



# Irish College of Ophthalmologists

*Eye Doctors of Ireland, protecting your vision*

**IRISH COLLEGE  
OF  
OPHTHALMOLOGISTS**

YEARBOOK

2011-2012

Incorporating the Scientific Programme for the  
Annual Meeting in the Royal Dublin Society, Dublin

Thursday 24<sup>th</sup> – Friday 25<sup>th</sup>, May 2012

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ICO *1991-2012*

## **IRISH COLLEGE OF OPHTHALMOLOGISTS**

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### **COUNCIL 2011/2012**

*President:* Patricia Logan

*Vice President:* Paul Moriarty, *President Elect:* Marie Hickey - Dwyer

*Secretary:* Patricia Quinlan, *Treasurer:* Mark Cahill, *Dean* – Denise Curtin

*Members of Council*

Aideen Hogan, Noel Horgan, David Keegan, Catherine McCrann, Margaret Morgan, Paul O Brien, Philip O Reilly, Garry Treacy

### **STANDING COMMITTEES:**

*Medical Eye Specialists Committee*

*Chairman:* Catherine McCrann

*Members:* Amanda Collum, Collette Dalton, Aideen Hogan, Tim Horgan, Marie Houlihan, Fiona Kearns, Bernadette McCarthy, Margaret Morgan, Susan Mullaney, Margaret Pierse, Grace O' Malley and Garry Treacy

*Finance, Policy and Professional Standards Committee*

*Chairman:* Mark Cahill

*Members:* Honorary Officers

*Manpower, Education and Research Committee*

*Chairman:* Noel Horgan

*Members:* Alison Blake, Denise Curtin, Yvonne Delaney, Gerry Fahy, Tim Fulcher, Sinead Fenton, Marie Hickey-Dwyer, Tim Horgan, Patricia Logan, Paul Moriarty, Mark Mulhern, Conor Murphy, and Shauna Quinn

*Scientific and Yearbook Committee*

*Chairman:* Paul O Brien

*Members:* Patricia Logan, Stephen Beatty, Fiona Kearns and Denise Curtin

*Public Affairs Committee*

*Chairman:* Mark Cahill

Mark Cahill, Alison Blake, Martin Coyne, Pat Logan, Darragh O Doherty, Kathryn McCreery, Gary Treacy,

*Professional Competence Committee*

*Chairman:* Noel Horgan

Susan Mullaney, Aideen Hogan, Paul O Brien

## **LETTER FROM THE PRESIDENT**

Dear Fellow College Members

I would like to extend a hearty welcome to you all to our annual conference. This year's event coincides with the celebration of 21 years of the ICO and I hope you all enjoy both the scientific programme and the 21 celebration.

I am delighted that so many of you have enrolled on the professional competence scheme. I know that it has been difficult for most of us to undertake this task but I am confident that the process of recording points will become easier over time. The CME points for this year's meeting will be specified as either internal or external and I hope that this will make it easier for each of us to meet the requirements as set out by the Medical Council.

I would like to take this opportunity to thank those College members who have given freely of their time on all of the various committees both internal and with other organisations and particularly those who have travelled overseas to represent the College internationally.

With Best Wishes

Pat Logan  
*President*  
*Irish College of Ophthalmologists*

May 2012

## REPORT OF COUNCIL 2011-2012

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**Patricia Quinlan, Honorary Secretary**

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There have been five Council meetings: May 14<sup>th</sup> 2011, September 3<sup>rd</sup> 2011, December 3<sup>rd</sup> 2011, March 10<sup>th</sup> 2012, March 31<sup>st</sup> 2012.

The Council Members are

Patricia Logan, Paul Moriarty, Marie Hickey – Dwyer, Patricia Quinlan, Mark Cahill, Denise Curtin, Aideen Hogan, Noel Horgan, David Keegan, Catherine McCrann, Margaret Morgan, Paul O Brien, Philip O Reilly, Garry Treacy

All Council members have attended the minimum required number of meetings

**Appointment of Standing Committees:**

***Finance and Professional Standards Committee:***

**Chairman:** Mark Cahill

**Members:** Hon. Officers

***Medical Eye Specialists Committee:***

**Chairman:** Catherine Mc Crann

**Members:** Amanda Collum, Collette Dalton, Aideen Hogan, Tim Horgan, Marie Houlihan, Fiona Kearns, Bernadette McCarthy, Margaret Morgan, Susan Mullaney, Margaret Pierse, Grace O' Malley and Garry Treacy.

