



Irish College of
Ophthalmologists
Eye Doctors of Ireland
Protecting your Vision

Annual Conference 2024

Knockranny House Hotel
Westport, Co. Mayo

15-17 May 2024



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John Doris

President's Welcome Message

Dear Colleagues,

It gives me great pleasure to welcome you to the 2024 Irish College of Ophthalmologists Annual Scientific Conference in the charming town of Westport on the Wild Atlantic Way.

I hope over the next few days that you will enjoy the conference programme, and meet and exchange ideas with old and new friends. We strive to improve outcomes for patients and this scientific meeting is an opportunity to share our learning aided by leading experts in our field.

This year's conference symposium themes include *Vision and Strabismus*, *Orbit and Sockets* and *Sustainability in Ophthalmology*. We welcome an impressive list of international speakers, including Ian Marsh and Arvind Chandna from Liverpool, Manoj Parulekar from Birmingham and Radhika Rampart from the Royal Free London. I would like to thank all our local speakers for their contributions and extend a special welcome to Dr Philip Crowley, the HSE National Lead for Climate Change.

We very much look forward to the Annual Mooney Lecture presented this year by Professor Geoffrey Rose from Moorfields Eye Hospital London on the topic of *Thyroid Eye Disease management*.

As part of the College's focus on wellbeing, we have invited Professor of Psychiatry, Brendan Kelly, who will be discussing the history of pandemics in Ireland and the lessons learnt from our recent Covid-19 experience. He has written a book entitled "Resilience: Lessons from Sir William Wilde on Life After Covid: 2023", which reflects on the writings of Sir William Wilde, the Irish Ophthalmologist, who had an extensive interest in infectious disease and its impact on society.

This year industry has kindly sponsored additional speakers, and we are pleased to extend an Irish welcome to Angela Rees and Will Tucker from Moorfields Eye Hospital, Professor Richard Gale from York and Michael Stewart from the Mayo Clinic in Florida.

In addition to the scientific programme, our conference provides an important social and networking opportunity, and I hope that you also find some time to explore the beautiful town of Westport.

I would like to thank our conference organisers and a particular thank you to Sean Chen and the scientific committee for putting together such a fantastic programme.

Finally, delegates this is your conference. We have set the stage and selected the acts, but we also look forward to lively discussions and debates from the floor. I wish each of you memorable and enjoyable days in Westport.

Warm regards,

JOHN DORIS

President

Irish College of Ophthalmologists.

May 2024



Vision for a Sustainable Future: Navigating the Landscape of Ophthalmology at the Irish College of Ophthalmologists Annual Conference

As we gather at the Irish College of Ophthalmologists Annual Conference, we're placing a spotlight on 'Sustainability in Ophthalmology', where the focus embraces a broader commitment encompassing both environmental sustainability and sustainability in practice.

This focus begins with a symposium at this year's conference which will examine the various facets of sustainability, including environmental responsibility, ethical patient care, efficiency and the long-term resilience of ophthalmic practices.

By bringing together experts and practitioners, our objective is to support our members by providing both practical help and advice, and to generate a commitment within the ophthalmic community in Ireland to continuous improvement in this area through our individual and collective responsibility.

Our continuing aim is to encourage members to review and assess the changes that can be made and to create a forum where these insights can be shared.

Our commitment is to provide:

- A dedicated educational resource on sustainability in ophthalmology on the ICO member's portal signposting helpful and practical guidance
- A session on quality improvement at the ICO Annual Conference every year, where members and trainees can share their knowledge and experience of the measures they are implementing.

We will encourage and facilitate members as they strive to improve their practice and to share their knowledge so all can learn and foster a community-driven approach to sustainability in ophthalmology in Ireland.

Environmental Responsibility in Ophthalmology:

The ophthalmic field, like many others in healthcare, has a significant environmental footprint. From the disposal of single-use instruments to the energy consumption of diagnostic equipment, the impact is significant. The symposium will delve into sustainable

practices that can be adopted by ophthalmologists, such as the use of eco-friendly materials, energy-efficient technologies, and waste reduction strategies. By fostering awareness and implementing green initiatives, the ophthalmic community can contribute to a healthier planet while providing excellent patient care.

Innovations and Technological Advances:

The conference will showcase cutting-edge innovations and technological advances in ophthalmology that contribute to sustainability. From teleophthalmology and artificial intelligence in diagnostics to advancements in surgical techniques, these developments aim to enhance patient outcomes while minimising environmental impact. By embracing these technologies responsibly, ophthalmologists can pave the way for a more sustainable and efficient future in eye care.

Collaboration and Advocacy:

Sustainability in ophthalmology requires collective effort and advocacy. The symposium will provide the starting platform for networking and collaboration among ophthalmologists, researchers, industry professionals, and policy-makers. Through shared insights and experiences, the aim is for attendees to foster a community-driven approach to sustainability in eye care. By addressing the challenges facing us, and sharing the knowledge, expertise and resources we have at our disposal, both through our domestic and international networks, the conference aims to inspire positive change within the specialty.

By adopting these principles, ophthalmologists can contribute to a greener and more sustainable future for eye care while maintaining the highest standards of patient well-being.

Reducing Waste in Surgical Practices:

Ophthalmic surgeries often involve the use of single-use instruments and disposables. Embracing reusable equipment and

implementing efficient sterilisation processes can significantly reduce the amount of medical waste generated. By adopting a circular economy approach, ophthalmologists can minimise their environmental impact while maintaining high standards of patient care.

Energy-Efficient Diagnostic Equipment:

Ophthalmology relies heavily on diagnostic equipment such as optical coherence tomography (OCT) and fundus cameras. Implementing energy-efficient technologies and optimising the use of diagnostic equipment can contribute to a reduction in energy consumption. Additionally, upgrading to eco-friendly and sustainable alternatives when available can further enhance the environmental profile of ophthalmic practices.

Promoting Teleophthalmology:

Where clinically appropriate, incorporating telemedicine into your practice can minimise the need for patient travel, reducing the associated carbon footprint. This not only improves accessibility for patients but also aligns with sustainability goals.

Embracing Green Building Practices:

Sustainable and environmentally responsible actions extend beyond medical practices to the physical spaces where ophthalmologists work. Designing and constructing eco-friendly, energy-efficient clinics and hospitals can significantly decrease the environmental impact of healthcare facilities. Features such as energy-efficient lighting, proper waste management systems, and the use of sustainable building materials contribute to creating more environmentally conscious spaces.

Ethical Sourcing of Materials:

Ophthalmologists can contribute to sustainability by carefully considering the sourcing of materials used in their practices. From eyeglasses to diagnostic equipment, choosing products with environmentally friendly certifications and ethical sourcing practices can make a positive impact. This extends to supporting manufacturers that prioritise sustainability and ethical production throughout the supply chain.

Patient Education on Sustainable Practices:

Ophthalmologists have a unique opportunity to educate their patients about sustainable eye

care practices. This includes proper disposal of contact lenses, promoting the use of eco-friendly eyewear options, and encouraging regular eye check-ups to prevent and detect eye conditions early, thus reducing the need for more resource-intensive treatments.

Engaging in Research and Innovation:

Ophthalmologists can contribute to sustainability through research and innovation. Investigating new technologies and techniques that minimise environmental impact, exploring sustainable alternatives for treatment, and participating in collaborative efforts to advance the field responsibly can drive positive change within the specialty.

Advocacy and Collaboration:

Ophthalmologists can use their expertise and influence to advocate for sustainability within the broader healthcare community. By collaborating with professional associations, industry partners, and policymakers, they can promote initiatives that prioritise environmental responsibility in healthcare practices and policies.

ICO Members Portal & Ongoing Education: Sustainability in Ophthalmology Resource

The College is working to inform and support our members in our collective efforts to reduce the carbon footprint of the specialty of ophthalmology in Ireland.

We are utilising our membership portal to house educational resources and practical advice on how members can work towards and achieve a more sustainable clinical practice.

The resource is an ongoing and evolving body of work for the College and its members. We invite members to share any information you feel will be beneficial to your fellow colleagues on this platform.

We are also committed to ensuring the continuation of this conversation in a structured and proactive manner. The College plans to host a forum for the discussion of quality improvement projects by members at our annual conference or winter meeting each year.

We understand this is a growing area of concern and consideration for many clinicians. The College is keen to do our part in fostering greater awareness amongst the ophthalmic community in Ireland and promoting the recommendations that have been made through international collaborations.

Continuous, Small Steps towards a more Sustainable Future

Visit the ICO members portal to learn more.



Wednesday 15th May

- 10.00am Official Welcome**
Mr John Doris
President, Irish College of Ophthalmologists
- 10.05am Short Presentations**
Chair: Ms Janice Brady, University Hospital Waterford
- Assessing the Impact of Waiting Times on Glaucoma Progression: A Retrospective Study of Patients Referred from Cork University Hospital to Ballincollig Primary Health Care Centre**
Yong Yu Tan
- Eyes on Spina Bifida: A Two-Decade Retrospective Exploration of Ophthalmic Manifestations in Paediatric Patients at Temple Street Children's University Hospital, Dublin**
Shane O'Regan
- Optimization of Stereoscopic Vision in Concomitant Strabismus in Children**
Ganna Akhundova
- High Mobility Group Box 1 (HMGB1) in Glaucoma Pathogenesis: Exploring Nuclear Proteins in Neurodegeneration**
Alexandra McCreery
- 11.00am Refreshments**
- 11.30am Vision and Strabismus Symposium**
Chair: Mr Sean Chen, Blackrock Health Galway Clinic, Galway
- Difficult Paediatric Consultations including Consent**
Ms Kathryn McCreery
Consultant Ophthalmic Surgeon,
Children's Health Ireland at Crumlin
- Decoding the Process of Strabismus Management**
Mr Ian Marsh
Consultant Ophthalmic Surgeon,
Liverpool University Hospital NHS Trust
- Beyond Visual Acuity: Cerebral Visual Impairment - A Structured Approach**
Dr Arvind Chandna
Senior Clinician Scientist, Smith Kettlewell Eye Research Institute, San Francisco; Consultant Paediatric Ophthalmologist, Alder Hey Children's Hospital, Liverpool
- 1.00pm Lunch**
- 2.00pm Irish College of Ophthalmologists Annual General Meeting**
Chair: Mr John Doris, President, Irish College of Ophthalmologists
- 2.30pm European Society of Ophthalmology (SOE) Lecture 2024**
Mr Michéal O'Rourke,
Consultant Ophthalmic Surgeon,
Royal Victoria Eye and Ear Hospital, Dublin,
St James's Hospital and Children's Health Ireland at Crumlin
- 3.00pm Short Presentations**
Chair: Mr Edward Dervan, Mater Misericordiae University Hospital, Dublin
- Unraveling Chronic Ocular GVHD Through an Analysis of Tear Fluid Cytokines**
Emily Greenan
- Clinical Presentation, Burden and Outcomes of Dupilumab Associated Ocular Surface Disease, an Irish Single Centre Experience**
Fionnuala Kennedy
- Optimising Glaucoma Care via Selective Laser Trabeculoplasty (SLT) - Slaintecare Project 177 and Glaucoma Referral Audit in St Vincents University Hospital (SVUH) 2020- 2021**
Aniela Krezel
- Surgical Technique and 2-year Clinical Outcomes of the PAUL® Glaucoma Implant at Mater Misericordiae University Hospital**
Ian Brennan
- 4.00pm Refreshments**
- 4.30pm Annual Mooney Lecture 2024**
Introduction: Mr Tim Fulcher, Mater Misericordiae University Hospital, Dublin
- Thyroid Eye Disease Customised Management**
Professor Geoffrey Rose
Consultant Orbital, Lacrimal and Plastic Reconstructive Surgeon, Moorfields Eye Hospital, London

Thursday 16th May

**8.00am Breakfast Session kindly supported by Bayer
Aflibercept 8mg, a Turning Point in nAMD?
From Clinical Trial to Practical Clinical Experience**

*Chair: Prof Richard Gale,
Consultant Ophthalmologist; Clinical Director at
York Teaching Hospital NHS Foundation Trust*

Speaker: Dr. Michael Stewart
Professor and Chairman of Ophthalmology,
Mayo Clinic, Florida

9.30am Paper Session

*Chair: Mr Muhamad Akrum,
Letterkenny University Hospital*

**Genotype-phenotype Correlation of Macular
Dystrophies within the Target 5000 Cohort**

Deirdre Harford

**A Retrospective Analysis of Outcomes of Corneal
Anterior Intra-Stromal Ring Segments (CAIRS) with
KeraNatural for Keratoconus at the Wellington Eye
Clinic, Dublin**

Rachel Madden

**Real-World Efficacy of the Hydrus Microstent in Open-
Angle Glaucoma: The Irish Experience**

Simon Neary

**Image-Guided Navigation in Orbital Tumour Surgery:
A Comparative Cohort Study**

Amy O'Regan

**Evaluating Faricimab for Neovascular Age-Related
Macular Degeneration – a Bicentre Real World
Experience**

Farah Ibrahim

**Quantifying Circulating Tumour DNA in Uveal
Melanoma Patients: A Pilot Project**

Patrick Murtagh

**10.30am Pandemics in Ireland, and Lessons Learned from
Covid (If Any)**

Professor Brendan Kelly
Professor of Psychiatry at Trinity College Dublin;
Consultant Psychiatrist, Tallaght University Hospital

**Presentation of Sir William Wilde Medal for Best
Poster**

11.00am Refreshments

11.30am Orbit and Socket Symposium

*Chair: Mr Tim Fulcher
Mater Misericordiae University Hospital*

Why is my Child's Eye Bulgy?

Mr Manoj Parulekar
Consultant Ophthalmic Surgeon, Birmingham Women's and
Children's Hospital; Oxford University Hospitals NHS Trust,
Oxfordshire

Removing an Eye

Prof Geoffrey Rose
Consultant Ophthalmic Surgeon, Moorfields Eye Hospital,
London

Management of Socket Complications

Mr Tim Fulcher
Consultant Ophthalmic Surgeon,
Mater Misericordiae University Hospital, Dublin

1.00pm Lunch

**2.00pm Workshop: Disc Assessment - How to Assess an Optic
Nerve**

Miss Yvonne Delaney
Dean of Postgraduate Education,
Irish College of Ophthalmologists

3.00pm Workshop: Corneal Topography

Mr Brendan Cummings
Cataract and Research Fellow, Wellington Eye Clinic, Dublin

4.00pm Refreshments

4.30pm Uveitis Session kindly supported by Alimera Sciences

*Chair: Mr Tomás Burke, Consultant Ophthalmic Surgeon,
Mater Misericordiae University Hospital, Dublin*

Mr Will Tucker
Consultant Ophthalmologist, Moorfields Eye Hospital,
London

Ms Deirdre Townley
Consultant Ophthalmic Surgeon, University Hospital Galway

Mr Tomás Burke
Consultant Ophthalmic Surgeon,
Mater Misericordiae University Hospital, Dublin

Friday 17th May

8.00am Breakfast Session kindly supported by Roche Case Studies in Retinal Disease. Real world use of Vabysmo

Chair: Ms Louise O'Toole, Mater Misericordiae University Hospital, Dublin

Speaker: Miss Angela Rees
Consultant Ophthalmologist, Moorfields Eye Hospital, London

9.30am Paper Session

Mr Sean Chen, Blackrock Health Galway Clinic

Education in Focus: Significant Improvements in Student Learning and Satisfaction with Ophthalmology Teaching Delivered using a Blended Learning Approach

Andrea Doyle

Evaluation of Post-Operative Prescribing Practices in the MMUH Cataract Pathway

Adan Khan

Effectiveness of the Direct Cataract Clinics at Nenagh General Hospital: A Patient-Centred Care Success Story

Mohammed Mohamed

Virtual Doctors in Zambia: An Analysis of 2 years of Ophthalmic Telemedicine Consultations

Doireann Hughes

Enhancing Patient Education on Cataract Surgery via an AI-Powered Chatbot

Jackson Barrett

A Computer Vision Model for Classification of Frisén Grade and Assessment of Treatment Response in Papilloedema

Brian Woods

Sustainability in Cataract Surgery

Alison Greene

Work-related Musculoskeletal Disorders are Common among Ophthalmologists in Ireland.

Matthew O'Riordan

Elimination of 4 year Community Childrens Eye Waiting list

Geraldine Comer

11.30am Sustainability in Ophthalmology Symposium

Chair: Mr John Doris, Consultant Ophthalmic Surgeon, University Hospital Waterford

Sustainability in Ophthalmology - How Can I Act Locally and Share Globally?

Miss Radhika Rampat
Consultant Ophthalmic Surgeon,
Royal Free London NHS Trust

Leadership and Climate Action in the Irish Health Service

Dr Philip Crowley
National Director of Strategy and Research;
HSE Lead for Climate Strategy

Optimising Sustainability in Ophthalmic Surgical Care

Dr Emilie Mahon
Ophthalmology Clinical Tutor,
Royal College of Surgeons in Ireland

Making Ophthalmic Practice Sustainable

Mr Arthur Cummings
Consultant Ophthalmic Surgeon,
Wellington Eye Clinic, Dublin

1.00pm: Presentation of Barbara Knox Medal for Best Paper

Conference Close

Conference Posters

A Web Application to Quickly Estimate Ocular Perfusion Pressure.	Pádraig O'Connell	Experience and Trials with Intraocular Magnification Devices	Marcus Conway
Choroidal Osteoma: A Case Series	Sarah Powell	Spontaneous Multi-layer Ocular Haemorrhage of Uncertain Aetiology	Aniela Krezel
Ten-year Vision Outcomes of Anti-vascular Endothelial Growth Factor Therapy in Choroidal Neovascularisation	Emily Whiteside	Ocular Adnexal Sarcoidosis	Pranav Gnanamoorthy
A Quartet of Methods for Regularizing the Irregular in Keratoconus	Brendan Cummings	Endogenous Endophthalmitis in Myelodysplastic Syndrome: A Presentation with Streptococcus Dysgalactiae and Infective Endocarditis - A Case Report and Literature Review	Salman Keraidi
The Detection of Lens Opacities using the Plusoptix Photoscreener	Claire McEntee	Incidence of Angle Closure Glaucoma Presentations to an Emergency Eye Department – Pre and Post COVID Pandemic	Michelle Dunne
Limbal Granuloma Pyogenicum - A Case Report and Literature Review	Devanshi Desai	The Awareness of the Importance of Dilatation Drops in the Eye Clinic: an Audit of Patients from Nenagh General Hospital	Xinxan Budweg
Dupilumab Related Ocular Surface Disease (DROSD), Identification Prevention and Management: Full Cycle Audit with an Educational Intervention between the Ophthalmology and Dermatology Services	Alan Hopkins	Ocular Cicatricial Pemphigoid with Exclusive IgM Positivity	Áine Kelly
Assessment of Quality of The Handwritten Ophthalmic Drugs Prescription at Makkah Eye Hospital	Eilaf Bakri	Orbital Implant Exposure Rates after Enucleation and Evisceration.	Ross Layden
Knowledge, Attitudes and Practice toward Ocular Trauma among Non-Ophthalmic Practitioners at Emergency Departments of General Hospitals, Elobied, Sudan -2022	Eilaf Bakri	A 2-year Trend Analysis of Microbiology Results in all Corneal Samples taken in the Eye Casualty Setting: the University Hospital Limerick Experience	Amy Coman
Image Guided Orbital Surgery – A Pre-Clinical Validation Study using a High-Resolution Physical Model	Kealan McElhinney	A First Reported Case of Peripheral Ulcerative Keratitis Superinfected with Actinomyces Oris	Aaron Donnelly
Resolution of Intractable Steroid-induced Raised Intra-ocular Pressure Following Excision of Sub-conjunctival Triamcinolone	Liam Tomás Mulcahy	Immediate Sequential Bilateral Cataract Surgery: A 6 Year Review of Cases at an Ophthalmology Department in the West of Ireland	Aaron Donnelly
Observation as a Primary Management Strategy in Valsalva Retinopathy	Mohammed Mohamed	Assessment of the Indirect Environmental and Economic Impact on Patients Attending Intravitreal Injections at Sligo University Hospital	Jay Jun Lee
The Management of Intumescent Cataract in an Indian Hospital.	Devanshi Desai	A Cross-sectional Investigation into the Diagnostic, Treatment and Management Methods used by Irish Consultant Ophthalmologists in the Treatment of Central Serous Chorioretinopathy.	Daniel Coakley
Molecular Analysis of Salivary and Lacrimal Adenoid Cystic Carcinoma	Sarah Powell	Retinal Detachment in Candida Endogenous Endophthalmitis Managed with Vitrectomy and Silicone Oil	Aaron Donnelly
Local Tumour Control and Visual Outcomes in Uveal Melanoma Patients Treated with Iodine Plaque versus Ruthenium Plaque versus Proton Beam Radiation: A Ten-Year Review	Patrick Murtagh	The Role of ABCC6 Genetic Testing in Pseudoxanthoma Elasticum	Alexandra McCreery
Choroidal Neovascularization Secondary to Angioid Streaks in a Patient with Pseudoxanthoma Elasticum: Case Report	Sara Ahmed	Periorbital and Orbital Cellulitis: The Rise of Virulent Group A Streptococcus	Glynis Hanrahan
Analysis of Endoscopic Orbital Decompression with and without navigation for Graves' Ophthalmopathy	Daire Hurley	Trends in Sports-Related Ocular Trauma Presentations to a Tertiary Eye Centre during the Summer Months of 2019-2023 : A Retrospective Audit	Bridget Moran
Retinopathy of Prematurity Screening in Ireland – A Retrospective Review of Screening in an Irish Hospital	Aine Kelly	Evaluation Non-diabetic Eye Referrals from a Single Diabetic Retinopathy Screening Programme in Dublin over a 12 Month Period in 2022	Natalie Ng
Coverage of Diabetic Eye Care in the Kimberley Region of Western Australia	Ross Layden	An Atypical Cause of Recurrent Transient Monocular Vision Loss.	Edward Ahern
Choroidal Osteoma: A Case Series	Sarah Powell	Bilateral Diffuse Uveal Melanocytic Proliferation (BDUMP): A Case Report.	Mohammed Anwar
Intravenous Catheter for Peritrochlear Steroid Injection in the Treatment of Acquired Brown's Syndrome	Simon Neary	Cataract Audit Ashgrove House Feb 2024	Maeve Lagan
Real-world Outcomes of Selective Laser Trabeculoplasty in a Tertiary Referral Glaucoma Service	David Gildea	Optimising Sustainability in Cataract Care	Emilie Mahon
Implementing Best Practice Eye Care in an Intensive Care Unit Setting	Liam Connolly	Successful Treatment of a Rhegmatogenous Retinal Detachment in a Patient with Oculocutaneous Albinism	Deirdre Harford
Veridical Estimates of Incidence and Prevalence of Slipped and Lost Extraocular Muscle in Strabismus Surgery.	Patrick O'Neill	Inner Retinal Vascular Integrity in Retinitis Pigmentosa	Rory Holohan
Corneal Hysteresis and its Impact on Glaucoma Severity in Afro-Caribbean and Caucasian Primary Open Angle Glaucoma (POAG) Patients	Fionn O'Leary	Periocular Cancer Care: A Single Centre Experience	Alison Greene
Augmenting the Informed Consent Process for Intravitreal Injections with Interactive, AI-delivered Patient Information	Fionn O'Leary	Bechet's Disease Presenting as Neuroretinitis: A Case report	Tooba Hameed
"Right in Front of our Eyes" – A Rare Case of Paediatrics Ocular Adnexal MALT Lymphoma	Azza Mohamed	Never Let a Good Crisis go to Waste. Have Changes to Practice Since COVID Affected the Proportion of Truly Urgent Presentations to the Eye Casualty?	Muhammad Ali Bin Muhammad Ariffin
		The Potential Impact of Digital Surveillance Clinics on Diabetic Maculopathy Referrals to a Regional Treatment Centre	Miracle Grace Tullao Ong



Ms Kathryn McCreery

Ms Kathryn McCreery

Consultant Ophthalmic Surgeon, Children's Health Ireland at Crumlin Hospital, Dublin

Ms. Kathryn McCreery graduated from the Royal College of Surgeons in 1986. She undertook her ophthalmology training at The Royal Victoria Eye and Ear Hospital, Dublin and at Baylor College of Medicine, Houston, Texas, USA. She undertook fellowship training in paediatric ophthalmology and strabismus at The University of Pittsburgh/ Childrens' Hospital of Pittsburgh, Pittsburgh, USA.

Following her training she was appointed as Consultant Ophthalmologist/Assistant Professor at Baylor College of Medicine/Texas Childrens' Hospital in 1999 and returned to Ireland in 2002 to take up her current role as Consultant Ophthalmic Surgeon at Children's Health Ireland at Crumlin and Blackrock Clinic, Dublin. Her areas of interest are paediatric ophthalmology and strabismus, cataract and refractive surgery.

Her past leadership roles include Chair of the Scientific Committee ICO, Programme Director for Higher Surgical Training in Ophthalmology 2019-2022 and Council member of the ICO.

She has published more than 80 articles in peer-reviewed Ophthalmic journals, authored five book chapters, and made countless presentations at national and international Ophthalmic meetings.

She has been recognised as a dedicated teacher of Ophthalmology having received the Dan B. Jones Teaching Award from Baylor College of Medicine in 2002. Other awards include the Schindler award for the resident who exhibits high moral standards and compassion in patient care Baylor College of Medicine 1999 and SOE lecturer (European Society of Ophthalmology) 2006.



Mr Ian Marsh

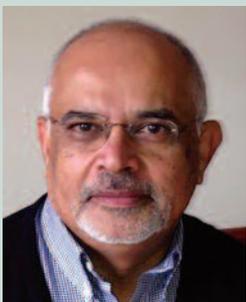
Mr Ian Marsh

Consultant Ophthalmic Surgeon, Liverpool University Hospital NHS Trust, Liverpool

Mr Ian Marsh graduated from Manchester University in 1978. He entered the training programme in Manchester Royal Eye Hospital and it was during this time as a Senior Registrar that he undertook a short observership in Indianapolis with Gene Helveston and San Francisco with Alan Scott and Art Jampolsky.

In 1990, he was appointed as a Consultant in Liverpool, initially at Walton Hospital, which then became University Hospital Aintree and has now merged to become Liverpool University Hospital NHS Trust. He set up and ran a Botulinum Toxin (BT) service from 1990 and in collaboration with the University produced a portable BT 'box' for giving injections.

Mr Marsh currently runs a comprehensive strabismus service mainly for adults but also including more complex children squint.



