupil diameter was measured with open field auto refractometer which showed OD 6.2mm, OS 4.8mm for distance and near OD 6.3mm, OS 5.0mm. Dry retinoscopy shows myopic reflex after dilation with homide it shows hyperopic reflex. Axial length was documented to compare the refractive error. Dynamic retinoscopy showed +0.25DS in right and +1.75DS in left eye. Temporary glasses prescribed based on post dilation, objective and subjective values. Patient symptomatically feels better with prescribed glasses. Advised to do accommodative flipper +2.00DS/+1.00DS as home vision therapy.

Outcome: Adeis tonic pupil, patient tend to use excessive accommodation to compensate the blurred vision due to aniso accommodation, that leads to myopic shift in the eye with adies pupil. Patient reported comfortable vision with the prescribed glasses. Follow up visit is necessary to monitor the pupil size and visual stability.

Registration ID Number: 279R162EIVOC2025

Title: A Case of Self-Prescribed Vision Therapy and the Need for Expert Eye

Author(s): Vikram B G, Anshika Shah

Affiliation(s): Ray Optics and Vision Care and Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Access to health information via internet and social media make individuals often attempt self-treatment without professional guidance. While this can be beneficial for awareness, it may also lead to mismanagement and complications. This case report illustrates the risks of self-prescribed vision therapy and underscores the importance of expert optometric-care.

Case Details: A 24-year-old male with exophoria and difficulty in sustained near work, sought prism spectacles after failing vision therapy and a failed a social media influencer's exercises for a week. He had no refractive error, binocular vision assessment showed intermittent divergent squint (IDS) for both distance and near with Newcastle Control Score of 1. Near point of convergence (NPC) with accommodative target was 10 cm; amplitude of accommodation was 9.09D monocularly and binocularly. Accommodative facility, using a ±2 accommodative flipper was found to be reduced, 9 cycles per minute(CPM) in right eye and 11CPM in left eye with 4CPM binocularly.

Management: The patient underwent in-office vision therapies targeting vergence and accommodative functions, using brock string, eccentric circles, hart chart and life saver for 5 days, post which NPC was 8cm but accommodative parameters had no improvement. Same home vision therapy was advised for a week. The patient was counseled not to utilize the internet for any kind of treatment. On review, he was symptomatically better with IDS improving. Using internet to gain knowledge can be encouraged but adapting treatment options is a serious concern. Awareness should be created among public about potential risks and the importance of professional healthcare advice.

Outcome: After a month of home vision therapy convergence parameters have improved very well but the accommodative parameters didn't show much improvement. The Patient is advised to continue vision therapy and come for scheduled reviews. Counselling has been given not to use the internet for eye or health treatment options.

Registration ID Number: 259R149EIVOC2025

Title: Managing Digital Eye Strain with Low Add Power Lenses in a Young Adult: A Case Report

Author(s): Raghul Gurunathan, Praveen Kumar P, Amith Bhowmick, Prasannasai K, Abinaya Valliappan

Affiliation(s): Sankara Nethralya, Chennai

Abstract Content:
Background: Digital Eye Strain (DES), previously known as Computer Vision Syndrome (CVS), results from prolonged digital screen use, affecting up to 40% of adults and 80% of teenagers. This case report investigates the effect of low-add lenses on vergence parameters in individuals with normal values but reduced accommodative facility.

Case Details: A 29-year-old male presented with complaints of headache, eye strain, and eye pain after a few minutes of screen use for the past 3 years. His best-corrected visual acuity was 6/5 and N6 in both eyes. Anterior and posterior segment evaluations, along with dry eye testing, were normal. He was referred to the Binocular Vision Clinic, where stereopsis, cover test, vergence amplitudes, and accommodative amplitudes were within normal limits. However, accommodative facility was found to be reduced. He was diagnosed with digital eye strain due to reduced accommodative facility and was advised to begin vision therapy to improve accommodative dynamics.

Management: Although all clinical findings were normal except for reduced accommodative facility, the patient remained highly symptomatic. A trial with 2BI prism and low adds of +0.50DS was done. The patient experienced notable relief with the low add after short adaptation. He was prescribed digital lenses with +0.50DS add, which reduces accommodative demand and alleviates digital eye strain during near tasks. These lenses enhance visual comfort and support prolonged screen use. Additionally, accommodative flippers were advised to improve facility. The patient was instructed to wear the digital lenses consistently during screen time for effective and sustained symptom Management

Outcome: After 3 months of review, the patient reported significant symptomatic relief with consistent use of digital lenses. Objective improvement in accommodative facility was noted. The low-add digital lenses effectively reduced accommodative stress, supporting sustained near tasks and enhancing visual comfort, highlighting their role in managing digital eye strain.

Registration ID Number: 033R034EIVOC2025

Title: Combination Therapy for Myopia Control: A Case Series of Low Dose Atropine and DIMS Spectacle Lenses in Children Aged 8–12 Years

Author(s): Asha Tharsis, Akshay Badakere, Sumita Agarkar

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Myopia is a multifactorial condition causing a marked rise in visual impairment among young children and teenagers globally. Therefore, this is a novel approach to consider combination therapy in the management of myopia progression for a set of four patients with increasing myopia in this case series.

Case Details: This is a retrospective case series of 4 children with progressive myopia with mean age of 10.43±1.42 years. All the binocular vision parameters were normal. On examination, the right and left eyes had mean axial lengths (AL) of 25.72 ± 0.40 mm and 25.58 ± 0.49 mm, respectively measured using ArgosTM Optical Biometer, and cycloplegic mean spherical equivalents (SER) of -5.29±1.70 D and -4.97±1.39 D with ≤1.75 D of astigmatism. In a year, the average myopia progression in both eyes were -2.22±1.57 D and -1.50 ±1.06 D. Hence, low-dose atropine 0.01% (LDA) was initiated as the initial treatment.

