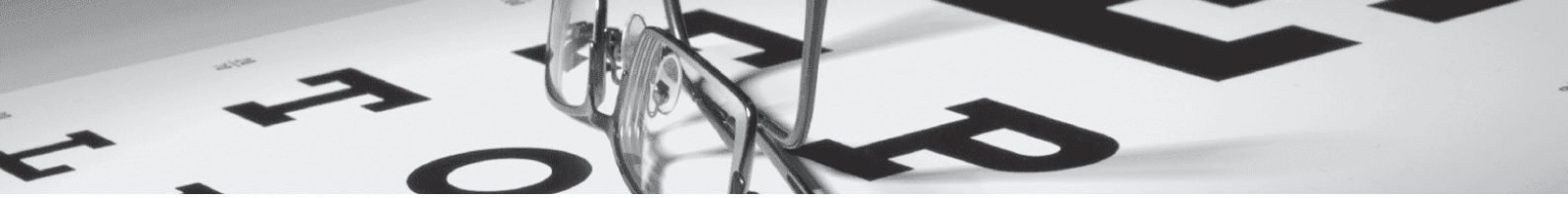

Melbourne Ophthalmic Alumni 32nd Meeting
Saturday 17th May 2025

The Martin Family Auditorium

The Royal Victorian Eye & Ear Hospital
32 Gisborne Street, East Melbourne

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Welcome

Welcome to the 32nd Melbourne Ophthalmic Alumni Annual Scientific Meeting. We are delighted to be back again at the fabulous Martin Family Auditorium. We are again very grateful for the support and generosity of the hospital's executive team, in particular Mr. Brendon Gardner.

We are confident you will enjoy the strong scientific program followed by an evening of fine food, socialising and a special musical treat at Le Meridien Hotel in Bourke Street.

We are delighted to welcome our invited guest speakers and are proud to showcase the talents of the Corneal unit, with updates from Professor Mark Daniell, Dr Elsie Chan, Associate Professor Elaine Chong and Dr Ben Connell.

Our Guest of Honour this year is Associate Professor Penny McKelvie, Anatomical Pathologist at St Vincent' Hospital. Penny has provided tireless outstanding service to our hospital, and we look forward hearing from Penny and honouring her at this year' s meeting.

We also look forward to celebrating the registrar group that started 20 years ago and hearing of their news.

Dr Thomas Hardy
Chair

Organising Committee:

Chair: Dr Thomas Hardy
Secretary/Treasurer: Dr Dermot Cassidy
Committee: A/Prof Anne Brooks, A/Prof Susan Carden,
Prof Mark Daniell, Dr Thomas Gin, Dr Robyn Troutbeck, Dr Jonathon Yeoh

Second Year Registrar Group:

Hashm Albarki, Antoine Bonnet, Mark Chia, Emily Durakovic,
Ezekiel Kingston, Michael Kvopka, Thomas Mylne, Mark Zada

Dinner:

Le Meridien Hotel, Vaudeville Room,
22 Bourke street, Melbourne
6:00pm for 6:30pm

20 year re-union group of 1st year Regristars from 2005

If you have any queries throughout the day, please contact either Esther Gmelig on 0417 544 310 or Kathleen Poon 0402 891 804

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Guest Speakers

Professor Mark Davies Daniell

Qualifications: MB BS (1986); MS (1992); FRANZCO (1993); FRACS (1993)

Current Appointments:
Professor, **Centre for Eye Research**, University of Melbourne
Head of Surgical Research Unit, CERA
Past President RANZCO
Past Head of Corneal Clinic **Royal Victorian Eye and Ear Hospital**
Honorary Professor **Harbin University**

Prof Mark Daniell is a senior consultant Ophthalmic Surgeon with a distinguished career in ophthalmic practice. He was head of the Corneal service at the Royal Victorian Eye and Ear Hospital (RVEEH), overseeing a team of surgeons performing corneal transplantation from 2011-2024. He is Founding Chair of the ANZ Corneal Society and Medical Director of the Lions Eye Bank. Previously he was Head of Ophthalmology at the Royal Melbourne Hospital.

Prof Daniell is also a notable ophthalmic researcher with a passionate interest in a bioengineered cornea, developing the concepts and being the driving force for this project. He is the leader of the Hygelix consortium and co-medical director of BIENCO, a national collaboration developing a bioengineered cornea, funded by MRFF. He is head of Surgical Research at the Centre for Eye Research Australia. He is the founder of the Keratoconus International Consortium.

He was Chairman of the Ophthalmic Research Institute of Australia (ORIA) for six years and continues to review grants for National Health and Medical Research Council and ORIA. He has served on the RANZCO Board for 10 years and is a past President of RANZCO. Dr Daniell has achieved over $38M in competitive grant funding, from AISRF, ORIA, NHMRC and University of Melbourne interdisciplinary grants. He is current beneficiary of VMRAF and Frontiers of Health MRFF grants for tissue engineered cornea projects. Prof Daniell has published 108 papers in peer reviewed literature and has an H factor of 38.

Dr Elsie Chan

Dr Elsie Chan is the current Head of the Cornea Unit and Director of Ophthalmology. Following her registrar training at RVEEH and fellowship years in the United Kingdom, Elsie decided to return to Melbourne for all the reasons that still keeps her here - our sense of community. In her talk titled 'Keratoconus - a very RVEEH story', Elsie will discuss the role of RVEEH in bringing CXL to routine clinical practice, the outcomes of collaborations between RVEEH and other researchers, and the benefits of maintaining an interest in research for all clinicians.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Guest Speakers

A/Prof Elaine Chong MBBS MEpi PhD Melb, FAMS, FRANZCO

Associate Professor Elaine Chong is a cataract, corneal & refractive surgeon, and medical retinal specialist. Elaine is the Head of Ophthalmology at Royal Melbourne Hospital and is a consultant ophthalmologist in the medical retinal and cornea units at the Royal Victorian Eye & Ear Hospital, where she is also deputy head of cornea. Prior to these positions, Elaine underwent double subspecialty fellowship training, first in medical retina and then in corneal and refractive surgery. Elaine was awarded the Gold Medal for Excellence (K. G. Howsam Medal) for her performance in the RANZCO advanced clinical examination.