Dr Arvind Chandna

Dr Arvind Chandna

**Senior Clinician Scientist, Smith Kettlewell Eye Research Institute, San Francisco
Consultant Paediatric Ophthalmologist, Alder Hey Children's Hospital, Liverpool**

Dr Arvind Chandna is a Senior Clinician Scientist at Smith Kettlewell Eye Research Institute (SKERI) conducting research programmes dealing with significant gaps in clinical and scientific knowledge of common childhood eye conditions with poor management outcomes, and investigating them in collaboration with SKERI's vision scientists.

Dr Chandna's main interests are to determine the relationship of accommodation and vergence in strabismus; assessment of patterns of visual function loss in amblyopia and cerebral visual impairment. His research programmes investigate visual brain neuroscience and oculomotor behavior using eye tracking, photorefractive, psychophysics and visually evoked brain potentials in childhood eye disease. He works with a team of young scientists and collaborates nationally and internationally with senior scientists both at Smith Kettlewell and other institutions laboratories; children and parents of affected children; and, teachers of the visually impaired children with specific expertise in the areas of investigation. such as cerebral/cortical visual impairment; amblyopia and strabismus, childhood cataract and visual function in children who are monocular.

Dr Chandna is a Consultant Paediatric Ophthalmologist at Alder Hey Children's Hospital, Liverpool, UK. His clinical training was at university teaching hospitals in Delhi, London, Manchester, Bristol, Miami and San Francisco. His research training at Bristol University was in application of preferential looking techniques in normal and abnormal visual development. He completed paediatric ophthalmology and strabismus clinical fellowship with Professor John Flynn at Bascom Palmer Eye Institute in Miami and Dr Arthur Jampolsky and Dr Alan Scott at Smith Kettlewell Eye Research Institute in San Francisco.

Mr Michéal O'Rourke

Consultant Ophthalmic Surgeon, Royal Victoria Eye and Ear Hospital; St James's Hospital and Children's Health Ireland at Crumlin, Dublin

Mr Michéal O'Rourke is a Consultant Ophthalmic Surgeon with specialist interest in oculoplastic, orbit and lacrimal disease. He holds public appointments at the Royal Victoria Eye and Ear Hospital, St James's Hospital and Children's Health Ireland CHI at Crumlin where he established a dedicated specialist paediatric oculoplastic service. His private consulting rooms are located at Northbrook Eye Clinic in Ranelagh.

Mr O'Rourke attained his medical degree with honours from Trinity College, Dublin (MB BCH BAO BA) in 2007 and his certificate of completion of specialist training in 2019. During this period, he advocated for fellow trainees through representation on numerous boards and committees including the Irish College of Ophthalmologist's Education & Training Committee, the Irish Surgical Training Group, a consultative panel with the Irish Medical Council and the Forum of Irish Postgraduate Medical Training Bodies.

In 2015, he was awarded a PhD following full time clinical and translational academic research in ocular immunology at University College, Dublin and Trinity Biomedical Sciences Institute, Trinity College Dublin. He also holds a post-graduate diploma in statistics (PG Dip Stat (TCD)). He continues to publish and collaborate with international experts, as well as academic reviewing in all major ophthalmology journals. He was appointed director and board member of the charitable Research Foundation, Royal Victoria Eye and Ear Hospital which supports research through educational grants. He is Senior Clinical Lecturer in Ophthalmology at TCD and was selected for the European Leadership Development Programme (EuLDP) in Ophthalmology in 2023. This pan-European programme identifies future leaders in ophthalmology and provides leadership skills adapted to the specialty while harmonising training and health policy legislation in Europe by fostering global peer networks. He has completed a certificate in Healthcare Management with UCD Smurfit Business School.

Mr O'Rourke has a special interest in cataract surgery with training at the Vision Experience Centre, Barcelona, benchmarking refractive outcomes through the European Registry of Quality Outcomes for Cataract and Refractive Surgery (EUREQUO). His sub-specialist interest is orbit, lacrimal and oculoplastics, developing proficiency while on two international prestigious fellowships in Manchester, UK and Melbourne, Australia. He has particular interest in thyroid eye disease, facial palsy, peri-ocular cancers, surgical correction of eyelid malpositions and paediatric oculoplastics. This is supplemented with further training in aesthetics (botox, filler and aesthetic surgery) at the Jules Stein Institute, University of California (UCLA), USA.

Professor Geoffrey Rose

Consultant Orbital, Lacrimal and Plastic Reconstructive Surgeon, Moorfields Eye Hospital, London

Geoffrey Rose graduated BSc Pharmacology (1976), in Medicine (1979), and is a Member of the Royal College of Physicians (1982). During ophthalmic training he received Fellowship of the Royal College Surgeons (1985) and Royal College of Ophthalmologists (1988). He gained a University of London MS doctorate (1989) for original research, and was later awarded the highest academic accolade of Doctor of Science (2004).

Professor Rose was appointed to the consultant staff at Moorfields Eye Hospital in 1990, has been Director of the Adnexal Service, and is now an honorary consultant to the hospital. He lectures widely, has presented various named lectures, and received the Lester Jones Anatomy Award from ASOPRS (of which he is honorary fellow). Professor Rose is a Senior Research Fellow of the Biomedical Research Centre at the Institute of Ophthalmology, London, and is a Past-President of ESOPRS and a Past-President of BOPSS.



Mr Michéal O'Rourke



Prof Geoffrey Rose



Michael W. Stewart, MD

Dr Michael W. Stewart

Professor and Chairman of Ophthalmology, Mayo Clinic, Florida

Michael W. Stewart, MD, is Chairman Emeritus of the Department of Ophthalmology at the Mayo Clinic in Jacksonville, Florida. Dr. Stewart graduated with honors in chemistry from Harvard College in Cambridge, Massachusetts and from the McGill University Faculty of Medicine in Montreal, Quebec. He completed an internship in internal medicine at Jackson Memorial Hospital in Miami, Florida, and an ophthalmology residency at Emory University in Atlanta, Georgia. Dr. Stewart completed vitreoretinal fellowships at Touro Infirmary in New Orleans, Louisiana and at the University of California, Davis.

Dr. Stewart joined the Mayo Clinic in 1999 and was named Chairman of Ophthalmology in 2007 and Professor of Ophthalmology in 2014. He is currently the Knights Templar Eye Foundation, Inc. Professor of Ophthalmology Research. His research interests include diabetic retinopathy, macular degeneration, retinal vein occlusions, and infectious retinitis. He has a particular interest in retinal pharmacology, pharmacokinetics, and the mathematical modeling of ocular diseases and treatments.



Professor Richard P. Gale

Professor Richard P. Gale

Professor of Ophthalmology, HYMS, University of York, UK.

Honorary Consultant Medical Ophthalmologist, York Teaching Hospital NHS Foundation Trust

Professor Richard Gale graduated in 1997 and pursued training in Yorkshire, Cambridge, Moorfields Eye Hospital, and for a short period in Boston, USA. He took up post in 2008 with leadership in inflammatory eye disease and development of Medical Retina Services. He has been awarded 'Best Clinical Service' by the Macular Society.

Professor Gale's research interests are in the fields of medical disorders of the retina and inflammatory eye disease. He developed and has led the Ophthalmology Research Unit. In 2017, Professor Gale was awarded 'Researcher of the Year' by the National Institute for Health Research/Royal College of Ophthalmologists. He has been the Chief or Principal Investigator of approximately 30 research studies, recruiting hundreds of participants to date. He has been awarded substantial research grant funding. He has published many scientific papers and book chapters. He is a Joint Ophthalmology Specialty Lead for Yorkshire and Humberside Local Research Network and holds the Deputy Chair for both the National Ophthalmology Specialty Group (Northern).

Professor Gale is a former President of the Medical Ophthalmology Society UK. He has had numerous senior educational roles. He previously chaired the Specialist Advisory Committee for Medical Ophthalmology at the Joint Royal Colleges of Physicians Training Board and the National Annual Review of Competence Progression panel, positions for which he now deputises.



Prof Brendan Kelly

Professor Brendan Kelly

Professor of Psychiatry, Trinity College Dublin; Consultant Psychiatrist, Tallaght University Hospital, Dublin

Brendan Kelly is Professor of Psychiatry at Trinity College Dublin, Consultant Psychiatrist at Tallaght University Hospital, Dublin, and Visiting Full Professor at the School of Medicine at University College Dublin.

In addition to his medical degree (MB BCH BAO), he holds masters degrees in epidemiology (MSc), healthcare management (MA), Buddhist studies (MA), and mindfulness-based interventions (MSc); doctorates in medicine (MD), history (PhD), governance (DGov), and law (PhD); and a higher doctorate in history (DLitt).

Professor Kelly has authored and co-authored over 300 publications in peer-reviewed journals, over 700 non-peer-reviewed publications, and 20 books. His recent books include 'Asylum: Inside Grangegorman' (2023) and 'Resilience: Lessons from Sir William Wilde on Life After Covid' (2023).

Mr Tim Fulcher

Consultant Ophthalmic Surgeon, Mater Misericordiae University Hospital, Dublin

Mr Tim Fulcher is a Consultant Ophthalmic Surgeon at the Mater Misericordiae University Hospital, Mater Private and Beaumont Hospital.

He graduated from UCD in 1989. Following his intern year, he undertook a Master's in Medical Science in Anatomy in 1990 before commencing training in ophthalmology in 1991.

Mr Fulcher completed subspecialty fellowship training in cornea and external eye disease at Moorfields Eye Hospital, London and in eyelid, lacrimal and orbital disease in Brisbane under Prof Timothy Sullivan.

He is also an honorary consultant ophthalmic surgeon at Temple Street Children's Hospital in Dublin. He served as President of the Irish College of Ophthalmologists (2021-2023).



Mr Tim Fulcher

Mr Manoj V. Parulekar

Consultant Ophthalmic Surgeon, Birmingham Women's and Children's Hospital; Oxford University Hospitals NHS Trust, Oxfordshire

Mr Manoj Parulekar is a Consultant Ophthalmic Surgeon at the Birmingham Women's & Children's Hospital and the Oxford University Hospitals NHS Trust. He specialises in paediatric ophthalmology and childhood and adult squints.

Mr Parulekar trained in Mumbai, Oxford and Toronto and was appointed to his consultant position in 2007.

Mr Parulekar contributes to paediatric ophthalmology service at the Birmingham Women's and Children's Hospital, the largest women's and children's hospitals in Europe, where he treats a wide range of childhood eye conditions including strabismus, paediatric cataracts and glaucoma, oculoplastics and neuro-ophthalmology, ocular oncology, and external eye diseases. He has special expertise in the treatment of eye cancers in children and is consultant ophthalmologist to the Birmingham National Retinoblastoma Unit, the largest nationally designated retinoblastoma center in the UK.

Mr Parulekar contributes to the ocular motility service (squints and complex eye movement disorders), and the neuro-ophthalmology service at the Oxford University Hospital where he provides a supra-regional service to Oxfordshire, Buckinghamshire, Berkshire and Wiltshire.

He has authored several books and book chapters in ophthalmology, and is active in clinical and basic science research. He has published over 50 publications in peer reviewed scientific journals, and won several prestigious grants from the Wellcome Trust, Fight for Sight and the Medical Research Council.

Mr Parulekar is active in training, and has conducted over 15 workshops at the American and World Congresses, and delivered over 150 invited lectures. He is section editor for EYE, journal of the Royal College of Ophthalmologists, advisor to the Indian Journal of Ophthalmology, and reviewer for over 20 scientific journals.

He has a major interest in international ophthalmology, serving as a trustee of SightSavers International since 2013, and contributing to the Vision 2020 links programme in Africa (Tanzania). He is a member of the paediatric, academic and international medical graduates subcommittee of the Royal College of Ophthalmologists and is treasurer of the Oxford Ophthalmological Congress.

Mr Parulekar has received a national clinical excellence award in recognition of his contribution to the NHS, and prizes from the Royal College of Ophthalmologists for his research.



Mr Manoj V. Parulekar



Miss Yvonne Delaney

Miss Yvonne Delaney

Dean of Postgraduate Education, Irish College of Ophthalmologists

Miss Yvonne Delaney completed her medical education in University College Dublin, Ireland (MB BCh BAO, 1984-1990) and achieved membership of the Royal College of Physicians of Ireland (MRCP) in 1993 before pursuing a career in ophthalmology. She entered the specialty initially in Ireland before entering and completing Higher Surgical Training in Ophthalmology in Oxford in the UK and becoming a Fellow of the Royal College of Ophthalmologists in London (FRCOphth 1996-2002). She returned to Ireland to take up a Fellowship in Glaucoma, with Prof Colm O'Brien, Mater University Hospital Dublin, Ireland (2003-2005).

Miss Delaney went on to practice ophthalmology, with an interest in the specialty of glaucoma, as Senior Clinical Lecturer in Ophthalmology in the Mater Misericordiae University Hospital and as Consultant Ophthalmic Surgeon in the Bons Secours Hospital, Dublin.

In 2013, she became Dean of Postgraduate Education of the Irish College of Ophthalmologists, Dublin having completed a Masters in higher medical education in the RCSI in 2012 - a role she continues in 2024.



Mr Brendan Cummings

Mr Brendan Cummings

Cataract and Refractive Fellow, Wellington Eye Clinic, Dublin

Mr Brendan Cummings is an ophthalmic surgeon specialising in cataract and refractive surgery at the Wellington Eye Clinic.

He is a graduate of the UCD School of Medicine and Medical Sciences and completed his ophthalmology training through the RCSI in 2023.

Mr Cummings is one of 26 Fellows worldwide completing a fellowship in cataract and refractive surgery through the Refractive Surgery Alliance.



Mr Will Tucker

Mr Will Tucker

Consultant Ophthalmologist, Moorfields Eye Hospital, London

Mr Will Tucker works as a uveitis, medical retina and clinical research consultant at Moorfields Eye Hospital NHS Foundation trust. After finishing training in the London Deanery he undertook several formative and prestigious fellowships in uveitis, medical retina and medical ophthalmology. He first trained under Liz Graham and Miles Stanford in the medical eye unit at St Thomas' Hospital, then Eoin O'Sullivan and Paul Riordan-Eva in Neuro-Ophthalmology at King's College Hospital before completing a medical retina fellowship at Moorfields Eye Hospital. He was also selected as the first UNITE international clinical fellow and spent 14 months gaining new skills and knowledge under Nida Sen, Emily Chew and the late Robert Nussenblatt at the National Eye Institute, National Institutes for Health, USA.

His research interests include translational clinical research in uveitis and medical retina, developing better outcomes for uveitis clinical trials and accurate phenotyping of uveitic conditions to allow the most applicable immune biomarker research to enter clinical practice in the future.

Ms Deirdre Townley

Consultant Ophthalmologist, University Hospital Galway

Ms Deirdre Townley is the clinical lead for the ophthalmology department at Galway University Hospital.

Ms Townley is also the Irish delegate board member of the European Board of Ophthalmology and a member of the Ireland Uveitis forum.

She is involved in the Training Advisory Committee at the Irish College of Ophthalmologists and has a role with Bio Innovate based in Galway.



Ms Deirdre Townley

Mr Tomás Burke

Consultant Ophthalmic Surgeon, Mater Misericordiae University Hospital, Dublin

Mr Tomás Burke graduated with honours from National University of Ireland, Galway in 2004. Following post-graduate training in general internal medicine at Beaumont Hospital, Dublin, he was awarded Membership of the Royal College of Physicians of Ireland in 2006. He subsequently entered ophthalmology training at the Mater Misericordiae University Hospital and Galway University Hospitals. After being awarded Membership of the Royal College of Ophthalmologists in 2009, he spent two years at Harkness Eye Institute of Columbia University, New York until 2011. During this period, he developed research interest in retinal imaging, and was subsequently awarded a Doctor of Medicine research degree in 2013 by University College Dublin for his work on "Genotype-Phenotype correlations in Stargardt Disease".

He then completed his ophthalmology training in the UK in the Bristol region. He was appointed a consultant ophthalmologist at the Bristol Eye Hospital in 2017, but deferred taking up his post for one year to allow him to undertake a subspecialty fellowship in medical retina, inherited retinal disease, and inflammatory eye disease (uveitis) at Moorfields Eye Hospital, London. He spent almost three years as a consultant ophthalmologist in the NHS in Bristol, and he was then appointed a consultant at the Mater Misericordiae University Hospital in 2021 with sub-specialist interests in medical retina (including inherited retinal disease), uveitis, and cataract.



Mr Tomás Burke

Miss Angela Rees

Consultant Ophthalmologist, Moorfields Eye Hospital, London

Miss Angela Rees is a Consultant Ophthalmologist specialising in medical retina and uveitis at Moorfields Eye Hospital City Road and St George's Hospital. Miss Rees trained initially as an optometrist graduating from Aston University 1989. She subsequently studied medicine at The United Medical and Dental schools of Guy's and St Thomas' graduating in 1996. Ophthalmology training was in the North London Deanery with an MD at UCL in Age-related Macular Degeneration and psychophysics. She has participated in many commercial medical retina and uveitis trials as sub investigator. Current research interests in Birdshot Chorioretinopathy, uveitis treatments, and infective uveitis.



Miss Angela Rees



Miss Radhika Rampat

Miss Radhika Rampat

Consultant Ophthalmic Surgeon, Royal Free London NHS, London

Miss Radhika Rampat, MBBS BSc (hons) FRCOphth PCEO CertLRS, is a Consultant Ophthalmic Surgeon at Royal Free London, Honorary Consultant at Moorfields Eye Hospital, Associate Academic Director of the Refractive Surgery Alliance (RSA) global fellowship network and Co-Chair of the AECOS Green Working Group (GWG). She was honoured to be recently named one of the Top 10 Rising Stars in Ophthalmology globally by The Ophthalmologist Magazine.



Dr Philip Crowley

Dr Philip Crowley

National Director of Strategy and Research; HSE Lead for Climate Strategy

Dr Philip Crowley is the National Director for Strategy and Research in the Health Services Executive. In his previous national health service roles over the last 10 years he was national lead for quality and patient safety and national lead for quality improvement.

He leads on strategic planning, research, population health and wellbeing, global health, human rights, climate strategy and performance reporting to the HSE Board

Dr Crowley is a doctor who works part-time as a General Practitioner. He worked for five years in Nicaragua, trained in public health in Newcastle Upon Tyne and worked for six years as Deputy Chief Medical Officer in the Department of Health.



Dr Emilie Mahon

Dr Emilie Mahon

Ophthalmology Tutor, Royal College of Surgeons in Ireland

Dr Emilie Mahon is currently an ophthalmology tutor with the Royal College of Surgeons in Ireland in the Royal Victoria Eye and Ear Hospital, Dublin and has embarked upon an MD on the topic of surgical sustainability under the supervision of Professor Conor Murphy and Professor Deborah Stanistreet from the departments of ophthalmology and population health respectively, addressing this topic both from a clinical and public health perspective.

She graduated from Trinity College Dublin in 2017, and has since cultivated her interest in environmental sustainability for healthcare by joining green healthcare communities, receiving postgraduate sustainability education, and delivering lectures in this area.



Mr Arthur Cummings

Mr Arthur Cummings

Consultant Ophthalmic Surgeon, Wellington Eye Clinic and Beacon Hospital, Dublin

Mr Arthur Cummings is a cataract and refractive surgeon at the Wellington Eye Clinic in Dublin, Ireland, and Associate Clinical Professor of Ophthalmology at University College Dublin. He participates in clinical studies and serves on the medical advisory boards of numerous ophthalmic companies.

A past-President of AECOS Europe, he is Global Ambassador of the Refractive Surgery Alliance. He is co-chief medical editor of Cataract and Refractive Surgery Today Europe and reviews for numerous journals. He has published 120 articles in peer-reviewed and trade journals, 12 book chapters, co-edited two textbooks and delivered more than 500 lectures at international meetings. He authored the Wellington nomogram for WaveLight excimer lasers. In 2018, 2019, 2020, 2022 and 2023 he was ranked in the Top 100 most influential ophthalmologists worldwide by The Ophthalmologist. He has received awards from the AAO, ISRS, ESCRS, AECOS Europe, SECOIR, SASCRS.

Mr Cummings is a co-Founder, Trustee and board member of the World College of Refractive Surgery; Visual Sciences and serves as the President of the Board of Governors.

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PODIUM SESSION

Wednesday – 10.00am

Assessing the Impact of Waiting Times on Glaucoma Progression: A Retrospective Study of Patients Referred from Cork University Hospital to Ballincollig Primary Health Care Centre

Tan YY¹, Guo JJ², Collins N³, Coakley D¹.

¹Cork University Hospital, Ireland,

²University College Cork,

³Mater Private Hospital, Cork.

Objectives:

To assess the timeliness and effectiveness of glaucoma management in patients referred from Cork University Hospital (CUH) to Ballincollig Primary Health Care Centre, focusing on the impact of long waiting times on the severity of the disease and the evolution of visual field parameters over time.

Methods:

This audit entails a retrospective analysis of 352 glaucoma patients who were seen at Cork University Hospital (CUH) and subsequently referred to Ballincollig Primary Health Care Centre (BPHC). The analysis included patients whose first VF test at CUH was between December 11, 2001, and September 6, 2023, and last seen at BPHC between December 14, 2021, and September 20, 2023. After applying inclusion and exclusion criteria, primarily based on the availability of Visual Field (VF) data from both institutions, 246 patients were eligible for analysis. These patients were then segmented and categorized based on their visual field loss severity."

Inclusion Criteria:

Patients diagnosed with glaucoma and referred from CUH to BPHC between December 11, 2001, and September 6, 2023

Exclusion Criteria:

1. Lack of Visual Field data from the last visit at CUH (n=77)
2. Lack of Visual Field data available from Ballincollig (n=27)
3. Patients who passed away during this study (n=2).

After applying the exclusion criteria, a total of 246 patients were included in the analysis.

Data Collection:

The following data was collected for each patient: The date of each patient's most recent VF at CUH, and the date of initial VF at Ballincollig using the Humphrey Field Analyzer 3. For each VF the Mean Deviation (MD) and Pattern Standard Deviation (PSD) were recorded for each eye.

Additionally, we noted if no VF data was available for either the right eye (OD) or left eye (OS) at either location.

35 patients had missing VF data for either OD or OS at CUH.

11 patients had missing VF data for either OD or OS at Ballincollig.

Statistical Analysis:

The time between the VF at CUH and the next follow-up VF at Ballincollig was determined for each patient. The severity of glaucoma at CUH and at follow-up was determined for each eye, where better than -6dB was considered 'early', between -6dB and -12dB was considered 'moderate' and worse than -12dB considered 'advanced' VF loss according to commonly used glaucoma grading criteria. The number of eyes where there was a significant loss of VF was recorded. The number of patients who were "fast progressors" was determined based on the rate of change of VF over time, with loss of > 1dB per year of MD considered fast progression based on published criteria.

Cases with illogical waiting times (where the VF test at Ballincollig appeared to be done before the last VF test at CUH) were corrected before analysis.

Results:

The median age of patients included was 64 years at baseline VF at CUH and 72 years at first VF in Ballincollig. The waiting time between the last VF test at CUH and the first VF test at Ballincollig ranged from 2.28 months to 20.15 years with a median of 6.51 years (mean 7.8 years, SD 2.75). Time to follow-up VF was 6 months in 2.4% of patients, 6 to 9 months in 0%, 9 to 12 months in 0.41%, 12 to 18 months in 0%, between 18 months to 2 years in 0%, over 2 years in 97.2%, over 3 years in 97.2%, over 4 years in 96.8%, over 5 years in 83.7%, over 6 years in 59.4%, over 7 years in 43.1% and over 8 years in 35.0%.

The median rate of VF loss was -0.174 dB/year, with an IQR of 0.665.

13.0% of patients (32/246) were classified as fast progressors (loss of > 1 dB MD per year).

The severity of Glaucoma at CUH vs. Ballincollig in terms of VF loss based on the worse VF of each patient.

At last VF in CUH:

Early VF loss: 79.7% (196/246)

Moderate VF loss: 9.4% (23/246)

Advanced VF loss: 10.9% (27/246)

At VF in Ballincollig:

Early VF loss: 64.2% (156/243)

Moderate VF loss: 16.1% (39/243)

Advanced VF loss: 19.8% (48/243)

Conclusion:

This audit aimed to evaluate the management of glaucoma patients with long waiting times and the impact on the severity of their condition. The results highlight a significant variance in waiting times, with a median waiting time of 6.5 years between baseline and follow-up VF. The analysis of VF metrics indicates a significant proportion of these long-waiter patients had advanced VF loss at baseline, for such patients frequent VF are recommended to allow intervention to prevent vision loss. Another significant portion of patients progressed to advanced loss while waiting for a follow-up VF, emphasising the need for timely follow-up and intervention in managing this chronic condition. Future strategies should focus on reducing waiting times and ensuring regular monitoring to allow early detection of glaucoma progression and intervention to prevent irreversible visual loss.

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Eyes on Spina Bifida: A Two-Decade Retrospective Exploration of Ophthalmic Manifestations in Paediatric Patients at Temple Street Children's University Hospital, Dublin

O'Regan S, Dunne M, Devitt L, Hopkins A, Murphy T.

Temple Street, Children's Health Ireland, Dublin

Objectives:

The current investigation aims to explore and categorise the ophthalmic manifestations in a cohort of children diagnosed with Spina Bifida over two decades at Temple Street Children's University Hospital, Dublin

Methods:

A comprehensive review of the medical records of 239 children with Spina Bifida was conducted at Temple Street Children's University Hospital, spanning a study period from December 1999 to March 2020—encompassing 20.25 years. We examined both paper charts and, where available, electronic records.

Results:

The predominant neural tube defect observed was open myelomeningocele (80.82%). A varying degree of spinal involvement was identified, with the lumbosacral region being the most clinically affected (47.95%) and on MRI (28.38%). Shunt insertion was performed in 35 patients (47.95%), with an average day of life (DOL) for the procedure being 24.2. Pre- and post-shunt ophthalmology reviews were attended by 91.8% and 98.6% of the cohort, respectively. LogMAR visual acuity (available for 67.12%) demonstrated a mean of 0.18 and 0.19 for right and left eyes, respectively. Regarding refractive status, 5.8% were

myopic, 23.29% hyperopic, and the most significant proportion, 71.23%, were emmetropic. Notably, there were instances of papilloedema (20.55%), optic atrophy (10.96%), and strabismus, with esotropia being more prevalent than exotropia, identified in 16.44% and 6.85%, respectively. Cortical visual impairment and visual evoked potentials were observed in limited cases, 5.48% and 1.37%, respectively.

** This data pertains to 73 of the 200 patients we analysed. Full data will be presented at the conference.*

Conclusion:

This extensive retrospective chart audit provides insight into the multifaceted ophthalmic manifestations associated with Spina Bifida. The findings underscore a substantial incidence of varied ocular and visual pathway involvement, enhancing our understanding and highlighting the need for careful ophthalmic monitoring within this demographic to address potential preemptive visual sequelae.