Management: In the right and left eyes, the mean axial progression was 0.29 ± 0.18 mm and 0.21 ± 0.20 mm, respectively, while the mean myopia progression was -0.69 ± 0.30 D and -0.44 ± 0.33 D despite using LDA for a year. Peripheral refraction using a Grand Seiko Open field Auto Refractometer confirmed the presence of hyperopic defocus (>+0.50 D) at the temporal quadrant in at least one eyes. Defocus Incorporated Multiple Segment lenses (DIMS) were added as a combination treatment with LDA 0.01% due to the significant AL elongation and hyperopic defocus.

Outcome: Following 12 months of combination therapy, stabilization in both SER and AL was achieved. The average AL changes over a year were 0.08±0.07 mm in the right eye and 0.09±0.08 mm in the left, and the average myopia progression was -0.13 ± 0.10 D in both eyes.

Registration ID Number: 296U080EIVOC2025

Title: Duane's Syndrome with Refractive Error- A Successful Surgical Outcome.

Author(s): Smruthi Sivakumar

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Duane retraction syndrome is a rare congenital strabismus disorder characterized by abnormal ocular motility. This case report highlights the management of Duane's syndrome with refractive error in a 26-year-old female patient.

Case Details: The patient presented with a history of glasses and squint, with visual acuity of 6/6 in the right eye and 6/60 in the left eye. Examination revealed Duane's syndrome in the left eye, refractive error, and amblyopia.

Management: The patient underwent strabismus surgery under local anesthesia. Post-operative management included topical medications to control inflammation and prevent complications.

Outcome: Follow-up showed improved visual acuity, reduced face turn, and better ocular motility in the left eye. Although elevated intraocular pressure developed, it was managed with medication. Surgery and topical steroids yielded a favorable prognosis, improving vision and ocular alignment in this Duane's syndrome case with refractive error.

Registration ID Number: 530R323EIVOC2025

Title: Clinical efficacy of Titan MyoSlo lenses on Indian Population: To measure the efficacy of Titan MyoSlo lenses in Myopic Children of Indian population after using it for 1 year in terms of power progression and the adaptation time required.

Author(s): Ramesh Pillai

Affiliation(s): Titan Company Limited

Abstract Content:

Background: Myopia as we all know is the next big pandemic which is going to affect the world's population and is growing at an alarming rate across the world. Per the WHO and Myopia Institute studies, the prevalence of myopia is estimated to be anywhere between 48-50% of the world's population.

Case Details: In addition to measuring efficacy of Titan MyoSlo lenses in Myopic Children of Indian population in terms of power progression and the adaptation time required, comparison of the satisfaction levels of all the below mentioned variables analysed vis-a-vis SV lenses in ensuring the visual comfort and wearability like Distance Vision, Intermediate Vision, Near Vision, Sports, Night Vision, Stairs, Sharpness, Comfort and also understand the impact of usage of the lens (minimum number of hours used per day) and outdoor activities (minimum number of hours spent outdoors/day) on the efficacy of the lens.

Management: Titan EYE+ is a large optical retail chain and employs only Optometrists for performing the eye tests. Hence we have taken a conscious decision to offer only the Ophthalmic lens as a solution for Myopia Management : in our stores and we have defined a clinical protocol so that we dispense these lenses only to the deserving children in the age group of 6-16 years who have a history of progressive myopia. The protocol also takes into account ethnicity, family

history and the environmental factors as well. Titan MyoSlo Lenses uses the principle of Asymmetric Peripheral Defocus for creating myopic defocus.

Outcome: We have about 60-70 children who have successfully completed 12 months of usage in the month of Feb and March 2025. We found the Refraction increase with Titan MyoSlo lenses is 85% lower on average and the adaptation time was within 2 days. We are analysing other variables on comfort.
476P089EIVOC2025

Scientific E-Poster Session 19
Geriatric Optometry, Low Vision and Rehabiliation CtoR - 2

Registration ID Number: 434P076EIVOC2025

Title: Beyond Double Vision: A Novel Optical Approach to Diplopia Management

Author(s): Ishwarya A, Kezia Ebenezer, Ajitha J, Anshika Shah

Affiliation(s): Dr Agarwals Institute Of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Diplopia significantly impacts daily life. While conventional treatments often involve prisms, occlusion therapy, or surgery, newer non-invasive optical innovations offer promising alternatives. Aura Vision Glasses represent one such novel solution, potentially enhancing binocular fusion and visual comfort in complex cases, including longstanding post-traumatic diplopia.

Case Details: A 34-year-old male with 10-year history of diplopia, presented with a chief complaint of seeing 2 distinct keyboards. The condition began following a traumatic brain injury involving skull fracture and epidural hemorrhage. He had undergone patching for his left eye in 2014 and underwent surgery for diplopia in 2018. Best corrected visual acuity was 6/6. Left eye adduction restriction was noted and a crossed horizontal diplopia with vertical separation at superotemporal quadrant was observed. Exophoria was noted for both distance and near. His colour vision is was normal with Ishihara chart and 1.25% contrast sensitivity, with normal visual fields.

Management: With 80Δ Fresnel prism base-out in front of the left eye, diplopia was removed for both distance and near, but giddiness was persistent. Aura Vision Glasses with augmented reality to enhance vision and improve spatial awareness was tried, which subsequently reduced diplopia especially for near laptop work. The patient reported substantial relief from giddiness while using the glasses, though symptoms briefly returned upon removal. This case illustrates the value of exploring novel optical aids in managing chronic diplopia—especially when conventional interventions are either insufficient or cause side effects. Aura Vision proved a practical, non-invasive adjunct for functional visual rehabilitation.
Outcome: The patient achieved stable, comfortable binocular vision with Aura Vision Glasses, particularly for near tasks. Though symptoms reappeared upon removal, overall visual function improved significantly. This case demonstrates how innovative optical solutions can offer effective, non-invasive management for persistent diplopia, especially in patients with complex, post-traumatic ocular motility issues.