Elaine sits on the Clinical & Experimental Ophthalmology journal editorial board, is the Chair of the Victorian Ophthalmology Registrar Selection committee, in the executive committee of the Australian & New Zealand Cornea Society and is deputy chair of RANZCO Women In Ophthalmology. She has been the scientific program chair for the RANZCO Victorian Branch Annual Scientific Meeting from 2019 to 2024.

Elaine holds a PhD in ophthalmic epidemiology and a Masters of Epidemiology from the University of Melbourne. She has received various international awards for her work in corneal & retinal research, with her peer-reviewed work featured and published internationally. She has also contributed to the development of Descemet's Membrane Endothelial Keratoplasty (DMEK) Endoglide injector with Network Medical Products, United Kingdom.

Elaine is also very much involved in the patient education arena. She is the co-founder of One Right Eye (ORE) which features an online virtual eyeball to facilitate quick and easy explanations in real time for "right to the point" patient education. Eye diseases are complex, but inherently visual. ORE is free for all ophthalmologists and optometrists to use by signing up at its website (https://www.onerighteye.com).

Dr Ben Connell (BMBS, FRANZCO, MPH)

Dr Connell provides a cataract, refractive and corneal surgery service at Eye Surgery Associates and is a Consultant with the Corneal Unit. He did Advanced Subspecialty Surgical training at the Manchester Royal Hospital and Moorfields Eye Hospital, London, specialising in cataract surgery, laser vision correction and corneal transplantation. He also held an Honorary Consultant Position at the Manchester Royal Eye Hospital.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Program

Session 1 **Chairs:** Dr Dermot Cassidy and Dr Robyn Troutbeck		
09.00 – 09.05	Dr Thomas Hardy	Introduction & Welcome
09.05 – 09.15	Ms Angela James	Creation of an Antibiogram at The Royal Victorian Eye & Ear Hospital
09.15 – 09.25	Mr Chen Wang	Assessing Reliability and Optical Fogging Effects in a Web-Based Contrast Sensitivity Test: A Pilot Study
09.25 – 09.35	Mr Daniel Mahini	Evaluation of Corneal Impression Membranes as an Alternative For Diagnosing Microbial Keratitis in Australia
09.35 – 09.45	Dr Caspar de Bruin-Dickason	Descemetorhexis without keratoplasty for managing Fuchs' – results from a case series and systematic review
09.45 – 10.40	Cornea Update **Dr Elsie Chan** Keratoconus - a RVEEH story **Dr Ben Connell** Clinical Audit, my experience	
10.40 - 11.00	Morning Tea	

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Program

Session 2 **Chairs:** Dr Thomas Hardy & A/Prof Alan McNab		
11.00 – 11.10	Dr Alexander Savage	Topical Antibiotic Ointment for Oculoplastic Surgery: A Systematic Review
11.10 – 11.20	Mr Ashwin Rajagopalan	Periocular dermoscopy: potential applications in oculoplastic surgery
11.20 – 11.30	Dr Hannah McDonald	Adjunctive Local Antifungal in Cases of Rhino-Orbital Mucormycosis: A Case Series
11.30 – 11.40	Dr Domagoj Vodanovich	Efficacy and Safety of Sutureless Conjunctiva-Sparing Posterior Ptosis Repair Surgery: A Novel Technique
11.40 – 11.50	Dr Elaine Chan	Changes in Goldmann Perimeter ductions following intravenous methylprednisolone for thyroid eye disease
11.50 – 12.00	Dr Milton Louca	Thyroid eye disease (TED) patients' quality of life (QoL) comparing active observation, medications and surgery: A retrospective review at a tertiary eye hospital
12.00 – 12.10	Dr Anthony Yao	Tales from the Night Shift
12.10 - 12.25	Guest of Honour: A/Prof Penny McKelvie Introduction – A/Prof Alan McNab	
12.25 – 12.40	Annual General Meeting	
12.40 – 13.40	Lunch	

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Program

Session 3 **Chairs:** A/Prof Susan Carden & Dr Alp Atik		
13.40 - 13.50	Dr Alessandro Costa	First Nations Identity in Ophthalmology Referrals
13.50 – 14.00	Prof. Angus Turner	A decade of the Lions Outback Vision Van - a legacy of support from Victoria
14.00 – 14.10	Dr Joshua Meyerov	Real-world data: Online circular contrast perimetry used in routine glaucoma clinics across Nigeria
14.10 – 14.20	Mr Alexander Sarossy	Fractal analysis of high speed pupilography in glaucoma
14.20 – 14.30	Dr Oded Hauptman	The OCT as a Forensic Tool in Ophthalmic Practice
14.30 – 15.25	Cornea Update **Prof. Mark Daniell** The future of corneal transplantation. **A/Prof Elaine Chong** Fuchs' Endothelial Dystrophy - To DWEK or to DMEK?	
15.25 – 15.45	Afternoon Tea	