Optimization of Stereoscopic Vision in Concomitant Strabismus in Children

Akhundova G, Akhundova H.

Kharkiv Regional Children's Clinical Hospital, Ukraine

Objectives:

To improve the local results of functional rehabilitation in children with strabismus and to facilitate the formation and consolidation of binocular and stereoscopic vision.

Methods:

Under the observation of the Ophthalmology Department of the Regional Children's Clinical Hospital, 92 children (184 eyes) aged 3 to 11 years with concomitant strabismus were treated for eight months. All children received pleoptic, orthoptic, and, when necessary, surgical treatment. Among these children, accommodative strabismus was present in 22 (23.9%) children, partially accommodative in 35 (38%) children, and non-accommodative in 35 (38%) children. All children underwent standard ophthalmological examinations before, during, and after treatment, including sight tests, ophthalmoscopy, biomicroscopy, determination of strabismus angles using the Hirschberg method, autorefraction under cycloplegia, sensory fusion on the synoptophore, and binocularity assessment using a four-dot color device. The treatment course consisted of 10-14 sessions with a break of 1 to 3 months.

Prism-based treatment methods were utilized, with adjustments made based on initial data and the stage of treatment. The diopter power, speed of prism rotation, and degree of color dissociation were modified to achieve optimal results. The treatment occurred in four stages: induction of diplopia (2-4 sessions), training in merging diplopic images (8-10 sessions), development of fusion mechanisms (5-10 sessions), and consolidation of skills (10 sessions)..

Results:

All patients experienced improvements in binocular visual functions, including the elimination of functional scotomas (in 79.3% cases, 73 children), elimination of residual deviation (in 65.2% cases, 60 children), restoration of fusion reserves (in 95.6% cases, 88 children), an increase in stereoscopic vision (in 95.6% cases, 88 children), and restoration of bifovial fusion (in 96.7% cases, 89 children). Additionally, a positive cosmetic effect was observed.

Conclusion:

The conservative methods employed in this study were highly effective in rehabilitating children with concomitant strabismus.

High Mobility Group Box 1 in Glaucoma Pathogenesis: Exploring Nuclear Proteins in Neurodegeneration

McCreery A¹, Irnaten M¹, Henderson J², O'Brien C¹.

¹UCD Catherine McAuley Research Centre, Mater Hospital,

²Department of Genetics, Trinity College Dublin

Objectives:

Glaucoma, a leading cause of irreversible blindness worldwide, is characterized by progressive optic nerve degeneration and retinal ganglion cells death. It is well known that raised intraocular pressure is considered the main risk factor and only treatable symptom of glaucoma. However, despite successful intraocular pressure lowering therapy, the disease may still progress, highlighting that glaucoma is a multifactorial disease.

Several proposed mechanisms have been attributed to glaucoma pathogenesis. Emerging evidence revealed a nuclear protein, high expression of high-mobility group box protein 1 (HMGB1), plays a role in several inflammatory processes. HMGB1 is involved in various cellular processes such as DNA repair, transcriptional regulation, and nucleosome stabilization.

HMGB1 is elevated in the synovial fluid in patients with rheumatoid arthritis, elevated in the serum of patients with sepsis, and elevated in the aqueous humor of patients with acute angle closure glaucoma. In conjunction with this evolving research and the genetic studies completed previously in our department, we endeavoured to explore the potential link between HMGB1 and glaucoma.

We examined the presence of HMGB1 in cultivated donor glaucoma cells, evaluated its expression and location in the cells, and compared it to other known transcription factors that are highly expressed in glaucoma. With continuous investigation we hypothesize that a blocker of HMGB1 may assist in halting the progression of glaucoma.

Methods:

We used primary lamina cribrosa cells (LC) obtained from normal human donor eyes (NLC), as well as from glaucomatous lamina cribrosa donors (GLC). Quantitative PCR was used to assess for HMGB1 mRNA levels in both glaucoma and non-glaucomatous donor cells. HMGB1 expression and location was evaluated using immunofluorescence with DAPI (4',6-diamidino-2-phenylindole) staining to visualise nuclear expression.

Results:

Polymerase chain reaction with HMGB1 and ribosomal 18s revealed that HMGB1 expression was significantly higher in glaucomatous cells (GLC) when compared to non-glaucomatous (NLC) group. (0.602 ± 0.085 in NLC versus 0.093 ± 0.107 in GLC; ($p < 0.05$; $n=2$). Immunofluorescence for cellular localisation with HMGB1 in NLC and GLC was performed with DAPI. Staining patterns for HMGB1 was more nuclear in NLC cells compared to GLC cells, where HMGB1 staining was diffuse.

Conclusion:

HMGB1 location changes in glaucomatous cells, as its expression is higher when compared to normal cells. Our results highlight the potential role HMGB1 plays in glaucoma pathogenesis with regards to neuroinflammation and retinal ganglion cell death. HMGB1 evident translocation properties are consistent with literature suggestive of extracellular location being an important factor in its ability to function in inflammation. With continuous investigation we hypothesize that a blocker of HMGB1 may assist in halting the progression of glaucoma.



Wednesday – 3.00pm

Unraveling Chronic Ocular GVHD Through an Analysis of Tear Fluid Cytokines

Greenan E^{1,2}, Ní Gabhann-Dromgoole J², Vandenberghe E³, Conneally E³, Murphy C^{1,2}.

¹Royal Victoria Eye and Ear Hospital, Dublin

²School of Pharmacy and Biomolecular Sciences, Royal College of Surgeons in Ireland, Dublin 2

³Department of Haematology/ Oncology, St James Hospital, Dublin

Objectives:

To investigate the tear cytokine profiles of patients with chronic ocular graft versus host disease (GvHD) and evaluate their association with clinical disease severity.

Methods:

Consecutive patients attending the Haematology outpatient department in St James Hospital with a known or suspected diagnosis of chronic ocular GvHD were invited to partake. To be included, patients had to fulfil either or both of the National Institute of Health (NIH) or the International Chronic Ocular Graft-vs-Host-Disease Consensus Group (ICCGvHD) diagnostic criteria. Those with a history of ophthalmic comorbidities beyond that of a refractive error were excluded as well as those using topical immunosuppressive agents.

Clinical parameters recorded during ophthalmic examination included best correct visual acuity (BCVA), schirmers I test, tear break up time (TBUT), and Oxford surface staining (OSS) along with the overall grading of ocular GvHD severity as defined by the ICCGvHD. Ocular tear samples were collected and levels of cytokine production (IFN- γ , IL-1 β , IL-2, IL-4, IL-6, IL-8, IL-10, IL-12p70, IL-13, and TNF- α) were assayed using Meso Scale Discovery (MSD) Multi-Array technology. The results were compared to that of healthy matched controls using unpaired t test. Results were also correlated with clinical parameters using both Pearson r formulation. Statistical analysis was undertaken using GraphPad Prism version 9.3.1.

Results:

A total of thirteen patients took part in the study (8 male (61.5%), 5 female (38.5%) with an average age of 43.9 years (\pm 13.4). With regards to ocular examinations, patients were found to be heavily dependent on lubricant eye drops (average 8.5 times/day). Patients suffered from both aqueous deficient and evaporative DED with an average schirmer's measurement of 4.2 mm (\pm 5.7, range of 0 – 21) and average TBUT of 3.8 seconds (\pm 1.3, range 1 – 6). The average Oxford surface staining score was 7.9 (\pm 4.2, range of 0 – 15). According to ICCGvHD grading system, and using the average data across both eyes, seven of the patients had 'Mild/ Moderate' disease (53.8%) and the remainder had 'Severe' disease (n= 5, 38.5%).

The levels of IFN- γ , IL-1 β , IL-2, IL-6, IL-8, IL-10, IL-12p70, IL-13, and TNF- α were found to be statistically elevated when compared to healthy age and gender matched controls (FDR p value < 0.05). In those with early stage disease (n= 5), IFN- γ was found to strongly correlate with lubricant usage (0.98, p= 0.03), and IL-2 with the severity of ocular surface staining grade (1.00, p= 0.03), implying that these cytokines in particular may play a role in the development of chronic ocular GvHD and represent promising treatment targets for patients in the initial stages of disease.

Conclusion:

This study demonstrates that ocular tear cytokines are statistically elevated in patients with chronic ocular GvHD, reiterating the role of inflammation in the pathogenesis of disease. Furthermore, the correlation of IFN- γ and IL-2 with clinical parameters of disease severity suggest that they play a role in early disease development. These findings support the implementation of anti-inflammatory treatment such as topical calcineurin inhibitors, in conjunction with tear replacement and preservation to avoid irreparable damage to the ocular surface, and this may be best utilised in the initial stages of the disease development.

Clinical Presentation, Burden and Outcomes of Dupilumab Associated Ocular Surface Disease, an Irish Single Centre Experience

Kennedy F¹, Irvine A², O Rourke M¹.

¹Department of Ophthalmology, St James' Hospital, Dublin

²Department of Dermatology, St James' Hospital, Dublin

Objectives:

We aim to identify the incidence and severity of ocular side effects among patients treated with Dupilumab for eczema and atopic dermatitis at a tertiary referral centre in Dublin. We aim to outline the management of these ocular side effects, their burden and the rate of drug discontinuation. Dupilumab is reimbursed under the High-Tech Drug Arrangement at a cost to the HSE of €19,911 per patient annually.

Methods:

A list of patients prescribed Dupilumab by the dermatology department in St James' Hospital over an eight-year period was generated from the High-Tech Hub. Patient notes were accessed from the electronic patient record to identify time of commencement of Dupilumab, referral to ophthalmology services, burden of ophthalmology clinic appointments, and presenting features and management of ocular disease, if present.

Results:

89 patients were commenced on Dupilumab in St James' Hospital between August 2016 and October 2023. Of these, 38% required outpatient referral to Ophthalmology for review (n=34). 32% of those referred were female (n=11) and 68% were male (n=23). Their mean age was 37.2 years. 15% of these (n=5) were referred prior to commencement of Dupilumab, while 85% were referred after commencement (n=29). We observed 4 clinical patterns of Dupilumab related ocular disease including lid disease/periocular eczema, dry eyes, blepharitis and cicatricial changes. These patterns often overlapped. 18% of referred patients developed lid disease with periocular eczema (n=6). 71% of patients developed dry eyes (n=24). 47% patients developed blepharitis (n=16). 6% patients developed cicatricial changes with punctal stenosis and eye watering (n=2). In terms of management, 18% were treated with topical tacrolimus (n=6). 18% were treated with topical cyclosporine (n=6). 47% received lubricant drops (n=16) and 35% received topical preservative free steroid (n=12). 15% were treated with a topical tetracycline (n=5), 12% with oral azithromycin (n=4) and 32% were prescribed lid hygiene (n=11). Most patients received a combination of these treatments. The mean time between commencement of Dupilumab and referral for ophthalmology review was 425 days (range 13-1953 days). The 34 patients had a combined total of 103 outpatient ophthalmology appointments in our centre between August 2016 and February 2024. 38% of these patients have been discharged from the ophthalmology service in St James's Hospital (n=13). For those who developed eye symptoms on Dupilumab, they required an average of 0.4 ophthalmology outpatient appointments in the first year of treatment, 1.12 in the second year, 0.5 in the third year, 1.13 in the fourth year, 2.2 in the fifth year, 0.6 in the sixth year and 1 in the seventh year. 3.5% of all patients commenced on Dupilumab between August 2016 and October 2023 had to switch to another immune agent (upadacitinib) due to ocular side effects (n=3). The mean duration of their Dupilumab exposure was 370 days (range 234-607 days). Of these 3 patients with severe Dupilumab-related ocular surface disease, the first had developed severe cicatricial disease with symblepharon, punctal stenosis and distichiasis which have persisted despite discontinuation of Dupilumab and have necessitated referral for consideration of punctoplasty. The second patient had recurrent severe ocular conjunctivitis, blepharitis and periorbital dermatitis. The third patient who had pre-existing allergic eye disease and previous keratoconus requiring intervention, developed severe conjunctivitis and recurrent keratoconus and was referred for consideration of corneal cross-linking.

Conclusion:

In our institute's experience, there is a significant rate of ocular side effects presenting in those treated with Dupilumab, with four distinct and often overlapping patterns of ocular disease. There is a significant appointment burden for those who develop ocular side effects, both for the patient and for the ophthalmology service. While most cases are mild-moderate and respond well to treatment, 3.5% of patients on Dupilumab in our institution had to discontinue the drug due to ocular side effects. There is a lack of referral or follow-up guidelines for these patients at present. Despite these side effects, 96.5% of patients commenced on Dupilumab, with support from the ophthalmology service where needed, were able to continue the drug for management of their complex dermatological disease.

Optimising Glaucoma Care via Selective Laser Trabeculoplasty (SLT) – Slaintecare Project 177 and Glaucoma Referral Audit in St Vincent University Hospital 2020-2021

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Objectives:

This analysis focuses on exploring potential benefits of SVUH in-house SLT services in a light of Project 177 results.

Project 177

- Delivery of SLT laser service in Letterkenny
- Reduction of Sligo appointments for Donegal patients
- A reduction of waiting times for Donegal patients

SVUH audit

- Identification of potential group of SLT candidates
- Exploring challenges related to glaucoma drops use

Methods:

Project 177:

- Assessment of a number of SLT appointments in Letterkenny/Sligo (pre-intervention and post-intervention)
- SLT patient satisfaction survey

SVUH audit:

- Analysis of referrals to glaucoma clinic
- Glaucoma drops challenge survey

Results:

Project 177:

Introduction of Letterkenny SLT enabled treating 88 eyes in 11.9 months. Number of Sligo-based SLTs for Donegal patients reduced (31 to 14, 54.84% reduction). Patients saved time, distance and costs and expressed their gratitude in the survey.

SVUH audit:

The audit revealed 122 active referrals. Triaged for urgency, appointments were scheduled over one to twelve months, with average timeframe of 3-6 months (62/122, 50.82%). Primary causes included primary open angle glaucoma (60/122, 49.18%), ocular hypertension (24/122, 19.67%), and glaucoma suspects (20/122, 16.39%). The patient survey although with limited responses from 9 participants only, provided useful insights into glaucoma experience. The most pressing issues related to eye drops were eye irritation, cost and uncertainty regarding drops application (medians ranging from 4 to 3).

Conclusion:

Introducing SLT in Letterkenny has a positive impact on regional glaucoma services. Similarly, implementation of such a facility in SVUH has a potential to improve glaucoma care, including shorter appointment waiting times in SVUH and RVEEH (RVEEH only SLT service provider).

Surgical Technique and 2-year Clinical Outcomes of the PAUL® Glaucoma Implant at Mater Misericordiae University Hospital

Brennan I, Dervan E.

Mater Misericordiae University Hospital, Dublin

Objectives:

Glaucoma stands as a significant cause of irreversible global blindness, and its prevalence is expected to rise with an aging population. Elevated intraocular pressure (IOP) is a key risk factor, often necessitating reduction through medical or surgical interventions, including glaucoma drainage implants (GDIs). While the Baerveldt® implant has historically been preferred for its higher efficacy in the Ahmed versus Baerveldt study and the Ahmed Baerveldt Comparison study, its association with a notably increased risk of hypotony has led to the exploration of alternative options.

The PAUL® glaucoma implant (PGI), a medical-grade silicone, valveless aqueous tube shunt, offers a potential solution. This study aims to describe the surgical technique for PGI insertion and assess its safety and efficacy at Mater Misericordiae University Hospital.

Methods:

The PGI insertion technique at Mater Misericordiae University Hospital involves creating a conjunctival peritomy, exposing the sclera, followed by placement of the PGI plate in the superotemporal quadrant underneath the recti muscles. The plate is secured to the sclera using ethibond sutures, and a luminal prolene suture is passed through the tube to minimise hypotony risk. The tube is measured, bevelled, and inserted into the anterior chamber through a partial-thickness scleral tunnel. A scleral graft is used to protect the anterior sub-conjunctival portion of the tube, and the conjunctiva is then repositioned and closed. Notably, this technique does not involve any antimetabolites.

An audit of patient outcomes following PGI surgeries at Mater Misericordiae University Hospital, conducted between June 2021 and January 2024, included 42 eyes from 39 patients with a minimum 1-year follow-up. Primary outcome measures included changes in IOP and the number of IOP-lowering medications taken by patients. Postoperative complications associated with the PGI were also collected and analysed.

Results:

All patients included had refractory complex glaucoma, with uveitic glaucoma and rubeotic glaucoma being predominant (30.95% and 19.05%, respectively). A significant mean IOP reduction of -14.09 mmHg was achieved from day one post-op (-49.39% from baseline, $p=0.000000000006$), sustained at 2 years (-15.14 mmHg, -53.05% from baseline, $p=0.0000006$). Medication burden decreased significantly from a mean of 3.62 ± 0.99 required medications pre-operatively to just 1.20 ± 0.79 at two years ($p=0.0003$). Complications were rare, with one case of hypotony requiring intervention, one choroidal effusion, and two bleb leaks requiring bleb revision. Notably, no GDI failures occurred within the two-year follow-up.

Conclusion:

This study underscores the promising outcomes of the PGI, its minimally invasive surgical technique, and its potential to enhance glaucoma management with reduced complications and sustained efficacy.

Thursday – 9.30am

Quantifying Circulating Tumour DNA in Uveal Melanoma Patients: A Pilot Project

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²St Vincent's University Hospital, Dublin

³UCD Conway Institute, UCD, Dublin

⁴UCD School of Medicine, Dublin

Objectives:

Uveal Melanoma (UM) is the most common intraocular malignancy in adults and the second most common form of melanoma. It has an incidence of approximately 10/million per year in Ireland. One of the most interesting, albeit disappointing, aspects of UM is the fact that although there has been a revolutionary change in local tumour control over the last 50 years, there has been no corresponding change in the prognosis of these patients. 50% of UM patients will develop metastases, the most common site being the liver. Despite advances in treatment modalities, the average overall patient survival after the detection of metastases is less than 1 year.

Historically, the risk of developing metastases was linked to intrinsic tumour features such as thickness, diameter and location. In recent years however, genetic and molecular markers have been identified that are more accurate and offer reliable prognostication. Histopathological samples can be acquired by fine needle biopsy or by enucleation. Obtaining an intraocular biopsy is not risk free. It is associated with rare but sight threatening complications including vitreous haemorrhage, retinal detachment and endophthalmitis.

Methods:

"Liquid biopsy" is a new and emerging investigation modality to monitor and analyse the molecular features of UM by detecting and evaluating tumour-derived molecules in bodily fluid. Blood is the most common fluid that is sampled, but aqueous and vitreous humour can also be sampled. Liquid biopsy offers a mean to detect and monitor progression, recurrence and response to treatment, alongside detection of metastatic disease before radiological evidence of same.

Results:

This project is still in its infancy, but initial results have been promising. We have isolated cell free DNA from all our samples and detected GNAQ mutations in two of our metastatic samples. We have proved that our assay works well for quantitative PCR.

We have been granted full ethical approval and are currently enrolling more patients to our study.

Conclusion:

The aim of this study is to analyse the blood of uveal melanoma patients to detect and quantify ctDNA in uveal melanoma at the time of initial diagnosis and at 6 monthly follow up intervals. Our ambition is to establish proof in principle that it is feasible to analyse this DNA and to utilise it as a marker for both prognosis and for surveillance as changes in both qualitative and quantitative aspects of this DNA may be apparent before radiological evidence of metastatic disease.

The authors were recently successful in their application for a grant from University College Dublin Academic Health Science System (AHSS) . They were awarded a grant to the value of €25,000 to aid in their completion of this project. We have also been recently granted full ethical approval for this project.

Genotype-phenotype correlation of macular dystrophies within the Target 5000 cohort

Harford D, Conway M, Turner J, Dockery A, O'Byrne J, Farrer J and Keegan D.

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²Department of Genetics, Trinity College Dublin

Objectives:

Inherited retinal blindness is a major cause of visual impairment. Target 5000 is an all-Ireland IRD service. The Mater is one of the centres.

Overall, there is an 84.1% diagnostic yield from genetic testing within the Target 5000 cohort. However, this is believed to be lower amongst macular dystrophies. Due to extreme genetic heterogeneity and the poorer phenotypic spectrum definition.

The purpose of this study is to describe the genotype-phenotype correlation of those presenting with a macular dystrophy in the Target 5000 programme.

Methods:

Detailed phenotyping was followed by next generation genetic sequencing in both a research and accredited laboratory. Unresolved pedigrees underwent further studies (whole gene/whole exome/whole genome sequencing) if panel based testing was negative. Any novel variants were investigated for pathogenicity (cascade screening, in silico analysis and functional studies).

A retrospective review of those in the Target 5000 database with a diagnosis of macular dystrophy (including pattern dystrophy), cone dystrophy and familial dominant drusen, was performed when excluding clear ABCA4 and Best1 maculopathy. We analysed the presenting diagnosis based on phenotype with the results of genetic testing.

Results:

Inherited retinal blindness is a major cause of visual impairment. Target 5000 is an all-Ireland IRD service. The Mater is one of the centres.

Overall, there is an 84.1% diagnostic yield from genetic testing within the Target 5000 cohort. However, this is believed to be lower amongst macular dystrophies. Due to extreme genetic heterogeneity and the poorer phenotypic spectrum definition.

The purpose of this study is to describe the genotype-phenotype correlation of those presenting with a macular dystrophy in the Target 5000 programme.

Conclusion:

When BEST1 and ABCA4 patients are excluded, the proportion of patients who did not receive a genetic diagnosis rose to 44.4%. This is considerably higher than the reported gene negative yield within the Target 5000 Mater cohort (17.9%). The phenotype- genotype correlation of macular dystrophies based on the Target 5000 database demonstrates a weaker predictive value. This highlights a significant gap in our understanding of macular dystrophies. Further analysis is warranted.

A Retrospective Analysis of Outcomes of Corneal Anterior Intra-Stromal Ring Segments (CAIRS) with KeraNatural for Keratoconus at the Wellington Eye Clinic, Dublin.

Madden R¹, Cummings B², Cummings A².

¹School of Medicine, Trinity College Dublin

²Wellington Eye Clinic, Dublin.

Objectives:

Corneal Anterior Intra-Stromal Ring Segments (CAIRS) have emerged as an effective treatment modality for improving corneal irregularities in patients with keratoconus without resorting to penetrating or deep anterior lamellar keratoplasty. By implanting ring segments of donor corneal tissue (supplied by KeraNatural in our service) into the corneal stroma, CAIRS aims to remodel the corneal surface, thereby improving visual acuity and reducing irregular astigmatism. This retrospective study investigates the outcomes of the past 16 CAIRS procedures performed at the Wellington Eye Clinic in Dublin by a single experienced surgeon.

Methods:

Medical records of patients who underwent CAIRS procedures between January 2022 and February 2024 were reviewed. Data on patient demographics, preoperative visual acuity, postoperative visual acuity, and complications were collected and analyzed.

Results:

The average age of the patients undergoing CAIRS procedures was 33.7 years. Preoperative visual acuity (VA) averaged 0.2 unaided VA and 0.6 aided VA, while postoperative visual acuity at 1 month (16 eyes) averaged 0.4 unaided VA and 0.6 aided VA. Postoperative VA at 3 months (15 eyes) averaged 0.4 unaided VA and 0.7 aided VA. A total of 16 CAIRS procedures performed on 14 patients were included in the analysis. 13 patients were male, 1 was female. The outcomes regarding visual acuity improvement and complications encountered during the follow-up period are discussed, with more detailed statistical analysis to follow. We demonstrate a few examples of corneal regularization, especially in the central 3mm zone and demonstrate significant improvements in BCVA in many cases.

Conclusion:

This study provides insights into the outcomes of CAIRS procedures performed at a single centre in Dublin. The results suggest that CAIRS is a promising treatment option for corneal irregularities, avoiding the need for penetrating or deep anterior lamellar keratoplasty and leading to significant improvements in visual acuity, especially best corrected visual acuity. Further research with larger sample sizes and longer follow-up periods is warranted to validate these findings and optimize patient selection criteria for CAIRS procedures, as well as to establish a more accurate nomogram for size and placement of the corneal ring segment.



Real-World Efficacy of the Hydrus Microstent in Open-Angle Glaucoma: the Irish Experience

Neary S, Powell S, Doyle A, O'Connor J, Quill B.

Royal Victoria Eye and Ear Hospital, Dublin

Objectives:

To determine the real-world efficacy and safety of phacoemulsification cataract surgery and Hydrus microstent (Ivantis) in patients with open-angle glaucoma. Hydrus is a flexible 8mm long crescent-shaped Schlemm canal (SC) implant device, composed of biocompatible nitinol. It provides a route for outflow of aqueous humour to multiple collector channels by dilating the SC over 3-4 clock hours and bypassing the trabecular meshwork.

Methods:

A retrospective noncomparative single-centre study involving three consultant ophthalmic surgeons. Investigated parameters were intraocular pressure (IOP), number of IOP-lowering medications, visual acuity, and intra- and post-operative complications.

Results:

50 eyes with open-angle glaucoma were included. The mean number of medications decreased significantly from 2.3 (SD 1.0, range 0 – 4) preoperatively to 2.0 at 6 months ($p < 0.0001$). Mean IOP decreased from 17.6 mmHg (SD 3.7, range 11 – 25) preoperatively to 11 mmHg at 6 months ($p < 0.0001$). Mean IOP decreased by 6.6 mmHg or 37.5% at 6 months. There was one case of intra- and post-operative, which resolved with medical management. No sight threatening complications were reported in 12 months.

Conclusion:

This 12 month retrospective study demonstrated the efficacy of phacoemulsification cataract surgery and Hydrus microstent in the reducing the medication burden while maintaining lower IOP in patients with open-angle glaucoma. To our knowledge, this is the first presented data set on patients treated with the Hydrus Microstent in Ireland. In our experience it is important to carefully assess the size of the SC when considering a trabecular meshwork bypass device. In eyes with average or small trabecular meshwork width the Hydrus microstent should be avoided to prevent cheese wiring of the implant into the anterior chamber or ciliary body.

1. Ahmed, Iqbal Ike K et al. "A Prospective Randomized Trial Comparing Hydrus and iStent Microinvasive Glaucoma Surgery Implants for Standalone Treatment of Open-Angle Glaucoma: The COMPARE Study." *Ophthalmology* vol. 127,1 (2020): 52-61. doi:10.1016/j.ophtha.2019.04.034
2. Ahmed, Iqbal Ike K et al. "Long-term Outcomes from the HORIZON Randomized Trial for a Schlemm's Canal Microstent in Combination Cataract and Glaucoma Surgery." *Ophthalmology* vol. 129,7 (2022): 742-751. doi:10.1016/j.ophtha.2022.02.021



Image-Guided Navigation in Orbital Tumour Surgery: A Comparative Cohort Study

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⁴Department of Radiology, St. Vincent's University Hospital, Dublin

⁵Department of Neurosurgery, National Neurosurgical Centre, Beaumont Hospital, Dublin

Objectives:

Orbital tumours are challenging to treat due to confined space within the bony orbit. The orbit harbours important neurovascular structures that are frequently distorted by tumours. Image-guided surgery (IGS) has the potential to allow accurate localisation of these lesions and structures, reducing collateral damage whilst achieving surgical objectives.