***Scientific and Yearbook Committee:***

**Chairman:** Paul O Brien

**Members:** Denise Curtin, Fiona Kearns, Stephen Beatty, Patricia Logan

***Manpower Education and Research Committee:***

**Chairman:** Noel Horgan

**Members:** Alison Blake, Denise Curtin, Yvonne Delaney, Gerry Fahy, Tim Fulcher, Sinead Fenton, Marie Hickey-Dwyer, Tim Horgan, Patricia Logan, Paul Moriarty, Mark Mulhern, Conor Murphy, and Shauna Quinn

***Public Affairs Committee:***

**Chairman:** Mark Cahill

**Members:** Garry Treacy, Alison Blake, Kathryn McCreery, Darragh O Doherty, Martin Coyne and Pat Logan

***Professional Competence Committee:***

**Chairman:** Noel Horgan

**Members;** Susan Mullaney, Aideen Hogan, Paul O Brien

**Changes in Council Membership**

Aideen Hogan's term on Council has come to a close; Many thanks to Aideen for her hard work on Council and for her continuing committee work. David Keegan was also due to rotate off Council at this time but has accepted the President's invitation to stay on board for an additional year.

The new appointments to Council will be announced at the AGM.

## FINANCE, POLICY AND PROFESSIONAL STANDARDS COMMITTEE

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**Mark Cahill, Treasurer**

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At the close of 2011, the membership for the Irish College of Ophthalmologists stood at 188, subdivided into the following four categories of membership:

Ordinary Members;	138
Affiliate Members;	6
Overseas Members;	10
Senior Members;	12
Life Members;	21
Hon Life Members;	1
<b>Total;</b>	<b>188</b>

*Ophthalmology Trainees;* 54

### **Membership Fees**

The membership fees for the Irish College of Ophthalmologists for 2012 are.

Ordinary members	€480.00
Affiliate members	€360.00
Overseas members	€200.00
Senior members	€160.00

**Financial Status as at 31.12.2011**  
(details for discussion at AGM)

## MANPOWER, EDUCATION & RESEARCH COMMITTEE

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**Noel Horgan** *Chairman*

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*Committee Members:* Alison Blake, Denise Curtin, Yvonne Delaney, Gerry Fahy, Tim Fulcher, Sinead Fenton, Marie Hickey-Dwyer, Tim Horgan, Patricia Logan, Paul Moriarty, Mark Mulhern, Conor Murphy, and Shauna Quinn

The committee met on four occasions in 2011-12; June 10th, October 9<sup>th</sup>, January 7<sup>th</sup> & March 31<sup>st</sup>, 2012.

**National Basic Specialist Training Programme:** Centralised interviews, organised by the Dean, Dr Denise Curtin for the National Basic Specialist Training Programme took place in March, with representatives from each of the rotations. Ten new trainees have been appointed to the programme at SHO grade and will commence their training in July. An induction day for new trainees will be held in the College on June 29th.

**Higher Surgical Training:** Two new trainees have been appointed to the Higher Surgical Training Programme and will commence their training in July. An additional selection process will take place in June to fill one place in January 2013 and a further post in July 2013.

Prof Murphy has proposed changes to the format of the exit assessment for HSTs. The new format will require important input from trainers and details will be circulated.

The RCSI has reached agreement with the College on access to funding for courses for SpRs. This significant development ensures that higher surgical trainees can seek funding of up to €1500 annually to attend relevant courses and meetings.

**Trainee appraisals;** Centralised appraisals will be held once per year for all trainees with local assessments in the intervening six months. Consultant trainers who are allocated an SpR trainee must take part in the annual appraisal. The next centralised session will be held on December 7<sup>th</sup> to coincide with the Montgomery Lecture.

The appraisal process needs to be clarified in order to ensure it is a vigorous and transparent process, is fair to the trainee and reflects well on the ICO's own sense of quality assurance and self-governance. Most training programs measure progression by identifying learning outcomes targeted to year of training and assessment of competencies at recommended time schedules along the training path, both of which are mapped to the underlying curriculum and defined performance standards.

The ICO promotes a competency-based curriculum and assessment methods must reflect this so as to ensure that comprehensive evaluation of the educational objectives of the training program takes place. To that end, workplace based assessments need to be added to the toolbox of current assessment methods employed by the College.

Yvonne Delaney has drafted a proposal on a more rigorous appraisal process, which is under discussion at the training committee. Details on the agreed document will be circulated to all trainers once finalised.

## SCIENTIFIC AND YEARBOOK COMMITTEE

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**Paul O Brien**, *Chairman*

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*Committee Members;* Denise Curtin, Fiona Kearns, Stephen Beatty, Patricia Logan

Last year's annual conference was held in the Radisson at Farnham Estate, Cavan from 12<sup>th</sup> to 14<sup>th</sup> May. The meeting ran from Thursday to Saturday for the first time and earlier this year, members were canvassed for their views on whether next year's event should return to the usual Wednesday to Friday format, which it will in 2013.

### **Pfizer/ICO Research Award**

During the Conference, last year's winners Dr Conor Malone will give an update on the research he has carried out with the support of the 2011 award.