Registration ID Number: 480R283EIVOC2025

Title: Overcoming Barriers to Eye care: A Home Visit Case study for an Elderly patient

Author(s): Mahalakshmi G, Praveen Kumar, Vijayalakshmi A, Krishna Kumar R

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: By 2050, India's elderly population (60+) will grow from 10.11% to 21.5%, reaching 320 million. The "oldest old" (80+) will increase from 0.4% in 1950 to nearly 3% by 2050. This case report emphasizes the effectiveness of home-based optometric care for elderly patients with mobility challenges, overcoming access barriers.

Case Details: 101-year-old female presented with reduced near vision despite wearing glasses. She has been pseudophakic in both eyes for 20 years and experiences lower back pain, for which she is on medication. Wheelchair-bound due to mobility issues, she was unable to visit the hospital, so a home-based eye examination was conducted. Best-corrected visual acuity was 6/30 in the right eye (plano/-3.00DC x 90) and 6/9 in the left eye (+3.00DS/-2.75DC x 80), with +3.00DS Addition (N6) for distance and near respectively. Anterior segment and intraocular pressure were normal. Fundus examination showed a dull foveal reflex in both eyes.

Management: Upon further observation, it was noted that the patient's old glasses had significant scratches. As a result, new glasses were prescribed, and she was advised to read under brighter lighting. All necessary measurements for the new glasses were taken during a home visit. The glasses were made according to the prescribed refraction and were dispensed. Compliance and visual improvement were assessed through a tele conversation with the patient and her attendant. The patient reported feeling comfortable with the new glasses and was able to read books effectively, showing a noticeable improvement in vision.

Outcome: This case highlights how a home-based eye exam can effectively assist elderly patients with vision issues. By prescribing new glasses and recommending proper lighting, the patient's vision improved, allowing her to read comfortably. This simple solution demonstrates the importance of personalized care in managing age-related vision problems.

Registration ID Number: 349R191EIVOC2025

Title: Face Blindness and Visual Agnosia in a Child with Cortical Visual Impairment CVI): A Case of Prosopagnosia Following Acute Necrotizing Encephalopathy

Author(s): Soundarya Dharshini Vengatesan, Tharakeswari T, Praveen kumar P

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Cerebral Visual Impairment (CVI) has become a leading cause of visual impairment among children in developed countries. The prevalence of CVI in these regions ranges from 10 to 22 cases per 10,000 births in children under 16 years. In developing countries, the prevalence is 10 per 10,000 births A 8-year-old

Case Details: A 8-year-old girl was accompanied by her mother, came with complaints of poor eye contact and difficulty in recognizing faces and objects. Mother gave a history that child is a known case of Acute Necrotizing Encephalopathy with CVI. She had a history of seizures, tracheostomy, and neurodevelopmental regression. Optometric evaluation showed wandering eye movements, chin-down posture, and auditory reliance, suggesting visual agnosia. Assessment confirmed impaired shape and object recognition with intact color perception. Low vision assessment recommended vision therapy, a glasses trial, potential Braille education, and prism adaptation for posture. Schooling options were discussed with mother.

Management: The child's management included a trial of glasses and Prism adaptation was recommended to correct posture. She continues physiotherapy and occupational therapy. Low vision assessment guided interventions for improving visual function. Adaptive strategies, such as auditory cues were encouraged for object and face recognition. Parental counseling was provided regarding schooling options and long-term visual rehabilitation. Despite having 0.5/30 and N40 vision, the child also has visual agnosia and struggles in a normal school. Therefore, a blind school is recommended for better support. Optometrists and neurologists ensure continuous care, adjusting therapy to enhance the child's vision, independence, and quality of life.

Outcome: Understanding the ophthalmic and neurological manifestations, along with their causes, can assist the multidisciplinary team in assessing the visual impairment affecting a child with CVI's neurodevelopment and in formulating appropriate rehabilitation strategies

Registration ID Number: 346R188EIVOC2025

Title: Echoes in sight: Exploring Palinopsia in a Clinical Case Series

Author(s): Chowthri M.M, Praveen kumar P, Amit Bhowmick, Smita Vittal praveen

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: Palinopsia is a rare visual disturbance characterized by the persistent or recurrent appearance of visual images after the stimulus has been removed, often associated with neurological disorders, structural brain lesions, or adverse effects of medications. It reflects dysfunction in visual processing pathways, particularly within the parietal and occipitotemporal regions.

Case Details: A 34-year male presented to the Neuro optometry clinic with 3-month history of worsening afterimages, first noticed in 2018, leading to a diagnosis of palinopsia. A 42-year-old female complained of monocular and binocular image shadowing, along with persistent afterimage lasting 10-15 seconds. DEM revealed mild tracking inefficiency, and she was diagnosed with palinopsia and vergence infacility. A 32-year-old female reported a 7-month history of monochromatic visual grainess, image shadowing and photophobia, worsened by reverse contrast, following a cervical spine issue. She was diagnosed with visual snow syndrome and palinopsia.

Management: All three patients were managed conservatively with neuro-optometric strategies, including the use of tinted lenses, which provided notable symptomatic relief. Tints such as grey or yellow filters (e.g., ET 38) helped alleviate visual disturbances like afterimages, shadowing, and light sensitivity, both indoors and outdoors.

