



**BOWMAN Club**

# **XXVI Annual Meeting**

**27th March 2026**

**Hilton Newcastle Gateshead  
Newcastle**

**2026 Host: Francisco C Figueiredo**

**Delegate Programme**



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Representatives are available throughout the day.

*In alphabetical order:*



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# Welcome to Bowman Club 2026

**Registration desk: Open 08.00 - 18.30**

Louise Richards and Sylvia Taylor will be available if you have any questions about proceedings.

**WiFi:** Network: **Hilton Honors** Password: **Hilton26**

## CPD

The Royal College of Ophthalmologists approves Bowman Club to award **7** self-accredited points. An e-copy of your CPD Certificate will be emailed to you shortly after the meeting.

## Meeting evaluation

Your feedback about the meeting is invaluable to Bowman Club and the speakers presenting. Please complete your evaluation survey online by the 15 April 2026. The survey link emailed to all delegates is also available via the meeting website: <https://www.bowmanclub.org.uk/evaluation>.

## Abstract Posters

P1	Investigating unexpectedly high primary graft failure rates with imported corneal tissue: comparison across three tissue providers	<b>Kirupakaran Arun</b> , London
P2	Clinical impact of corneal impression membrane sampling: a service evaluation from a tertiary ophthalmic unit	<b>Kirupakaran Arun</b> , London
P3	Withdrawn	
P4	Clinical outcomes of traumatic graft dehiscence following penetrating keratoplasty and deep anterior lamellar keratoplasty	<b>Khayam Naderi</b> , London
P5	Complications and management of cosmetic iris implants	<b>Omer Jamall</b> , London
P6	Withdrawn	
P7	The sub-Tenon trick for difficult DMEK: a simple solution for hyper-deep anterior chambers	<b>Cristina Cristian</b> , Colchester
P8	Early postoperative unaided visualisation of an orientation mark after DMEK	<b>Poonam Sharma</b> , Luton
P9	Further characterisation of Epimax-related ocular surface toxicity	<b>Bhagyashree Joshi</b> , Southampton

## 26th Bowman Club Meeting

08.45 - 09.00	Welcome	<b>Francisco C Figueiredo</b> , Newcastle upon Tyne, UK
<b>09.00 - 10.10 BOWMAN CLUB FELLOW'S PRIZE AWARD PRESENTATIONS</b> Chairs: <b>Fiona CARLEY</b> , Manchester, UK & <b>Mohamed ELALFY</b> , East Grinstead, UK		
09.00 - 09.09	1: Automated triage for new keratoconus referrals using multimodal deep learning	<b>Shafi Balal</b> , London, UK
09.09 - 09.18	2: Clinical and topographic comparison between CAIRS and TG-PRK combined with CXL in the management of keratoconic patients	<b>Federico Macario</b> , Colchester, UK
09.18 - 09.27	3: A 10-year analysis of microbiological profiles of microbial keratitis: The Southampton Study	<b>Shi Ian Soh</b> , Southampton, UK
09.27 - 09.36	4: Impact of delayed treatment on disease progression of patients with keratoconus listed for collagen cross-linking- CXL	<b>Mohib Naseer</b> , Middlesborough, UK
09.36 - 09.45	5: Partial thickness compression sutures without intracameral air tamponade for acute hydrops in corneal ectasia: a case series	<b>Sam Myers</b> , London, UK
09.45 - 10.05	<b>GUEST LECTURE:</b> <b>The Future Role of RCOphth in Corneal Services</b>	<b>Mohamed Elalfy</b> , East Grinstead, UK
10.05 - 10.10	Discussion	
<b>10.10 - 11.15 INTERESTING CASE PRESENTATIONS</b> Chairs: <b>Oliver BAYLIS</b> , Sunderland, UK & <b>Arthur OKONKWO</b> , Leeds, UK		
10.10 - 10.18	6: Case - not a good candidate for a corneal transplant	<b>Oliver Baylis</b> , Sunderland, UK
10.18 - 10.26	7: Triple Reconstruction for severe ocular trauma: Combined scleral sutured artificial iris implant, secondary IOL, and endothelial keratoplasty	<b>Shakeel Ahmad</b> , Exeter, UK
10.26 - 10.34	8: Simultaneous double lamellar keratoplasty for late failure of penetrating keratoplasty	<b>Harry Roberts</b> , Exeter, UK
10.34 - 10.42	10: Artificial endothelial layer (EndoArt): complicated cases and surgical recommendations	<b>Vito Romano</b> , Brescia, Italy
10.42 - 11.02	<b>GUEST LECTURE:</b> <b>TFOS DEWS III Report - the most updated summary</b>	<b>Jesus Merayo-Llodes</b> , Oviedo, Spain
11.02 - 11.15	Discussion	
<b>11.15 - 11.45 Morning Coffee, Posters and Exhibition</b>		
<b>11.45 - 13.05 FREE PAPER Session 1</b> Chairs: <b>Parwez HOSSAIN</b> , Southampton, UK & <b>Ahmed HUSSIEN</b> , Newcastle upon Tyne, UK		
11.45 - 12.00	11: Deep phototherapeutic keratectomy for painful bullous keratopathy	<b>Arthur Okonkwo</b> , Leeds, UK
12.00 - 12.15	12: Corneal crosslinking in thin corneas following the sub400 protocol	<b>Teodor Stefanache</b> , Newcastle upon Tyne, UK
12.15 - 12.30	13: Evaluating the safety and efficacy of PACK-CXL as an adjunctive treatment in infectious corneal ulcers: a clinical audit	<b>Mohamed Hegab</b> , Sunderland, UK
12.30 - 12.45	14: Belantamab-mafodotin keratopathy: what it is and what ophthalmologists need to do	<b>Frank Larkin</b> , London, UK
12.45 - 13.00	<b>GUEST LECTURE:</b> <b>Novel option of antiangiogenesis at the cornea: CXL &amp; more</b>	<b>Claus Cursiefen</b> , Cologne, Germany
13.00 - 13.05	Discussion	

**13.05 - 14.05 Lunch, Posters and Exhibition**

**14.05 - 15.00 NHS BLOOD & TRANSPLANT SESSION**

Chairs: **John ARMITAGE**, Bristol, UK & **Jeremy PRYDAL**, Leicester, UK

14.05 - 14.15	Eye donation and corneal transplantation trends in the UK	<b>Cathy Hopkinson</b> , Bristol, UK
14.15 - 14.25	Update on eye donation rates, eye banking, pre-prepared DSAEK and DMEK tissue and PDEK trial	<b>Parwez Hossain</b> , Southampton, UK
14.25 - 14.35	Update on serum drops in the UK	<b>Akila Chandrasekar</b> , Liverpool, UK
14.35 - 14.55	<b>GUEST LECTURE: Bristol Eye Bank 40 year on - where to now?</b>	<b>John Armitage</b> , Bristol, UK
14.55 - 15.00	Discussion	