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Program

Session 4
Chairs: Dr Thomas Gin & Dr Jonathan Yeoh

15.45 – 15.55	Dr Danica Joseph	Cytometric Evaluation of Cytokine Factors in Plasma and Vitreous from Endophthalmitis Patients: Correlated Elevation in Neutrophil Markers
15.55 – 16.05	A/Prof Wilson Heriot	Now you see what I can't see
16.05 – 16.15	Miss Sunny Yuqing Lu	Risk Factors for Accelerated Retinal Aging in Australian Populations
16.15 - 16.25	Dr Hannah McDonald	Interpericyte tunneling nanotube complexity in the human retina
16.25 – 16.35	Dr Aidan Jackson	Conical Macular Detachment: A Unique Imaging Finding in Retinal Artery Macroaneurysms
16.35 – 16.45	Dr Thomas Hardy	Close and Thanks

Dinner
Le Meridien Hotel, Vaudeville Room,
22 Bourke Street, Melbourne
6:00pm for 6:30pm

20 Year re-union group of 1st year Registrars from 2005

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

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MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 1

09.05 – 09.15

Creation of an Antibiogram at The Royal Victorian Eye & Ear Hospital

Ms Angela James

Angela James, Ivy Tan. Pharmacy Department, RVEEH

Background

An Antibiogram is a table summarising the susceptibility of specific organisms to different antimicrobials over a specified period.

Aim

To develop an Antibiogram for the Royal Victorian Eye & Ear Hospital (E+E) from cultures collected

Method

The Business Intelligence Unit at E+E were engaged to develop an Antibogram from microbiological culture and susceptibility data provided by St Vincent's Microbiology using Power BI functions with the following criteria:
Annual data (January – December)

Only FIRST isolate of an organism per patient per year (duplicate and subsequent instances of organism per patient excluded)

Only organisms with >=30 isolates are included in the Antibiogram to allow for clinically significant susceptibility results.

Results

The annual Antibiogram was published on the intranet with the BI tool, saving 16 hours of manual analysis of data and providing a readily accessible report for clinicians to help guide antimicrobial therapy.

Limitations

Antibiograms do not identify the most appropriate antimicrobial for the site of infection. Susceptibility rates are not clinically significant in small sample sizes.

Conclusion

The BI tool can automate the development of the Antibiogram using local surveillance data to support appropriate use of antimicrobials and track changes in susceptibility and resistance patterns.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 1

09.15 – 09.25

Assessing Reliability and Optical Fogging Effects in a Web-Based Contrast Sensitivity Test: A Pilot Study

Mr Chen Wang

Background

Contrast sensitivity (CS) is an important visual function often omitted from routine assessments due to lack of access to specialised equipment. This pilot study evaluates the test-retest reliability and optical fogging effects of a free, open-source web-based CS test developed using R Shiny.

Methods

Participants (n = 40 eyes) completed a CS function test across four conditions: Baseline, Retest (15 minutes post-baseline), Optical Fogging (+3.00D reading glasses to simulate blur), and Retest. CS was assessed across a range of optotype sizes (6/6 to 6/60) and contrast levels at a 3.1 m distance from the laptop screen.

Results

Test-retest reliability was high, with ICCs of 0.974 (95% CI: 0.941 - 0.988) for normal vision and 0.963 (95% CI: 0.916 - 0.983) for fogging. Optical fogging disproportionately reduced sensitivity for smaller optotypes (e.g 6/6), consistent with literature showing greater blur effects at higher spatial frequencies. The high 6/6 threshold may suggest display-related limitations.

Conclusion

The open-source test is validated with high test-retest reliability and shows plausible results, showing promise to be an accessible alternative to traditional contrast sensitivity testing.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 1

09.25 – 09.35

Evaluation of Corneal Impression Membranes as an Alternative for Diagnosing Microbial Keratitis in Australia.

Mr Daniel Mahini

Dr. Colby Hart, Mr. Daniel Mahini, Lisa Brenton, Claire Gregory, Dr Amy Crowe, Professor Mark Daniell

Aim

Microbial keratitis is a significant cause of ocular morbidity, requiring prompt and accurate diagnosis to initiate appropriate treatment. Corneal scraping is the current gold standard diagnostic test, which requires speciality training, is time consuming and can induce further morbidity to the eye. Corneal impression membranes have shown promise as a safer, equally effective diagnostic tool in prior studies in the United Kingdom (UK). This study aims to compare the diagnostic yield of both methods for identifying causative pathogens in microbial keratitis among patients at the Royal Victorian Eye and Ear Hospital.

Method

This prospective, observational cohort study examines patients presenting with suspected microbial keratitis at the emergency department of the Royal Victorian Eye and Ear Hospital, Melbourne. All participants underwent standard clinical assessments followed by dual sampling with both impression membranes and corneal scraping for culture and sensitivity testing.

Results

Sample collection is currently in progress; thus far 40 cases have been obtained with 5-10 new cases anticipated each week. To date, all samples have shown a 100% concordance between impression membranes and corneal scrapings in identifying causative pathogens.

Conclusion

Preliminary findings indicate that corneal impression membranes yield diagnostic results comparable to corneal scraping in microbial keratitis.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 1

09.35 – 09.45

Descemetorhexis without keratoplasty for managing Fuchs' – results from a case series and systematic review

Dr Caspar de Bruin-Dickason

Caspar N de Bruin-Dickason,[1] Dr Elsie Chan,[1,2,4,5] Ricardo García-Serrano Fuertes[4], Elaine Chong,[1,2,3,4,5]

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2. Department of Ophthalmology, Royal Melbourne Hospital, Melbourne, Victoria, Australia
3. Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, Victoria, Australia
4. Hospital Universitario Virgen del Rocío, Av Manuel Siurot S/n, 41013, Seville, Spain
5. Ophthalmology, Department of Surgery, University of Melbourne, Melbourne, Victoria, Australia

Background

Descemetorhexis without keratoplasty (DWEK) is an emerging alternative to corneal transplant for managing Fuchs Endothelial Corneal Dystrophy (FECD). Rho kinase inhibitors such as ripasudil have been trialled as an adjuvant to improve endothelial healing and visual outcomes after DWEK.