Methods:

We assessed three primary outcomes 1) feasibility, 2) effectiveness and 3) safety of using an electromagnetic IGS for orbital tumour surgery via a comparative cohort study. We compared outcomes from 30 orbital cases performed with IGS, with a retrospective cohort of 26 similar cases performed without IGS. Secondary outcomes such as VA, colour vision, perimetry, ocular motility, proptosis and OCT findings were also recorded.

Results:

Both groups were similar in mean age, gender and tumour characteristics. IGS set-up and registration were consistently achieved without significant workflow disruption. In the IGS group, fewer lateral orbitotomies (6.7% IGS, 46% non-IGS), and more transcutaneous lid and transconjunctival incisions (93% IGS, 53% non-IGS) were performed ($p=0.009$). The surgical objective was achieved in 100% of IGS cases, with no need for revision surgery (vs 23% revision surgery in non-IGS cases, $p=0.005$). There was no statistically significant difference in surgical complications.

Conclusion:

The use of IGS is feasible and was integrated into orbital surgery workflow with a short learning curve. Surgical objectives were achieved more consistently in IGS cases. IGS additionally facilitated the use of less invasive approaches to the orbit via transcutaneous or transconjunctival incisions rather than orbitotomies. Future multi-centre comparative studies are needed to explore the potential of this technology further.

Evaluating Faricimab for Neovascular Age-Related Macular Degeneration – a Bicentre Real World Experience

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¹Singapore National Eye Centre, Singapore

²Mater Private Hospital, Dublin

Objectives:

This collaborative retrospective study brings together data from two distinct cohorts in Ireland and Singapore to assess the outcomes of faricimab treatment in patients with neovascular age-related macular degeneration (nAMD).

Methods:

Data was collected with consent from patients attending the Mater Private Hospital (Dublin, Ireland) and the Singapore National Eye Centre (Singapore). Each centre provided data from eyes evaluated after receiving 2 to 4 faricimab injections. Patients underwent examinations at their initial faricimab injection (referred to as the switch visit) and again following their initial treatment course. Outcome measures included visual acuity (VA), disease activity, maximum pigment epithelial detachment (PED) height, central subfield thickness (CST), and macular volume (MV).

Results:

A total of 82 eyes from 80 patients were included (mean age at switch visit 74.2 years \pm 9.35 SD, 48.7% males). The vast majority of eyes (79/82) despite receiving prior injections with other anti-vascular endothelial growth factor (VEGF) agents were classified as active pre faricimab (a mean 37.91 treatments \pm 27.33 SD). Most eyes were classified as type 1 choroidal neovascular membrane (CNVM) (n=44), followed by idiopathic polypoidal choroidal vasculopathy (IPCV, n=20), then type 2 CNVM (n=11), juxtapapillary CNVM (n=1), with 6 cases where the CNVM type was not recorded.

The mean number of injections at follow-up was 2.76 (SD = 0.53), and the average follow-up duration was 100.96 days (SD = 55.88). Mean LogMAR VA prior to faricimab treatment was 0.48 ± 0.3 , remaining grossly stable at follow up post-treatment at 0.45 ± 0.3 ($p=0.11$). Following treatment, changes from baseline included decreases in mean PED height by $53.12\mu\text{m}$ (-26.16%, $p=0.02$), along with a notable increase of cases graded as inactive (n=25, increase of 400.00%, $p<0.0001$). Though improved, there was no significant improvement in mean CST ($-6.02\mu\text{m}$; -2.07%, $p=0.42$) or mean MV ($-0.19\mu\text{m}$, -2.13%, $p=0.17$).

A comparison between the 2-injection and ≥ 3 injection cohorts revealed significant differences. Notably, the proportion of quiescent eyes was higher in the 2-injection group (52.38% vs. 26.67% in the ≥ 3 injection group, $p=0.008$). Additionally, there was a more substantial change in macular volume from baseline in the 2-injection group ($p=0.0203$). This difference may be attributed to the higher prevalence of IPCV in the ≥ 3 injection group.

Conclusion:

Faricimab demonstrates efficacy in treating nAMD among patients with limited responses to prior anti-VEGF therapies. Notably, there was no progressive sight loss, and OCT biomarkers exhibited improvement, leading to a substantial number of patients achieving an inactive status. These preliminary results hold significance for informing clinical decisions, contributing to the optimisation of nAMD management, and ultimately enhancing patient outcomes and quality of life.

Friday – 9.30am

Education in Focus: Significant Improvements in Student Learning and Satisfaction with Ophthalmology Teaching Delivered Using a Blended Learning Approach

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⁴Health Professions Education Centre RCSI, Dublin

⁵School of Pharmacy and Biomolecular Sciences, RCSI, Dublin

Objectives:

This study aimed to measure student satisfaction with a revised ophthalmology delivery format, which due to the pandemic had previously relied on a remote online flipped classroom (OFC) format compared to a blended learning format. This educational strategy combined online learning with in-person seminars and practical patient centred sessions. Our previous study demonstrated a significant lack of student satisfaction with a curriculum solely reliant on a remote OFC, as such we hypothesised that a blended learning approach would result in improved levels of student satisfaction and knowledge gain.

Methods:

Non-randomised intervention study. Group 1 = OFC group and Group 2 = Blended learning (BL). A validated course evaluation questionnaire (CEQ) compared perspectives of 4th year ophthalmology students with the OFC delivery or BL delivery of the ophthalmology clinical attachment.

Results:

A total of 59 students from the BL group (n=257; response rate=24.1%) and 28 from the OFC group agreed to participate in the study (n=114; response rate=24.6%). Participants in the BL group felt it was easier to determine the standard of work that was expected (77.42% v 60.71%) and demonstrated significantly increased satisfaction with staff motivation of students (95.16% v 64.29%, p < 0.001) and provision of feedback (74.19% v 46.43%, p = 0.004), compared to the OFC group. Furthermore, students in the BL group also felt the course significantly improved their analytical skills (64.52% v 42.85%, p = 0.023) and ability to work as part of team (69.36% v 25%, p < 0.001) as well as reporting an increased satisfaction with the level of choice afforded in terms of how they would learn (33.88% v 60.71%, p = 0.31) and the how they were assessed (59.68% v 89.28%, p = 0.004). No evidence of a statistical difference in exam score was observed.

Conclusion:

In response to stakeholder feedback a revised curriculum incorporating a BL approach was introduced in line with global best practice. This BL format included online learning and in-person seminars, combined with practical patient centred sessions, resulted in significant levels of student satisfaction with; the learning experience, student's perceived value of the flipped classroom, the teaching process, their skill development and the evaluation system.

While both delivery approaches led to comparable MCQ examination performance, students indicated a significant preference for the BL compared to the OFC approach.

Evaluation of Post-Operative Prescribing Practices in the MMUH Cataract Pathway

Khan A, McCabe G, McAnena L.

Mater Misericordiae University Hospital, Dublin

Objectives:

Pseudophakic-cystoid macular oedema (CMO) is a potentially sight-threatening complication of cataract surgery, most commonly occurring 6-10 weeks after surgery. Diabetic patients, even in the absence of diabetic retinopathy (DR) have an increased risk of pseudophakic CMO compared to non-diabetics, the risk of which increases further with the presence of any DR and rises proportionately with increasing severity of DR.

Combined use of topical steroid and prophylactic topical non-steroidal anti-inflammatory drugs (NSAIDs) after cataract surgery in diabetics is known to reduce the incidence of post-operative CMO.

The aim of this audit was to increase the use of a standardised post-operative prescription and to increase the prophylactic prescribing of a topical NSAID for diabetic patients. Secondary aim of evaluating incidence of post op CMO pre- and post implementation.

Methods:

The first cycle of this audit involved a retrospective review of prescribing practices of all patients who underwent cataract surgery in April 2023 (n=104).

In July 2023, to achieve optimal implementation of a new standardised protocol of Maxidex and prophylactic Acular for diabetics (as per NICE cataract surgery management guidelines), a pre-populated prescription for cataract patients was created on MMUH Patient Centre, with a prompt to delete the prophylactic NSAID if non-diabetic. The second cycle involved re-auditing to assess the uptake of the standardised prescription and in particular, the prescribing of the topical NSAID for diabetic patients. A retrospective review of all patients who underwent cataract surgery in September 2023 was performed (n=137).

Results:

There was an increase in maxidex prescription post implementation (24% to 88.3%) and an increase in prophylactic NSAID prescribing for diabetics (0% to 50%). Of those using the standardised prescription, 76.9% of diabetics were prescribed acular compared to 23.1% for those that didn't. 28.6% of those diagnosed with pseudophakic CMO pre-implementation were diabetic vs 0% post implementation.

Conclusion:

By creating a standardised prescription, which prompts the prescriber to check if the patient is diabetic, the use of topical NSAID for diabetics has increased. Furthermore, the standardised prescription has created a more consistent and less varied practice for prescribing in the cataract pathway.



Effectiveness of the Direct Cataract Clinics at Nenagh General Hospital: A Patient-Centred Care Success Story

Mohamed M¹, Abbass R², Owokole A², Conall Hurley C²

¹University Hospital Waterford, Waterford

²Nenagh General Hospital, Limerick

Objectives:

The Direct Cataract Clinic (DCC) at Nenagh General Hospital, Ireland, demonstrates a pioneering approach in optimizing cataract surgery processes, significantly enhancing patient care efficiency and experience. This audit assesses the DCC's performance from July 2022 to July 2023, focusing on reducing the time from initial assessment to surgery, thereby streamlining patient care and minimizing wait times.

Methods:

The methodology involved tracking 292 patients booked for the DCC, utilizing digital records, logbooks, and direct communications for comprehensive data collection.

Results:

The results revealed a notable operational efficiency: 13% of patients did not attend or cancelled their appointments, while 10.7% did not proceed to surgery due to various reasons, including pre-existing conditions and logistical issues. Remarkably, 89.8% of the patients who underwent surgery did so within four months of their clinic visit, despite delays primarily due to anaesthetic pre-assessment.

The DCC model's success is evidenced by its significant reduction in wait times, with nearly 90% of surgeries conducted within the target timeframe, highlighting the clinic's effectiveness in patient throughput and care delivery. The audit underscores the potential for scalability of this model to other high-demand surgical procedures, emphasizing the importance of continuous improvement and patient-centred care in healthcare provision.

Conclusion:

This study, conducted by a team from the Department of Ophthalmology at Nenagh General Hospital, not only showcases the DCC as a model of excellence in managing cataract surgery wait times but also points to areas for process optimization, particularly in pre-assessment scheduling, to further enhance patient care and operational efficiency.



Virtual Doctors in Zambia: An Analysis of 2 years of Ophthalmic Telemedicine Consultations

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²Department of Ophthalmology, NHS Fife, Scotland

³Virtual Doctors, Zambia

Objectives:

The objective of this study was to analyse two years of consultations performed on this platform with a focus on ophthalmic episodes.

To gain an understanding of the common clinical presentations and pathologies that are common on the Virtual Doctors platform.

To understand the impact teleconsultations have on the management of the patient.

Overall, this research aim to contribute to the development, growth and progression to the future of tele-ophthalmology.

Methods:

The database of all telemedicine consultations performed by Virtual Doctors in Zambia between 2018 and 2020 was retrospectively analysed with a focus on ophthalmic episodes.

A suitable criteria for grading consultation documentation and images were defined.

Consultation documentation and images were reviewed and categorised by nature of presentation and metrics relating to the history, examination, associated images, diagnosis and management were recorded.

Results:

3,597 consultations took place in the study period with 6.2% being ophthalmic. Of these ophthalmic consultations 106 were female and 117 males with age distribution: 14 (0-1 years), 21 (1-5 years), 22 (6-10 years), 28 (11-20 years), 39 (21-30 years), 48 (31-40 years), 49 (41-50+ years). Cases were categorised into the following aetiologies: 20 % infectious, 19 % traumatic, 18% growth, 17% allergic, 13% loss of vision, 12 % unknown. 62% of consultations were supported by photographs with 74% being deemed excellent quality with a diagnosis being possible from the image alone. 57% of consultation documentation was excellent. 48% of cases were managed independently, while 52% had to be referred to an ophthalmic specialist.

Conclusion:

Tele-ophthalmology offers the opportunity to support the WHO's desire to establish inclusive eye health. The quality of medical advice offered is very good and has, in addition important educational value, the time delay in response reduces the usefulness of the consultation for that particular case.

Two methods by which the service could ensure that patients are treated promptly and appropriately would be to direct ophthalmic referrals to Zambian ophthalmic clinical officers first and then UK Doctors. Secondly, by implementing an active alert system for UK doctors to ensure a prompt response.

In the future, the number of UK virtual Doctors involved may be improved by targeting and involving specific UK Ophthalmology departments getting involved and creating a detailed rota for the UK doctors involved.



Enhancing Patient Education on Cataract Surgery via an AI-Powered Chatbot

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Objectives:

With the global population aging, the incidence of cataracts is on the rise, leading to an increased demand for surgical interventions. This upward trend underscores the importance of efficient, effective patient strategies to ensure optimal surgical outcomes and patient satisfaction. Informed consent goes beyond a procedural formality; it is a fundamental patient right the quality of which directly influences patient understanding, preparation, and, ultimately, the success of post-operative recovery. Due to a myriad factors, however, traditional methods of delivering pre-surgical information often fall short in meeting the diverse needs and preferences of patients. Recognizing this critical gap we've developed a novel solution: an AI-powered chatbot specifically designed to augment the patient education process for cataract surgery. Leveraging advanced natural language processing and machine learning, this chatbot offers a highly interactive, engaging, and personalized experience for patients. By providing tailored information that aligns with individual concerns, questions, and circumstances, the chatbot ensures that patients are better prepared for their surgery and more equipped to manage their post-operative care. Moreover, the chatbot addresses the scalability challenges faced by healthcare providers in delivering consistent, high-quality information to a growing number of patients.

Methods:

An AI chatbot that leverages a custom large language model (GPT4, OpenAI) was trained on a vast corpus of medical knowledge from reputable sources including patient information leaflets and the latest medical literature. This chatbot is engineered to provide patients with detailed, reliable information about their cataract condition, elucidating the various treatment avenues, what to expect before, during, and after surgery, the necessary preparations, potential risks, and the care required during the recovery phase. This chatbot was designed with a focus on user engagement, employing a conversational interface to simulate an empathetic and informative dialogue with patients.

Results:

The chatbot is positioned to meaningfully improve patient knowledge, alleviate concerns about surgery, and enhance preparedness for the procedure. Its application is expected to lead to higher levels of patient satisfaction by demystifying the surgical experience and providing clear, accessible information. Through theoretical scenarios, the chatbot demonstrates potential to serve as a key resource in patient education, offering 24/7 support and tailored advice. Notably, occurrences of the chatbot "hallucinating" inaccurate or fabricated responses are minimal.

Conclusion:

By delivering comprehensive information in an accessible and user-friendly format, this chatbot has the potential to improve patient understanding, reduce anxiety, and facilitate better outcomes for cataracts surgery. It highlights the promising role of AI in healthcare communication, offering a scalable solution that will ensure the impending increase in operations without compromising quality of patient care. Future work will focus on collecting input and feedback from both patients and clinicians to evaluate the user experience more robustly.

A Computer Vision Model for Classification of Frisén Grade and Assessment of Treatment Response in Papilloedema

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Objectives:

In Idiopathic Intracranial Hypertension (IIH), the Frisén grading system is used to give an indicator of papilloedema severity. Changes between grades can be very subtle and assessment is prone to high inter-examiner variability when the interpretation is done by non-neuro-ophthalmologists. With the widespread prevalence of fundus photography, this interpretation is now primed to be assisted by computer vision techniques. We hypothesised that computer vision can quantify papilloedema and detect a treatment effect on papilloedema due to IIH.

Methods:

We utilised transfer learning of 1) a DenseNet 161 architecture, 2) an EfficientNet architecture and 3) a pre-trained vision-transformer-based architecture (RetFound) all fine-tuned on images taken from the IIH Treatment Trial. We sought to firstly differentiate normal fundus photos from papilloedema and then classify the papilloedema based on its Frisén grade. 5,908 longitudinal fundus photographs from 165 patient were analysed. Data was preprocessed and divided into an 80:20 training/validation split. Reweighting was applied to account for imbalance within the respective classes. Model performance metrics included accuracy, F1-scores, AUC scores and confusion matrices. Additionally, a specific vascular analysis model (Automorph) was utilised to further assess feature differences and response to treatment across all Frisén grades.

Results:

The fine-tuned vision transformer model performed best with an accuracy of 83.9%; AUC-roc of 91.7% and F1-score of 66.1% at predicting Frisén grade. This model showed a recall of 98.9% for normals; 60.8% for grade 1; 73.9% for grade 2; 43.6% for grade 3; and 84.2% for class 4 and 5.

Automorph vascular analysis revealed increased tortuosity, fractal dimensionality, vein width and arteriolar narrowing with increasing Frisén grade. Vein width decreased and arteriolar width increased in response to acetazolamide treatment as compared to controls. By constructing a new feature of artery:vein width ratio a response to acetazolamide treatment was noted from month 1 of treatment.

Conclusion:

We have developed a model that can objectively grade papilloedema. This highlights the role computer vision may have in monitoring papilloedema and assessing response to treatment in IIH.

Sustainability in Cataract Surgery

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Objectives:

Healthcare is responsible for 4.6% of global net carbon emissions (2 gigatons CO₂/pa)(1). 32,844 cataract surgeries were performed in Ireland in 2021. Cataract surgery has a large carbon footprint due to the high volume of consumables used and complex waste generated. Reducing our carbon footprint is a current HSE priority. The HSE have committed to achieving net zero carbon emissions by 2050(2). 71% of current emissions are due to the manufacture, use and disposal of supplies.

University Hospital Waterford have opened a new high flow cataract unit. As part of our commitment to the RCSI Green Theatre initiative we have evaluated our theatre practices in the high flow unit from procurement to waste disposal with the aim of optimising our sustainability.

Methods:

I first examined the procurement of our standard cataract packs and all associated equipment. I then measured the carbon footprint of our standard cataract packs using the Sustainability Index for Disposables in Cataract Surgery (SIDICs) calculator. Results were compared with the ESCRs sustainable cataract pack as a benchmark. OR Materials Flow and waste disposal was measured and waste was weighed for 5 routine phacoemulsification cases. Staff waste disposal accuracy was audited.

Results:

By weight only 28.2% of our materials are obtained from Europe, 71.8% are from North America and Asia. Our cataract pack CO₂ footprint per annum is 18,0004.80kgCO₂eq compared with the ESCRs benchmark of 9,989.60 kgCO₂eq. If we eliminate the body drape and reduce our gown size we can save 6,532.8 Kg CO₂ eq/pa. This is equivalent to 3,228L gasoline production. We generate 3.141g waste per case. 62% of our waste is incinerated and only 15% is recycled. Following audit, theatre nurses had excellent waste disposal accuracy; however, 20% of surgeons recycling waste was contaminated with landfill waste. 11% of the waste in their landfill bin was recyclable. In collaboration with the HSE National Health Sustainability Office we have developed customized bin labels to indicate which theatre waste should be placed in the recycling bin.

Conclusion:

Our procurement process is currently on a global level. Sourcing more equipment from Europe will significantly reduce our carbon footprint. UHW theatre packs are relatively streamlined pending reduction in our drape size. More re-usable instruments should be utilised in future. Our waste generated is in line with US averages but significantly higher than those of developing countries. There is potential to reduce our waste by 23.8% following equipment optimisation. Our new bin labels will improve waste disposal accuracy, increasing recycling and reducing waste disposal costs.

1. Wang J, Karliner J, Slotterback S, Boyd R, Ashby B, Steele K, et al. Health care's climate footprint: the health sector contribution and opportunities for action. *Eur J Public Health [Internet]*. 2020 Sep 1 [cited 2024 Jan 15];30(Supplement_5). Available from: <https://dx.doi.org/10.1093/eurpub/ckaa165.843>
2. Hse. (2023). HSE Climate Action Strategy 2023 - 2050.

Work-related Musculoskeletal Disorders are Common among Ophthalmologists in Ireland.

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Objectives:

There is a high prevalence of work-related musculoskeletal (MSK) disorders in doctors. Symptoms may include pain, paraesthesia, weakness and joint stiffness. The burden and impact of MSK disorders have not previously been assessed among ophthalmologists in Ireland.

The aim of this survey was to determine the prevalence of work-related MSK disorders among ophthalmologists in Ireland, and their interest in receiving training on surgical ergonomics.

Methods:

A national survey was distributed via email to all ophthalmologists in Ireland registered with the Irish College of Ophthalmologists. The anonymised survey evaluated the ophthalmologist's grade, prevalence of work-related MSK disorders, affected body regions, exposure to previous ergonomics training and interest in further training.

Results:

There were a total of 25 respondents, comprising 15 consultant ophthalmologists, 3 community ophthalmic physicians, and 7 non-consultant hospital doctors. 21 (84%) had chronic MSK disorders, with 18 (86%) attributing these at least partly to their work. All 12 consultant surgeon respondents had MSK disorders, which were work-related in 11 (92%). The most commonly affected region was the neck (48%). 80% had never received training on surgical ergonomics, and 65% were interested in such training. 91% expressed interest in participating in a 'photograph a clinician day' initiative, which would involve a staff member photographing the ophthalmologist during work, in order to later review their posture.

Conclusion:

Work-related MSK disorders are common among Irish ophthalmologists. A majority of respondents are interested in receiving ergonomics training in order to prevent and alleviate MSK disorders.



Elimination of 4 year Community Childrens Eye Waiting list

Comer G.

Community Healthcare Organisation 2, Galway

Objectives:

To review the mechanism whereby an extensive paediatric community waiting list of in excess of 4000 patients was eliminated over an 8 month period in addition to the development of the Integrated care pathway with the tertiary referral center in Galway.

Methods:

We conducted a retrospective review of clinical data , processes and policies, staffing and infrastructure improvements which led to the elimination of an extensive childrens eye waiting list in the community. We also reviewed the development of the Integrated Paediatric pathway and role out of services to the Paediatric and Eye dept at GUH.

Results:

Between 2022 and 2024 there was a notable reduction in the Paediatric waiting lists. In 2024 there were 789 New referrals scheduled for an appointment within 4 weeks of receipt of referral compared with 3574 patients in 2022 waiting 18 months for an community eye exam unless deemed extremely urgent.

In 2024, there were 4299 Review paediatric patients being actively treated by the clinical team including waiting lists from UCHG as part of the Integrated Paediatric pathway with up to date appts in contrast, 3026 Review children awaited 18 months in 2022. In addition, in excess of 70% of children previously seen at GUH Eye clinic have now been discharged to Community with direct referrals now being made from GUH Paediatrics to the Community Eye team rather than the hospital.

Children with Additional needs are being seen in the Community instead of GUH.

Conclusion:

The Community Eye Clinic in Galway is now the first port of Call for all children requiring an eye appointment apart from emergencies and complex cases.

Waiting lists for Paediatric eye appts have been reduced from 18 to 24 months to 4 weeks with new and review patient appointments now all up to date.

The utilisation of Ancillary clinical eye staff in particular Optometrists, development and implementation of defined care pathways, utilisation and development of existing infrastructure and engaging with various stakeholders has been essential to the facilitation of Modernised Clinical Care Pathways,all achieved in an 8 month period.

POSTER SESSION

A Web Application to Quickly Estimate Ocular Perfusion Pressure.

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Objectives:

Increasing evidence points toward low ocular perfusion pressure (OPP) as a risk factor for progression of glaucomatous optic neuropathies. Furthermore, with new tightened targets for blood pressure (BP) management, more patients treated for hypertension are likely to be at risk of iatrogenic OPP dipping. Given the awkwardness of calculating OPP, most clinicians focus solely on measuring intraocular pressure (IOP) in their assessment of patients for glaucoma.

Our objective was to design an application enabling clinicians to estimate OPP quickly and easily.

Methods:

Using html, php, javascript and css, we built a web application that calculates a patient's OPP using their BP and IOP. The application estimates OPP using definitions from the American Association of Ophthalmology. Mean OPP was calculated as $\frac{2}{3}[\text{mean arterial pressure (MAP)} - \text{IOP}]$ where $\text{MAP} = \text{diastolic BP} + \frac{1}{3}[\text{systolic BP} - \text{diastolic BP}]$. Alongside mean OPP, the app also outputs estimates for the patient's diastolic and systolic perfusion pressures, along with information to help understand OPP values.

Results:

Using the web application speeds up the calculation of OPP and makes the estimation of OPP more accessible in a busy clinic environment. A demonstration of the web application is available at oppcalculator.com.

Conclusion:

OPP takes into account the roles played by both BP and IOP in optic nerve head perfusion and may be a better measure than IOP alone in the assessment of glaucomatous optic neuropathies. However, taking the time to calculate OPP manually is difficult and cumbersome. This application calculates an estimate for OPP in a quick and easy manner, giving clinicians access to additional patient data that may assist in diagnosis and management. Future work will look to validate this tool further.



Choroidal Osteoma: A Case Series

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Objectives:

This retrospective, non-randomised study aimed to analyse clinical outcomes of all patients diagnosed with choroidal osteoma at a single centre, the Royal Victoria Eye and Ear Hospital (RVEEH), over a twelve-year period. .

Methods:

A retrospective chart review of all patients diagnosed with choroidal osteoma at RVEEH between 2011 to 2023 was performed. Clinical outcomes analysed were vision loss, tumour growth, tumour decalcification and choroidal neovascularisation (CNV).

Results:

11 patients were included in this study. The median age at presentation was 21 years. 100% of patients were both female and Caucasian. All cases were unilateral. On presentation, 72% of patients had visual acuities of logMAR 0.3 or better. 36% of

patients had a macular involving osteoma Choroid neovascularization was not noted in any patient on initial clinical examination. All patients received advice regarding commencing calcium supplementation.

At follow up, 63% of patients had visual acuities of logMAR 0.3 or better. Tumour growth was evident in 18% of patients. 27% of patients developed CNV, which occurred, on average, twenty months following the initial diagnosis. Of these patients, 33% underwent photodynamic therapy (PDT), whilst 67% received intravitreal anti-VEGF injections.