**15.00 - 16.45 FREE PAPER Session 2**

Chairs: **Frank LARKIN**, London, UK & **Madhavan RAJAN**, Cambridge, UK

15.00 - 15.20	<b>GUEST LECTURE: Update on endothelial replacement surgery</b>	<b>Claus Cursiefen</b> , Cologne, Germany
15.20 - 15.35	<b>15:</b> Early experience of EndoArt in the United Kingdom: a case series of 10 eyes	<b>Poonam Sharma</b> , Exeter, UK
15.35 - 15.50	<b>16:</b> DMEK safety net technique for eyes with aphakia and aniridia. Outcomes after six years of its development and introduction at Moorfields Eye Hospital	<b>Alfonso Vasquez-Perez</b> , London, UK
15.50 - 16.05	<b>17:</b> A time-dependent corneal graft survival calculator for personalised risk prediction	<b>Daniel Gore</b> , London, UK
16.05 - 16.20	<b>18:</b> Emerging role of iCam microarray PCR and metagenomics in the diagnosis of microbial keratitis	<b>Madhavan Rajan</b> , Cambridge, UK
16.20 - 16.40	<b>GUEST LECTURE: Regenerative medicine of the ocular surface with platelets</b>	<b>Jesus Merayo-Llaves</b> , Oviedo, Spain
16.40 - 16.45	Discussion	

**16.45 - 17.10 Afternoon Tea, Posters and Exhibition**

<b>17.10 - 17.55</b>	<b>EASTY LECTURE: NEUROPATHIC CORNEAL PAIN: ADVANCES IN DIAGNOSIS, MECHANISMS, AND MANAGEMENT</b>	<b>Pedram Hamrah</b> , Tampa, USA
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17.55 - 18.00	Announcement of the Bowman Fellow's Prize and Close	<b>Francisco C Figueiredo</b> , Newcastle upon Tyne, UK
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**18.45 BOWMAN CLUB DRINKS RECEPTION & GALA DINNER - TYNE SUITE**

Hilton Newcastle Gateshead Hotel

**Drinks Reception: from 18.45**

**Sit down to Dinner: 19.15**

*(LIVE MUSIC - Jason Isaacs). Ticket holders only.*

**NEUROPATHIC CORNEAL PAIN: ADVANCES IN DIAGNOSIS, MECHANISMS,  
AND MANAGEMENT**

**Professor Pedram Hamrah**, MD, FACS, FARVO

Professor Department of Ophthalmology

Vice Chair of Academic Medicine

Co-Director, Cornea Service

Director, Clinical and Translational Research

Morsani College of Medicine

University of South Florida

Tampa,

USA



Pedram Hamrah, MD, FRCS, FARVO, is a NIH-funded clinician-scientist with a focus on corneal immunology, ocular pain, ocular imaging (Immuno- and Neuro-imaging of the cornea), and ocular surface diseases. He received his medical degree from the University of Cologne in Germany, and performed his residency in Ophthalmology at the University of Louisville, where he was elected chief resident during his last year. He has completed fellowships in Ocular and Transplantation Immunology at the Schepens Eye Research Institute, Harvard Medical School, and in Ocular Immunology at the University of Louisville, as well as a two-year clinical fellowship in Cornea, External Diseases and Refractive Surgery at Massachusetts Eye and Ear Infirmary, Harvard Medical School. He is currently a Vice Chair of Academic Medicine, and a Professor of Ophthalmology at the Morsani College of Medicine, at the University of South Florida (USF), where he is the Co-Director of the Cornea Service and Director of Clinical and Translational Research.

Prof. Hamrah has been directing both strong laboratory science and prolific clinical research programs, currently holding 3 NIH grant awards, in addition to numerous foundation and industry grants. Prior to joining USF, he spent over a decade at Tufts Medical Center, where he was Professor and Vice Chair of Research and Academic Programs, as well as Director of the Center for Translational Ocular Immunology and Co-Director of the Cornea Service at Tufts University School of Medicine, and on faculty at the Cornea Service of the Massachusetts Eye & Ear Infirmary, Harvard Medical School for 7 years, where he was also the founder and director of the Ocular Surface Imaging Center. His research is focused on neuro-immune interactions, neuropathic corneal pain, and immune cell trafficking in immune and infection diseases of the cornea, as well as corneal transplantation tolerance and rejection. His clinical focus is on clinical and surgical ocular surface diseases, including neuropathic corneal pain and neurotrophic keratopathy.

Prof. Hamrah currently serves on over a dozen editorial boards, is an associate editor for *The Ocular Surface*, *Translational Vision, Science & Technology*, *Ocular Immunology and Inflammation*, and *Frontiers of Medicine (Ophthalmology)*, and section editor of the journal *Eye*. Further, he is ad hoc reviewer for over 70 journals and a regular grant reviewer for the National Eye Institute, FDA, US Army, and numerous national and international foundations. Finally, Prof. Hamrah has been continuously serving on the Members-in-Training, Professional Development and Education and the Ethics and Regulations in Human Research Committees at ARVO since 2003 and is currently an ARVO Gold Fellow, and received the AAO Senior Achievement Award.

**1 Automated triage for new keratoconus referrals using multimodal deep learning**

**Shafi Balal**, Marcello Leucci, Pearse Keane, Nikolas Pontikos, Daniel Gore, Bruce Allan.  
Moorfields Eye Hospital, London, UK.

**Purpose:** To develop and validate deep learning models predicting keratoconus progression risk using multimodal imaging, enabling risk-stratified monitoring.

**Design:** Retrospective cohort study with internal and external validation.

**Participants:** 7,396 eyes (3,893 patients) from MS-39 multimodal imaging, 963 eyes (519 patients) for external MS-39 validation, and 4,498 eyes (2,983 patients) with Pentacam tomography data.

**Methods:** Progression was defined using global consensus criteria requiring changes in multiple parameters above device-specific precision limits. We compared conventional machine learning (XGBoost), unimodal deep learning, and multimodal fusion architectures for predicting two-year progression from baseline data. Recurrent neural networks (LSTM) incorporated sequential visit data. Clinical utility was assessed through simulated risk-stratified triage using predictive values.

**Main Outcome Measures:** AUROC, sensitivity, specificity, PPV, and NPV for progression prediction.

**Results:** The MS-39 multimodal model (AS-OCT, Placido, tabular data) achieved AUROC 0.84 (95% CI: 0.83-0.85) at baseline, improving to 0.93 (95% CI: 0.91-0.96) with sequential LSTM models. Pentacam tabular data achieved AUROC 0.81 (95% CI: 0.78-0.84), improving to 0.87 (95% CI: 0.85-0.89) with two-visit LSTM. In simulated triage, 83% of patients were classified as low risk (NPV >90%) and 10% as high risk (PPV >90%) for consideration of early cross-linking.

**Conclusions:** AI-driven risk stratification enables efficient monitoring across imaging platforms, with high NPV (>90%) safely reducing follow-up for low-risk patients and high PPV (>90%) ensuring timely intervention for high-risk cases.

Abstract Type: Research

**2 Clinical and topographic comparison between CAIRS and TG-PRK combined with CXL in the management of keratoconic patients**

**Federico Macario**, Francis Edozie, Cristina Cristian, Hatch Mukherjee.  
Colchester Hospital, East Suffolk and North Essex Foundation Trust, Colchester, UK.

**Purpose:** To compare clinical and topographic outcomes of corneal allogenic intrastromal ring segments (CAIRS) vs topography-guided photorefractive keratectomy combined with corneal collagen crosslinking (TG-PRK + CXL) in the management of keratoconic patients with unsatisfactory vision with glasses or contact lenses.