Outcome: Neuro-optometric management including the use of tinted lenses and supportive therapies, proved effective in reducing visual symptoms, associated with palinopsia. Addressing environmental triggers, enhancing visual comfort, and incorporating holistic approaches such as vision therapy and relaxation technique contributes to meaningful symptom relief.

Registration ID Number: 456P085EIVOC2025

Title: Visual Rehabilitation Post- C3R: A Case Report.

Author(s): Divya K, Anuja CM, Gopalakrishnan S

Affiliation(s): Sri Jayendhra Saraswathi Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: A 28-year-old female presented with bilateral keratoconus. Despite undergoing corneal collagen cross linkage(C3R) in both eyes, her visual acuity did not improve significantly. The patient was referred for contact lens trial to enhance visual function and assess potential for optimal visual rehabilitation.

Case Details: This is a case of a 28-year-old female diagnosed with bilateral keratoconus. She underwent corneal collagen cross- linking (C3R) in both eyes to stabilize the progression. However, post-procedure, unaided visual acuity in right eye was 6/60; N6 and left eye was 5/60; N18 and with Rx OD ±/-5.00×40(6/12) and OS no improvement with Rx and pinhole. Due to this she was referred for a contact lens trial, aiming for better visual outcome.

Management: The patient underwent a comprehensive contact lens assessment. Options of RoseK2 lens OU or scleral lens OU was given. OU RoseK2 lenses were tried. As RoseK2 lens was unstable in left eye, scleral lens was tried (OS). Visual improvement was OD 6/9p; N6 with RoseK2 and OS 6/9p; N6 with scleral lens. Patient could not afford scleral lens in both eyes. OD was left with RoseK2 lens and scleral lens was given in OS.

Outcome: Despite a compromise in the lens type, the patient was extremely satisfied and comfortable with the visual outcome in both eyes (OD RoseK2 lens and OS scleral lens). Lens specific handling instructions were given. She adapted well to the two types of lenses comfortably.

Registration ID Number: 042R042EIVOC2025

Title: Enhancing Visual Function in Retinitis Pigmentosa with Macular Atrophy: A Case of Cost-Effective Low Vision Rehabilitation Using Combined Optical and Non-Optical Aids

Author(s): Tharakeswari Anandhkumar, Ramya S

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Retinitis Pigmentosa (RP) with macular atrophy significantly impairs central and peripheral vision, affecting reading, writing, and mobility. Low Vision Devices (LVDs), both optical and non-optical, play a vital role in improving functional vision. Tailoring LVDs based on individual needs, affordability, and daily challenges is essential for successful rehabilitation outcome

Case Details: A 29-year-old male with RP and macular atrophy presented with overlapping text, missing lines during reading, and difficulty writing straight. He was ADL-independent but reported fear of falling and glare sensitivity. BCVA was 6/19, near vision was N6 at 15 cm with poor tracking. Has impaired contrast. Visual field was <10° on confrontation and Amsler grid. A 4x dome magnifier improved working distance and near vision under incandescent lighting. However, he struggled with continuous reading and writing tasks. Electronic magnifiers and mobile apps were unsuitable due to cost and technical issues. He preferred practical, low-cost solutions for functional improvement.

Management: The management approach prioritized patient comfort and affordability. A 4x dome magnifier with additional incandescent lighting improved reading clarity. To address tracking issues during continuous reading, a typoscope was introduced, significantly aiding line alignment. The same device helped with writing tasks, allowing the patient to maintain a straight line. Though electronic magnifiers and mobile applications were demonstrated, they were either unaffordable or less practical for his needs. For glare sensitivity, brown clip-on filters were preferred for effective during night-time. Additionally, for his reported mobility difficulties orientation and mobility training was advised at Local rehab to enhance safe navigation.

Outcome: The patient reported significant improvement in reading and writing, with enhanced tracking and reduced visual confusion. The customized low-cost solution using dome magnifier, typoscope, and clip-ons proved highly effective. This case highlights the importance of individualized, affordable rehabilitation strategies in enhancing quality of life for advanced low vision patients.

Registration ID Number: 095U042EIVOC2025

Title: 30 Days to Diagnosis, 9 Years of Challenge of a Brave Child Full of Dreams and Life: A Personal Journey of A 9-Year-Old Boy through Vision Loss, Multiple Surgeries And Hope — Inviting Collaborative Insight for Advancements in ROP Management and Research to Prioritize Retinopathy of Prematurity.

Author(s): Zoya Naaz

Affiliation(s): Jamia Hamdard University, New Delhi

Abstract Content:

Background: ROP is a vasoproliferative retinal disorder in preterm infants and a major cause of preventable blindness requiring timely screening, typically by 4 weeks of age. Early detection enables treatments like laser photocoagulation or anti-VEGF therapy. Delayed screening increases risk of retinal detachment, necessitating complex surgeries and long-term visual rehabilitation.

Case Details: A male infant, born premature with low birth weight and respiratory distress, was admitted to NICU for 30 days, developed pneumonia, and received oxygen for 18 days. First ROP screening on 16/05/2016 led to bilateral laser therapy on 31/05/2016. Due to progression, he underwent PPV for Stage 4B ROP (right eye), squint and cataract surgery (left eye), and ocular patching. Vision: left eye PL/PR, right eye 6/12 (BCVA). At Sankara Nethralaya, the left eye was evaluated under anesthesia; further surgery was deferred to preserve cosmesis until teenage years. Opinions were also sought from AIIMS and LVPEI.

Management: The patient underwent initial bilateral laser photocoagulation on 31/05/2016. RE had Stage 4B ROP with advanced temporal traction, high TRD involving disc and macula drag—managed surgically. LE had Stage 4B ROP with high temporal TRD and later underwent squint surgery in 2017 for DVD (Dissociated Vertical Deviation) with (IOOA) Inferior Oblique Overaction, followed by occlusion therapy. In 2023, LE was operated for total cataract. Regular follow-ups were maintained. Current visual status: RE 6/12 (BCVA), LE PL +ve as per recent follow up 09/04/2025. The case highlights the importance of timely intervention,multidisciplinarymanagement and long-term follow-up in severe ROP.