Conclusion:

Twelve year follow up data demonstrated that the majority of patients diagnosed with choroidal osteomas maintained visual acuities of logMAR 0.3 or better, but the development of CNV does pose a significant risk to this patient cohort. When this occurs, the current first line treatment modalities include anti-VEGF injections or PDT.



Ten-year Vision Outcomes of Anti-vascular Endothelial Growth Factor Therapy in Choroidal Neovascularisation

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Objectives:

A single centre cohort study to assess 10-year visual outcomes following initiation of anti-vascular endothelial growth factor (anti-VEGF) therapy in choroidal neovascularisation patients in Belfast, United Kingdom.

Methods:

Visual acuity (VA) was monitored for 100 eyes initiated on anti-VEGF therapy between 2010-2011 and the 35 eyes of 28 patients (7 bilateral; 71.4% female, 28.6% male; mean age 71.8 years) with 10-year follow-up analysed (49 death, 15 no follow-up, 1 patient decision). 97.1% of eyes had a diagnosis of age-related macular degeneration (AMD) and 2.9% angioid streaks diagnosis confirmed on OCT at baseline and final visit. The eyes were divided based on the mean number of anti-VEGF injections received over 10-years and the change in VA was compared between the two groups. Secondary outcomes included percentage of eyes with atrophy at final visit, percentage with VA of 6/12 or better, those with 6/60 or worse and those maintaining VA.

Results:

10-years following initiation of anti-VEGF therapy, the mean VA decline from baseline was -20.57 letters (SD 22.16) among 35 eyes. 22.9% of eyes had final VA greater than 6/12, 28.6% maintained VA (defined as +/- 10 letters from baseline). All eyes received a mean 40.6 injections over 10 years (all initiated on ranibizumab, 37.1% switched to aflibercept). Eyes that received less than 40.6 injections lost an average 16.25 more letters over 10 years than eyes that received more than 40.6 injections; the difference between the two groups was statistically significant ($p < 0.05$). Twelve eyes (34.2%) showed atrophy at final visit.

Conclusion:

A more intensive anti-VEGF treatment regime over 10-years reduced the degree of visual loss in this cohort of patients with choroidal neovascularisation.

A Quartet of Methods for Regularizing the Irregular in Keratoconus

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Objectives:

To demonstrate four of the current methods available to regularize irregular astigmatism in keratoconus that do not involve removal of the patient's cornea. These are: 1. Corneal Allogenic Intrastromal Ring Segments (CAIRS) with KeraNatural, 2. Myoring, 3. Conductive Keratoplasty (CK), and 4. Laser-Assisted Arcuate Keratotomies within a PKP.

We present 4 cases, each demonstrating the surgical technique and refractive outcomes.

Methods:

Case 1. CAIRS

Case 2. MyoRing

Case 3. CK with CXL

Case 4. Laser assisted AK in PKP

Results:

Results of 4 cases with pre and post op topographies and other clinical images.

Conclusion:

The treatments available to patients with irregular astigmatism due to Keratoconus have evolved significantly in recent years and many patients may avoid the need for Lamellar or Penetrating Keratoplasty for visual rehabilitation. Individualized care for these challenging cases can lead to significantly improved visual performance and comfort. This is an area to watch as treatment nomograms are becoming more refined, hopefully leading to improved accuracy of the treatments described.



The Detection of Lens Opacities using the Plusoptix Photoscreener

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Objectives:

The presence of lens opacities indicates an increased incidence of amblyogenic risk therefore its detection is critical to visual outcome. They can present with ocular associations and less frequently systemic associations (Lena Dixit, 2016). Therefore their presence highlights the requirement to monitor growth and treat amblyopia present, although surgical intervention is not needed in the majority of cases.

Plusoptix vision screening devices advertise their effectiveness in detecting vision disorders and media opacities, using infrared light, based on the trans-illumination principle.

Comparative studies have documented the estimated refractions of the Plusoptix photoscreener to under-estimate hypermetropia and over-estimate myopia and astigmatism when compared with cycloplegic retinoscopy (Mae Millicent W. Peterseim, 2014) Therefore the device has been recommended for use in the detection of refractive errors as a screening tool alongside crowded vision testing rather than a bases of dispensing (Laurance P Tidbury, 2013). However, to the author's awareness, the detection of lens/media opacities have not been documented.

In Louth, recruitment issues have resulted in increased pressures on the community eye clinic. One of the larger volume of referral sources is from the school vision screening program. A secondary school vision screening clinic was developed whereby the Orthoptist would reassess referred patients achieving 0.225 - 0.275 visual acuity of either eye, incorporating photoscreening into the assessment. The information gained from orthoptic assessment and photoscreening results was to apply a grading upon refraction appointment allocation; routine / urgent, for those who did not achieve an age normative visual acuity.

Methods:

Assessment included an orthoptic work up of visual acuity test, cover/alternate cover test, extra-ocular movements, 20 diopter, stereoaucuity and photoscreening. Device specifications state it can detect media opacities >1mm in size.

After gaining a reading using the Pluxoptix photoscreener, review of the results via the camera image section, as seen as a movie clip icon on screen, displays the image of the patients' eyes when carrying out the test. Tapping the touchscreen enlarges the pupil images, allowing the user to observe if there are any lens opacities present. The lens opacities are seen as a hyper-pigmented section within the hypo-pigmented pupil reflex, this high contrast enables easy detection. See images 1–8.

Results:

Images 1–8

Conclusion:

The Plusoptix photoscreener is known for its ability to detect refractive error, especially in non-verbal patients. Its use by pediatricians within the American healthcare system is recommended by the American Association of Paediatric Ophthalmology and Strabismus due to its ability to detect amblyogenic risk factors. The incorporation within school vision screening programs have also been suggested. In Louth community eye clinic, although the photoscreener was used initially within a secondary screening clinic, its usefulness in the detection of lens opacities have demonstrated another benefit to incorporating into the patient assessment.



Limbal Granuloma Pyogenicum - A Case Report and Literature Review

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Objectives:

To report a case of limbal granuloma pyogenicum and review the literature.

Methods:

A patient presented with a 12 month history of a limbal conjunctival lesion which failed to resolve with topical steroid and systemic anti-inflammatory treatment. An excision biopsy was undertaken due to the concern that the lesion might represent an ocular surface squamous neoplasia (OSSN).

Results:

The histopathology showed this lesion to be a granuloma pyogenicum. The relevant features of this lesion combined with a summary of previously reported cases are presented.

Conclusion:

In summary our patient had a limbal granuloma pyogenicum which failed to respond to topical and systemic anti-inflammatory treatment and which was managed with an excision biopsy.

Dupilumab Related Ocular Surface Disease (DROSD), Identification Prevention and Management. A full cycle audit with an educational intervention between the ophthalmology and dermatology services

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Objectives:

Dupilumab is very useful in the management of atopic dermatitis, the connection between dupilumab and adverse ocular effects is well documented. The finding of a recent expert consensus was that "there is no requirement to delay initiation of dupilumab for most eye disorders". Evidence supports that there is no novel disease associated with dupilumab, rather, they represent exacerbations of previous ocular conditions as well as recognised ocular surface diseases developing de novo. However, there are also cases of atopic eye disorders that display improvement with dupilumab treatment.

The occurrence of adverse ocular events has been seemingly unpredictable, and it was previously difficult for dermatologists to know which situations need urgent ophthalmology review and which can be managed by dermatology services directly. We aimed to assess baseline knowledge of DROSD amongst our dermatology colleagues, provide education based on the expert consensus and later to re-test the group to see how their knowledge and practice has adapted as a result of our intervention. We also examined awareness of how to access local emergency ophthalmology services for dermatology patients who are predominantly an outpatient cohort.

Methods:

Guidelines entitled "An expert consensus on managing dupilumab-related ocular surface disorders 2023" were recently released. A Collaboration between the British Association of Dermatologists and the Royal College of Ophthalmologists, it gives guidance to both specialities as to appropriate responses to a broad range of situations, including diagnosis, management and need for referral flow charts.

In January 2024, a convenience sample of Dermatology specialists (consultants and registrars) in the Mater Misericordiae University Hospital (MMUH) completed an anonymous questionnaire. This was a structured paper-based questionnaire that we devised. Our questionnaire sought to assess the baseline knowledge and management of DROSD in their patients at MMUH.

We assessed symptoms and signs of DROSD, what is safe for dermatologists to manage, best practice management and which patient cohorts need to be discussed with or referred urgently to the ophthalmology service. We also investigated awareness of the telemedicine service provided by the MMUH ophthalmology emergency department and how to refer to same. Based on the results of this survey, an education session was provided to the same group of doctors. As well as education, awareness signage and a patient information leaflet were provided for the dermatology department relating to the advice from the expert consensus. The group was later re-surveyed to assess the success of the intervention and to close the audit loop.

Results:

We found that there was good knowledge of the need for the use of lubrication in those with pre-existing dry eye/ blepharitis but only one dermatologist was routinely offering a patient information leaflet (PIL) to patients with blepharitis. After the education session all were happy/ planned to provide a PIL to those with presumed blepharitis. 77% were aware of all situations stated in the guidance in which discussion with ophthalmology should occur, none had been aware of all of these prior to the intervention. 70% were now happy to treat conditions such as dry eye, blepharitis, and acute infective conjunctivitis without discussion with ophthalmology when previously the majority would have referred all but dry eyes.

100% had prescribed lubricants either prior or post starting treatment, only 16% had previously prescribed ocular/periorcular tacrolimus. All those surveyed had a good base knowledge of red flag symptoms that would require prompt ophthalmology review 75% knew at least 2/5 signs / symptoms that should be seen urgently. Post intervention 92% were now aware of all (5/5). All would now be happy to prescribe tacrolimus, mast cell stabilisers and antihistamines as per the guidelines and importantly all were aware that it is not advised to prescribe steroid drops without an ophthalmology review.

As for accessing the local eye emergency department the trainees were aware of the email to access but none were aware that the patient may be reviewed via telemedicine if appropriate. All were aware of how to appropriately refer patients for urgent review.

Conclusion:

From the literature we know that the key significant predictor for DROSD is prior history of ocular disease (in studies this was generally self-reported). This is not confined to known ocular surface disease, as another significant predictor is any previous

ocular treatment. The broadness of these predictors stresses the importance of asking for even a basic ocular history by the prescribing dermatologist, which can alert them to the need for optimisation pre-treatment and referral / discussion with ophthalmology if needed.

Although there was generally good knowledge as to the signs and symptoms of common presentations of DROSD, when dermatologists can commence treatment, what to prescribe and which red flag symptoms require urgent ophthalmology review were less clear prior to the intervention. There was a very good response to the education session which has been displayed in the results. The analysis showed that most of those involved in the study were not aware of the extent to which the guideline is happy for them to treat eye problems in the absence of red flag symptoms. There had also been previous advice given to dermatology services that recommended the use of steroid drops which this group are now aware of why that is not appropriate. All those involved knew how to appropriately contact the local ophthalmology service in a timely manner after the intervention.



Assessment of Quality of The Handwritten Ophthalmic Drugs Prescription at Makkah Eye Hospital

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Objectives:

1. The present study was carried out to describe the quality of handwriting ophthalmic drug prescriptions at Makkah Eye Hospital against national Sudanese guidelines released in 2004.
2. To assess the current followed method of drug prescription against the local guidelines.
3. To decrease medical errors

Methods:

Type of data collection : 180 handwriting prescription were manually collected irrespective of age and gender that were received and kept in the internal pharmacy, then they audited and analysed for the following: 1. Date, 2. Patient information which include (patient full name, age, weight), 3.allergy status and diagnosis, 4.medication details which include (generic name of the drug, Route, dose, frequency, Duration or start and stop date), 5. Prescriber details (doctor full name, position, signature, contact details).

Data is collected electronically via a highly confident well constructed questionnaire using Google Forms.

Data source: Patients' leaflets.

Duration: Data collection started in October 2021 and was re-audited in January 2022

Area: Makkah Eye Hospital, Elobied.

Population: Patients come to the clinic of Dr. Wafa, Dr Heba, and Dr Shamsaldeen.

Exclusion criteria: any patients' prescription not related to these clinics

Sample size and population: a randomised prospective cross sectional method of data collection was used, the sample size and population were dependent on the availability of patients' leaflets in the clinics.

Results:

By the end of cycle one it revealed that 35%_53% of the prescriptions included the patient's full name, Duration, and frequency of the drug. In 4%_29% included the Route and recommended drug dosage, in addition to the date, the doctor's full name, and his signature. It was noteworthy that 100% of the prescriptions lacked the patient's age, weight, date of admission, allergy status, diagnosis, doctor's specialty, and contact details.

By the end of cycle 2, Nearly three-fourths (3/4) of the prescriptions improved and followed the guideline.

The result of our audit revealed findings requiring adjustment of the shape and content of the handwriting prescription.

Planned method of dissemination after cycle one: Presentation of the results and negotiation with the medical staff was applied to help with the right application of the protocol and insurance of its continuity. Posters showing the protocol were put throughout the targeted unit.

Conclusion:

The quality of prescription writing is deficient in some elements and strategies for improvement are needed. These findings underscore a crucial requirement to upgrade the quality of prescription writing by encouraging continuous medical education programs to facilitate the delivery of excellent therapeutic outcomes.

Knowledge, Attitudes and Practice Toward Ocular Trauma Among Non-Ophthalmic Practitioners at Emergency Departments of General Hospitals, Elobied, Sudan - 2022

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Objectives:

To evaluate knowledge, attitude and practice levels in dealing with eye trauma among non-ophthalmologist at emergency departments of general hospitals.

Methods:

This is a descriptive cross-sectional hospital based-study. A questionnaire containing Four sections testing the Knowledge, attitude and practice level was given to the doctors at emergency departments in general hospitals of Elobied city, Sudan. The sample size was 100 doctors.

Results:

Most of responders were medical officers, and blunt trauma was the most common type of ocular trauma at emergency department (45%). Knowledge score was poor in 59 %, fair in 30% and good only in 11 %. Practice score was poor in 33%, fair in 53% and good in 14%. Attitude score was 91% positive, 8% neutral and 1% negative..

Conclusion:

Knowledge level found to be low with slightly higher practice score and the Attitude found to be very high. This study confirms the need for improving the ophthalmic teaching for doctors undergraduate and postgraduate and to create a national protocol to ease the recall of the appropriate steps of ocular trauma and deal systemically with it at emergency departments of Sudanese general hospitals.

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Image Guided Orbital Surgery – A Pre-Clinical Validation Study using a High-Resolution Physical Model

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§ denotes joint senior authorship

Objectives:

Pre-clinical validation study to assess the feasibility and accuracy of electromagnetic image guided systems (EM-IGS) in orbital surgery using high-fidelity physical orbital anatomy simulators.

Methods:

EM-IGS platform, clinical software, navigation instruments, and reference system (StealthStation™ S8, Medtronic) was evaluated in a mock operating theatre at the Royal Victoria Eye and Ear Hospital (RVEEH), a tertiary academic hospital in Dublin, Ireland. Five high resolution 3D printed model skulls were created using computed tomography (CT) scans of five anonymised patients with an orbital tumour that previously had a successful orbital biopsy or excision. The ability of ophthalmic surgeons to achieve satisfactory system registration in each model was assessed. Subsequently, navigational accuracy was recorded using defined anatomical landmarks as ground truth. Qualitative feedback on the system was also attained.

Results:

Three independent surgeons participated in the study, one junior trainee, one fellow and one consultant. Across models, more senior participants were able to achieve a smaller system-generated registration error in a fewer number of attempts. When assessing navigational accuracy, sub-millimetre accuracy was achieved for the majority of points (16 landmarks per model, per participant). The only navigational error was recorded for the junior trainee, using the first model, whereby a minor registration error was carried forward, and resulted in a navigational error of 1.2mm at the optic canal opening. Qualitative surgeon feedback suggested acceptability of the technology, although interference from mobile phones near the operative field was noted.

Conclusion:

This study suggests the feasibility and accuracy of EM-IGS in a pre-clinical validation study for orbital surgery using patient specific 3D-printed skulls. This pre-clinical study provides the foundation for clinical studies to explore the safety and effectiveness of this technology.



Resolution of Intractable Steroid-induced Raised Intra-ocular Pressure Following Excision of Sub-conjunctival Triamcinolone

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Objectives:

To contribute to the discussion on the use of sub-conjunctival triamcinolone for the prevention of pseudophakic cystoid macular oedema in diabetic patients in the context of the ESCRS PREMED Study by presenting a case report of intractable raised intra-ocular pressure and outlining a successful management strategy.

Methods:

Case report.

Results:

A sixty-six-year-old male with background diabetic retinopathy, prior diabetic macular oedema, and no risk factors for glaucoma underwent delayed-sequential phacoemulsification for visually significant cataract. He received intra-operative sub-conjunctival triamcinolone for the prevention of pseudophakic cystoid macular oedema in addition to the standard post-operative regimen of Maxitrol (QDS tapered over four weeks), Nepafenac (OD for three weeks), Diamox Sustained-Release 250mg OD for two days, and HYLO NIGHT BD for 6 weeks. His left eye surgery and 4-week post-operative review were uneventful. At his right eye post-operative review three months following his left eye surgery IOP was raised at OD 25mmHg and OS 21mmHg. Both discs appeared healthy and had a cup-to-disc ratio of 0.2.

Monopost (latanoprost) was commenced. One month later his IOP had increased further to OD 33mmHg and OS 36mmHg. Following discussion regarding escalating topical treatment or excising the triamcinolone a shared decision was made to trial the addition of a second topical agent (switched to Taptiqom (tafluprost/timolol). Four weeks later his IOP remained unchanged and the decision was made to proceed with excision of the triamcinolone under topical anaesthesia. At three months post-excision IOP was 16mmHg OU with healthy optic discs and the patient was discharged from the clinic.

Conclusion:

We present a case of raised intra-ocular pressure six months post sub-conjunctival triamcinolone injection refractive to dual agent topical treatment with complete resolution following removal of the triamcinolone deposit. Care should be taken to ensure patients are assessed for a delayed rise in intra-ocular pressure following sub-conjunctival triamcinolone. In cases of significant and persistent raised IOP following sub-conjunctival triamcinolone injection excision of the steroid deposit is a safe and minimally invasive means of resolving the steroid response.

Observation as a Primary Management Strategy in Valsalva Retinopathy

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Objectives:

Case Report: This case study presents a 14-year-old female patient who experienced a sudden, painless reduction of vision in her left eye after dancing at a disco party.

Methods:

Initial Symptoms: The patient noticed a cobweb-like vision impairment in her left eye, with no prior history of similar ocular symptoms. No trauma or drug intoxication was reported.

Medical Background: She has a history of epilepsy, for which she is taking Zarontin (ethosuximide) and Lamictal (lamotrigine).

Ophthalmic Evaluation:

- Right eye vision was normal (6/6), but the left eye had significantly reduced vision (2/60).
- The anterior segment of both eyes was unremarkable, with no afferent pupillary defect.
- Fundus examination of the right eye was normal. In the left eye, there was a noticeable subhyaloid haemorrhage, about 3-disc diameters (DD) wide and 1 DD high, located inferiorly near the optic nerve head and macula, accompanied by a vitreous haemorrhage. No retinal breaks, detachments, vascular abnormalities, or other significant changes were observed.

Additional Investigations:

- Routine blood tests, including full blood count, coagulation profile, and checks for renal and liver function, were normal.
- A systemic evaluation by a paediatrician revealed no abnormalities.
- CT scans of the brain and orbit were also normal.

Diagnosis and Management:

A clinical diagnosis of Valsalva retinopathy was made. Since the central macula was not affected, surgical intervention was not recommended. The patient was managed conservatively.

Results:

Outcome:

- The patient showed significant improvement with this approach.
- The haemorrhage resolved completely over 4-6 months, leading to a full recovery of her vision.

Conclusion:

This case is noteworthy for demonstrating how Valsalva retinopathy can occur in young individuals because of seemingly benign activities like dancing, without any prior trauma or drug use. The successful resolution with conservative management highlights the potential for complete recovery in such cases, especially when the central macula is not involved.

The Management of Intumescent Cataract in an Indian Hospital

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Tarabai Desai Eye Hospital and Research Centre, Jodhpur, India

Objectives:

Intumescent cataracts are potentially more prone to complications due among other factors to their tense anterior capsules leading to the dreaded Argentinian flag sign. The objective of this presentation is to help achieve an understanding of the relative pre-operative factors and operative strategies that assist in the optimal management of patients with these cataracts.

Methods:

This presentation describes: (1) The preoperative assessment of the swollen white lens including indentation of the anterior capsule to determine the presence of milky fluid. (2) The management of the anterior capsule with a double capsulorhexis technique with the initial incision being made with the phacoemulsification handpiece or a specially designed sewing needle capsulotomy instrument. (3) The typical findings and management of a relatively mobile and hard white nucleus are discussed.

Results:

The management strategies detailed were substantiated by a small personal series the results of which detail the successes achieved and the problems encountered.

Conclusion:

In conclusion the majority of white intumescent cataracts can be managed safely with due attention to preoperative findings and operative factors resulting in uncomplicated cataract surgery with good visual results.

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Molecular Analysis of Salivary and Lacrimal Adenoid Cystic Carcinoma

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Objectives:

Adenoid cystic carcinoma (ACC) of head and neck origin is associated with slow but relentless progression and systemic metastasis, resulting in poor long term survival rates. ACC does not respond to conventional chemotherapy. Determination of molecular drivers may provide a rational basis for personalised therapy. Herein, we investigate the clinical and detailed molecular genomic features of a cohort of patients treated in Ireland and correlate site of origin, molecular features and outcome.

Methods:

Clinical and genomic landscapes of all patients diagnosed with ACC over a twenty year period (2002-2022) in RVEEH were examined and analysed using fluorescence in-situ hybridisation, DNA-sequencing and bioinformatic analysis.

Results:

Fourteen patients were included for analysis. Eleven patients had primary salivary gland ACC and three primary lacrimal gland ACC. 76.9% of the analysed tumours displayed evidence of NFIB-MYB rearrangement at the 6q23.3 locus. 35% had mutations in NOTCH pathway genes. 7% of patients had a NOTCH1 mutation, 14.3% NOTCH2 mutation and 14.3% NOTCH3 mutation. There was a shorter time to disease recurrence in the NOTCH aberration group. The average survival was lower in the NOTCH group compared to the total group. The presence of epigenetic modifications in ACC patients also significantly correlated with worse overall survival.

Conclusion:

Our study identifies genetic mutations and signalling pathways that drive Head and neck ACC pathogenesis, representing potential molecular and therapeutic targets.

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Choroidal Neovascularization Secondary to Angioid Streaks in a Patient with Pseudoxanthoma Elasticum: Case Report

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Cork University Hospital, Cork

Objectives:

To demonstrate how a patient with choroidal neovascularization (CNV), secondary to Angioid Streaks, can be managed successfully with good reassurance and education regarding the early symptoms of CNV macula, which can ensure early diagnosis and treatment.

Methods:

A 36-year-old man who is a known case of pseudoxanthoma elasticum, has been diagnosed with Angioid Streaks by the optician on a routine check in 2011. After assessment in the ophthalmology department he was educated to recognize the symptoms of CNV including a distortion or waviness of central vision or a gray/black/void spot in the central vision. He was given an Amsler Grid and told to contact an ophthalmologist right away if became symptomatic. For eleven years he was under observation every 6 months to detect any complications of Angioid Streaks. In March 2022 he presented with significant visual loss and metamorphopsia in his left eye for two weeks. Physical examination including visual acuity, slit-lamp examination and funduscopy as well as investigations such as optical coherence tomography and fundus fluorescein angiography were performed and the diagnosis confirmed for LE macular CNV. Bevacizumab injections were given to him with excellent outcomes.

Results:

Angioid Streaks stayed asymptomatic for more than eleven years. And as a consequence of good education in addition to rapid access to treatment a good outcome was achieved when the patient developed macular CNV. In October 2023 the best-corrected visual acuities were 6/6 in each eye at both distance and near and the CMT in the LE was 216 with no SRF. His RE did not develop any complications and did not need any treatment up to date. While this patient remains on regular follow-up the utility of this is uncertain and the major factor in his successful treatment was the good counseling.

Conclusion:

This case highlights the potential for better outcomes and preservation of vision in these patients because of good education and awareness for the patients to recognize the symptoms and get early diagnosis and treatment. It is very important for ophthalmologists to counsel patients with Angioid Streaks regarding the potential for CNV macula as well as referring those patients to have a general medical workup and screening for any other systemic manifestations. Having regular follow up for such a patients may not be as important as the good counseling and educations about the possible complications of Angioid Streaks.



Analysis of Endoscopic Orbital Decompression With and Without Navigation for Graves' Ophthalmopathy

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Objectives:

Our objective was to assess outcomes of endoscopic orbital decompression for Graves' ophthalmopathy and to compare outcomes in cases where the StealthStation™ S8 surgical navigation versus those without navigation assistance.

Methods:

We reviewed endoscopic orbital decompressions carried out for graves' ophthalmopathy in the Royal Victoria Eye & Ear Hospital between 2004 and 2022. Outcomes assessed were pre- and post-operative measurements of best corrected visual acuity (BCVA), exophthalmometry, intraocular pressure (IOP), colour vision and optical coherence tomography findings. Results were evaluated by repeated measures analysis of variance.

Results:

A total of 68 orbits in 41 patients underwent endoscopic orbital decompression for Graves' ophthalmopathy in the time period, 31 orbits with navigation versus 37 without navigation. Overall, BCVA, proptosis, IOP and colour vision all were significantly improved at 3-months follow-up ($p < 0.05$). There was no significant difference in nerve fibre layer or ganglion cell layer thickness at 3-months ($p > 0.05$). In cases where navigation was used, BCVA was significantly better at 1 & 3-months post-op ($p < 0.05$). 26 patients required squint surgery.

Conclusion:

Endoscopic orbital decompression offers an effective, safe and minimally invasive treatment for Graves' ophthalmopathy. There is a trend towards continued improvement in outcomes over the course of 3 months post-operatively with & without the use of navigation.

Retinopathy of Prematurity Screening in Ireland – A Retrospective Review of Screening in an Irish Hospital

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Objectives:

Retinopathy of prematurity is a retinal vasoproliferative disorder that affects babies of premature age and low gestational birthweight. It can lead to severe visual loss and potential blindness if left unrecognised, and thus untreated. Screening is both time-dependent, and time-costly, and as screening is only carried out by a qualified ophthalmologist at present in Ireland, it represents a large burden on ophthalmic care.

The population of Ireland has risen by 470,700 people during the period 2017- 2023, so we can only assume that these figures, and thus the need for increasing capacity for ROP screening will increase in the future. This study aimed to review the prevalence of ROP within a cohort of patients admitted to a NICU, the demographics of such a screened population and the resulting workload on an ophthalmic service in order to support the expansion of ROP screening to match an increasing need for this service in future.