**Methods:** A retrospective audit included 33 eyes of 28 patients treated with CAIRS and 77 eyes of 64 patients treated with TG-PRK + CXL, with a minimum follow-up of 6 months. Outcomes assessed were best-corrected visual acuity (BCVA), corneal steepening, astigmatism and corneal aberrations.

**Results:** Both procedures produced statistically significant improvements in visual and topographic parameters ( $p < 0.05$ ). TG-PRK + CXL achieved significantly greater BCVA improvement (0.258 LogMAR) compared with CAIRS (0.165 LogMAR). Significant average corneal flattening was observed in both groups (CAIRS: 2.70 D; TG-PRK + CXL: 2.21 D), along with reductions in astigmatism (1.14 D and 0.78 D, respectively). CAIRS resulted in larger reductions in lower-order aberrations (26.6% vs 16.9%,  $p < 0.05$ ) and higher-order aberrations (24.1% vs 14.6%  $p < 0.05$ ); however, these greater aberration reductions were not associated with superior visual outcomes.

**Conclusions:** Both CAIRS and TG-PRK + CXL are effective treatments for keratoconus. CAIRS offers meaningful topographic improvement and may be preferable in thin corneas or when tissue preservation is required. TG-PRK + CXL provides superior functional visual outcomes, likely due to targeted correction of visually significant aberrations within the optical zone. These findings suggest that the location and type of aberration correction are more critical for visual function than the overall magnitude of aberration reduction.

Abstract Type: Research

**3 A 10-year analysis of microbiological profiles of microbial keratitis: The Southampton Study**

**Shi Ian Soh**, Mohamed Ahmed, Kordo Saeed, Dave Browning, Parwez Hossain, Harinderjeet Sandhu.  
*University Hospital Southampton, Southampton, UK.*

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**Background:** Ting et al. recently reported increasing coagulase-negative staphylococci and Acanthamoeba keratitis in North East England, whilst Tan et al. demonstrated increasing Moraxella in Manchester. We performed a 10-year retrospective analysis at Southampton Eye Unit to determine whether similar trends exist in Southern England.

**Methods:** All culture-positive corneal scrapes from Southampton Eye Unit (January 2014 - December 2023) were reviewed. Organisms were classified into Gram-positive, Gram-negative, fungi, and Acanthamoeba. Data were divided into two periods (2014 - 2018 and 2019 - 2023) for comparison. Chi-square tests assessed temporal changes; one-way ANOVA and chi-square tests examined demographic associations.

**Results:** Of 798 corneal scrapes, 512 (64.2%) were culture-positive. Mean age was 53.2 (SD 20.7) years; 251 (49.0%) were female. Gram-positive organisms predominated (310; 60.5%), followed by Gram-negative (152; 29.7%), fungi (29; 5.7%), and Acanthamoeba (21; 4.1%). Notably, significant increases were observed in *Staphylococcus aureus* (14.6% to 27.4%;  $p=0.006$ ) and *Serratia marcescens* (1.4% to 11.0%;  $p=0.018$ ), with concurrent decreases in coagulase-negative staphylococci (64.0% to 49.3%;  $p=0.009$ ) and Acanthamoeba (6.4% to 1.6%;  $p=0.007$ ). Acanthamoeba keratitis affected a significantly younger population (mean 39.7 years;  $p=0.014$ ). Fungal keratitis showed female predominance (75.9%;  $p=0.020$ ).

**Conclusion:** Southampton demonstrates a marked rise in *S. aureus* and *Serratia* keratitis. This pattern may indicate increasing ocular surface vulnerability. Acanthamoeba keratitis predominantly affects a younger population, and appears to be decreasing; this may reflect change in exposure risk and a shift in diagnostic modalities. These findings highlight important geographic and temporal variation in UK microbial keratitis epidemiology.

Abstract Type: Research

**4 Impact of delayed treatment on disease progression of patients with keratoconus listed for collagen cross-linking - CXL**

**Mohib Naseer**, Muhammed Hegab, Trushar Patel.  
*James Cook University Hospital, Middlesbrough, UK.*

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**Objective:** To find out if delays longer than 12 weeks between listing and treatment for epithelium-off corneal collagen cross-linking (CXL) are linked to noticeable progression of keratoconus, especially concerning the anterior corneal curvature parameters.

**Background:** Keratoconus is a progressive disorder that causes the cornea to bulge. It is important to perform CXL on time to stop the mechanical decline. Pressures in the NHS for elective care often result in longer waiting times. However, there is little evidence on the structural changes in the cornea during these delays. Understanding how waiting time affects outcomes is vital for improving service delivery and preventing unnecessary worsening.

**Methods:** We conducted a retrospective audit of 77 eyes from 60 patients with keratoconus who received epi-off CXL at James Cook University Hospital from May 2022 to December 2024. We recorded Pentacam AXL parameters, which included anterior curvature (Kmax, K1, K2), posterior curvature (K1 back, K2 back), and pachymetry at the time of listing and on the day of surgery. We divided the eyes into Group A ( $\leq 12$ -week wait;  $n=40$ ) and Group B ( $>12$ -week wait;  $n=37$ ). We used paired-samples t-tests ( $\alpha=0.05$ ) and Cohen's d to measure changes within each group.

**Results:** Group A showed very little anterior progression, with a small but significant increase in Kmax (+0.29 D,  $p=0.016$ ). Group B exhibited much greater steepening, with Kmax increasing by +0.85 D ( $p=0.013$ ), along with significant increases in K1 (+0.58 D,  $p=0.026$ ) and K2 (+0.44 D,  $p=0.028$ ). Changes in posterior curvature were small and mostly non-significant. Pachymetric parameters displayed limited sensitivity to treatment delays.

**Conclusion:** Waiting more than 12 weeks for CXL is linked to clinically significant anterior corneal progression. Setting a maximum wait time of 12 weeks and prioritizing high-risk cases may help reduce worsening before surgery and improve long-term structural outcomes.

Abstract Type: Research

## 5 Partial thickness compression sutures without intracameral air tamponade for acute hydrops in corneal ectasia: a case series

**Sam Myers.**

*Moorfields Hospital, London, UK.*

**Purpose:** Acute corneal hydrops is a sight-threatening complication of corneal ectasia caused by rupture of Descemet's membrane (DM), leading to stromal oedema and visual loss. Surgical techniques using compression sutures with intracameral air or gas can accelerate resolution but carry risks including raised intraocular pressure, pupil block, cataract formation, and further DM trauma. We evaluated the safety and efficacy of partial-thickness compression sutures without intracameral air tamponade for the management of acute corneal hydrops.

**Methods:** A retrospective case series was conducted at a tertiary corneal centre. Seven eyes from six patients with acute hydrops secondary to corneal ectasia underwent partial-thickness (approximately 90%) 10-0 nylon compression sutures without intracameral air or gas. Demographic data, best-corrected visual acuity (BCVA), central corneal thickness (CCT), and anterior segment OCT findings were analysed pre- and post-operatively. Time to corneal oedema resolution and complications were recorded.