Outcome: With stabilized RE vision (6/12), the patient excels in academics and sports, adapting to monocular sight. Yet, his dream of a cricket career faces challenges. Despite multiple interventions, LE remains overshadowed—highlighting the urgent need to Researchers for innovative AI-driven solutions in ROP to restore vision and prevent lifelong disability.

Registration ID Number: 355R194EIVOC2025

Title: A Multidisciplinary approach in addressing oculomotor dysfunction in children with Cerebral Visual Impairment

Author(s): Loshinee Srikanth Kanchana, Tharakeswari T, Praveen Kumar P, Akila Ramkumar

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Cerebral Visual Impairment (CVI) is a neurodevelopmental condition that affects visual processing. While not curable, it can be managed through vision therapy, which targets functions like tracking, attention, and coordination. A multidisciplinary approach, including environmental modifications and support from occupational and special education professionals, enhances functional vision and overall development.

Case Details: A 5-year-old boy presented with reduced vision, eye deviation, and frequent bumping into objects. His birth history included hypoglycemia, birth asphyxia, and a 45-day NICU stay. He had seizures at age two, and MRI findings were suggestive of hypoxic-ischemic encephalopathy sequelae. He is currently undergoing speech and occupational therapy. Ocular examination revealed astigmatism, left exotropia, and temporal pallor on fundus evaluation. Visual acuity was 6/24 and 6/72 for distance, and N8 and N50 for near in the right and left eyes respectively. NSUCO assessment indicated significant oculomotor dysfunction with impaired saccades and severely deficient pursuits.

Management: A multimodal vision therapy plan was initiated to enhance the child's oculomotor function, visual attention, and overall visual efficiency. Therapy incorporated the Sanet Vision Integrator (SVI) with modules like Eye-Hand Coordination, Rotator, and Saccades. The software program and pegboard were introduced to further develop oculomotor control. In addition, home-based vision therapy activities such as Michigan Tracking and the pyramid saccades were recommended to reinforce therapy outcome along with patching of the right eye. Occupational therapy continued with a focus on improving attention span. Special education support was also initiated to address broader developmental and learning needs.

Outcome: Reassessment showed improved visual acuity (6/15, 6/24 for distance; N6, N18 for near in the right and left eye) and better oculomotor coordination. Pursuits and saccades improved in accuracy and head control, highlighting the effectiveness of integrated training in enhancing oculomotor function in CVI.

Registration ID Number: 504R304EIVOC2025

Title: Management of Cerebral visual impairment with Yoked prism - A case report

Author(s): Prasannasai K, Praveenkumar p, Tharakeswari T, Durga priyadharshini

Affiliation(s): Sankara Nethralaya, Chennai

Abstract Content:

Background: Cerebral visual impairment (CVI) is a disorder caused by damage to the parts of the brain that process vision. Yoked prisms are used in behavioural vision therapy and for neurorehabilitation like visual neglect, Abnormal head posture or hemianopia. Specifically, they are utilized to manage perceptual visual challenges.

Case Details: The case of a 5-year-old child with a history of visual concerns since birth, was delivered at 34 weeks through caesarean section, weighing 2.13 Kg and required a 3-day NICU admission followed by a ventriculoperitoneal shunt procedure at 11 months. Neuro imaging revealed right temporal and occipital lobe atrophy. The mother reported child has mobility issues. The child had high myopia -8.00 DS / -2.00 DC × 170 (6/18), -9.00 DS / -6.00 DC × 170 (6/18) in right and left eye respectively, reduced sensory parameters, variable esotropia, jerk-type horizontal nystagmus, poor saccades and pursuits were noted.

Management: The child was referred to the Neuro-Optometry Clinic for mobility issues and given a trial of four Prism Dioptre base-down yoked prisms. These yoked prisms displaced the visual field upward, inducing an upward gaze shift and divergence, they also caused magnification that increasing toward the apex. A 30 to 40-minute adaptation period was provided to look for improvement in mobility. The child was comfortable and prisms were prescribed to improve mobility.

Outcome: The use of yoked prisms resulted in significant improvements in the child's mobility. His body and head posture stabilized, walking ability improved, and he demonstrated greater confidence while navigating stairs.

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Registration ID Number: 201R121EIVOC2025

Title: Varied clinical presentations of Posterior Polymorphous Corneal Dystrophy (PPCD): A Case Series

Author(s): Madhurima Choudhury, Sunita Pandey

Affiliation(s): Sankara Nethralaya, Kolkata

Abstract Content:

Background: Posterior Polymorphous Corneal Dystrophy is a rare, mostly bilateral and hereditary condition of the corneal endothelium and Descemet's membrane, inherited in Autosomal dominant manner, manifesting highly variable clinical presentations. PPCD is non-inflammatory corneal opacities that may result in corneal edema of the stroma and degradation directly affecting vision.

Case Details: Retrospective analysis of 3 patients with PPCD. Case 1: A 13-year-old female with bilateral blurred vision was diagnosed with vesicular variant of PPCD. Specular microscopy showed corneal endothelial polymegathism and polymorphism. Case 2: A 54-year-old male with asymmetric PPCD with a tram-track lesion. There was cataractous lens present. Specular microscopy confirmed polymegathism and pleomorphism. Case 3: A 38-year-old female asymmetric PPCD in right eye. vertical stromal lesion, and guttata noted in specular microscopy.