Unfortunately Pfizer are not in a position to continue financially supporting the award at this time and we will take the opportunity of Conor's presentation to thank them for their support of the fellowship over the past number of years.

### **ICO Medals**

Dr Sonia Charalampidou was the winner of the Barbara Knox medal at the 2010 Conference for her paper on Prognostic Indicators and Outcome Measures for

Surgical Removal of Symptomatic Non-Advanced Cataract.

The winner of the William Wilde Medal was Dr David Armstrong for his poster on Genomic Medicine and Stargardt Disease.

### **Montgomery Lecture**

The 2011 Montgomery Lecture was delivered by Prof Lloyd Paul Aiello on December 2<sup>nd</sup> in the Albert Theatre, RCSI – a return to Stephen's Green after 5 years being hosted in Trinity.

Lloyd Paul gave a very interesting talk on the novel therapeutic approaches for diabetic retinopathy.

### **Mooney Lecture**

The 2011 Mooney lecture was delivered by Prof Cindy Toth from the Duke Eye Center in Durham North Carolina. Cindy spoke on 'OCT Application in Developing Eyes'

This year's Mooney Lecture will be given by Einar Steffanson. Einar, Professor of Ophthalmology at the University of Iceland is familiar to many of the College's members as he previously spoke at the 2009 meeting. Einar will present on retinal oximetry in health & disease.

## MEDICAL OPHTHALMOLOGISTS COMMITTEE

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**Catherine McCrann, *Chairman***

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*Committee Members:* Amanda Collum, Collette Dalton, Aideen Hogan, Tim Horgan, Marie Houlihan, Fiona Kearns, Bernadette McCarthy, Margaret Morgan, Susan Mullaney, Margaret Pierse, Grace O' Malley and Garry Treacy.

The committee has met on three occasions with a good attendance. There will be an open meeting during the conference for all medical ophthalmologists to discuss current developments in ophthalmology in Ireland.

**Clinical Programme for Ophthalmology;** Work continues on this programme under chairmanship of Paul Moriarty. Garry Treacy and Catherine McCrann are representing medical /community ophthalmology.

Other members of the committee are continuing their commitment to the college; Garry Treacy on Public Affairs Committee; Fiona Kearns on Scientific and yearbook committee; Tim Horgan on Manpower Education and Research committee; Susan Mullaney and Aideen Hogan on Professional Competence committee.

Margaret Morgan is clinical lead for Diabetic Retinopathy Screening Programme

A very successful refraction training day was held in November organised by Maureen Hillery for the college. Grace O'Malley, Garry Treacy and Catherine McCrann also contributed.

At the **IMO AGM** a motion asking the HSE to publish the Community Ophthalmic Physician review, which was proposed by Michele Fenton and seconded by Grace O Malley, was passed.

Congratulations to Margaret Pierse on her election to council and thanks to Aideen Horgan who is finishing up her term.

My thanks to Siobhan Kelly for attending our meetings and to all committee members for their work and commitment throughout the year. The committee is always open to new members so if you would like to get involved and represent your colleagues in these challenging times please contact any member or the college.

## **PUBLIC AFFAIRS COMMITTEE**

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**Mark Cahill, *Chairman***

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*Committee members;* Alison Blake, Pat Logan, Garry Treacy, Kathryn McCreery, Martin Coyne and Darragh O Doherty

### **Public Affairs**

The Committee has been actively involved in addressing the College's concerns to the Minister and his Department officials on the proposed changes to the governing legislation for optometrists. The Minister advised the Optician's Board before Christmas, that he does not intend to include the existing S 48 restrictions on the treatment and diagnosis of eye conditions in the new legislation. The Committee is still actively engaging on the issue of patient safety to ensure that all those involved in the legislative drafting process have a full understanding of the link between eye health and general health.

### **Public Relations**

The College is continuing to work with Pembroke Communications to increase public awareness of the role of eye doctors in eye health in Ireland. As part of that drive, the College is engaging a part time communications officer to work with Pembroke to develop an annual calendar of events to maximise the role the College can play in providing patient focused health information to the public.

### **Newsletter**

A College newsletter has been launched in the past year with great success, and is proving a very useful way of keeping all members apprised of the latest developments. Any suggestions for future stories are welcome.

## PROFESSIONAL COMPETENCE COMMITTEE

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**Noel Horgan** *Chairman*

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*Committee Members:* Aideen Hogan, Susan Mullaney and Paul O'Brien

Since May 1<sup>st</sup>, 2011, all medical practitioners registered with the Medical Council have been legally obliged to participate in an approved professional competence scheme. The ICO launched its scheme at last year's meeting, using the electronic portal developed by the RCSI for which the College pays a fee per user. The initial year of the scheme drew to a close on May 1<sup>st</sup> by which time each practitioner should have been enrolled.