**Results:** The median age was 29 years (range 17-64). Five eyes had keratoconus and two had pellucid marginal degeneration. Median time to corneal oedema resolution was one month (range one week to three months), significantly shorter than expected with conservative management. Mean CCT reduced from approximately 1000  $\mu\text{m}$  at presentation to 600  $\mu\text{m}$  at one week and 500-550  $\mu\text{m}$  by one to three months in resolved cases. BCVA improved in six of seven eyes. No intraocular complications, including infection, raised intraocular pressure, or cataract formation, were observed.

**Conclusion:** Partial-thickness compression sutures without intracameral air tamponade appear to be a safe and effective surgical option for acute corneal hydrops, achieving rapid oedema resolution while avoiding air-related and full-thickness suture complications. This technique may preserve corneal integrity and improve outcomes for future keratoplasty.

Abstract Type: Case/case series

## 6 Case - not a good candidate for a corneal transplant

**Oliver Baylis.**

*Sunderland Eye Infirmary, Sunderland, UK.*

**Case:** A 56-year-old female presented with a 3-day history of pain, redness and reduced vision in her right (better) eye. Before being seen, whilst in the eye casualty, her cornea spontaneously perforated. The patient had a long past ocular history including ocular surface disease, floppy eyelids and lid surgery. She has also suffered previous herpetic, bacterial and fungal keratitis in her left eye, resulting in scarring, ectasia and poor vision. In addition, she suffers from health anxiety and panic attacks.

Following the right corneal perforation, she had 2 gluing procedures, a mini-DSAEK combined with amniotic membrane patch graft (which failed), and subsequently a large tectonic graft. 9 days after the right tectonic graft, she presented with a 1-day history of pain and reduced vision in her left eye due to a mixed bacterial and fungal ulcer, which also perforated a few days later. The left eye then went on to have 3 gluing procedures followed by a large tectonic graft. This sequence of events and operations all occurred within a 2-month period.

This case presented an array of challenges including clinical management of her eye disease, arranging a series of urgent operations, dealing with medication side effects, management of expectations and anxiety, and the impact on her life of major vision impairment. There are a range of learning points in this case, and treatment dilemmas that would be interesting to discuss at the Bowman club meeting.

Abstract Type: Case/case series

### 7 Triple reconstruction for severe ocular trauma: combined scleral sutured artificial iris implant, secondary IOL, and endothelial keratoplasty

Shakeel Ahmad, Harry Roberts, Leo Feinberg, Poonam Sharma.

Royal Devon University Healthcare NHS Foundation Trust, Exeter, UK.

**Introduction:** Severe penetrating ocular trauma often results in poor visual outcome. Visual rehabilitation in such eyes may be challenging in a monocular eye with endothelial failure. Combined artificial iris insertion with intraocular lens (IOL) and endothelial keratoplasty offers the potential to rehabilitate the vision by replacing the lost intraocular structures. This video presents a surgical approach in an eye with aphakic bullous keratopathy and complete aniridia.

**Methods:** An 89-year-old bilaterally pseudophakic woman with high myopia and bilateral myopic macular degeneration sustained blunt trauma to the left eye in April 2024, resulting in globe rupture. Primary repair at another centre included globe repair with anterior vitrectomy. Postoperatively, she was left aphakic with complete traumatic aniridia and aphakic bullous keratopathy, with vision reduced to hand movements. Secondary glaucoma developed and was managed medically. Vision in the fellow eye was limited to 0.70 logMAR due to macular disease. In June 2025, she underwent a combined triple procedure comprising scleral-sutured HumanOptics artificial iris with a three-piece Sensar intraocular lens using 9-0 Gore-Tex sutures, together with ultrathin Descemet stripping automated endothelial keratoplasty (UT-DSAEK).

**Results:** The postoperative course was uncomplicated. At 6 months, unaided visual acuity in the left eye was 0.42 logMAR, improving to 0.34 with pinhole. Intraocular pressure remained stable, with no change in pre-existing glaucoma medication. Corneal clarity was maintained, and the artificial iris-IOL complex remained well centred.

**Discussion:** This case demonstrates that triple anterior segment reconstruction can achieve meaningful visual rehabilitation and ocular stability in a severely traumatised eye.

Abstract Type: Case/case series

### 8 Simultaneous double lamellar keratoplasty for late failure of penetrating keratoplasty

Harry Roberts, Leo Feinberg, Shakeel Ahmad, Poonam Sharma.

Royal Devon University Healthcare NHS Foundation Trust, Exeter, UK.

**Introduction:** Late failure of penetrating keratoplasty (PK) due to combined stromal opacity and endothelial decompensation often requires either repeat PK or a staged lamellar approach. Repeat PK is associated with higher risks of rejection, suboptimal refractive outcomes, and open-sky complications. Simultaneous double lamellar keratoplasty (SDLK), combining deep anterior lamellar keratoplasty (DALK) with endothelial keratoplasty, offers a closed-globe, layer-selective alternative. This video demonstrates the surgical principles and clinical outcome of SDLK in a representative case.

**Methods:** A 54-year-old man with bilateral PK performed over 20 years previously for macular dystrophy presented with recurrent stromal disease and endothelial decompensation in the left eye, with visual acuity reduced to 0.76 logMAR. SDLK was performed using a 9.0 mm DALK-on-PK via stromal peeling to expose and retain the pre-Descemet layer (PDL), followed by insertion of an 8.5 mm DSAEK lenticule without descemetorhexis.

**Results:** Postoperatively, partial DSAEK detachment occurred and was successfully managed with rebubbling, achieving full attachment. Final best spectacle-corrected visual acuity was 0.30 logMAR following suture removal, with keratometric astigmatism of 0.69 D and refractive astigmatism of 0.75 D. No episodes of graft rejection or other significant complications were observed.

**Discussion:** This case demonstrates that SDLK can restore corneal clarity and functional vision in post-PK eyes with combined stromal and endothelial pathology while avoiding repeat open-sky surgery. Excellent visual and astigmatic outcomes reflect the refractive advantages of wide-diameter anterior lamellar replacement. By preserving globe integrity and enabling selective double lamellar replacement, SDLK represents a viable alternative to repeat penetrating keratoplasty in carefully selected patients.

Abstract Type: Case/case series

**10 Artificial endothelial layer (EndoArt): complicated cases and surgical recommendations**

**Vito Romano**, Antonello Moramarco, Luigi Fontana.  
*University of Brescia, Brescia, Italy.*

**Objective:** To report our clinical experience with the artificial endothelial layer (EndoArt) in advanced corneal endothelial failure, focusing on representative complicated cases and providing practical surgical recommendations.

**Background:** EndoArt has emerged as an alternative strategy for managing chronic corneal oedema in complex eyes with limited suitability for repeat keratoplasty. Early evidence supports its ability to restore corneal deturgescence and improve patient comfort in high-risk scenarios.

**Methods:** We describe the surgical management and postoperative course of a patient with long-standing corneal decompensation after multiple previous anterior and posterior segment procedures. Standard EndoArt implantation was performed under local anaesthesia with gas tamponade and transfixing fixation. Clinical assessment included slit-lamp biomicroscopy and anterior segment OCT.

**Results:** Rapid reduction of epithelial bullae and corneal oedema was observed with progressive visual and symptomatic improvement. A limited peripheral device detachment developed early postoperatively but remained stable without the need for rebubbling and without compromising corneal clarity. No inflammatory reaction or interface fibrosis was detected. The patient reported marked relief from pain and photophobia.