Aim

We report the results of a prospective, interventional case series and performed a systematic review to evaluate the efficacy and safety of DWEK with or without ripasudil.

Methods

Our prospective, interventional case series of DWEK for guttatae predominant FECD commenced in 2019 and concludes later this year. 17 eyes with reduced visual acuity underwent DWEK and followed for two years. Ripasudil was commenced for eyes that did not achieve corneal clearance 1 month post op, continued for four weeks and weaned thereafter.

Separately, a systematic review of DWEK with or without ripasudil is underway.

Results and Discussion

3 out of 17 eyes (18%) had complete or corneal clearance after DWEK without ripasudil. A further 8 eyes achieved partial or complete corneal clearance after treatment with ripasudil. The remaining 6 eyes had reduced visual acuity compared to preoperative baseline and required DMEK.

Our review has identified highly variable success rates between studies. In general, the addition of ripasudil and <4mm descemetorhexis were associated with better outcomes.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 2

11.00 – 11.10

Topical Antibiotic Ointment for Oculoplastic Surgery: A Systematic Review

Dr Alexander Savage

Alexander J Savage, Simon A Savage, Angela James, Thomas Hardy

Introduction

Topical antibiotic ointments are commonly used by oculoplastic surgeons to prevent surgical site infections (SSIs). However, their routine use has been questioned due to concerns regarding antimicrobial resistance. This systematic review aimed to evaluate whether topical antibiotic ointments reduce SSIs in oculoplastic surgery compared to non antibiotic alternatives.

Methods

A systematic review was conducted following PRISMA guidelines. Study selection, risk of bias assessment, and data extraction were completed by two independent reviewers.

Results

Of 603 non-duplicate studies identified in the search, four were included for data extraction. All had some risk of bias. Two studies found no statistically significant difference in SSI rates between antibiotic and non-antibiotic groups, while two showed a statistically significant reduction in SSIs with antibiotic ointment use.

Conclusion

Topical antibiotic ointments may offer a modest statistical reduction in SSIs, though the clinical significance remains uncertain. Non-antibiotic options are a reasonable choice in many cases. However, there may still be a role for topical antibiotic ointments for wounds with granulating surfaces or conjunctival defects, patients at high risk of SSI, or for patients in whom the sequelae of SSI would be unacceptable. Further high-quality, randomised controlled trials are warranted to inform best practices in oculoplastic postoperative care.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 2

11.10 – 11.20

Periocular dermoscopy: potential applications in oculoplastic surgery

Mr Ashwin Rajagopalan

Ashwin Kieran Rajagopalan
School of Clinical Sciences at Monash Health, Monash University

Dr Anthony Yao MBBS FRANZCO
Royal Victorian Eye & Ear Hospital

Aim
To review the evidence base for dermoscopy in the periocular region, and discuss its potential applications in oculoplastic surgery.

Method
An electronic database search was conducted (MEDLINE, Pubmed, Cochrane) with the search terms "dermoscopy", "periocular", "ophthalmology" and "oculoplastic".

Results
32 articles were identified that met inclusion criteria.

Conclusion
Dermoscopy in the periocular region may provide additional information beyond conventional examination techniques, and could be a valuable tool in the diagnosis and management of lesions in this area.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 2

11.20 – 11.30

Adjunctive Local Antifungal in Cases of Rhino-Orbital Mucormycosis: A Case Series

Dr Hannah McDonald

Hannah McDonald[1], Jwu Jin Khong[1,2,3], Thomas G. Hardy[1,2,3].

1. Department of Ophthalmology, Royal Melbourne Hospital, Parkville, Victoria
2. Centre for Eye Research Australia, East Melbourne, Victoria
3. Department of Surgery, Royal Melbourne Hospital, University of Melbourne, Parkville, Victoria

Background

Rhino-orbital mucormycosis is a potentially life-threatening, angio-invasive fungal infection that primarily affects immunocompromised patients. Standard treatment includes intravenous antifungal therapy and surgical debridement. However, due to the ischemic and necrotic nature of the infected tissue, drug penetration is often limited by poor vascular perfusion. Localised antifungal therapy may be an effective adjunctive treatment by enhancing drug delivery to the affected tissue while reducing systemic toxicity.

Methods

We present a case series of three patients with rhino-orbital mucormycosis treated with adjunctive local administration of liposomal amphotericin B. The treatment was delivered transcutaneously, transconjunctivally, or transnasally via direct injection or irrigation through an intravenous cannula surgically placed adjacent to infected orbital tissues. This was performed in conjunction with systemic therapy and sinus surgery.

Results

All three patients had progressive rhino-orbital mucormycosis despite standard treatment. Daily to second-daily irrigation or injection with liposomal amphotericin B resulted in clinical stabilisation and preservation of vision. All patients avoided orbital exenteration.