Management: All the patients are under constant follow ups with conservative approach. None required corneal intervention so far in a follow up period of 2 years. One patient underwent phacoemulsification technique of cataract surgery with endothelial protection measures and in one patient best corrected visual acuity improved with help of Boston

lens. In other case, visual acuity improved upto 6/6 and close monitoring was followed.

Outcome: PPCD Management varies widely based on differences in severity of corneal decompensation.Many asymptomatic patients showed minimal signs of PPMD,treated conservatively,not required any therapy.Corneal transplantation is usually reserved with patients whose substantially decreased visual acuity or when the disease is advanced and painful due to ruptured epithelial bullae.

Registration ID Number: 496R298EIVOC2025

Title: Comprehensive management of Viral Retinitis in an Immunocompromised Patient: A 9-Month Follow-Up Case Report on Serial Intravitreal Ganciclovir Therapy and Systemic Valganciclovir(A Retrospective follow up study)

Author(s): Lingesh M

Affiliation(s): Christian Medical College, Vellore, Tamil Nadu

Background: Viral retinitis in immunocompromised individuals is a vision-threatening condition that demands intense, aggressive intervention. This case highlights the importance of comprehensive ocular and systemic management in a patient co-infected with HIV, Hepatitis B, HCV, and EBV, and a history of pulmonary TB.

Case Details: A 42-year-old HIV-positive male with additional systemic infections presented on 5/6/24 with decreased vision and retinal inflammation. Initial VA was 6/36 in the affected right eye. Fundus revealed active granular retinitis with hemorrhages. Systemic workup confirmed co-infections. OCT showed hyperreflective retinal lesions and macular edema. Serial documentation and lab evaluation (CBC, LFT, Creatinine) guided treatment. The patient underwent over 70 visits and multiple evaluations including IOP monitoring and imaging. Progressive scarring and pigmentary changes were documented, and treatment was tailored based on response and tolerability.

Management: Treatment included systemic valganciclovir (900 mg BID, tapered based on labs) and 48 intravitreal ganciclovir injections over 9 months. Topical steroids, IOP-lowering agents, and cycloplegics were added when needed. Therapy was modified with resolution of macular edema and stabilization of lesions. OCT was pivotal in monitoring treatment response. Transient IOP elevations (up to 32 mmHg) and early cataract changes (NS2) were effectively managed. Dose adjustments were made to prevent systemic toxicity. Management was individualized through regular multidisciplinary coordination and frequent ocular imaging. Infectious Disease department was contacted for systemic dosage alterations when necessary.

Outcome: By 19/03/25, active inflammation resolved with stable scarring, no vitritis, and improved vision to 6/12. OCT showed complete resolution of macular edema. The patient retained functional vision and systemic stability, highlighting the importance of long-term close monitoring and aggressive antiviral therapy in complex case.

Registration ID Number: 235P032EIVOC2025

Title: Bilateral Retinal Vasculitis in a case of Seronegative Rheumatoid Arthritis

Author(s): Barsita Panchariya, Janakiraman P, Jyotrimoy Biswas

Affiliation(s): The Sankara Nethralaya Academy,Chennai, Tamil Nadu

Abstract Content:

Background: Seronegative rheumatoid arthritis is an autoimmune disorder lacking rheumatoid factor and anti-cyclic citrullinated peptide antibodies. Retinal vasculitis(RV) is inflammation of retinal veins, arteries, and capillaries due to infectious or non-infectious etiology. This report explores a rare case of seronegative RV, emphasizing diagnostic challenges and treatment strategies for effective Management.

Case Details: A 69-year-old woman complains of a diminished vision for 5 months, and gives a systemic history of Rheumatoid arthritis for 10 years. She had undergone cataract surgery in both eyes and 2 anti-VEGF injections in the left eye. BCVA for the right eye was 6/6, N6, and the left eye was 6/18, N18. Ocular investigations showed vitreous cells, disc and capillary leakage, and cystoid macular edema, indicating active vasculitis. Laboratory investigations were negative for RA factor, AN, ANCA, anti-dsDNA, and TB; S.ACE was 30 U/L.HRCT showed right middle/upper lobe atelectasis with fibrosis. Ocular and systemic investigations confirmed Seronegative retinal vasculitis.

Management: Seronegative retinal vasculitis requires a thorough systemic evaluation. Balancing immunosuppression with TB reactivation risk necessitates a holistic approach. Medications including immunosuppressive agents (mycophenolate mofetil), Corticosteroids (Prednisolone), biologics (Adalimumab), and Anti-Tubercular therapy (ATT- Rifampin, Isoniazid, Pyrazinamide, Ethambutol) were used to treat this condition.

Outcome: With timely diagnosis and an interdisciplinary approach involving immunosuppression, targeted biologic therapy, and ATT, vision was improved from 6/18 to 6/6 with no sign of active vasculitis

Registration ID Number: 263P042EIVOC2025

Title: Unmasking the Ocular Tuberculosis: Choroidal Tubercles as A Consequence of Ethambutol Toxicity

Author(s): SIVA PRIYA S, Janakiraman P, Biswas Jyotirmay

Affiliation(s): The Sankara Nethralaya Academy, Chennai, Tamil Nadu

Abstract Content:

Background: Choroidal tubercles is one of the commonest features for diagnosing as ocular tuberculosis. Choroidal tubercles can arise in the early stages of the progression of the ocular tuberculosis. It indicates the hematogenous dissemination before the development of symptomatic stage of the disease.

Case Details: We report a case of unilateral choroidal tubercles in a patient under antitubercular therapy (ATT) and antiglaucoma medications. On initial examination, visual acuity and intraocular pressure (IOP) were normal in both the eyes. Fundus examination of the left eye showed multiple choroidal tubercles, while right eye was within normal limits. All ancillary tests resulted negative. At subsequent follow-up visit, patient presented with the decreased vision and on examination, increased IOP was observed in the left eye due to discontinuation of antiglaucoma medications. SSOCT showed choroidal folds with elevation of choroidal contour and pocket of SRF in left eye.