**Conclusion:** EndoArt represents a valuable option in eyes at high risk of graft failure, offering meaningful visual rehabilitation and excellent symptomatic control. Careful centration, adequate gas fill, and selective use of anchoring sutures appear critical to reducing postoperative instability.

Abstract Type: Problem case presentation

**11 Deep phototherapeutic keratectomy for painful bullous keratopathy**

**Arthur Okonkwo.**

*St James's Hospital, Leeds, UK.*

**Background:** Bullous keratopathy (BK) is caused by oedema secondary to endothelial cell loss/dysfunction, largely due previous anterior segment surgery or anterior chamber implants. Symptoms of reduced acuity and/or pain can be managed with lubricants, sodium chloride, bandage contact lenses, endothelial keratoplasty/prosthesis or conjunctival flap. Phototherapeutic keratectomy (PTK) has been shown to relieve pain in those with poor visual prognosis.

**Methods:** A retrospective review of eyes undergoing PTK for painful BK August 2024-August 2025 at Royal Victorian Eye and Ear Hospital, Melbourne. Central stromal thickness (CST) was ablated <550 µm using the Schwind Amaris 1050rs.

**Results:** Eleven eyes of 11 patients were included with acuity 6/150-PL and CST 559-1048µm. BK was due to glaucoma filtration surgery (4/11 36%), anterior chamber implants (3/11 27%), Fuch's endothelial dystrophy (2/11 18%), congenital hereditary endothelial dystrophy (1/11 9%) and penetrating eye injury (1/11 9%). Eleven (100%) had improvement in pain and 8 (73%) were pain-free at median 10 months. Nine (82%) had unchanged acuity and 2 (18%) lost 1 snellen line. No microbial keratitis occurred. Three (27%) had persistent epithelial defects (>14 days) (resolved with medical treatment). No patients underwent further procedures or used bandage contact lenses after re-epithelialisation.

**Conclusion:** PTK is a safe and efficacious treatment for painful BK in eyes with poor visual potential. It is comparable to bandage contact lens use (70% pain-free, 13% keratitis risk); cosmetically more acceptable than conjunctival flaps and cheaper than endothelial keratoplasty/prosthesis (£1800+/implant) with a consumable cost of £80 in our unit.

Abstract Type: Case/case series

**12 Corneal crosslinking in thin corneas following the sub400 protocol**

**Teodor Stefanache<sup>1</sup>, Spyros Atzamoglou<sup>1</sup>, David Knight<sup>1</sup>, Francisco C Figueiredo<sup>1,2</sup>.**

*1] Royal Victoria Infirmary, Newcastle upon Tyne, UK. 2] Biosciences Institute, Newcastle University Faculty of Medical Sciences, Newcastle upon Tyne, UK.*

**Purpose:** To report clinical outcomes of keratoconus patients undergoing the sub-400 protocol in a UK tertiary referral centre.

**Methods:** We conducted a prospective audit of patients with progressive keratoconus and thin corneas (<400 µm) referred to Cornea Service at Royal Victoria Infirmary, Newcastle upon Tyne. Consecutive cases treated between March 2022 and June 2024 were included. The protocol involved epithelial debridement, 20 minutes of isotonic riboflavin application, pachymetry measurement at the thinnest point, and 3 mW/cm<sup>2</sup> UV exposure according to the collagen crosslinking (CxL) sub-400 protocol. Outcomes included demographics, BCVA (logMAR), slit-lamp examination, specular microscopy, and corneal tomography, with follow-up at 1, 3, 6, 12, and 18 months.

**Results:** Twelve patients (13 eyes; M:F ratio 5:7) with a mean age of 26.9 years (SD 7.2) were included. Preoperative mean visual acuity was 0.74 logMAR (SD 0.43), which remained stable at 6 months. Mild stromal haze was seen in 30.7% at 1 month, but resolved by 3 month visit. No other complications occurred. At 6 months, tomographic analysis showed mean K1 decreased from 58.07D to 57.45D, K2 from 64.49D to 64.05D, and Kmax from 77.34D to 76.06D, none statistically significant (p>0.05). Only 2 patients (15.4%) showed signs of progression. Pachymetry decreased from 386.2 µm to 364.6 µm (p=0.09). Endothelial cell counts remained stable.

**Conclusions:** Individual analysis showed that 84.6% (n=11) of eyes remained stable with no complications, suggesting the sub-400 protocol is a safe and effective option for halting keratoconus progression in thin corneas. Larger numbers with longer follow-up are warranted.

Abstract Type: Case/case series

**13 Evaluating the safety and efficacy of PACK-CXL as an adjunctive treatment in infectious corneal ulcers: a clinical audit****Mohamed Hegab<sup>1</sup>**, Trushar Patel<sup>2</sup>, Mohib Naseer<sup>2</sup>.

1] Sunderland Eye Infirmary, Sunderland, UK. 2] James Cook University Hospital, Middlesbrough, UK.

**Background/Objective:** Infectious keratitis is a sight-threatening condition, particularly when refractory to antimicrobial therapy. Photoactivated chromophore for keratitis–corneal cross-linking (PACK CXL) has been proposed as an adjunctive treatment, but real world outcome data remain limited. This audit evaluated the safety and efficacy of PACK CXL in managing complex infectious corneal ulcers at a UK tertiary centre.

**Methods:** A single centre clinical audit was conducted at James Cook University Hospital, reviewing patients who underwent PACK CXL for infectious keratitis between 2016 and 2024. Data were collected from electronic patient records and case notes. Primary efficacy outcomes were ulcer resolution and time to epithelial healing. Safety outcomes included complications and surgical escalation.

**Results:** Nine patients were included (mean age 63±20 years). Ulcers were predominantly central (56%) with a mean surface area of 17.4±11.5 mm<sup>2</sup>; microbiological confirmation was obtained in 67%, including bacterial and fungal pathogens. Resolution occurred in 6/9 eyes (67%). Mean time to epithelial healing was 59±43 days and mean time to resolution was 88±81 days. Four eyes (44%) had no complications. Surgical escalation was required in three eyes. Two patients developed recurrent microbial infection. All healed eyes demonstrated visual improvement or stability.

**Conclusion:** In this cohort of complex infectious keratitis, accelerated PACK CXL achieved a two-thirds resolution rate with an acceptable safety profile, comparable to published refractory series. These findings support PACK CXL as a useful adjunctive therapy in selected cases and suggest benefit from earlier use in the treatment pathway.

Abstract Type: Case/case series

**14 Belantamab-mafodotin keratopathy: what it is and what ophthalmologists need to do****Frank Larkin<sup>1</sup>**, Jonathan Jackson<sup>2</sup>.

1] NIHR Moorfields Clinical Research Facility &amp; External Diseases service, Moorfields Eye Hospital, London, UK.

2] Department of Ophthalmology, Royal Victoria Hospital, Belfast, UK.

**Introduction:** Belantamab-mafodotin (Belamaf, GSK) is a 2nd line biologic for multiple myeloma which has been recently approved by NICE in the UK and FDA in the USA. In Moorfields we have been seeing myeloma patients for some years who are in belantamab-mafodotin clinical trials at UCL Hospital. Infusions are given 4-6 weekly. All or nearly all patients get a bilateral microcystic epithelial keratopathy which can significantly interfere with BSCVA and refraction; onset ~2-3 weeks post-infusion and it tends to clear without intervention after a few weeks.