Conclusion

Intraorbital injection or cannula-based irrigation offers a safe, targeted approach to delivering antifungal therapy in selected cases of orbital mucormycosis. This technique may improve local disease control, reduce systemic toxicity, and potentially be an orbital-salvaging treatment.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 2

11.30 – 11.40

Efficacy and Safety of Sutureless Conjunctiva-Sparing Posterior Ptosis Repair Surgery: A Novel Technique

Dr Domagoj Vodanovich

Dr Domagoj Vodanovich & Dr Justin Friebel

This study aims to describe a novel sutureless conjunctiva-sparing Müllerectomy (CSM) technique and evaluate its long-term efficacy and safety. Müller muscle-conjunctival resection (MMCR) is a well-established surgical approach for moderate blepharoptosis with good levator function. However, this technique involves the removal of healthy conjunctiva and can expose the cornea to suture material. We conducted a retrospective study of patients undergoing sutureless conjunctiva-sparing posterior ptosis repair surgery.

During the CSM technique, the conjunctiva is elevated to expose Müller muscle. A conjunctival f lap is reflected, and the muscle is grasped. A crush zone is created with forceps, treated with bipolar cautery, and the muscle is allowed to contract. The conjunctival flap is then repositioned.

We present our experience of adopting this technique and results from 28 cases (18 patients) who underwent sutureless CSM, with a minimum postoperative follow-up period of 3 months. Outcome measures focused on changes in palpebral fissure height (PFH) at multiple postoperative timepoints. Our results showed comparable outcomes to the traditional MMCR technique, with the added benefit of shorter surgical time. There were no reported contour complications, corneal abrasions or ocular complications, but revision surgery was required in 2 cases.

Sutureless CSM presents a promising alternative to traditional MMCR, offering similar long-term outcomes, reduced operative time, lower cost, and a potentially comparable revision rate with traditional anterior approach ptosis repair surgery, but case selection is important.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 2

11.40 – 11.50

Changes in Goldmann Perimeter ductions following intravenous methylprednisolone for thyroid eye disease

Dr Elaine Chan

Elaine Yin Lam Chan[1], Myra McGuinness[2], Thomas Hardy[2,3,4], Jwu Jin Khong[1,2,3,4]

Affiliations

1. Department of Ophthalmology, Austin Hospital
2. Centre for Eye Research Australia
3. Orbital, Plastics and Lacrimal Unit, The Royal Victorian Eye and Ear Hospital
4. Department of Surgery, University of Melbourne

Background

The current first-line treatment for moderate-to-severe thyroid eye disease (TED) in the inflammatory phase is intravenous methylprednisolone (IVMP), which has been shown to reduce inflammation. There has not been a comprehensive study focusing on the effects of IVMP on oculomotility using the Goldmann perimeter, which reflects the primary field of action of each extraocular muscle. This study aimed to identify the direction of gaze (and corresponding muscle group) most improved following IVMP.

Methods

Retrospective data were collected from patients who received standard IVMP for moderate-to-severe TED (500 mg for 6 weeks, followed by 250 mg for 6 weeks) at the Royal Victorian Eye and Ear Hospital (RVEEH) from July 2020 to September 2023. For comparison, data were also collected for patients for whom IVMP was recommended but did not commence. Ductions in six directions of gaze for each eye and Gorman Diplopia Scores were accessed at the initial visit (pre-treatment) and subsequent visits (post-treatment) at 12 and 24 weeks following IVMP initiation.

Results

Fifteen TED patients were included (age 21-72, 88.7% female), including three who did not commence IVMP. At 12 weeks post IVMP, inferior rectus and lateral rectus in the right eye showed an improvement in duction (10.2˚ and 14.0˚ respectively, $p<0.05$). At 24 weeks post IVMP, inferior rectus in the right eye showed an improvement in duction (7.8˚ , $p<0.05$). No meaningful difference was found in the other directions of gaze. Prior to IVMP, gaze in the direction of inferior rectus showed the greatest limitation from baseline compared to reference healthy patients (mean difference = 16 ± 4.2˚), followed by the superior rectus (mean difference = 15.3 ± 4.7˚) and lateral rectus (mean difference = 11.4 ± 4.4˚). The directions of gaze least affected were superior oblique (mean difference = 3.9 ± 3.8˚) and medial rectus (mean difference = 5.5 ± 3.4 ˚). Forty-one point seven percent (5/12) of patients who received IVMP had an improvement in Gorman diplopia score of ≥1 at 12 weeks, as compared to 2/3 patients in the untreated group ($p>0.05$).

Conclusions

Our results demonstrated an improvement in ocular motility following IVMP treatment, particularly in the primary fields of action of the inferior rectus and lateral rectus. Prior to treatment, TED patients appear to have greatest restriction in the direction of inferior rectus, superior rectus and lateral rectus, while the oblique muscles were least affected. Improvement in diplopia following IVMP treatment was observed. Further larger scale studies would be helpful to further explore these sequelae.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 2

11.50 – 12.00

Thyroid eye disease (TED) patients' quality of life (QoL) comparing active observation, medications and surgery: A retrospective review at a tertiary eye hospital

Dr Milton Louca

Dr Milton Louca[1], Dr Thomas G Hardy[1,2] and Dr Jwu Jin Khong[1,2]

1. The Royal Victorian Eye and Ear Hospital, East Melbourne, VIC
2. Centre for Eye Research Australia, East Melbourne, VIC

Background

Thyroid eye disease (TED) results in proptosis, dryness, visual disturbances, and pain. We present a retrospective review assessing the TED quality of life (QoL) outcomes using validated questionnaires comparing treatments.

Methods

At the Royal Victorian Eye and Ear Hospital, data collected via TED QoL Questionnaire (TED-QoL) was reviewed. At varying time-points, TED-QoL scores were analysed, at baseline and final follow-up between interventions. Patient responses were stratified into sub-categories: active observation, TED-specific medications, corticosteroids, and procedures.