Management: Following the use of antiglaucoma medications, significant reduction in IOP was observed on the next day. To reduce the inflammation steroids were given. Transchoroidal biopsy with vitrectomy was performed in the left eye to rule out the malignancy of choroidal tubercules Cytopathological and histopathological analysis of the vitreous aspirate showed the absence of tumour pathology. Postoperatively, the patient experienced a marked decline in visual acuity along with a color vision defect in both the eyes. Electroretinography (ERG) was performed to assess the retinal function and the test revealed reduced latencies in both the eyes.

Outcome: The drop in vision in both the eyes is suggestive of ethambutol-induced optic toxicity due to the ATT intake. The patient was subsequently referred for low vision rehabilitation to improve visual function.

Registration ID Number: 440P079EIVOC2025

Title: Bilateral Dacryops in an Elderly Male: An Uncommon Presentation of Lacrimal Gland Ductal Cysts

Author(s): Gopi Krishnan. G, Anshika Shah

Affiliation(s): Dr Agarwals Institute Of Optometry, Chennai, Tamil Nadu.

Abstract Content:

Background: Dacryops are rare, benign cysts arising from the lacrimal gland ducts. They usually occur on one side and

are often linked to past trauma or surgery. A bilateral presentation, especially without any history of injury or intervention, is extremely uncommon and calls for careful evaluation to rule out other orbital

Case Details: A 68-year-old male presented with a 6-month history of progressive, cystic swellings in both upper eyelids (right > left), associated with mild tenderness and irritation. Visual acuity was preserved. Slit-lamp examination revealed translucent, dome-shaped lesions suggestive of dacryops. Extraocular motility was normal. Cover test showed orthophoria for both distance and near. Anterior chambers appeared shallow, and both lenses exhibited early nuclear sclerosis. Intraocular pressures were within normal limits. Fundus examination revealed peripapillary atrophy and a tessellated background. There was no history of trauma, ocular surgery, or systemic illness. Bilateral dacryops without typical risk factors is extremely rare.

Management: An MRI of the orbits was recommended to understand the extent of the cysts and to rule out deeper or more serious orbital involvement. Given the clinical picture and benign features, surgical excision was planned to relieve symptoms and confirm the diagnosis through histopathology. The patient was counseled in detail about the procedure, possible outcomes, and recovery. This case highlights how a thorough eye exam—combined with imaging—can lead to early diagnosis of rare conditions like dacryops, and how important it is to think beyond the usual suspects when dealing with bilateral eyelid swellings.

Outcome: The patient remains stable and symptom-free, aside from some cosmetic concern. Surgery is scheduled and expected to be curative. This rare presentation reminds us to keep an open mind when common symptoms appear in uncommon ways—and that even benign conditions can surprise us with their symmetry.

Registration ID Number: 055U011EIVOC2025

Title: Atypical Clinical Presentation of BEST Disease: A Case Report

Author(s): SHALINI B

Affiliation(s): Elite School of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: To report a clinical case of BEST disease with ocular phenotypes, including microcornea and corneal plana, accompanied by diagnostics findings that were inconsistent with the typical presentation of the disease.

Case Details: A twelve-year-old male presented to the clinic for a regular check-up. Visual acuity was 6/9 in both eyes. A comprehensive evaluation revealed microcornea and corneal plana. A peripheral avascular zone was observed in the Fundus. The electroretinogram (ERG) results notably varied, while optical coherence tomography (OCT) revealed shallow fovea and a hyperreflective subretinal lesion. However, the clinical presentation deviated from typical features of BEST disease such as yellowish, egg-yolk-like lesion in the macula and normal ERG finding. Genetic testing revealed mutation in BEST 1 gene with autosomal dominant inheritance, leading to the diagnosis of BEST disease.

Management: The child was given glasses for refractive error and received genetic counselling on BEST disease. Parents were informed about disease progression and the need for regular follow-up.
Outcome: This case reports a varied ocular phenotypic presentation and inconsistent diagnostic findings in BEST disease, highlighting the need for further research into the gene variants associated with the condition. It underscores the critical importance of a thorough clinical evaluation and comprehensive genetic testing in accurately diagnosing genetic eye diseases.

Registration ID Number: 513U114EIVOC2025

Title: Toxoplasma Retinitis- A Silent Threat to Vision

Author(s): Akshaya J, Akilandeshwari T, Vijayalakshmi Nivethitha. K

Affiliation(s): Lotus Institute of Health Sciences and Management, Coimbatore, Tamil Nadu.

Abstract Content:

Background: Toxoplasma retinitis, caused by T. gondii, is a rare eye infection transmitted via raw or undercooked meat. The parasite spreads as tachyzoites through the bloodstream, affecting organs like the eyes. Risk factors include meat consumption and contact with animals. Diagnosis involves fundus examination and OCT, revealing retinal lesions.

Case Details: A 15-year-old female presented with diminished vision in the OS for 6 months. No relevant family history. Systemic symptoms—vomiting, diarrhea, and fever—were noted after recent travel. Visual acuity was 6/7.5 OD (6/6 with PH) and 6/18st OS (6/12 With PH). Refraction revealed mild myopic astigmatism. IOP was normal for OU. Retinal evaluation of the OS showed retinal changes. Final diagnosis was toxoplasma retinitis.

Management: In this case which is the starting stage of the toxoplasma retinitis, the Anti-inflammatory drugs can be used to manage the inflammation. But in the advanced cases ANTI-MICROBIAL THERAPY should be given. Long term monitoring is necessary in this case. Regular imaging techniques should be done such as fundus and OCT Examinations.