As ophthalmologists we recommend that scheduled infusions be paused in some patients to allow visual recovery (i.e. the haematologists need us to monitor).

With regulatory approval there will be a nationwide uptake of this agent and corneal specialists need to get involved or delegate the monitoring. Implications and recommendations for care will be discussed.

Abstract Type: Research

**15 Early experience of EndoArt in the United Kingdom: a case series of 10 eyes**

**Poonam Sharma**, Harry Roberts, Leo Feinberg, Shakeel Ahmad.  
*Royal Devon University Healthcare NHS Foundation Trust, Exeter, UK.*

**Objective:** To evaluate the safety and efficacy of the EndoArt artificial endothelial implant in patients unsuitable for conventional endothelial keratoplasty.

**Methods:** This retrospective interventional case series included 10 eyes of 10 patients undergoing EndoArt implantation between December 2024 and September 2025. Primary outcome measures were best-corrected visual acuity (BCVA) and central corneal thickness (CCT). Secondary outcomes included additional interventions and incidence of adverse events.

**Results:** Six patients (60%) had previous keratoplasty, four (40%) with multiple (2-4) failed grafts. Nine patients (90%) had prior glaucoma filtration surgery, three (30%) were aphakic. Indications for surgery were visual rehabilitation in four eyes (40%) and symptom relief in six (60%). All patients had significant vision-limiting ocular comorbidities. Mean follow-up was 6.9 months (range 3-12). Five eyes (50%) required at least one re-intervention (re-bubbling or suture adjustment), and four underwent multiple (2-4) procedures. All implants were fully attached at final follow-up. Mean pre-operative BCVA and CCT were 1.95 logMAR (range 1.0-PL) and  $787\pm 93$   $\mu\text{m}$ , improving post-operatively to 1.85 logMAR (range 0.34-NPL) and  $651\pm 183$   $\mu\text{m}$ , respectively. In eyes treated for visual rehabilitation, BCVA improved from 1.67 logMAR (range 1.1-HM) to 0.90 logMAR (range 0.34-1.3), with CCT decreasing from  $786\pm 112$   $\mu\text{m}$  to  $581\pm 103$   $\mu\text{m}$ . All patients treated for comfort experienced complete resolution of symptoms.

**Conclusions:** EndoArt offers a promising donor-free option for highly complex eyes unsuitable for keratoplasty. Early outcomes are influenced by the substantial comorbidity burden of this cohort.

Abstract Type: Case/case series

**16 DMEK safety-net technique for eyes with aphakia and aniridia. Outcomes after six years of its development and introduction at Moorfields Eye Hospital**

**Alfonso Vasquez-Perez**, Bruce Allan.  
*Moorfields Eye Hospital. London, UK.*

**Purpose:** A safety-net suture technique was developed at Moorfields Eye hospital to make DMEK feasible in cases with aphakia and aniridia. This study reports long-term outcomes from the largest case series to date of safety-net DMEK in aphakic and unicameral eyes.

**Methods:** A retrospective consecutive case series was performed of all safety-net DMEK procedures undertaken at Moorfields Eye Hospital between January 2019 and December 2024 by two surgeons performing this technique (AVP and BA). Demographic data, ocular comorbidities, best-corrected visual acuity (BCVA), re-bubbling rate, and graft survival were analysed. Pre- and postoperative BCVA were converted to logMAR for statistical analysis. Paired non-parametric testing was used to compare visual outcomes.

**Results:** Twenty one eyes underwent safety-net DMEK for aphakia and aniridia. Post-op follow-up ranged from 18 months year to 65 months. Mean patient age was 65.3 years (range 40-91). Most eyes resulted in aphakia secondary to trauma or complex intraocular surgery. Most frequent coexisting pathology included glaucoma and previous retinal detachment. Median Re-bubbling was required in 5/21 (23.8%). Graft failure and/or repeat graft occurred in 4/21 eyes (19%). Posterior graft dislocation was prevented in all cases. Estimated graft survival on Kaplan Meier analysis at 5 years was 65%.

**Conclusions:** Safety-net DMEK is a feasible and effective surgical option for aphakic and unicameral eyes. Statistically significant visual improvement can be achieved despite complex ocular comorbidity, with acceptable re-bubbling and graft failure rates. This technique allows selected patients to benefit from the anatomical and visual advantages of DMEK and represents a viable alternative to DSAEK in complex eyes.

Abstract Type: Research

**17 A time-dependent corneal graft survival calculator for personalised risk prediction**

**Daniel Gore**<sup>1</sup>, Jeremy Hoffman<sup>2</sup>, Shafi Balal<sup>1</sup>, Arthur Okonkwo<sup>3</sup>.

1] Moorfields Eye Hospital, London, UK. 2] Stoke Mandeville Hospital, Aylesbury, UK. 3] St James's Hospital, Leeds, UK.

**Objective:** To develop a clinically accessible corneal graft survival calculator that present published survival data as personalised, time-dependent predictions.

**Background:** Corneal graft survival data, largely derived from registries and cohort studies, are typically presented within academic publications making them impractical for routine clinical use. Personal graft outcome data are also supplied to UK surgeons from NHSBT, but are restricted to first grafts and the three commonest primary diagnoses only. We have developed a corneal graft survival calculator (<https://beta.moorfieldscg.com/>), including more complex real-world ocular comorbidity and regrafts, bringing published data into an interactive clinical tool.

**Methods:** Separate profiles were defined for indication, graft type and recipient risk profile including regrant number. Year-specific survival probabilities up to 10 years were extracted from registry datasets and peer-reviewed studies, with constrained interpolation applied where intermediate timepoints were unavailable. The calculator outputs personalised survival curves, rather than single hazard ratios, to convey how absolute survival probabilities evolve over time.

**Results:** The calculator confirms marked divergence in long-term graft survival between profiles despite similar early outcomes. Ten-year predicted survival exceeds 85-90% for low-risk DALK and DMEK indications but falls below 40% for high-risk PK scenarios, such as multiple regrafts. Notably, grafts in eyes with glaucoma shunts demonstrate rapid attrition, with survival falling to approximately 15-20% by 10 years.

**Conclusion:** Generic consent statistics frequently misrepresent individual risk, particularly for complex eyes. This unified calculator integrates diverse data sources to provide surgeons with specific, evidence-based time-dependent prognostic profiles, facilitating more accurate informed consent and expectation management.

Abstract Type: Research

**18 Emerging role of iCam microarray PCR and metagenomics in the diagnosis of microbial keratitis**

**Madhavan Rajan**, Sophie May, Poorvi Patel, Ahmed Elshahat, Theodore Gouliouris.

Cambridge University Hospitals, Cambridge, UK.

**Purpose:** To compare the diagnostic performance of an ophthalmology specific microarray PCR (iCAM) and metagenomic next-generation sequencing (mNGS) against conventional microbiological investigations in microbial keratitis.

**Methods:** Corneal epithelial scrapes from 65 patients with microbial keratitis were analysed using iCAM microarray PCR in this multicentre clinical trial (ISRCTN17422545). Parallel samples underwent standard microbiological testing, including microscopy, culture, and monoplex PCR according to local protocol. Metagenomics sequencing was prepared using the Oxford Nanopore Rapid PCR barcoding kit and results compared to iCAM microarray. The turnaround time, microbial detection, concordance between modalities, and the influence of results on clinical decision-making were analysed in this study.