Results

We report baseline patient demographics and TED-QoL data. Of 185 patients with TED, 114 patients met inclusion criteria. The patient average age was 56. The average TED length at first review was 45 months. The female:male ratio was 3:1. At any time, 32% of patients underwent active observation, 47% had corticosteroids, 15% had TED-specific medication(s), 58% underwent surgery. The average TED-QoL data (out-of-10) for overall QoL, function and appearance for baseline vs final-follow-up: 6.36 vs 6.02 (t-test = 0.0329) 5.36 vs 5.41 (t-test = 0.4211) and 6.38 vs 6.12 (t-test = 0.5158). Follow-up range was: 0-72 months. We perform a sub-group analysis based on time-points and intervention.

Conclusion

Based on other TED QoL studies, these results are expected. This study informs value-based medicine.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 2

12.00 – 12.10

Tales from the Night Shift

Dr Anthony Yao

Orbital Plastic and Lacrimal Unit, Royal Victorian Eye and Ear Hospital

Aim

To discuss an interesting case of clinico-radiologic-pathologic conundrum, and review the relevant literature.

Method

Case study of a 37 year old man who attended the emergency department with sudden worsening of proptosis associated with vision loss, on a background of 3 weeks of fevers, chills and night sweats.

Results

Clinical, radiologic and pathologic findings will be revealed during the presentation.

Conclusion

Orbital inflammatory disease encompasses a wide spectrum of conditions. A literature review of the relevant pathology will be presented.

13.40 – 13:50

First Nations Identity as a Clinical Modifier in Referrals to the Ophthalmology Outpatient Clinic: An Audit from Geelong University Hospital

Dr Alessandro Costa

Keywords
First Nations Identity, Clinical Modifier, Ophthalmology Referrals, Audit, Indigenous Health, Ophthalmology Access, Referral Patterns

Dr Alessandro Costa, MBBS, MMed ClinEpi, Dr Tess Ryan, MBBS, MMed ClinEpi, Dr Mark A Whiting, MBBS, FRANZCO, Dr Leisha Riddington, MBBS (Hons), FRANZCO, Dr John B Clark, MBBS, FRANZCO

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Conflicts of interest
All authors declare there are no conflicts of interest regarding the publication of this article.

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First Nations communities face high rates of preventable eye conditions and barriers to accessing ophthalmic care. In October 2017, Barwon Health introduced a clinical modifier to fast-track outpatient referrals for First Nations patients. This study evaluates its impact from July 1, 2017, to June 30, 2024.

The First Nations clinical modifier prioritised eligible patients by facilitating same-day appointment scheduling upon triage, replacing the standard urgency-based scheduling. The Barwon Health Indigenous Health Unit supported awareness efforts among local First Nations communities and healthcare providers.

Of 164 First Nations referrals, 35 patients were identified in the initial referral and received the modifier. The first appointment attendance rate was 71.4% for the modifier group and 80.6% for the non-modifier group.

Category 1 referrals had a median wait time of 11 days with the modifier and 9 days without ($U = 357.5$, $P = 0.82$). Category 2 patients waited a median of 88.5 days with the modifier and 114 days without ($U = 160$, $P = 0.13$).

The clinical modifier may improve access to ophthalmic care but is hindered by limited identification and engagement. Strengthening community partnerships, addressing systemic barriers, and adopting culturally sensitive outreach strategies are essential to maximising its potential benefits.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 3

13:50 – 14:00

A decade of the Lions Outback Vision Van - a legacy of support from Victoria.

Professor Angus Turner

The Lions Outback Vision Van commenced in 2016 to provide standard-of-care specialist equipment to 22 communities across Western Australia supporting service provision with no cost barriers for anyone living in rural areas.

Many Victorian registrars and consultants have joined in the journey over the years, and it's been a privilege working with alumni in remote settings.

Improvements in connectivity during this time have resulted in improved remote of multimodal ocular imaging for supervision and subspecialty input.

Population demand in regional areas has resulted in ever increasing service provision in regions with a permanent regional hub established in the northwest 5 years ago with retinal and tertiary level surgical care as well as a network of monthly outreach visiting flights for the provision of intravitreal injections administered by junior doctors. In addition, collaborative care telehealth models ensure surgical case rates are high and the caseload is triaged well for specialist care to ensure primary care and duplication of services is avoided where limited ophthalmology workforce is available.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 3

14.00 – 14:10

Real-world data: Online circular contrast perimetry used in routine glaucoma clinics across Nigeria

Dr Joshua Meyerov

Joshua Meyerov,[1] Deus Bigirimana,[1] Olusola Olawoye,[2,3] Tarela Frederick Sarimiye,[2,3] Adaora Chinwendu Okudo,[4,5] Aisha Sheriff Kalambe,[4,5] Kuburat Oluwatoyin Adenrele,[6] Chimdia Ogbonnaya,[7] Affiong Ibanga,[8] Bola Adekoya,[9] Mary Ejiofor,[9] Adanma Ezenwa,[10] Elizabeth Akon Awoyesuku,[11] Nkechiyere J Uche,[12] Oluwatobi James Hussain,[2] Anene Ezinne Vivian[5] Farouk Garba,[13] Funmilayo Lawal,[13] Simon Skalicky[1]

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Background

Online circular contrast perimetry (OCCP) provides visual field testing on any computer or tablet and without additional hardware. This study assessed the performance of OCCP compared to conventional perimetry in routine glaucoma clinics across Nigeria.

Methods

A total of 385 patients (289 right, 284 left eyes) with glaucoma were recruited from ten ophthalmology clinics. Patients performed standard automated perimetry on conventional machines (Humphrey, Octopus) and OCCP. Mean differences, agreement correlation and concordance were compared for mean deviation (MD).