Methods:

A retrospective review of all patients admitted to neonatal intensive care unit (NICU) between 01/01/2022 and 30/04/2023 was carried out. Patients who met screening criterion were identified and their charts reviewed to analyse the demographics, number of inpatient and outpatient reviews, outcomes of screening and calculate the time-cost of ophthalmologist-lead screening on our service.

Results:

A total of 674 babies were admitted to NICU during the selected period, with 44 (6.5%) eligible for screening. Records were available for 42 (95%) of these patients. The average gestation of babies eligible for screening was 29+1 weeks [range 25 – 34+4] and average birthweight was 1243.1g [range 710 – 2590]. The average number of inpatient screening visits per patient was 4.5 [median 4; range 0-14] and number of outpatient visits was 2.25 [median 2; range 0-6]. The majority [n=38, 90.5%] of patients were found to have normal examinations, or findings that did not require intervention. 4 [9.5%] of babies eligible for screening were found to have retinopathy of prematurity requiring intervention, and underwent laser treatment [n=2, 4.5%] or intravitreal injections [n=2, 4.5%]. Incidentally, all patients requiring treatment required such bilaterally.

15(34%) patients were reviewed in an additional neonatal centre, and this was due to a combination of need for high-level neonatal support (eg due to comorbidities) and staffing issues(eg clinician on leave).

Conclusion:

The prevalence of treatment-requiring ROP was found to occur in 9.5% of patients reviewed. Screening comes at a large time-cost to the general ophthalmic service offered in this hospital, and currently requires ample specialist input. For an ophthalmic clinician, this represents an average of 5 hours 40 minutes that must be dedicated to carrying out ROP screening on an individual patient, with potential for greater time required. Internationally, screening is performed by nurse-trained practitioners and images reviewed by an ophthalmologist, thus freeing clinicians to focus on other aspects of patient care. As described in this study, if this was to be implemented nationally, this would further improve the delivery of eye care in Ireland, and result in a more timely, effective and coherent screening programme for retinopathy of prematurity. This review also highlights the need for a national ROP database, as exists in other countries, to allow for audit and quality improvement as well as research potential in the future.

Coverage of Diabetic Eye Care in the Kimberley Region of Western Australia

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²Lions Outback Vision, Western Australia

Objectives:

Diabetic retinopathy (DR) is a leading cause of preventable blindness globally, which disproportionately affects Aboriginal people. This study retrospectively audited patients receiving eye care from Lions Outback Vision (LOV) before and after the introduction of the LOV Kimberley Hub in 2021.

Methods:

A retrospective audit was performed for all diabetic Aboriginal patients screened in the Kimberley using LOV's electronic medical record system for each service stream (Optometry, Ophthalmology, and Primary Care). By estimating the percentage of diabetics in the region, we calculated the percentage engaging in screening before and after the hub's creation.

Results:

964 Aboriginal patients with a diagnosis of diabetes were seen by one of the three eye care streams. This corresponds to a coverage of 61% (964/1587) of all Aboriginal patients within the Kimberley. The coverage rates for Aboriginal patients increased significantly after the establishment of the Hub to 85% (1354/1587) in the 12-month following the establishment of the Hub.

Conclusion:

The number of diabetic patients in the region engaging with some form of screening improved with the creation of a service hub. There may be several factors impacting this including an increase in awareness about the importance of engaging with eye care.



Choroidal Osteoma: A Case Series

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Objectives:

This retrospective, non-randomised study aimed to analyse clinical outcomes of all patients diagnosed with choroidal osteoma at a single centre, the Royal Victoria Eye and Ear Hospital (RVEEH), over a twelve-year period.

Methods:

A retrospective chart review of all patients diagnosed with choroidal osteoma at RVEEH between 2011 to 2023 was performed. Clinical outcomes analysed were vision loss, tumour growth, tumour decalcification and choroidal neovascularisation (CNV).

Results:

11 patients were included in this study. The median age at presentation was 21 years. 100% of patients were both female and Caucasian. All cases were unilateral. On presentation, 72% of patients had visual acuities of logMAR 0.3 or better. 36% of patients had a macular involving osteoma. Choroid neovascularization was not noted in any patient on initial clinical examination. All patients received advice regarding commencing calcium supplementation.

At follow up, 63% of patients had visual acuities of logMAR 0.3 or better. Tumour growth was evident in 18% of patients. 27% of patients developed CNV, which occurred, on average, twenty months following the initial diagnosis. Of these patients, 33% underwent photodynamic therapy (PDT), whilst 67% received intravitreal anti-VEGF injections.

Conclusion:

Twelve year follow up data demonstrated that the majority of patients diagnosed with choroidal osteomas maintained visual acuities of logMAR 0.3 or better, but the development of CNV does pose a significant risk to this patient cohort. When this occurs, the current first line treatment modalities are anti-VEGF injections or PDT.

Intravenous Catheter for Peritrochlear Steroid Injection in the Treatment of Acquired Brown's Syndrome

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Objectives:

To describe the technique of peritrochlear steroid injection using a 24-gauge intravenous catheter for the treatment of trochleitis in a child with acquired Brown's syndrome.

Methods:

A 5-year-old male child was evaluated for acute onset strabismus, anomalous head posture, and limitation of eye movement of his right eye upwards and inwards. He had been swimming and wearing tightly fitting swimming goggles. There was no known history of ocular trauma. His past medical and ophthalmic histories were unremarkable. Examination revealed significant limitation of elevation of the right eye in ADduction but otherwise normal ocular motility. His ocular examination was otherwise normal. A clinical diagnosis of acquired Brown's syndrome was established.

A short course of systemic non-steroidal anti-inflammatories was ineffective in treating the syndrome. An examination of both eyes under anaesthesia was conducted, which confirmed the diagnosis of Brown's syndrome. Full blood count, urea & electrolytes, CRP, rheumatoid factor and connective tissue disease screen were negative. An MRI of the orbits showed normal extraocular muscle signal; specifically there was no evidence of oedema or enhancement in the region of the right superior oblique (SO) tendon. Forced duction testing (FDT) revealed a tight right SO tendon with -4 restriction to elevation in ADduction. The FDT was repeated and the SO tendon was loosened to -1 ADduction.

The right medial upper eyelid was anaesthetised with 0.5ml of 2% xylocaine with adrenaline. A 24-gauge intravenous catheter was used to penetrate the skin and orbital septum in the trochlear region. Once past the septum, the needle was withdrawn and the plastic catheter was advanced into the peritrochlear region. The catheter was confirmed extravascular by drawing back using an empty 1ml syringe and 4 mg dexamethasone was injected to the area. Dilated retinal exam confirmed normal retinal circulation post injection.

Results:

Over the course of following weeks the condition fully resolved. Fusion, stereopsis, and normal ocular motility were restored.

Conclusions

Injection of corticosteroid into the peritrochlear region is a safe and effective treatment for inflammatory trochleitis. Injection into the vascular-rich peritrochlear region carries a serious, albeit rare, risk of central retinal artery occlusion and retrobulbar haemorrhage. Traditionally a 25- or 27-gauge needle was been employed for steroid injection. We have described a safer method of injection using a 24-gauge intravenous catheter. Furthermore, the use of non-particulate dexamethasone over triamcinolone suspension may reduce the risk of retinal arteriolar occlusion.

1. Ravilla, Sathya T et al. "Intratrochlear steroid injections in acquired Brown syndrome—a case series." *Journal of AAPOS: the official publication of the American Association for Paediatric Ophthalmology and Strabismus* vol. 23,1 (2019): 23.e1-23.e5. doi:10.1016/j.jaapos.2018.10.009
2. Rubenstein, Jordan A et al. "Intravenous Catheter Employed in Peritrochlear Injection of Triamcinolone in the Treatment of Trochleitis." *Ophthalmic plastic and reconstructive surgery* vol. 37,3 (2021): 280-283. doi:10.1097/IOP.0000000000001826
3. Brady KM, Hiles DA. Brown's syndrome as a complication of cardiopulmonary resuscitation. *Br J Ophthalmol.* 1996 Mar;80(3):268-9. doi: 10.1136/bjo.80.3.268. PMID: 8703868; PMCID: PMC505441.

Real-world Outcomes of Selective Laser Trabeculoplasty in a Tertiary Referral Glaucoma Service

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Objectives:

Selective laser trabeculoplasty (SLT) is an effective treatment option in open-angle glaucoma (OAG) and ocular hypertension (OHT). The purpose of this study was to evaluate the real-world treatment outcomes of SLT in a tertiary referral glaucoma service.

Methods:

We reviewed the medical records of consecutive patients who had undergone SLT in the glaucoma service at the Royal Victoria Eye and Ear Hospital, Dublin. All patients in this study were using topical IOP-lowering medications prior to SLT. The primary outcome measure was the mean change in intraocular pressure (IOP) at 6 to 8 weeks following the procedure.

Results:

71 eyes of 44 patients were included in this study. There was a mean reduction in IOP of 4.0mmHg (SD 3.6), from 19.1mmHg (SD 3.6) at baseline to 15.1mmHg (SD 4.0) at 6 to 8 weeks post-SLT ($P < 0.001$). The diagnosis was primary open-angle glaucoma (POAG) in 69.0% of eyes, pseudoexfoliation glaucoma (PXFG) in 5.6%, pigment dispersion glaucoma (PDG) in 2.8%, normal tension glaucoma (NTG) in 5.6%, ocular hypertension (OHT) in 15.5%, and pseudoexfoliation OHT in 1.4%. 100% of eyes were on topical IOP-lowering medication (mean number of agents 2.7). In addition, 8.5% had one previous SLT procedure. No immediate (< 1 hour) post-SLT IOP spikes occurred in this study. Pearson correlation analysis revealed a moderate correlation ($r = -0.4021$, $p < 0.001$) between higher baseline IOP and greater IOP reduction.

Conclusions

SLT is an effective IOP-lowering treatment in open-angle glaucoma and ocular hypertension in a real-world setting.

Implementing Best Practice Eye Care in an Intensive Care Unit Setting

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Objectives:

Ocular surface disease (OSD) is a common complication for patients admitted to the intensive care unit (ICU) with 20-42% of patients developing corneal epithelial defects.¹ Common culprits include lagophthalmos, exposure keratopathy, and infectious bacterial conjunctivitis. We know from previous studies that the impact of OSD in the ICU can be significantly reduced when evidence-based eye-care policies are implemented.

Methods:

In November 2023, a convenience sample of ICU nurses in Mater Misericordiae University Hospital (MMUH) completed an anonymous questionnaire. This was a structured paper-based questionnaire that we devised, adapted from previous published studies in this area.³ Our questionnaire sought to assess the nurses' knowledge and practice of bedside eyecare for intubated, sedated patients at MMUH.

Results:

A total of 52 ICU nurses completed our questionnaire. The most significant findings were; 56% of ICU nurses did not grade lid closure, with 44% of nurses unaware of any eyecare policy in place in the unit. 42% cited a lack of skills/education as a barrier in providing eyecare, with 55% of ICU nurses having no previous formal training in eyecare. After the survey, we provided multiple teaching sessions for ICU staff nurses, produced bedside eyecare instructions for nurses and introduced an eye care policy based on current recommendations from the Royal Society of Ophthalmologists.

Conclusions

This audit identified a lack of knowledge and training amongst our ICU nurses in best practice eyecare for sedated and ventilated patients. To complete the audit cycle we asked nurses who attended the teaching session to recomplete the questionnaire. 45 ICU nurses completed the repeat audit. There was a significant improvement in results; 85% of ICU graded lid closure, with 18% of nurses unaware of any eyecare policy in place in the unit. 12% cited a lack of skills/education as a barrier in providing eye. We believe this multi-disciplinary evidenced-based approach will serve to improve patient care and reduce ocular morbidity in the unit.

1. Hearne, B.J., Hearne, E.G., Montgomery, H. and Lightman, S.L. (2018). Eye care in the intensive care unit. *Journal of the Intensive Care Society*, [online] 19(4), pp.345–350. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6259085/> [Accessed 29 Jul. 2020].
2. Azfar, M.F., Khan, M.F. and Alzeer, A.H. (2013). Protocolized eye care prevents corneal complications in ventilated patients in a medical intensive care unit. *Saudi Journal of Anaesthesia*, [online] 7(1), pp.33–36. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3657921/> [Accessed 4 Aug. 2020]
3. Vyas, S., Mahobia, A. and Bawankure, S. (2018). Knowledge and practice patterns of Intensive Care Unit nurses towards eye care in Chhattisgarh state. *Indian Journal of Ophthalmology*, 66(9), p.1251.
4. 2020. Eye Care in the Intensive Care Unit (ICU). [ebook] London. Available at: <https://www.rcophth.ac.uk/wp-content/uploads/2020/04/Eye-Care-in-the-Intensive-Care-Unit-2020.pdf> [Accessed 1 May 2020].

Veridical Estimates of Incidence and Prevalence of Slipped and Lost Extraocular Muscle in Strabismus Surgery.

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Objectives:

Veridical estimates of prevalence and incidence of either of these adverse events of strabismus surgery are scarce or poorly constructed. In a carefully-controlled setting within a developing strabismus surgery practice we estimate with accuracy the incidence and prevalence of these and other complications of strabismus surgery so as to better inform the process of consent and suggest preventative techniques.

Methods:

A single consultant surgeon using customised diagnostic coding. Post-surgical review protocol 2 weeks, 4-6 months and then annually for ≥ 12 months post-surgery before considering discharge. Measurements of strabismus magnitude in contralateral gaze positions regularly performed. Retrospective review from Aug 2008 to Dec 2023. Slipped muscles were divided in to Early (E-SM) within 1 month and Late (L-SM). Lost muscles (LM) and conjunctival cysts were also quantified.

Results:

A diagnosis of strabismus occurred in 1218 patients of whom 400 surgeries were conducted in 375 patients. The prevalence of slipped muscles (inherited and generated) in this practice was 19 / 400 (4.75%). The incidence (generated) was 10 muscles in 9 patients or approximately 9.5 / 400 (2.38%). E-SM incidence 2/400 (0.50%), L-SM 8/400 (2.00 %). Considering all SM Median (SDev) to presentation postop was 5 (4.84) months, range 1 to 420 days. There were 2 inherited lost muscles in 400 surgeries (prevalence 0.50%). The prevalence of conjunctival cysts associated with strabismus surgery could not be determined but the incidence (generated) was 15/400 (3.75%).

Conclusions

Rates reported here are very different to those reported previously. The majority of SM are late presenting with easy to miss features. The only reliable way to diagnose SM is by reoperation (Chen SI, Knox P, Marsh IB, *Ophthalmology* 2005) and therefore all estimates of slipped muscle are underestimates. Clinical aspects to prevent or improve detection of these entities are proffered.

Corneal Hysteresis and its impact on Glaucoma Severity in Afro-Caribbean and Caucasian Primary Open Angle Glaucoma (POAG) patients

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Objectives:

Corneal hysteresis (CH) is the viscoelastic ability of the cornea to absorb pressure by bending. A high corneal hysteresis can absorb more pressure by bending, a low corneal hysteresis is "stiffer" so more pressure is transmitted through the eye. CH is important in glaucoma as it is thought to be an indicator for overall globe hysteresis which offers protection to the optic nerve head and retinal ganglion cell layer in high IOP states. CH is measured using the Ocular Response Analyser (2005). This machine uses pneumotometry of 20ms duration. A CH greater than 10mmHg is generally considered "normal".

Established prognostic factors in glaucoma which can predict disease severity include thinner central corneal thickness, decreased RNFL thickness, glaucomatous optic disc cupping, higher IOP, visual field loss, Afro-Caribbean ethnicity and older age.

Afro-Caribbean patients have increased prevalence and severity of glaucoma. Many studies have shown earlier age of onset, thinner corneal thickness, and more severe visual field loss compared to Caucasian patients.

It is unclear in the literature if CH values are lower in Afro-Caribbeans, are useful in predicting disease severity, and if there is a relationship with other glaucoma prognostic factors. Therefore, the aim of this study was to:

1. Compare CH values between Afro-Caribbean and Caucasian POAG patients.
2. See if lower CH values were associated with disease severity and to measure for a relationship between other known prognostic factors in glaucoma.

Methods:

Clinical data was collected from 36 POAG patients in the Mater University Hospital between 2019-2023. 15 (30 eyes) West African and 21 (40 eyes) Caucasian POAG patients were included. A two sample unpaired t-test was used to compare CH values between the two groups. Multivariate regression analysis was used to compare glaucoma prognostic factors with CH values for the two groups.

Results:

The mean age of the groups was 71 (Caucasian) vs 53 (Afro-Caribbean) ($P<0.05$). Increased visual field loss was seen in the Afro-Caribbean vs Caucasian group (MD -18 vs MD -6.7, $P<0.01$).

1. A lower mean CH value was seen in the Afro-Caribbean compared to the Caucasian group (9 mmHg vs 9.9mmHg, $P=0.15$).
2. In the West African group, no clear relationship between a lower CH and glaucoma prognostic factors was identified. In the Caucasian group, lower CH was only associated with worsening pattern standard deviation ($P<0.05$).

Conclusions

1. Very few studies have compared CH values between different ethnic groups in glaucoma, with conflicting results in the literature. This study showed lower CH values for Afro-Caribbean POAG compared to Caucasian POAG patients ($P=0.15$). This was close to significance of $P<0.05$, and it would likely be significant with a larger sample size.
2. In multivariate analysis, lower CH did not predict worsening MD and is independent of other prognostic factors despite differences between the two groups. In both groups, no relationship was established between CH and other prognostic factors (except PSD), suggesting CH may be an independent and additional variable to be used when grading glaucoma severity.

Augmenting the Informed Consent Process for Intravitreal Injections with Interactive, AI-delivered Patient Information

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Objectives:

Intravitreal injections have become the most common intraocular procedure worldwide with increasing numbers every year. Challenges, particularly time pressure and patient understanding of medical concepts, can limit information exchange between clinician and patient when explaining intravitreal injection treatment in office.

We developed an AI chatbot with the goal of serving as a more interactive adjunct to a standard patient information leaflet, to answer patient concerns in a non-time pressured, comfortable environment and to fully inform on the whole intravitreal injection process.

Methods:

A custom large language model (GPT4, OpenAI) was adapted and trained using first-person clinician knowledge, medical literature, and patient information leaflets from reputable sources. Training data included information about medical conditions (macular degeneration, central retinal vein occlusion and diabetic retinopathy), treatment options, necessary preparations, associated risks, benefits, and postoperative course. A positive user experience was targeted by ensuring a conversational, colloquial tone to imitate an informative and empathetic interaction with the patient.

Results:

The chatbot demonstrated the potential to serve as a practical resource in patient education, and provide much more information than potentially possible in a single clinician-patient interaction. The ability of the user to ask tailored questions relating to the injection procedure allows for a more personalised and specific response.

Potential disadvantages include a need for internet access and the ability for basic computer and typing skills. Very few instances of confabulation were noted and these tended to occur only in the early design phase when asked questions beyond the scope of its training data.

Conclusions

The use of the AI chatbot has the potential to augment the informed consent process and lead to higher levels of patient satisfaction by providing clear, accessible information on the whole intravitreal injection process.

This novel application highlights the promising role of AI in a procedural heavy speciality such as ophthalmology, and in healthcare communication in general. Future work will look to gather patient and clinician input and feedback prior to any further deployment.



“Right in Front of our Eyes” – A Rare Case of Paediatrics Ocular Adnexal MALT Lymphoma

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Objectives:

To highlight the importance of considering uncommon etiologies in pediatric patients presenting with ocular masses and point to the necessity for comprehensive histopathological examination for accurate diagnosis and management.

Methods:

A 14-year-old boy presented with a 9-month history of a gradually enlarging mass on the medial canthus of the right eye. Initial evaluation raised suspicion of a pyogenic granuloma; however, treatment with steroids failed to obtain a response. Local surgical resection of the mass was performed for both diagnostic, cosmetic and therapeutic purposes.

Results:

Conjunctival histology revealed a lymphoid proliferation composed of small lymphocytes with round nuclei, lacking prominent nucleation. Expanded, fragmented germinal centers were also observed. Immunohistochemistry demonstrated positivity for CD20 and BCL-2, with lambda light chain restriction, suggestive of B-cell origin. Evidence of epithelial infiltration was noted. Further staining revealed interspersed T lymphocytes within the proliferation, focal Cyclin D1 within the mantle zones, and residual MUM-1 and BCL-6 germinal center positive. Molecular studies confirmed monoclonal B-cell population with positive immunoglobulin gene rearrangements by PCR. FISH analysis was negative for MALT-1 gene rearrangement. These findings were consistent with ocular adnexal MALT lymphoma.

Conclusions

We report a rare case of ocular adnexal MALT lymphoma in a 14-year-old boy, underscoring the importance of considering lymphoproliferative disorders in the differential diagnosis of pediatric ocular masses. Timely recognition and accurate diagnosis are crucial for initiating appropriate treatment and optimizing outcomes in these patients.



Experience and Trials with Intraocular Magnification Devices

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Objectives:

To demonstrate safety, effectiveness and to discuss early experience in patient selection and visual rehabilitation for a range of intraocular magnification devices, designed to improve visual acuity in patients with advanced age-related macular degeneration (AMD). Herein, we discuss preliminary findings from an ongoing post-marketing clinical trial of the Small Incision Implantable Miniature Telescope (SI IMT) and retrospective clinical trial findings from its predecessor, the Wide Angle Implantable Miniature Telescope (WA IMT), both monocularly implanted Galilean telescopes. Additionally, we discuss early findings and experience with the Scharioth Macula Lens (SML), a monocularly implanted piggyback lens used in previously pseudophakic eyes. The burden of visual acuity loss in advanced AMD and the paucity of treatment options available to patients demonstrates the need for alternative solutions, with implantable magnification devices providing an enlarged retinal image without the requirement for hand magnifiers.

Methods:

An analysis of data to prospectively for (n=5) patients implanted with the SI IMT in an ongoing clinical trial was reviewed, alongside (n=9) clinical trial patients implanted with the WA IMT. Safety was assessed in both cases by review of adverse events (AE), and endothelial cell density (ECD) loss over follow-up. Effectiveness was assessed by post-operative best corrected distance visual acuity (BCDVA) and best corrected near visual acuity (BCNVA). Early surgical experience and post-operative visual acuity findings for the SML are also discussed. Clinical experience to date is reported for these devices, including guidance for patient selection and the post-operative visual rehabilitation journey. All procedures were performed by a single surgeon in the Mater Misericordiae University Hospital, and the Mater Private Hospital Dublin, Ireland.

Results:

Preliminary data for the SI IMT was available for (n=5) patients up to the nine month follow-up period, as the trial is in progress. (n=3) AE's were reported, with all AE's considered to be mild to moderate. ECD loss over nine months was 4.49 +/- 4.58%. BCDVA with a gain of ≥ 5 ETDRS letters seen in (n=3) patients at the six and nine month follow-up. BCNVA as measured at 40cms in M-units showed an average improvement of 3.5 lines.

For the WA IMT A total of (n=19), mild to moderate ocular AEs were reported in (n=8) patients (88.9%). ECD loss at twelve months follow-up was $7.92 \pm 6.60\%$. All patients except one had improved BCDVA in the operated eye between baseline and their 12-month follow up visit. Statistically significant improvements from baseline in BCDVA were observed from 6 months onward. Average BCDVA improvement between baseline and 12 months was 0.65 ± 0.22 logMar ($p < 0.007$). Long-term data for (n=3) patients was available at five years with ECD loss of $8.4 \pm 9.2\%$ and longstanding improvement in BCDVA.

Early surgical experience with the SML lens is discussed, with difficulty relating to device instability and decentration reported, resulting in explantation of one patient so far, and poor visual acuity reported by another patient out of (n=2) operated on to date.

Criteria for successful patient selection are highlighted, alongside experience gained from post-operative visual rehabilitation training, including common barriers faced by patients to successful rehabilitation.

Conclusions

In summary we conclude that the devices discussed above appear both safe and effective, with sustained gains in visual acuity and no major adverse effects reported during follow-up to date. From our very early experience the IMT Galilean devices may offer greater magnification and gains in real world visual acuity than piggyback IOL devices. A limiting factor in the success of these devices is need for extensive visual rehabilitation and careful patient selection. Further experience and data collection with the SML lens is required to assess its efficacy in more robust terms. We provide interim findings from our clinical experience to date to aid the wider ophthalmic community in providing these devices to suitable patients.

Intraocular magnifying devices represent an alternative solution to hand magnifiers to a cohort of patients with profound visual loss and with few clinical solutions available to them.



Spontaneous Multi-layer Ocular Haemorrhage of Uncertain Aetiology

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Objectives:

Haemorrhage may occur at multiple locations within the eye including conjunctiva, anterior chamber, retina and choroid. An obvious cause, such as trauma, is frequently identifiable. Predisposing factors such as diabetes and coagulation disorder are well described. We present a case of acute multilayer haemorrhage of uncertain cause. Our aim was to describe an unusual case of spontaneous choroidal-retinal haemorrhage in a healthy young female.

Methods:

This is a case report of a 21-year-old female, who presented to eye casualty with acute blurring of central vision in the right eye (visual acuity-VA 6/18). No systemic illness or hypertension was identified. Eye examination demonstrated the presence of a bleeding mass infero-temporally to the optic nerve. Left eye examination was unremarkable. The patient underwent investigations including optic coherence tomography, Optos and fundus fluorescein angiography (FFA). In addition, opinions from ocular oncology, vitro-retinal surgeons and haematology specialists were sought.

Results:

The examination showed a choroidal haemorrhage surrounded by annulus of subretinal fluid, a superficial flame haemorrhage on the retinal surface, a crescent shaped retinal haemorrhage and a wedged shaped retinal infarct overlying the lesion. An orbital X-ray did not reveal any intraocular foreign body or evidence of penetrating eye injury. FFA and B- scan out-ruled the possibility of choroidal melanoma. After 4 months, VA improved to 6/7.5, however the bleed has not fully resolved.

Conclusions

Predisposing risk factors are explored in this case including the involvement in high impact activities such as dancing and jumping, possible coagulation cascade abnormalities and iron deficiency anaemia.

Ocular Adnexal Sarcoidosis

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Objectives:

To report the management of a case of multi-system sarcoidosis with severe ocular adnexal involvement.

Methods:

This case report details the ophthalmic involvement of sarcoidosis following review of the patient's case notes. The multi-disciplinary input from dermatology, infectious diseases and respiratory physicians are described. Clinical photographs and pathology sections were also reviewed.

Results:

A 45 year old South-African female, who is HIV positive attended following referral from dermatology where she was receiving hydroxychloroquine for cutaneous manifestations of known multi-system sarcoid. She had a history of sarcoid uveitis treated previously and eyelid lesions at that time were thought to be meibomian cysts.