**Results:** iCAM microarray PCR identified the causative organism in three of four cases with the ability to detect bacteria, viruses, fungi and acanthamoeba using a single corneal epithelial sample. The iCAM test sensitivity, turnaround times and the positive predictive value of the test will be presented and compared to conventional microbiology results. The development of the metagenomics protocol and their role in identifying rare and fastidious organisms will be described in this presentation.

**Conclusion:** Microarray PCR and metagenomics have the potential to significantly improve microbial detection in infectious keratitis. The iCAM test could function as the first line screening test with mNGS reserved for iCAM negative cases and severe ocular infections.

Abstract Type: Research

**P1 Investigating unexpectedly high primary graft failure rates with imported corneal tissue: comparison across three tissue providers**

**Kirupakaran Arun**, Adam Hatoum, Nizar Din, Mukhtar Bizrah, Disha Singhanian, Melanie Corbett.  
*Western Eye Hospital, Imperial College NHS Trust, London, UK.*

**Aims:** Primary graft failure (PGF) is a recognised complication of corneal transplantation. National audit data reports rates between 0.3-12%. This study identified factors to investigate and processes to institute when graft failure rates rise above those expected. Background With increasing national graft tissue shortages (Provider A), overseas tissue was imported. Due to concerns with tissue from Provider B, Provider C was then used.

**Methods:** Clinical outcomes were compared over three six-month periods relating to the different providers. For provider B, a pathway for investigation and reporting was developed.

**Results:** 106 eyes were analysed (31 Provider A, 43 Provider B, 32 Provider C). PGF occurred in 32.6% of Provider B grafts versus 9.7% of A, and 6.3% of C ( $p < 0.01$ ). Re-grafts were required in 30.2% of B cases (versus 16.1% and 3.1%,  $p < 0.01$ ). Re-bubbling occurred in 34.2% of endothelial B cases (versus 10.0% and 18.8%,  $p < 0.10$ ). Mean final visual acuity was 0.60 logMAR (versus 0.48, and 0.23,  $p < 0.05$ ). Concerns with Provider B grafts led to incident reporting, suspension of transplantation, local investigation of graft supply-chain, handling and storage and liaison with the provider initiated an international review. Provider C was subsequently introduced under strengthened assurance processes.

**Conclusions:** Provider B tissue was associated with higher PGF compared with A and C. Concerns led to suspension of grafting, reporting to the Human Tissue Authority and a change of supplier. This audit highlights the importance of vigilance, local quality assurance, and national reporting when introducing new donor tissue sources.

Abstract Type: Research

**P2 Clinical impact of corneal impression membrane sampling: a service evaluation from a tertiary ophthalmic unit**

**Kirupakaran Arun**, Jasmine La, Mukhtar Bizrah, Melanie Corbett, Nizar Din.  
*Western Eye Hospital, Imperial College NHS Trust, London, UK.*

**Purpose:** Corneal Impression Membrane (CIM) sampling is a minimally invasive technique for obtaining corneal samples in suspected microbial keratitis. Emerging evidence suggests CIM may improve microorganism detection compared to traditional corneal scraping. This study evaluated CIM versus scraping in terms of diagnostic yield, procedure time, patient comfort, and clinician preference.

**Methods:** Over a six-month period, consecutive patients presenting with presumed microbial keratitis underwent paired sampling, with both a standard corneal scrape and a corneal impression membrane applied to the same ulcer. All samples were processed by the same microbiology laboratory using standard culture protocols.

**Results:** CIM sampling demonstrated a significantly higher overall microorganism isolation rate compared to scraping (60% vs 31%,  $p < 0.001$ ). Among routinely pathogenic organisms, CIM yielded higher isolation rates for *Streptococcus pneumoniae* and *Serratia marcescens* (10.5% vs 8%), with no significant difference in detection of *Staphylococcus aureus* or *Pseudomonas aeruginosa*. CIM also showed markedly higher recovery of common commensals, particularly *Staphylococcus epidermidis*. CIM sampling was significantly faster (mean 38 seconds vs 5 minutes 12 seconds,  $p < 0.001$ ), with all clinicians favouring its ease of use and consistency. Patient tolerance was also significantly higher with CIM ( $p < 0.001$ ).

**Conclusion:** CIM sampling improves the detection of both pathogenic and commensal microorganisms, significantly reduces sampling time, and is preferred by both clinicians and patients. These findings support its broader adoption as a first-line diagnostic method in microbial keratitis.

Abstract Type: Research

**P3 Withdrawn**

**P4 Clinical outcomes of traumatic graft dehiscence following penetrating keratoplasty and deep anterior lamellar keratoplasty****Khayam Naderi**, Mohamed Kolaib, Laura De Benito.*Moorfields Eye Hospital, London, UK.*

**Background:** We present outcomes of consecutive cases of traumatic graft dehiscence (TGD) in cases of penetrating keratoplasty (PKP) and deep anterior lamellar keratoplasty (DALK).

**Methods:** Retrospective case series of consecutive cases of TGD presenting to a tertiary centre during the period 2021-2025.

**Results:** Our study cohort included 38 eyes of 37 patients of which 34 were PKPs and 4 were DALKs. The median age was 46.50 years (range 22, 83), with 71.05% being male. The median follow-up time (years) following surgical repair was 0.65 (0.00, 4.03). The median time to TGD following the original corneal graft surgery was 1.54 (0.08, 39.75). The median extent of graft dehiscence (clock hours) was 6 (1, 10), with 36.84% having no remaining sutures in situ at the time of trauma. The median visual acuity (logMAR) at presentation was 2.40 (0.50, 3.00). The median visual acuity at the most recent follow-up compared to pre-trauma was 1.30 (0.10, 3.00) and 0.48 (-0.10, 2.40), respectively ( $p < 0.0001$ ). Anterior vitrectomy was performed in 39.47% of cases at the time of surgical repair. Lens extrusion occurred in 48.65% of phakics and intraocular lens subluxation occurred in 25.00% of pseudophakics. Retinal detachment occurred in 15.79%, suprachoroidal haemorrhage in 13.16%, and choroidal effusion in 2.63%. Graft failure occurred in 25.71%, with 18.91% of eyes requiring a new corneal transplant.

**Conclusions:** Traumatic graft dehiscence is a sight-threatening emergency, can occur decades after original surgery, and is associated with significant complications. Patient counselling to avoid ocular trauma is essential to minimise future risk.

Abstract Type: Research

**P5 Complications and management of cosmetic iris implants****Omer Jamall<sup>1</sup>**, Shafi Balal<sup>1</sup>, Imran Karim Janmohamed<sup>2</sup>, Ibtesham Hossain<sup>1</sup>, Rohan Hussain<sup>1</sup>, Soyang Ella Kim<sup>1</sup>, Gabriele Gallo Afflitto<sup>1</sup>, Vincenzo Maurino<sup>1</sup>.*1] Moorfields Eye Hospital, London, UK. 2] Maidstone & Tunbridge Wells NHS Trust, Maidstone, UK.*

**Background:** Cosmetic iris implants, initially developed for medical conditions, have gained popularity for aesthetic eye colour alteration. Despite lacking regulatory approval, these devices are increasingly sought after, raising concerns about potential complications. This study aims to analyse the ocular complications and outcomes associated with cosmetic iris implants in the largest review to date.