Results

OCCP mean MD was higher than SAP (-7.27 ± 7.61 vs -8.64 ± 8.38, $P<0.001$). Strong Pearson's correlation ($r=0.78$, $P<0.0001$) and concordance correlation coefficients (CCC=0.76, $P<0.0001$) were observed for MD. Bland-Altman analysis demonstrated a small bias difference of 1.66 to 1.77 between perimetry tests for right and left eyes; 95% limits of agreement ranged from -8.5 to 12.1. Intraclass correlation coefficients indicated excellent inter-test consistency (0.94, $P<0.0001$). OCCP reliability appeared slightly higher compared with SAP (77 vs 73%), however, this was not statistically significant ($P>0.05$).

Conclusion

OCCP demonstrated favourable agreement, correlation and consistency with SAP. Its test reliability and versatile accessibility make OCCP a promising, reliable tool for glaucoma testing, particularly in resource-limited or remote settings.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 3

14:10 – 14:20

Fractal analysis of high speed pupilography in glaucoma

Mr Alexander Sarossy

Alexander Sarossy, Puneet Parihar, Quoc Cuong Ngo

Background

Glaucoma affects retinal ganglion cells, including intrinsically photosensitive retinal ganglion cells (IPRGCs) that regulate pupil diameter. Pupillary oscillations reflect various neural processes, and glaucoma has been shown to affect the signal entropy of these movements. This study investigates whether fractal dimension, another measure of chaos, can characterize temporal pupillary changes in glaucoma patients.

Methods

We studied 30 glaucoma patients and 49 age-matched controls using infrared pupillography with a commercial Gazepoint eye tracker. Subjects fixated on a target for 60 seconds against both bright and dim screen backgrounds while pupil diameter was recorded at 150 Hz. Fractal dimension (FD) of the time series was calculated using the Rodogram method from the fractaldim library in R.

Results

Glaucomatous eyes showed significantly lower fractal dimension compared to healthy controls (1.57 vs 1.64, $p<0.01$), indicating reduced complexity in pupillary dynamics.

Conclusion

Glaucomatous optic nerve damage manifests as reduced complexity in spontaneous pupillary fluctuations, measurable through fractal analysis. This likely results from decreased IPRGC afferent input to neural subsystems, allowing more regular oscillations and reducing complexity. The quick acquisition time suggests potential as an additional clinical measure of glaucoma severity for treating clinicians.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 3

14:20 – 14:30

The OCT as a Forensic Tool in Ophthalmic Practice

Dr Oded Hauptman

Introduction / Issues

Optical Coherence Tomography (OCT) has transformed ophthalmology over the past 35 years. While widely used to define structural pathology, its application in tracking change over time—particularly in neuro-ophthalmic disorders—is underutilised.

Method

A retrospective analysis of serial OCT scans from the author's clinical practice was conducted, focusing on Nerve Fibre Layer (NFL) and Ganglion Cell Layer (GCL) changes in various neuro-pathologies.

Key Findings

Characteristic OCT patterns of acute and chronic NFL and GCL loss were identified, corresponding with perimetric changes in glaucoma, stroke, tumour, optic nerve head drusen, Leber's Hereditary Optic Neuropathy, demyelinating, and metabolic disease.

Discussion and Conclusions

Case examples illustrate the value of OCT in diagnosis, monitoring, and management. OCT serves as a vital forensic tool in complex and evolving neuro-ophthalmic presentations.

Implications for Practice or Policy

Baseline OCT imaging of NFL and GCL should be integrated into initial patient assessments, akin to IOP, refraction, and visual acuity. Its diagnostic utility in subtle and evolving cases is substantial.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 4

15.45 – 15.55

Cytometric Evaluation of Cytokine Factors in Plasma and Vitreous fromEndophthalmitis Patients: Correlated Elevation in Neutrophil Markers

Dr Danica Joseph

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Aim

To identify cytokines upregulated in vitreous and plasma of patients with human endophthalmitis, to form a basis of future research into potential immunomodulatory therapies.

Methods

39 patients had vitreous +/- whole blood collected at time of presentation or vitrectomy. Case patients (n=17) presented with endophthalmitis whilst control patients (n=22) were undergoing elective full-thickness macula repair. Cytokine expression in vitreous and plasma was quantified using cytometric beads assays.

Results

In the vitreous of endophthalmitis patients, significant elevations in the majority of cytokines tested (CRP, Cystatin C, IGFBP-4, MMP-9, MPO, Calprotectin, myoglobin, NGAL, SAA, VCAM-1. Of note, case patient plasma also demonstrated significant upregulation of MMP-9, MPO, Calprotectin, NGAL, SAA and MCP-1.

Conclusion

Significant local and systemic cytokine upregulation was observed, with many having associations with neutrophil-driven responses. Further investigations may allow for development of advanced methods of prevention or treatment of human endophthalmitis.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 4

15.55 – 16.05

Now you see what I can't see

A/Prof Wilson Heriot

A/Prof Wilson Heriot (MB BS FRANZCO)[1], A/Prof Meri Vukicevic (B. Orth. PGDiplRes, PhD)2, Lauren Vernon (B Orth. (Hons))[2], A/Prof Connie Koklanis (B. Orth (Hons), PhD)[2],

1. Retinology Institute, Melbourne.
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Purpose

Patients with perifoveal geographic atrophy (PFGA) typically have foveal preservation with good acuity but complain of difficulty reading. This prospective case control study compared functional vision and vision-related quality of life (VQoL) in patients with PFGA and age-matched controls.