Two years later, these had increased in size and number with multiple, discrete, firm masses now resulting in loss of lashes, trichiasis and disruption of the normal eyelid architecture. There was pain on blinking and lagophthalmos. Similar lesions on the tarsal conjunctiva were abrading the cornea. Biopsy confirmed granulomas consistent with the diagnosis of sarcoid and local steroid injection was effective in alleviating symptoms. Despite improvement on methotrexate and hydroxychloroquine elsewhere, her eyelid disease has relapsed and further local steroid treatment is necessary.

In patients with HIV, the recovery of the immune system following treatment with highly active anti-retroviral therapy (HAART) is thought to contribute to paradoxical reactions as a result of the now-recognised Immune Reconstitution Inflammatory Syndrome (IRIS). This patient's re-initiation on HAART is thought to have contributed to this process and led to numerous severe manifestations of sarcoidosis, including substantial ocular adnexal involvement.

Conclusions:

The involvement of the ocular adnexa in sarcoidosis is a recognised but rare manifestation.

The timely and definitive diagnosis and management of these complications with individualised medical and surgical management is essential for symptomatic relief as well as preservation of ocular architecture.

Immune Reconstitution Inflammatory Syndrome (IRIS) was thought to play a significant role in this patient's presentation and multidisciplinary input was thus required for the complex management of the multiple manifestations of sarcoidosis.

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Endogenous Endophthalmitis in Myelodysplastic Syndrome: A Presentation with Streptococcus Dysgalactiae and Infective Endocarditis – A Case Report and Literature Review

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Objectives:

To report a rare case of endogenous endophthalmitis in a patient with myelodysplastic syndrome and concurrent infective endocarditis caused by Streptococcus dysgalactiae, and to review literature to elucidate the association between myelodysplastic syndrome, Streptococcus dysgalactiae, and endogenous endophthalmitis.

Methods:

This case report describes the presentation, diagnosis, treatment, and outcomes of a 56-year-old male with myelodysplastic syndrome who developed acute painful vision loss in the left eye, which progressed to complete vision loss and fever.

Diagnostic investigations confirmed *Streptococcus dysgalactiae* as the causative agent. A systematic search was performed on PubMed, utilizing the search phrases "endophthalmitis myelodysplastic," "endophthalmitis dysgalactiae," "endophthalmitis myelodysplasia," "dysgalactiae myelodysplasia," and "dysgalactiae myelodysplastic." This approach identified 15 relevant articles. Two articles centred on exogenous endophthalmitis were subsequently removed from consideration.

Results:

The patient presented with symptoms indicative of endogenous endophthalmitis and was found to have infective endocarditis caused by *Streptococcus dysgalactiae*. Despite aggressive treatment, including aortic valve replacement, the patient suffered significant morbidity, resulting in eye enucleation and prosthesis implantation. The literature review revealed a scarcity of reports linking endogenous endophthalmitis with myelodysplastic syndrome and *Streptococcus dysgalactiae*, highlighting the unique and complex nature of this case.

Conclusions:

Myelodysplastic syndrome should be considered a significant risk factor for endogenous endophthalmitis, particularly when associated with atypical pathogens like *Streptococcus dysgalactiae*. This rare confluence of conditions emphasizes the necessity for clinicians to remain vigilant for atypical pathogens and risk factors in endophthalmitis cases, particularly in patients with complex medical backgrounds.



Incidence of Angle Closure Glaucoma Presentations to an Emergency Eye Department – Pre and Post COVID Pandemic

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Objectives:

Angle closure glaucoma (ACG) is a condition characterised by elevated IOP and damage to the optic nerve head, resulting from blockage of the anterior chamber angle. Angle closure glaucoma can be further divided into primary and secondary angle closure. Primary angle closure glaucoma is estimated to be responsible for approximately half of the world's glaucoma related blindness. In primary angle closure the underlying mechanism is primarily pupillary block whilst in secondary angle closure there is an underlying identifiable pathology such as cataract, neovascularisation or inflammation. With the advent of the COVID-19 pandemic, disruptions in healthcare access and altered health-seeking behaviours have potentially influenced disease trajectories. We hypothesised there has been an increase in presentations of angle closure glaucoma post COVID in our eye emergency department. We aimed to identify and compare the incidence of angle closure glaucoma to our eye emergency department pre and post pandemic.

Methods:

A retrospective review of all eye emergency department presentations between January 2018 to January 2019 and January 2023 to January 2024 was carried out. This involved a review of all patient electronic records who presented to the eye emergency department using patient centre.

Results:

Eye emergency admissions were analysed across 2018 and 2023. Sixty four cases of angle closure were identified on retrospective review, with twenty in 2018 vs. forty four in 2023. This represents an increase of 120% in presentations. Primary angle closure glaucoma represented over 52% (n=23) of total presentations in 2023 and 55% (n=11) in 2018, marking a 109% increase in presentations of primary angle closure glaucoma. There was 22 cases of acute angle closure glaucoma in 2023 compared to 11 cases in 2018 representing a 100% increase.

Conclusions:

This audit of pre and post pandemic angle closure presentation confirmed our hypothesis that there is an increase in post pandemic compared to pre pandemic presentation. This increase was consistent in primary and secondary angle closure presentations. Further investigation is required to determine the factors contributing to these findings.

The Awareness of the Importance of Dilatation Drops in the Eye Clinic: an Audit of Patients from Nenagh General Hospital

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Objectives:

The dilated eye examination is an essential part of a thorough ophthalmic evaluation. It is required for accurate diagnosis, as well as for monitoring of ocular diseases, including age-related macular degeneration and diabetic retinopathy. Good dilatation enables the examiner to fully assess the optic nerve and retina.

Common side effects of dilatation include light sensitivity and blurring of vision. As a result of this, patients cannot drive for 4-6 hours post-dilatation (depending on mydriatic agent). Patients are notified, via their appointment letter, of this; however, numerous patients still present to the eye clinic unaware they will receive these drops, thus are unable to receive dilating eye drops as they have driven themselves, presented alone or are unable to wait a period of time after the exam for the drops to wear off.

Our aim is to evaluate which patient demographics this occurred in and in addition, identify any contributing factors that could be addressed by specific alterations in their appointment letters.

Methods:

A paper-based, in-person questionnaire was conducted on patients attending Nenagh Hospital Ophthalmology clinic during January – February 2024. Questionnaires were conducted by ophthalmic nurses and doctors, on various clinic days, across a random selection of patients.

We included new referrals and patients who had previously attended the eye clinic. We excluded any patients who had been seen previously within this time frame or had previously completed this survey. Parameters we looked at included age cohort of patients, reason for attending the eye clinic, driving status at presentation to the clinic, attendance with a companion, knowledge on why we use dilating drops, awareness of receiving dilating drops and the resultant impact on driving.

Results:

A total of 72 (n=72) patients were included. 73% (52) of patients were over 60 years of age at the time of attendance to the clinic. 38% (27) of the patients were new referrals to the eye clinic (first time attending). The remaining 62% of patients were attending for follow-up appointment/scheduled procedure. 92% of all patients had received dilating eye drops before, however, only 72% were aware of the purpose for dilating eye drops. The most frequently occurring response to this question was to “look at the back of the eye” or “enlarge the pupil”.

Almost two thirds of all patients (63%) were aware that they would be receiving dilating eye drops at their appointment. Out of the new referral cohort, slightly more than half (56%), were aware that they would receive dilating eye drops. Whereas, out of the follow-up group, 33% of patients were unaware they would receive mydriatic drops. Overall, over a third (37%) of patients audited were unaware that they would receive dilating eye drops.

65% (47) of all patients in our sample were accompanied to the clinic. 35% (25) of all patients drove to the clinic, 64% of whom came unaccompanied. 69% were aware that they would be unable to drive after receiving dilating eye drops. Interestingly, despite both being aware that they would receive dilating eye drops and that they would be unable to drive, 40% of those driving still elected to do so.

Conclusions:

Patient compliance and co-operation remains an ongoing topic of discussion in the management of chronic eye conditions in the outpatient setting. Patients elect to drive to eye clinics and report an unawareness of the outcomes following mydriatic drops. Further patient education and improving upon existing methods of contacting patients (where we can highlight that they will receive dilating drops and will require alternative transport home) are areas to explore. Our current goal is to amend the appointment letter that the patients receive to reflect the audit findings and then to later revisit to ascertain what effect the adjustments may make to patients awareness and behaviour.

Ocular Cicatricial Pemphigoid with Exclusive IgM Positivity

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Objectives:

Cicatricial pemphigoid describes a group of auto-immune diseases which predominantly affect mucosae and are associated with inflammation that may induce significant scarring. Ocular cicatricial pemphigoid (OCP) is a sub-type of cicatricial pemphigoid that affects the conjunctiva and is characterised by linear deposition of immunoglobulins (Ig) in the epithelial basement membrane zone, namely IgG, IgA, IgM or C3. We report a case of OCP presenting with entropion with exclusive IgM positivity.

Methods:

A seventy-one-year old female presented with a six-week history of left lower eyelid entropion. Symblepharon formation was apparent in the inferior fornix. Conjunctival biopsy was performed at the surgical repair of her left lower eyelid entropion.

Results:

Histopathological examination of the specimens obtained identified neutrophilic infiltration of the conjunctival epithelium, without bullous changes or definite scarring. Direct immunofluorescence showed linear positivity for IgM only, along the basement membrane.

Conclusions:

Ocular cicatricial pemphigoid usually shows linear deposition of IgA and IgG along the conjunctival basal lamina. Much less common is the exclusive deposition of IgM as in the case described here.



Orbital Implant Exposure Rates after Enucleation and Evisceration

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Objectives:

To perform a retrospective analysis of enucleations and eviscerations at a tertiary level ophthalmology centre and identify the incidence of orbital implant exposures requiring surgical management. We also explored risk factors for the development of implant exposure.

Methods:

This is a retrospective observational analysis of patients who underwent enucleation or eviscerations with orbital implants in a specified 10-year period. We allowed for a minimum follow-up time of 6 months post operatively. We also analysed all patients with orbital implant exposure managed surgically in the same 10-year period to look at risk factors associated with exposure.

Results:

One hundred and eighty-one (181) eyes underwent enucleation or evisceration with orbital implant at the tertiary centre over the specified period (2013–2023). In the same period, 4 of these implants became exposed requiring a repeat surgery to repair the defect (incidence of 2.2%).

3 occurred after an enucleation and 1 after an evisceration. 3 of the 4 had their initial implant for choroidal melanoma, and one for chronic retinal detachments. All 4 were MEDPOR (porous polyethylene) implants. Exposures occurred between 6 and 45 months.

The total number of implant exposures managed surgically in the same 10-year period was 15, with the majority of these having their implant done either prior to 2013, at a different surgical centre, or both. Risk factors looked at included type of implant, indication for implant and whether the implant was pegged or not.

Conclusions:

Our retrospective analysis found a lower rate of orbital implant exposure (2.2%) post enucleation and evisceration over a 10-year period compared to the findings in the literature, which were significantly comprised of cases post-enucleation (3 of 4), and for choroidal melanoma (3 of 4). All 4 cases of exposure found in our study comprised of MEDPOR implants.

A 2-year Trend Analysis of Microbiology Results in all Corneal Samples taken in the Eye Casualty Setting: the University Hospital Limerick Experience

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Objectives:

Infective keratitis is a serious ocular infection that frequently presents to eye casualty services worldwide, both in developed and developing countries. The main causative pathogens vary from country to country, and these include bacteria, viral, fungal and acanthamoeba. Contact lens use remains a continuous underlying cause of corneal infections. Our aim was to evaluate all cases of infective keratitis requiring corneal scrapings or corneal swabs that presented to a tertiary eye casualty over a 2-year period.

Methods:

A retrospective chart analysis of all cases of infective keratitis requiring corneal sampling presenting to the EED in a single centre were analysed. A 2-year examination period from August 2021 to August 2023 was included. Microbiology culture and sensitivity reports were reviewed and patients under the care of 4 ophthalmic consultants were analysed. A total of 54 patients were assessed, with a total of 56 corneal samples taken over this time. Both corneal scrapings and corneal swabs were included, assessing for evidence of bacterial, fungal, viral and acanthamoeba corneal infection. We excluded non-keratitis cases and microbiology results.

Parameters assessed include patient demographics, presenting and last follow-up BCVA, trauma history, contact lens status, microbe involved, accuracy of clinical diagnosis vs microbiology result, duration of symptoms, requirement for admission and duration of admission and further corneal specialist opinion.

Results:

The mean age of the patients was 48 years (range 15-91) with 56% of cases occurring in the female population and 64% of cases occurring in the left eye. The number of cases remained stable across the 2-year period (27 in 2021-2022 vs 29 in 2022-2023). 87% (47) of patients underwent corneal scraping, 4% of whom required repeat corneal sampling. 7 (13%) patients had corneal swabbing alone. 29% (8) of cases had documented contact-lens use at presentation (50% monthly-use lenses, 50% daily-disposable lenses). 5 (18%) cases were documented as using steroid drops regularly at presentation, with the reason for this documented in 2 (20%) of cases. 21% of cases confirmed a recent history of trauma to the affected eye at presentation. The mean number of days patients were symptomatic prior to presentation/commencing treatment was 10 days (range 1-63) and on average, patients were treated for a total of 45 days (range 3-200).

A clinical diagnosis of microbial keratitis was noted in 68% of all cases at presentation, with bacterial specified in 33% of these and concerns relating to acanthamoeba infection specified in only 1 case (5%). Contact-lens keratitis was clinically diagnosed in 5 cases (18%), however this was only suspected in 5 (63%) of contact-lens wearers.

55% of cultures returned positive for bacterial growth, with staphylococcus aureus (19%) and pseudomonas aeruginosa (19%) the most frequently occurring bacterium. 3 samples (5%) cultured fungal growth (Aspergillus Fumigatus 2(4%), Mould 1(2%)), where trauma was the documented triggering event and 2 (4%) cases of Acanthamoeba were cultured. 2/3 fungal cases had a bacterial co-infection on culturing, while no cases of acanthamoeba had a co-infection. 64% of the cases were admitted for further management, where 9 days (range 4-17 days) was the mean number of days patients required admission.

The clinical diagnosis did not correlate with microbiological results in 25% of cases. 4 cases required further intervention (2 botox tarshorrhaphy, 1 amniotic membrane graft, 1 evisceration) and 4 cases were referred for further corneal specialist assessment.

Conclusions:

Corneal tissue sampling in the eye casualty setting is an essential procedure for the accurate diagnosis and management of infectious keratitis. Bacterial keratitis remains the most frequently presenting infectious cause for keratitis. A high index of suspicion should remain for fungal and acanthamoeba pathogens when patients remain slow to improve clinically or experience clinical deterioration, depending on the clinical presentation.

This study raises the question of how best to care for patients who require continuous-wear, monthly contact lenses.

A First Reported Case of Peripheral Ulcerative Keratitis Superinfected with Actinomyces Oris

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Objectives:

A First Reported Case Of Peripheral Ulcerative Keratitis Superinfected With Actinomyces Oris.

Methods:

The electronic record of the patient was reviewed to obtain all the pertinent clinical details. Clinical photographs were obtained with the "Eyesuite" software built in to our casualty department slit lamp.

Results:

An 80 year old lady with a history of Rheumatoid Arthritis presented with an acutely painful and red right eye. Visual acuity was reduced at 6/18. On examination she had a 1.5 by 3mm area of corneal thinning in the juxta-limbal cornea inferiorly. There was associated epithelial defect and stromal infiltrate. A gentle scrape of the infiltrate was performed in the casualty and she was admitted to the hospital for treatment. She was treated initially with intensive topical Vancomycin and Ceftazidime, regular lubricants, oral Vitamin C and Doxycycline. She was also commenced on systemic oral steroid. The corneal scrape grew Actinomyces Oris. She improved with treatment and the Vancomycin/Ceftazidime was gradually tapered and switched to topical Moxifloxacin. Topical steroid was introduced once re-epithelialisation was complete. Visual acuity at 8 weeks was excellent (6/6) but unusually a small 0.8mm infiltrate persisted.

Conclusions:

PUK risks super-infection with micro-organisms as the epithelial barrier is lost. This is the first case we know of that reports super-infection with Actinomyces Oris. This organism is normally a commensal of the oropharynx. In our case the lady responded very well to conventional treatment and had an excellent visual outcome. Super-infected PUK presents a therapeutic challenge as there needs to be a balance struck between treating both the infective and inflammatory components.

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Immediate Sequential Bilateral Cataract Surgery: A 6 Year Review of Cases at an Ophthalmology Department in the West of Ireland

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Objectives:

To describe the trends and outcomes of Immediate Sequential Bilateral Cataract Surgery (ISBCS) at our department over a 6 year period.

Methods:

All cases of ISBCS from 01/01/2018 to 01/01/2024 were included for analysis. Demographical data was obtained along with indication for ISBCS, anaesthetic choice, intra-operative and post operative complications and refractive outcomes where available.

Results:

144 eyes in 72 patients were included in total. The number of ISBCS cases dropped during the COVID pandemic and lockdowns but rose substantially thereafter. The rate of intra-operative and post operative complications was comparable to those of delayed sequential bilateral cataract surgery (DSBCS). One patient required a bilateral lens exchange due to refractive surprise. No other patients suffered complications that could be attributable to the bilateral nature of the procedure. There were no cases of endophthalmitis. The majority of cases were carried out under general anaesthetic. The most common IOL used was a single piece acrylic lens.

Conclusions:

ISBCS has become more popular at our institution over the last 6 years. The main indication is to reduce anaesthetic burden in patients who require a GA for their surgery. The complication rate was similar to DSBCS.

Assessment of the Indirect Environmental and Economic Impact on Patients Attending Intravitreal Injections at Sligo University Hospital

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Objectives:

Transportation accessibility is integral to healthcare delivery, influencing patient experiences and outcomes. This study investigates the interplay between transportation, affordability, and environmental considerations for patients attending intravitreal injections at Sligo University Hospital. Through a survey, we assess direct transportation costs, including mode of travel, distance, and associated expenses, alongside evaluating indirect costs such as time off work for them and the accompanying person. Furthermore, this study quantifies the carbon footprint associated with patient transportation, aligning with sustainability goals. This research aims to inform healthcare practices, fostering improvements in accessibility, affordability, and environmental sustainability within the healthcare system.

Methods:

An optional printed questionnaire was distributed to patients attending intravitreal injections at Sligo University Hospital over the course of one week. The questionnaire comprised sections addressing patient demographics, treatment specifics, transportation details, perceived treatment benefits, environmental factors, and overall treatment experience.

Results:

Out of the 44 returned forms, 10 were excluded due to incompleteness. The age range of participants spanned from 47 to 97 years, with an average age of 76. Among the respondents, 59% were female. The majority of participants attended the hospital for treatment of age-related macular degeneration (23), while 9 attended for vein occlusion and 2 for diabetic macular edema. Treatment intervals varied between 4 to 12 weeks, with a mean interval of 7 weeks. Private vehicle transportation was the predominant mode of transport, utilised by 29 out of 34 respondents, followed by taxi (2), bus (1), walking (1), and a combination of taxi and train (1). Patients had an average return trip of 135km. The average cost per visit to the hospital for those using personal vehicles was 32.5 euros, while one patient relying on taxi services incurred a cost of 200 euros per visit. Although the majority (22) did not encounter difficulties arranging transportation, 10 out of 29 patients required an accompanying driver for their personal vehicle to take time off work, for half or a whole day. Notably, one patient's reliance on a family member from England for transportation incurred substantial financial implications and resulted in 2 days off work. The vast majority of respondents (94%) perceived the treatment as beneficial. 24% of patients had previously deferred treatment due to transportation-related issues. When asked to rate the affordability and accessibility of transportation on a scale of 1 to 5 (with 5 indicating very affordable and accessible), the average rating was 3 for both aspects. Regarding the overall hospital experience, respondents rated it highly, with an average score of 4.7 out of 5. An estimated carbon emission of 16,085 grams of CO₂ per patient attending for injection was calculated for those traveling by car.

Conclusions:

These findings underscore the challenges faced by many patients, often elderly, in attending frequent hospital visits for intravitreal injections, alongside the associated environmental implications. Since 2022, the availability of intravitreal injections for diabetic retinopathy patients in the northernmost catchment area at Letterkenny University Hospital has been a welcome development. However, expanding this provision to encompass patients with other conditions would require additional investment and mitigate the inequality in travel distances. Efforts to enhance accessibility to injection sites across the region, in alignment with Sláintecare objectives, not only offer environmental benefits through reduced travel but also alleviate patient burdens and promote sustainable healthcare practices.

A cross-sectional Investigation into the Diagnostic, Treatment and Management Methods used by Irish Consultant Ophthalmologists in the Treatment of Central Serous Chorioretinopathy

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Objectives:

To identify the various diagnostic modalities and the treatment strategies chosen by Irish consultant ophthalmologists when managing CSR and to determine any common trends between Irish physicians.

Methods:

A novel electronic questionnaire was made and distributed to 161 consultant ophthalmologists registered with the Irish College of Ophthalmologists (ICO). The questionnaire examined participant demographics, their preferred diagnostic modalities as well as their management of acute and chronic CSR. Data was analysed using SPSS statistical software.

Results:

14 of 161 (8.69%) participants completed the questionnaire. The majority of respondents (85.71%; n = 12) preferred non-interventional observation for three months as their initial management for acute CSR. The remaining 14.28% (n = 2) participants preferred to employ non-interventional observation for six months. When treating chronic CSR, 50% (n = 7) would use Photodynamic Therapy as their preferred treatment choice, while 21.4% (n = 3) would opt to use subthreshold micropulse laser. Not all participants had access to Photodynamic Therapy in their practice (28.6%, n=4). Another significant finding showed that 57.1% (n=8) participants reported that the Verteporfin shortage since 2020 has affected their management of CSR. When asked of their preferred diagnostic modality after OCT imaging, it was found that 64.3% (n = 9) would employ Fluorescein angiography while 14.2% (n = 2) would use OCT imaging only as their sole diagnostic modality. Some participants (35.71%, n = 5) would use at least two additional diagnostic tests after OCT when investigating a case of suspected CSR. Further analysis is set to be carried out once a larger cohort size has been reached.

Conclusions:

Based on data from 14 participants, non-interventional observation for 3 months was the preferred management for acute CSR, with a subset preferring a longer observation period. Photodynamic therapy emerged as the favoured treatment for chronic CSR and Fluorescein Angiography was the most popular diagnostic modality post-OCT imaging. Additional diagnostic tests were favoured by some participants, indicating varied preferences among practitioners.

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Retinal Detachment in Candida Endogenous Endophthalmitis managed with Vitrectomy and Silicone Oil

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Objectives:

To describe the outcome of a case of tractional retinal detachment in Candida endophthalmitis managed with vitrectomy and silicone oil.

Methods:

The clinical notes were reviewed to obtain the presenting details and outcome. Optomap images were obtained for inclusion.

Results:

An 85 year old male was referred to our eye clinic with a 6 week history of loss of vision in the left eye. He had been treated as a panuveitis with systemic steroids for 1 week at a separate institution. Of note he was admitted to another hospital 3 months previous with biliary sepsis secondary to gallbladder perforation. While an inpatient at that hospital his sepsis was

treated with multiple IV antibiotics. On examination (see Optomap image) he had a dense left vitritis with "string of pearls" in the vitreous. There was a tractional macula off retinal detachment with PVR. Vitreous washings were sent which grew *Candida Albicans*. He underwent vitrectomy with silicone oil insertion. At follow up 6 weeks post op he was pinholing to 6/24.

Conclusions:

Candida endophthalmitis is typically endogenous, secondary to candidaemia. Recent abdominal surgery and multiple antibiotics are risk factors for candidaemia. Visual outcomes are generally very poor. Here we present a case of a gentleman who did relatively well despite a 6 week history of symptoms.



The Role of ABCC6 Genetic Testing in Pseudoxanthoma Elasticum

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Objectives:

To present a series of cases with eye-involving Pseudoxanthoma Elasticum, and to highlight recent advances in genetic testing for this condition.

Pseudoxanthoma Elasticum (PXE) is a rare heritable multisystem disorder characterised by progressive calcification and fragmentation of elastic fibres, involving the skin, eyes and cardiovascular system.

Ophthalmic manifestations of PXE may result in vision loss associated with choroidal neovascularisation.

Angioid streaks are the characteristic ocular feature of PXE and are described as irregular crack-like breaks in Bruch's membrane radiating from the optic disc and are usually best seen on infra-red and autofluorescence imaging, but may often be subtle on clinical examination.

The underlying cause of PXE is a mutation in the ATP – binding cassette subfamily C member 6 (ABCC6) gene. This gene encodes the ABCC6 protein which plays a role in tissue mineralisation and stabilisation of elastic fibres. PXE is an autosomal recessive disorder, however heterozygous carriers of the mutation may display some clinical and histopathological features of PXE, and may be at risk of early onset cardiovascular disease.

There is now an easy-access genetic test for PXE in the form of a buccal swab for ABCC6 testing. With the support of a clinical genetics service this may be helpful in the management of patients with this condition.

Methods:

We present a case series of patients with eye-involving PXE, with illustrative examples of imaging studies at diagnosis and follow-up (colour, infrared, autofluorescence and OCT imaging) and results of ABCC6 testing.

Results:

Visual acuity data at baseline and follow-up will be presented to illustrate the clinical course of CNVM in the setting of angioid streaks/ PXE as compared to nAMD.

Conclusions:

PXE imparts a risk of significant ocular morbidity and vision loss. ABCC6 testing can provide useful diagnostic confirmation to patients and useful risk stratification for relatives and should be considered in the management of these patients.

Periorbital and Orbital Cellulitis: The Rise of Virulent Group A Streptococcus

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Objectives:

The incidence of severe streptococcal infections increased after the COVID pandemic worldwide, particularly in the paediatric setting. While still relatively rare, early recognition and prompt treatment are crucial – more so in the periocular area. We report 3 such cases.

Methods:

This retrospective case series details the clinical features, management and outcomes of three patients with confirmed group A streptococcal infections with orbital cellulitis.

Results:

Two children and one adult were included in this series. The adult was a young female with a history of HIV who presented 24hrs following the application of a homeopathic skin remedy in the peri-orbital area which resulted in a chemical burn. She had bilateral orbital cellulitis and was septic requiring admission to ICU. She responded well to broad-spectrum antibiotics but developed necrotic non-healing areas in the infraorbital region which required skin grafting.