**Methods:** This was a retrospective review of 30 eyes from 15 patients who presented with complications related to cosmetic iris implants at Moorfields Eye Hospital between 2008 and 2023. Data collected included visual acuity, intraocular pressure (IOP), endothelial cell count, and surgical interventions. Statistical analysis included paired t-tests and multivariate logistic regression.

**Results:** The median time to explantation was 45.5 months. Uveitis was the most common complication (60%), followed by corneal decompensation (36.7%) and raised IOP (30%). Post-explantation, ten eyes (30.3%) underwent glaucoma surgery, six eyes (20%) had Descemet's membrane endothelial keratoplasty, and four eyes (13.3%) needed cataract surgery. A statistically significant correlation was found between time to explantation and corneal decompensation ( $r = 0.392$ ,  $p = 0.048$ ). Mean IOP decreased significantly from  $22.17 \pm 11.36$  mmHg to  $13.82 \pm 4.56$  mmHg post-explantation ( $p = 0.001$ ).

**Conclusions:** Cosmetic iris implants are associated with significant ocular complications, often requiring multiple surgical interventions even after explantation. The risk of corneal decompensation appears to increase with longer implant duration. These findings highlight the importance of patient education regarding the potential risks of these unapproved devices and raise questions about their long-term safety and ethical implications.

Abstract Type: Research

**P6 Withdrawn**

**P7 The sub-tenon trick for difficult DMEK: a simple solution for hyper-deep anterior chambers**

**Cristina Cristian**, Federico Macario, Hatch Mukherjee.

*Colchester Eye Department, East Suffolk and North Essex NHS Foundation Trust, Colchester, UK.*

**Purpose:** To evaluate a novel, hands-free technique for shallowing the anterior chamber (AC) during Descemet membrane endothelial keratoplasty (DMEK) using sub-Tenon injection of balanced salt solution (BSS), compared with established intraoperative methods.

**Methods:** A comparative case series of 10 DMEK procedures in cases where it was difficult to shallow was conducted, in which AC shallowing during graft unfolding was achieved using sub-Tenon injection of BSS. This technique, which has not been previously described in the literature, was compared with conventional approaches previously used by the same surgical team, including fluidic control, controlled wound leakage, external equatorial globe pressure, and air-assisted manoeuvres. Intraoperative AC stability, graft unfolding time, ease of bimanual manipulation, requirement for additional manoeuvres, and technique-related adverse events were assessed.

**Results:** Established methods for AC shallowing rely on repeated intraoperative adjustments that may interrupt graft handling during unscrolling. Sub-Tenon injection produced a sustained and predictable posterior counterpressure, resulting in stable AC shallowing without the need for ongoing manual intervention. This enabled uninterrupted bimanual graft manipulation with both hands free throughout the critical unfolding phase. Graft unfolding time was reduced compared with procedures performed using established techniques, reflecting improved chamber stability and surgical ergonomics. Chamber depth remained stable during manipulation, and no intraoperative complications or technique-related side effects were observed.

**Conclusions:** Sub-Tenon injection of BSS represents a novel approach for hands-free AC shallowing during DMEK. By improving chamber stability and reducing graft unfolding time, this technique may enhance surgical efficiency. Larger studies are required to confirm its safety, reproducibility, and comparative benefit.

Abstract Type: Case/case series

**P8 Early postoperative unaided visualisation of an orientation mark after DMEK**

**Poonam Sharma**<sup>1</sup>, Tejal Patel<sup>1</sup>, Allon Barsam<sup>2</sup>.

*1] Luton and Dunstable Hospital, Luton, UK. 2] OCL Vision, London, UK.*

**Purpose:** To report the feasibility of unaided direct visualisation of an orientation ("F") mark on Descemet membrane endothelial keratoplasty (DMEK) grafts immediately after surgery and on postoperative day 1, as an adjunct for early confirmation of graft orientation.

**Methods:** This observational case series included 50 eyes undergoing standard DMEK using donor tissue marked with gentian violet dye applied as an "F" orientation mark. Unaided visualisation (observation without a magnification aid such as a slit-lamp or operating microscope) was assessed intraoperatively and on postoperative day 1. Observations were documented photographically. Viewing conditions, lighting and pupil status were standardised. No adjustments to surgical technique or postoperative management were made. Consent was obtained for photography.

**Results:** In a subset of eyes, the "F" orientation mark was visible to the operating surgeon with the unaided eye immediately after surgery and to the examining clinician without magnification on postoperative day 1. Visibility permitted confirmation of correct graft orientation without the use of slit-lamp biomicroscopy or intraoperative OCT. No adverse events were attributable to graft marking were observed, and graft attachment was comparable to standard cases.

**Conclusions:** Unaided visualisation of an "F" orientation mark may be possible in selected cases immediately after DMEK and on postoperative day 1. Whilst not a replacement for established intraoperative or postoperative assessment methods, this observation may serve as a simple adjunct for early graft orientation confirmation and may be uploaded to EPR for proof of the same.

Abstract Type: Case/case series

**P9 Further characterisation of Epimax-related ocular surface toxicity**

**Bhagyashree Joshi**, Chloe Leftley, Harinderjeet Sandhu, Parwez, Farhan Zaidi.  
*Southampton Eye Unit, University Hospital, Southampton, UK.*

**Background:** Epimax® is widely prescribed and available over the counter (OTC), namely for facial eczema, with frequent periocular application. Case series and regulatory alerts in 2023/24 highlighted ocular surface toxicity associated with Epimax exposure. Despite increased awareness, complications associated with periocular application persist and remain poorly characterised.

**Methods:** We retrospectively reviewed the notes of patients over a 12-month period (October 2024-October 2025) who presented with ocular surface symptoms following Epimax, or related emollient, exposure.

**Results:** Twelve patients were identified (9 female, 3 males; median age 32 years, range 17-85). 66.7% had a history of eczema and 8.3% of allergic dermatitis. Discrete periocular or ocular exposure occurred in 83.3%. Symptom onset was typically rapid, with 66.7% experiencing symptoms within 48 hours. The main presenting symptoms were redness (58.3%), pain/discomfort (58.3%), epiphora (16.7%), and photophobia (8.3%). Slit-lamp examination demonstrated a consistent epithelial toxicity pattern, with 75% exhibiting punctate epithelial erosions. Management generally consisted of emollient cessation with supportive topical therapy: lubricants (66.7%), antibiotics (58.3%), corticosteroids (58.3%), and vitamin C (33.3%). Adjuncts including bandage contact lenses and cycloplegics were used in select cases. Documented resolution occurred in 91.7% (median time 12 days).

**Conclusions:** This series further characterises emollient-associated ocular surface toxicity, raising awareness of a potentially under-recognised and avoidable cause of ocular morbidity. It reinforces the need for clinician awareness and appropriate labelling and counselling, especially given OTC availability.

Abstract Type: Case/case series

## Notes

## Notes

## Notes



# BOWMAN Club

Save the date  
**19th March 2027**  
Liverpool  
2027 Host: Stephen Kaye

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