Outcome: NEVANAC Eye drops (3 times /day). Regular systemic and eye examinations can be preferred in this case. The IgG and IgM antibodies test can be regularly performed in the toxoplasma retinitis.

Registration ID Number: 317P048EIVOC2025

Title: Intravitreal Parasitic Infection Presenting as a Floater: A Case Report

Author(s): Nivetha K, Meenakshi Narayanan, Maheswari Srinivasan, Dhivwesh V, Divya Muravina R, Harihanth P, Carolyn Kiruba S

Affiliation(s): Dr Agarwals Institute of Optometry, Chennai, Tamil Nadu

Abstract Content:

Background: Parasitic infections of the eye, though rare, can cause significant visual impairment. Intravitreal worms may lead to vitritis, inflammation, and floaters. Early detection and surgical removal are crucial in preventing complications such as retinal damage. This case highlights the importance of considering parasitic causes in unexplained intraocular inflammation with persistent

Case Details: A 44-year-old male presented with complaints of a persistent floater in the right eye for three weeks. There was no history of ocular trauma, intraocular surgery, or systemic illness such as diabetes or hypertension. On examination, unaided distance visual acuity was 6/12 in the right eye (OD) with no improvement on pinhole testing and 6/6 in the left eye (OS). Near visual acuity was OD +1.25 DS (N10) and OS +1.25 DS (N6). Anterior segment examination revealed a hyperpigmented patch on the iris in OD. Pupils were round and reactive to light, with no relative afferent pupillary defect (RAPD). Intraocular

Management: The patient was diagnosed with intravitreal parasitic infection. Pars plana vitrectomy (PPV) was performed under local anesthesia. The live worm was carefully isolated and extracted using vitreoretinal forceps without retinal damage. The specimen was preserved and sent for microbiological and parasitological analysis. Postoperative care included a tapering course of topical corticosteroids and broad-spectrum antibiotics. Systemic antiparasitic therapy was not initiated due to the absence of systemic involvement and complete removal of the parasite. Follow-up evaluations showed no signs of recurrent inflammation or residual parasites.

Outcome: The patient's vision improved to 6/6 unaided within one week postoperatively, with no complications or recurrence over a three-month follow-up. This case highlights the need to consider parasitic infections in unexplained vitritis and floaters, where timely surgical intervention can ensure complete parasite removal and excellent visual recovery

Registration ID Number: 513U114EIVOC2025

Title: Blocked at 25: A Rare Retinal Vein Occlusion

Author(s): Akshaya J, Akilandeshwari T, Vijayalakshmi Nivethitha K

Affiliation(s): Lotus Institute of Health Sciences and Management, Coimbatore, Tamil Nadu.

Abstract Content:

Background: Central retinal vein occlusion (CRVO) is a retinal disorder caused by blockage of the central retinal vein, leading to retinal haemorrhages and vision loss. It is rare in young individuals and may be linked to hypercoagulable states, inflammation, trauma, or idiopathic causes.

Case Details: A 25-year-old female presented for refractive surgery with UCVA of 6/60 in the right eye and CF@5m in the left. SMILE surgery improved BCVA to 6/6 in both eyes. Nine months later, she developed sudden vision loss in the left eye. Fundus and OCT confirmed CRVO with vision reduced to 6/60. She received three monthly Razumab injections, improving UCVA to 6/9. Due to vision fluctuation, five Eylea injections were administered, leading to stabilization and resolution of the occlusion. Final vision was 6/6 in the right eye and 6/6st in the left.

Management: Razumab and Eylea are anti-VEGF medications for CRVO. Eylea offers longer-lasting effects and broader action. When Razumab was insufficient, Eylea worked effectively.
Outcome: Though rare in young adults, early CRVO diagnosis and timely treatment can restore vision. Regular follow-up after eye surgery is essential.

Registration ID Number: 373R202EIVOC2025

Title: Glaucoma in A Child with Cutis Laxa Syndrome – An Unusual Association

Author(s): Priya Dutta

Affiliation(s): Sankara Nethralaya, Kolkata

Abstract Content:

Background: Cutis laxa is a rare genetic disorder, commonly associated with ptosis, ectropion, strabismus, myopia, keratoconus. There is no evidence found which shows glaucoma as an association with Cutis laxa syndrome. Our aim is to report a case of a child with cutis laxa syndrome and its association with glaucoma.

Case Details: A 9-year-old child with cutis laxa syndrome came for checkup who was on three AGM since last 5.5 years (applied 3 days back). There was no history of trauma or steroid use or family history of glaucoma. Both eyes BCVA were 3/60, N24 at 10 cms. and 6/36, N6 at 10 cms. respectively. Hirschberg showed RXT. Slit lamp examination showed both eyes entropion with lashes rubbing over cornea, matting of lashes, discharge, epicanthal folds, telecanthus, superficial punctate keratitis. IOP was 54- and 50-mm hg in both eyes respectively. Gonioscopy was open. Both eyes had GOA.

Management: The child was advised to restart all three AGMs and IOP dropped to 18- and 16-mm hg next day. Pachymetry were 522 and 523 microns respectively. Visual fields were unreliable. The child was advised to continue AGM with close monitoring of IOP before proceeding for any surgical intervention for glaucoma. We were Unable to perform Krimsky as pupillary area was almost covered with epicanthal folds. Both eyes had high astigmatism with flat cornea, so she was advised for contact lenses trial to check for further improvement in vision and to start left eye patching 4-6 hours/ day over current glasses.

Outcome: Cutis laxa can be associated with various vascular abnormalities, such as arterial tortuosity and aortic aneurysm. These vascular abnormalities don't directly cause glaucoma, but they could potentially contribute to the development of secondary glaucoma, where the glaucoma is caused by another underlying condition like systemic vascular disease.