A 2yr old female developed orbital cellulitis over a 24 hour period with the site of inoculation being an unhealed vesicle related to chicken pox in the brow. Debridement of necrotic pre-septal tissue, sparing the levator complex was necessary. Following minor trauma with a breach in the brow skin, a 5yr old skin developed orbital cellulitis within 48hrs. Extensive debridement and washout on alternate days yielded a good result.

Conclusions:

Group A Streptococcal in the periocular area can be fatal. This series reports early recognition and intervention in 3 cases with good outcomes.



Trends in Sports-Related Ocular Trauma Presentations to a Tertiary Eye Centre During the Summer Months of 2019-2023: A Retrospective Audit

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Objectives:

The COVID-19 pandemic has had far-reaching effects on emergency eye care, which continue to be seen 4 years from onset. The Mater Misericordiae University Hospital Eye Emergency Department (MMUH-EED) does 17,000 clinical consultations each year via a combination of virtual and physical consultation. Ocular trauma accounts for a substantial proportion of these. While sports-related ocular trauma represents a smaller proportion of these complaints, it is an area which has yet to be explored with regards to assessment and standardisation of the same. The value of simple interventions such as eye protection and counselling regarding prevention of further injury prior to return to play is well established.

This retrospective audit aimed to (i) identify trends in sports-related ocular trauma presenting to MMUH-EED during summer months (June, July and August) of the years 2019-2023, and to (ii) evaluate the if and what safety information was given to those presenting with sports-related ocular injuries regarding return to play and avoidance of further visual complications.

Methods:

A retrospective data collection of all patients who attended the Eye Emergency Department (EED) in the MMUH during the months of June, July and August in the years 2019-2023 inclusive.

Results:

There were 20,066 EED consultations during this period. A total 67 cases of sports-related ocular injuries were identified over the 5 years. Of these, 15 occurred in the summer pre-COVID, 31 presented in total over the 3 summers during COVID (mean 10 per COVID summer) and 21 cases presented in 2023 when all restrictions lifted.

In 2019, there were a total of 3279 presentations to EED, 15 of which pertained to ocular trauma. The mean age of presentation was 37.87. 86.67% of cases were male. The sport associated with the greatest number of injuries was football (46.67%) with cricket and hurling each making up 13.33% of injuries. There was decreased visual acuity (VA) in 20% of cases, all resolving to 6/9 or better. 100% of initial consultations were in-person. $\frac{1}{3}$ of cases had a retinal detachment warning documented and only 2 cases had documented advice to avoid strenuous activity, but none made reference to sport. The average number of follow-up appointments was 1.2.

Between the summer months of 2020 and 2022, of 12722 cases presented to EED, 31 of which were sports-related ocular trauma. The mean age during this time period was 35.87. 93.55% of these cases were male. Football was the mechanism of injury in 51.61% of cases. There was decreased VA in 35.48% of cases, with only 45.45% of these cases having a final recorded VA of 6/9 or better. 61.29% of initial consultations were virtual. Retinal detachment warning was documented in 8 cases (25.81%), with 3 cases (9.68%) having explicit instructions to avoid their respective sport for an unspecified period of time. The average number of follow-up appointments was 0.87.

In the summer months of 2023, there were 4065 presentations and 21 cases of sports-associated ocular injury. The mean age of presentation for this year was 38.05. 76.19% of cases were male. Football was the inciting mechanism in $\frac{1}{3}$ of cases. 52.38% of cases presented with decreased visual acuity, with only 20% having a final recorded VA of 6/24 or better. 100% of initial consultations were done in-person, as all cases had initially presented via the main ED. Retinal detachment warning was documented in 2 (9.52%) of cases, and avoidance of the sport in question for 2 weeks was recommended in 1 case. The average number of follow-up appointments was 0.95.

Over the 5 year period, 14.9% of cases were above the age of 50, 11.9% younger than 25. 84% of all cases were male. Football contributed to 46.3% of cases, the greatest number for any sport. The next most commonly associated sports were golf, hurling and boxing (10.44%, 8.96% and 7.46% respectively) 19.4% reported decreased VA at the time of presentation and 79.6% had a final recorded VA greater than 6/9. 76% were initially seen in-person, vs 24% via phone consultation. 31% of initial consultations in 2021 were done over the phone, the greatest for any year. 47.8% of cases were provided with a warning regarding retinal detachment and only 7.6% were given advice regarding return to their respective sport.

Conclusions:

A wide range of injuries were represented among the 67 cases of sports-related ocular trauma attending EED in between 2019 and 2023, ranging from corneal abrasions and subconjunctival haemorrhages, to maxillary sinus fractures and retinal detachments. It is evident that phone consultations have played a greater part given the circumstances of the previous few years and that the average age of presentations has decreased with the years.

In pre-COVID 2019, retinal injuries represented the largest proportion of injuries. There were 2 horseshoe tears, 1 epiretinal membrane and 2 cases of commotio retinae. Between 2020 and 2022, there was a larger proportion of corneal abrasions, intraocular foreign bodies, and anterior segment injuries which are more associated with sports such as tennis, badminton and squash, which facilitate social distancing. And in 2023 there was a greater balance between anterior and posterior segment injuries, likely due to the greater variation in sports represented in this cohort.

Only a small proportion of cases had documented advice with regards to return to play, and red flag symptoms that would warrant further evaluation. However, as none of the cases identified had re-presented with an additional ocular injury associated with their sport, it is likely that high quality advice has been given at the time of consultation, even if not explicitly documented. However, there is the potential to improve player safety following sports injuries through the creation of an ocular trauma checklist or proforma, in addition to the formation of solid guidelines surrounding return to play, as has been done in the context of concussion.

Evaluation Non-diabetic Eye Referrals from a Single Diabetic Retinopathy Screening Programme in Dublin over a 12 Month Period in 2022

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Objectives:

In Ireland, the National Diabetic Retinal Screening (DRS) Programme provides free eye screening service to anyone with diabetes aged 12 years. Since its establishment in 2013, the DRS programme has seen over 70,000 patients across 130 community-based centres. Patients with moderate/severe diabetic retinopathy (DR) grades and diabetic macular oedema (DMO) detected at screening are referred to 8 treatment centres across Ireland. A proportion of these referrals may also include non-diabetic eye disease that can be detected during screening. This study aims to assess the cohort of patients referred to treatment centres for further evaluation.

Methods:

Retrospective cohort study involving patients above 12 years of age who are registered and attending the DRS programme between January 2022 and December 2022. Our main outcome measures were number, type and reason for referrals, patient demographics (type of diabetes mellitus, duration of diabetes, age), retinopathy grade of affected and fellow eye.

Results:

102 eyes were referred as non-urgent diabetic eye disease between Jan 2022 and Dec 2022. Majority of these referrals were referred for glaucoma suspects. There was 69 eyes (67.6%) who were referred with having suspicious optic disc haemorrhage. Out of the eyes referred for glaucoma, 21 eyes (30.4%) had been lost to follow up for their glaucoma screening. Cataracts were present in 14.7% of patients and 4.9% had arterial emboli detected on fundal imaging. Only 3 patients (2.9%) were referred for vein occlusions and only 1 eye was referred for posterior capsule opacification. All referred eyes had either no or mild non proliferative diabetic retinopathy (R1/R0) in the affected and fellow eye.

Conclusions:

Our data shows that non diabetic eye referrals take up a proportion of referrals to treatment centres and majority of these referrals are for glaucoma suspects and confirmed glaucoma patients who were lost from follow up screening. Only a small number of systemic cardiovascular cases were detected and routinely referred. The detection of retinal arterial emboli or vein occlusion should prompt clinicians to a full cardiovascular examination and work up to identify underlying cardiovascular risk factors.



An Atypical Cause of Recurrent Transient Monocular Vision Loss

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Objectives:

To describe an atypical case of recurrent transient monocular vision loss and to review the pertinent medical literature.

Methods:

Case report with presentation of clinical photographs and literature review.

Results:

A 53 year old gentleman was referred for neuro-ophthalmology assessment with symptoms of recurrent transient vision loss in the left eye. He described amaurosis fugax-like symptoms with his vision going completely black for up to 5 minutes at a time. Episodes occurred up to 10 times per day. 5 months prior he had similar symptoms in the right eye and subsequently had a negative work-up for embolic retinal arterial occlusion. Given this new presentation, he underwent further extensive investigations. Prior to his referral to neuro-ophthalmology clinic investigations performed included; MRI brain with gadolinium contrast, CT brain, CT angiogram, echocardiogram, US carotid dopplers, PET-CT scans, lumbar punctures with CSF immunophenotyping and oligoclonal band analysis, autoimmune and vasculitis screening and inflammatory markers

amongst other serological investigations. All of the aforementioned investigations were normal. His eye examination at the time of our assessment was also normal. Remarkably, the patients optician captured fundal images during an episode. The photos reveal retinal vascular vasospasm with retinal hypoperfusion and oedema. Further photos were taken when his vision returned which show a normal fundus appearance with restoration of perfusion. The patient was diagnosed with vasospastic transient monocular vision loss. The patient's symptoms completely resolved with nimodipine.

Conclusions:

Isolated ocular vasospasm should be considered in cases of transient monocular vision loss particularly when thromboembolic disease is excluded. Patients with such symptoms should be encouraged to seek urgent eye examination with retinal photography at the time of event. We highlight nimodipine as a successful treatment in vasospastic vision loss.



Bilateral Diffuse Uveal Melanocytic Proliferation (BDUMP): A Case Report

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Objectives:

To document this rare and sight threatening condition.

Methods:

Case report with presentation of clinical photographs and literature review.

Results:

Review of pathophysiology and clinical course.

Conclusions:

Extensive clinical workup and multidisciplinary team input required.



Cataract Audit Ashgrove House February 2024

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Objectives:

To understand and establish the reasons that patients that attended for one stop pre operative cataract assessment were not listed for cataract surgery.

Methods:

Prospective audit.

Results:

13% of referrals for cataract where discharged or referred for other treatment.

Conclusions:

Education and communication with our referrers on the importance of assessing the impact to the patient of the visual issues and whether they are motivated to proceed with surgery.

Optimising Sustainability in Cataract Care

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Objectives:

The objective of this project being undertaken as part of an MD is to accurately measure carbon emissions generated by a patient undergoing cataract care in Royal Victoria Eye and Ear (RVEEH), and ultimately implement changes for the optimal carbon footprint cataract surgery pathway to be devised. Worldwide surgical care and aviation yield similar carbon emissions, so that the magnitude with which minimising surgical emissions can be reduced has a significant impact on reducing carbon emissions and improving population health.

Methods:

A Life Cycle Assessment (LCA) was performed using a bottom-up process for all theatre equipment, energy use, single use items using the ICE and BEIS databases. The OpenLCA software was used to compile databases which contain products for which an LCA has already been performed. Ten patients' cataract operations were audited for monitoring of instrument use. The environmental impact of electricity and natural gas were calculated according to the hospital's yearly usage, divided by the floor space used for the cataract care pathway. Likewise, emissions from patient travel were calculated based on their address, method of travel and number of journeys made. Calculations regarding the environmental impact of the surgical instruments were made using their individual weight and material of composition for which the CO₂eq is known and collated using the ICE and BEIS databases.

Results:

We have calculated patient travel emissions range from 4.5 - 192 KgCO₂eq with differences base on their method of transport, travelling alone or with a relative and their county of origin, audit of intra-operative instrument use revealed an average of two instruments being opened but unused and an average of 3.7kg of waste is generated per surgery, and perioperative scope 3 carbon emissions measure 7.2 KgCO₂eq.

Conclusions:

Worldwide surgical care accounts for 1.5-2% of global CO₂ emissions, with most healthcare emissions generated by high- and middle-income countries, while low-income countries are those most at risk of the negative impact of rising global temperatures and weather dysregulation. In the year 2021, 33,348 cataract operations were performed in Ireland, this very high number of surgeries is projected to increase, so that minimising the environmental impact of this procedure will be multiplied by the frequency with which it is performed. By highlighting the hotspots of the cataract care pathway, this project aims to allow for identification and reduction in carbon emissions from cataract surgery.



Successful Treatment of a Rhegmatogenous Retinal Detachment in a Patient with Oculocutaneous Albinism

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Objectives:

Albinism is a disorder of melanin synthesis that affects people of all ethnic backgrounds. The highest prevalence of 1/5000 is in the patients from the sub-Saharan African descent. Albino retinal detachment repair poses a challenging vitreoretinal surgery dilemma. Difficulties include poor visualization of breaks due to decreased contrast between the neurosensory retina and the RPE and choroid and an inability of the laser to induce a good chorioretinal adhesion. Furthermore, fast nystagmus causes vitreous currents which causes problems with chorioretinal adhesion with an early reopening of the treated breaks in the postoperative phase. We describe a case of successful rhegmatogenous retinal detachment repair in a patient with oculocutaneous albinism.

Methods:

A retrospective chart review and review of ocular images was conducted.

Results:

A 44 year old lady of African ethnicity with oculocutaneous albinism presented with a one week history of a shadow in her vision on a background ophthalmic history of myopia, foveal hypoplasia and nystagmus.

Dilated fundoscopy revealed in the affected eye a posterior vitreous detachment with an inferotemporal shallow macula off rhegmatogenous retinal detachment. The causative break was an inferotemporal large horse shoe tear in lattice with one horse shoe tear in the superonasal quadrant in flat retina.

The patient underwent 25 gauge pars plana vitrectomy in September 2023 under local anaesthesia. A full vitrectomy with indentation was performed. Diathermy was used on the breaks on the detached retina to aid identification. A 360 degree indented search of the retina was performed with cryotherapy to breaks in flat retina, fluid air exchange and subsequent cryotherapy to the marked break in detached retina. The tamponade used was with silicone oil Oxane 5700 cs. All sclerotomies were closed with interrupted 8-0 vicryl. The patient postured face down day and night for 7 days. During the post-op reviews her best corrected visual acuity achieved 6/45. The silicone oil was removed with 23 G ports under local anaesthesia 5 months later. Her retina remains flat and her VA remained stable at 6/45 6 months after initial presentation.

Conclusions:

This case highlights some of the surgical nuances of managing rhegmatogenous retinal detachments in those with ocular albinism. Identifying the breaks can be challenging both in the preoperative and perioperative phases. Achieving a good chorioretinal scar ablates the effects of intraocular currents. However, in albinism, intraocular currents are maximized secondary to nystagmus and the chorioretinal scar is suboptimal due to a decreased melanin. Therefore, there is a need to seal tears by cryotherapy during vitrectomy and long-term silicone oil tamponade. This patient's retina remains flat 6 months after her initial presentation.



Inner Retinal Vascular Integrity in Retinitis Pigmentosa

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Objectives:

Retinitis pigmentosa (RP) is a genetic retinopathy affecting approximately 1 in 4000 people globally. Retinal vascular attenuation is observed in the condition's end stages, however, there have been no significant recent studies that have objectively quantified the extent of inner retinal vascular integrity in patients with RP.

Methods:

Patients with a genetically confirmed RP diagnosis (RPE65 or RHO mutations) underwent ocular examination, followed by fundus fluorescein angiography (FFA) over a ten minute period. Blood samples were also obtained for PAX-gene, Peripheral Blood Mononuclear Cell (PBMC) and serum analysis of known factors associated with inner blood retinal barrier (iBRB) disruption.

Fluorescein signal was quantified by a newly developed software called Fluorescent Ocular Vasculature Analysis Suite (FOVAS). This program was designed for objectively and quantitatively analysing fluorescein signal in the retina. Images obtained were also clinically reviewed by the consultant ophthalmologist overseeing this research.

Results:

3 patients with a dominant RPE65 mutation and 6 patients with a dominant RHO mutation were imaged (n=9). There were a near-equal number of male (n=5) and female (n=4) patients, aged between 44 to 78 years old.

Imaging of patients with the RPE65 mutation did not demonstrate any change in fluorescein signal upon initial administration of the dye over the investigative time frame, in comparison to our control, non-diseased, patient cohorts (n=38). Patients with a RHO mutation demonstrated a decreased signal evolution. Focal analysis of regional retinal atrophy, particularly from patients with the RPE65 mutation, allowed for geographical comparison between the RP subtypes.

Conclusions:

Quantitative FFA may yield valuable information on the pathophysiology of iBRB integrity in RP and other retinopathies. These results offer an insight into the aetiology of retinal atrophy seen in RP. This may offer future avenues to the condition's management and treatment.

Periocular Cancer Care: A Single Centre Experience

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Objectives:

To describe the demographics, diagnosis and treatment outcomes of periocular cancer care in a single centre and single surgeon service.

Methods:

A retrospective review of all patients diagnosed and treated for periocular cancer over a four year period between 1st January 2020 and 31st December 2023 at University Hospital Waterford was performed. Patient demographics and tumour location were noted. Histological diagnosis was obtained, as well as the surgical procedure performed and rates of re-excision or recurrence. Data trends were compared with previously audited data from 2017/18.

Results:

378 tumours were identified. 444 surgical procedures were performed. Mean age at surgery was 77.4 years (range, 37 – 95). 56.25% of patients were Male. In terms of neoplastic conditions identified, Basal cell carcinoma (BCC) was most common (67%), followed by squamous cell carcinoma (SCC) (17%) and lentigo maligna (5%). Cutaneous melanoma and orbital lymphoma were less common (<1%). The most frequent location for BCC was the lower lid (41%), medial canthus (20%) and cheek (16%) respectively. The most common site for SCC was forehead (65%), cheek (22%) and lower lid (13%) respectively.

Surgical procedures in order of frequency included direct closure or 1 stage procedure (n=203), shave biopsy/punch biopsy (n=87) two stage procedure and reconstruction (n=66) and reconstruction following MOHs (n=22). Re-excision due to inadequate tissue margins was required in 3.9% of cases.

Conclusions:

The national cancer registry of Ireland (NCRI) reports an increasing incidence of non-melanoma skin cancers, particularly in Males. This is corroborated in our patient profile and data. Our surgical throughput has increased to match this demand. We have had a 125% increase in periocular surgical procedures performed in 2023 compared with previously audited data in 2017. In addition to this our rates of re-excision and recurrence are low, highlighting that a 1 stage procedure is sufficient for the majority of small and medium lesions with well-defined tumour borders.



Behcet's Disease Presenting as Neuroretinitis: A Case Report

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Objectives:

Ocular involvement in Behcet's Disease has one of the most serious implications of the disease. Up to one quarter of patients can end up with severe vision loss. The rarity with which this disease typically presents makes it a formidable challenge to diagnose. This case illustrates the value of a complete history and timely management of the disease which prevents severe ophthalmic complications associated with the disease like BRVO, CMO, neovascular glaucoma.

Methods:

This case report presents a case of 24 years old female with a single episode of blurring of vision and floaters in her right eye of one week duration (VA was 6/15 and 6/6 in RE and LE respectively). In the right eye, AC had 3+ cells and on fundus examination, macular star signifying neuroretinitis was seen. The patient reported having mouth ulcers and genital ulcers for the same duration as the eye complaints. Patient gave a history of previous episode of similar ulcers accompanied with fever, pharyngitis, rash on leg, enlarged axillary lymph nodes, knee and ankle joint swelling and was diagnosed as a viral infection. She was seen by a dermatologist and the dermatologist was not convinced of the disease being anything other than viral illness at that time.

Results:

Following Ophthalmic investigation (OCT Maculae, FFA showing minimal leakage in late phases) and detailed blood investigation (FBC,CRP,ESR, U&E,Infectious screen,HLA B27,HLA B51)and following the International Criteria for Bechet's Disease (ICBD) guidelines, a diagnosis of Bechet's Disease was concluded. According to the guidelines, the patient was given a score of 7(2 for Ocular involvement, 2 for oral ulcers, 2 for genital ulcers, 1 for skin involvement).We referred the patient promptly to the Rheumatology department to start her on immunotherapy and in the meanwhile, we started her on 16 weeks course of tapering dose of oral steroids. The Rheumatologist agreed with our diagnosis and the patient is now being treated with Methotrexate with a shift to Adalimumab soon after. Her next Ophthalmology review is planned in 6 weeks' time.

Conclusions:

It is, therefore, necessary to raise awareness of the different modes of ocular presentations, use of detailed relevant history, investigations like OCT and FFA, and different treatment algorithms to help early diagnosis and appropriate management of Bechet's Disease.



Never Let a Good Crisis go to Waste. Have Changes to Practice Since COVID Affected the Proportion of Truly Urgent Presentations to the Eye Casualty?

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Objectives:

To analyse the types of pathologies presenting to Eye Casualty and whether the proportion of truly urgent conditions seen there has changed following implementation of new triage practices in response to COVID-related restrictions.

Methods:

A prospective audit was undertaken of patients attending the Eye Casualty in Cork University Hospital over 4 separate days in December 2020 and February 2021. Data recorded included demographics, referral source, diagnosis, symptom duration, and disposal. The diagnoses were then grouped into urgent and non-urgent, and into those which were considered suitable to be seen in a primary care setting by general practitioners or optometrists. This was compared to similar data recorded in the same unit in 2009.

Results:

91 Eye Casualty attendance forms with complete data were evaluated. 31 (34.1%) cases were considered to be non-urgent and suitable to be managed by their general practitioner or optometrist. The proportion of urgent cases were higher in the 2020/21 group compared to those seen in 2009 (65.9% vs 57%, respectively). Foreign bodies remain the most common reason for presentation. One of the most striking differences between the two sets of data were the rates of conjunctivitis cases encountered: 1.2% in 2020/21 versus 7.8% in 2009.

Conclusions:

Given the ever increasing demands on emergency services associated with an aging population, it is vital that the majority of presentations to the Eye Casualty are for genuinely urgent pathologies. Thus, the improving trend in this regard is welcome. One of the reasons for this is likely due to the introduction of a nurse-led phone call triage system which was instituted during the era of COVID to filter those trying to access urgent ophthalmic care. The reduction in conjunctivitis presentations may be due to the non-urgent nature typical of this pathology, such cases being advised against attending as red eye was thought to be a sign of COVID, or possibly reduced rates of infection in the community when fewer people were circulating post lockdowns. It will be interesting to see whether the continuation of phone call triage protocols will result in similar findings in the post-COVID era.

The Potential Impact of Digital Surveillance Clinics on Diabetic Maculopathy Referrals to a Regional Treatment Centre

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Objectives:

To assess the potential impact of retinal Digital Surveillance (DS) Screening Clinics based in the community on diabetic maculopathy referral rates to a regional treatment centre.

Methods:

Patient files were selected from the first 276 referrals from the Diabetic RetinaScreen (DRS) programme to Cork University Hospital's (CUH) Diabetic Retinopathy Treatment (DRT) Clinic that fulfilled selection criteria. The inclusion criterion was R1M1 cases referred from DRS. The exclusion criteria were patients with more severe grades of retinopathy in the fellow eye, presence of non-diabetic ophthalmic pathology, and those with fundal photographs deemed ungradable.

Results:

Of the 276 cases, 170 (61.6%) were deemed suitable for DS clinic at their first visit to the CUH DRT clinic. The proportion of those with clinically significant macular oedema alone was 13.8% at first visit, 16.3% by 12 months, and 17.8% by 24 months. The most common reason why a patient was deemed unsuitable for DS was having a best corrected visual acuity worse than the 6/12 limit proposed at that time, which was noted in 39 (36.8%) such cases.

Conclusions:

The majority of R1M1 cases initially referred from DRS could have been safely monitored in DS clinics instead of hospital-based treatment clinics. The introduction of DS clinics should lead to shorter hospital waiting times for those with sight threatening disease and decreased healthcare budget expenditure. With the DRS due to publish its own findings on the effectiveness of DS clinics, it will be interesting to see whether the reductions in maculopathy referral rates to treatment centres matches what was predicted in this study. This will help inform screening programmes in other jurisdictions when they are auditing their own hospital-based eye services ahead of implementing similar community-based surveillance clinics.



Local Tumour Control and Visual Outcomes in Uveal Melanoma Patients Treated with Iodine Plaque versus Ruthenium Plaque versus Proton Beam Radiation: A Ten-Year Review

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Objectives:

Uveal Melanoma is the most common intraocular tumour in adults. It has a high rate of metastases and in some studies as many as 50% develop metastases over a 10-year period. Ireland has a high rate of uveal melanoma (UM) when compared with incidence rates in Europe and the rest of the world, with the mean age-adjusted incidence of uveal melanoma in Ireland reported to be 9.5 per million of the population¹ Subsequent to a diagnosis of a uveal melanoma, treatment options include brachytherapy (with either β -emitting ruthenium-106 or γ -emitting iodine-125 plaques), proton beam radiation, endoresection, enucleation, laser with transpupillary thermotherapy (TTT) or photodynamic therapy (PDT). The decision on the modality used to treat depends upon a number of factors, namely tumour dimensions and location, visual potential and patients' desires. There has been a shift over the last 40 years towards eye conserving treatment options, but enucleation is still undertaken for larger tumours. Brachytherapy with radioactive plaques (I-125 or Ru-106) and proton beam are classified as radiation treatments for UM.

We aim to report outcomes in terms of globe preservation and visual acuity in patients treated with radiation for the management of uveal melanoma and to compare ruthenium plaques to iodine plaques to proton beam radiation over an eleven-year period (2010-2020). We also aim to assess for correlation between radiation dose, distance from fovea or nerve and final visual acuity.

Methods:

The data was retrieved by retrospective chart review of all uveal melanoma patients (513 patients) diagnosed in the ocular oncology service in Dublin between June 2010 to December 2020. All patients were resident in the Republic of Ireland at the time of diagnosis. Ireland is uniquely placed with a single dedicated Ocular Oncology service situated in the Royal Victoria Eye and Ear Hospital in Dublin, Ireland.

Results:

Retrospective chart review of patient notes. All patient who underwent irradiation treatment in the form of either ruthenium episcleral plaques, iodine episcleral plaques or proton beam radiation therapy are included in this study.

The following clinical data was extracted from the patient's clinical record: age, sex, gender, affected eye, treatment type, tumour location, tumour height, max basal diameter, tumour location, visual acuity, duration of follow up, radiation dose and distance to the nerve.

It was observed that patient with thicker tumours and high radiation doses had worse visual acuity in their post operative period. There was a correlation observed between foveal radiation dose and final visual acuity and optic nerve radiation dose and final visual acuity. With regards to eyes which maintained useful visual acuity (logMAR 1.0 or better) per treatment group, 28 (31.46%) the iodine group, 109 (52.15%) in the ruthenium group and 26 (40.62%) proton beam group attained this outcome. Those treated with iodine plaques had a worse final visual acuity than patients treated with ruthenium plaques, however this is confounded by the fact that those treated with iodine plaques had thicker tumours initially.

Conclusion:

Our centre is able to offer three different forms of radiation therapy to uveal melanoma patients. There is a paucity of papers comparing the treatment outcomes and side effects including visual outcomes. This paper will clarify the consequences of each modality therefore allowing adequate patient counselling and expectations.

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