Methods

PFGA diagnosis was by SD-OCT and FAF. Fixation was measured using MAIA microperimetry. Eye movements and gaze tracking were recorded using the Tobii Pro Fusion infra-red eye tracker. VQoL was assessed with the Impact of Vision Impairment (IVI) questionnaire.

Results

8 participants with PFGA and 9 without; mean age of 80.6 and 74.6 respectively. Near acuity (PFGA=n14, CG=n5) and BCVA (PFGA=6/12+, CG=6/6) was worse in the PFGA group ($p<0.05$).

Fixation was worse ($p<0.05$) in the PFGA group on MAIA (P1, P2, BCEA 63%, 95%). Fixation duration and frequency and number of saccades whilst reading were worse in the PFGA group ($p<.05$) as was the IVI score (PFGA=51.63 CG=73.33 ($p=0.02$)). Significant correlations ($p<0.05$) were found between fixation measured by the MAIA and the gaze and fixation data recorded by the eye tracker.

Conclusion

Despite presenting with good acuity, patients with PFGA perform significantly worse on a range of functional vision parameters. Further research on these outcomes in PFGA is warranted.

16.05 – 16.15

Risk Factors for Accelerated Retinal Aging in Australian Populations

Miss Sunny Yuqing Lu

Sunny Yuqing Lu, Ruiye Chen, A/Prof. Zhuoting Zhu

Background
The ageing burden is increasing. Biological ageing correlates more with individual health variability than chronological age. Retinal age gap—the difference between retina-predicted age and chronological age—has been linked to mortality and chronic disease. We aimed to identify risk factors associated with accelerated retinal ageing in the Australian context.

Methods
This cross-sectional study included 5107 participants from a Western Australian population-based cohort engaging with self-administered questionnaire and physical assessments. Retinal age was estimated using a validated deep learning model applied to fundus photographs. Multivariable linear regression examined associations between retinal age gap and sociodemographic, lifestyle, and clinical factors.

Results
Systolic blood pressure ($\beta = 0.033$, 95% CI [0.025, 0.042], $p < 0.001$), diastolic blood pressure ($\beta = 0.052$, 95% CI [0.038, 0.066], $p < 0.001$), BMI ($\beta = 0.065$, 95% CI [0.039, 0.092], $p < 0.001$), daily alcohol consumption ($\beta = 0.146$, 95% CI [0.078, 0.215], $p < 0.001$), and HbA1c ($\beta = 0.461$, 95% CI [0.224, 0.698], $p < 0.001$) were found to significantly associate with retinal age gap.

Conclusion
Glycaemic and cardiometabolic factors significantly correlate with accelerated retinal ageing, emphasising the importance of managing these factors for ageing risk prevention and overall health maintenance.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 4

16.15 - 16.25

Interpericyte tunneling nanotube complexity in the human retina

Dr Hannah McDonald

Hannah McDonald, Anna Wang, Mahmoud Haddara, Luis Alarcon Martinez.

Purpose

Neurovascular coupling (NVC) is the dynamic process in which retinal blood flow is preferentially diverted to metabolically active neurons. Whilst communication between neurons and blood vessels is key to NVC, the precise mechanism through which this coupling is achieved remains unclear. Recently, we have identified inter-pericyte tunneling nanotubes (IPTNTs), thin tubes that connect the pericytes of distal capillaries and facilitate coordinated blood distribution.[1] While previously studied in the retina of mice much remains unknown about IPTNTs within the human retina. Characterization of IPTNTs will improve our understanding of NVC. Furthermore, mouse models of glaucoma and retinal ischemia induce IPTNT rupture and neurovascular dysfunction. A greater understanding of IPTNTs may reveal new avenues of therapeutic intervention.

Method

Donated human retinas were labelled with antibodies specific to basement membrane which highlights IPTNTs/vessels (anti-Collagen IV), astrocytes (GFAP) and pericyte somas (NG2). IPTNTs density and branch points/complexity was quantified within the superficial, intermediate, and deep retinal vascular plexus around the fovea, optic nerve head and peripheral regions of human retinas.

Results

The superficial and intermediate plexus has a higher IPTNT density relative to the deep plexus. Furthermore, IPTNT complexity is greater in the superficial and intermediate plexus relative to the deep plexus.

Conclusions

Our study offers novel qualitative and quantitative findings on IPTNT distribution across distinct regions of the human retina. We highlight the spatial variations in IPTNT structural complexity and density both across the retina and throughout the three vascular plexuses. Importantly, IPTNTs exhibit a heterogeneous arrangement, aligning with the spatial variations in retinal metabolic demand and microvascular flow.

Alarcon-Martinez et al., Nature. 585(7823):91-95.2020.

MELBOURNE OPHTHALMIC ALUMNI MEETING 2025

Abstracts - Session 4

16.25 – 16.35

Conical Macular Detachment: A Unique Imaging Finding in Retinal Artery Macroaneurysms

Dr Aidan Jackson

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Purpose

To describe a series of patients with retinal artery macroaneurysm and conical subretinal foveal fluid, a unique finding that may allow distinction of retinal artery macroaneurysms from other causes of macular oedema.

Methods

A retrospective chart review at a single practice in Geelong, Victoria, was performed, and for patients with this distinct imaging finding, a comprehensive review of history and imaging was carried out.

Results

8 patients were included with an average age of 77. All patients had evidence of retinal artery macroaneurysm and conical macular detachment at baseline, and were treated with a variety of methods including laser or intra-vitreal Anti-VEGF. All patients who were followed up for 12 months or more showed completion resolution of the subretinal fluid.

Conclusion

The identification of conical macular detachment may help identify retinal artery macroaneurysm as distinct from other causes of macular oedema.