On renewing your Medical Council registration in June/July you will be asked to declare if you have enrolled on a scheme. A small number of doctors will be asked by the Medical Council, to produce evidence of enrolment and a summary of the CME points recorded. This e-certificate will be available online in your PCS account to download and print off to send to the Medical Council if requested.

The Post Graduate Training Bodies, including the ICO, are required to

undertake a verification audit on 3% of the doctors enrolled on the scheme. The College will randomly select the doctors for verification, to look more closely at the details of the CME points recorded. Some further clarification on the details recorded may be required by the College from the individuals selected for verification audit.

While the first year of operation of the scheme has not been without challenges, it is fair to say that the vast majority of eye doctors are meeting the minimum requirements required by the Medical Practitioners Act with respect to the maintenance of professional competence. The main challenges have arisen, not with the actual amount of CME activity being undertaken, but more so with the paperwork side of recording the dates, times & attendees of meetings and logging these details to the online portal.

The College is keen to support and facilitate members as much as possible in meeting their obligations so if you require any information the College is happy to help.

## **Eric Arnott 1929-2011**

Prof Arnott was a combination of establishment doyen and visionary innovator prepared to challenge accepted medical opinion. He was one of the first ophthalmic surgeons to recognise in the work of Charles Kelman, the inventor of phacoemulsification, a new approach to cataract surgery that heralded the dawn of small incision surgery. Kelman had found a method of removing the cataract through an incision of 3.5mm compared to the 12mm required for most surgery at the time. This meant that patients no longer had to lie in bed for two weeks after the surgery with all of their movement restricted. In 1971 Arnott went to the USA and attended one of Kelman's first courses. On returning to England he raised money to buy the very expensive equipment needed. When he started performing this surgery it raised a storm of protest amongst his colleagues, but Arnott carried on undeterred and until 1977 only a handful of surgeons practiced and taught this procedure outside of North America. The early machines for this minimally invasive surgery were crude by comparison with modern methods; nonetheless it was the beginning of a trend. Today almost all cataract surgery is carried out by using a variation of the technique Arnott was instrumental in helping to pioneer.

Prof Arnott was born in June 1929 in Sunningdale, Berkshire but the family were an important part of the Anglo-Irish establishment. His great-grandfather was an MP and Lord Mayor of Cork. A philanthropic entrepreneur, Sir John Arnott established the eponymous department store. His father was an agricultural correspondent and director with the Irish Times. He spent part of his youth at the family estate in Lucan and following his schooling at Harrow he returned to study medicine at Trinity College. He began his ophthalmology training at the Royal Victoria Eye & Ear Hospital in Dublin before moving to Moorfields in 1959. Whilst there, he worked with Sir Harold Ridley, inventor of the intra-ocular lens. After completing his training at University College Hospital he was appointed as a consultant first to the Royal Eye Hospital before moving to Charing Cross Hospital in 1965 where he was responsible for setting up the ophthalmic surgical service.

In 1974 he organised the First Live Ophthalmic Micro-Surgical Symposium where ten of the world's leading eye surgeons performed live surgery, relayed to over 300 international delegates, courtesy of the BBC. This novel concept in advanced surgical teaching was to set a standard for future surgical conferences and was widely reported in the media. He organised two further equally successful live symposia which helped to bring new ideas in cataract surgery to a wider audience.

In addition to his pioneering work promoting small incision cataract surgery and lens implantation, he was responsible for introducing other surgical techniques. In 1966 he was amongst the first surgeons in the world to follow Dermot Pearce's use of the surgical microscope; In 1967 he and Paddy Condon, his senior registrar used the first silicone implant for retinal detachment surgery; in 1968 he modified the final approach to glaucoma surgery by making the opening into the anterior chamber through the clear cornea, as opposed to the previous dialysis approach; in 1976 he and Gerard Emery of Houston, Texas, invented the diamond tipped "spear headed" surgical knife for making the phaco incision and in 1978 he was the first surgeon to perform a combined phaco cataract and glaucoma operation.

Arnott was very early in recognising the new trend of laser refractive surgery to correct shortsight. He acquired one of the first excimer laser's for the Cromwell Hospital in 1991

where he had already created a satellite subsidiary of the Arnott Eye Centre, a unique multidisciplinary ophthalmic private practice. In 1992 he was the first person in the UK to perform LASIK.

In 1984 he was one of the first surgeons to demonstrate phaco surgery and lens implantation in India and in 1991 he received a special award from the Asian branch of the Royal National Institute for the Blind for "outstanding support " to blind Asians in London and India. After his retirement in 1999, he raised funds to fund and equip a mobile operating theatre to perform modern eye surgery in remote Indian villages.

He was married to Veronica and has two sons, Stephen and Robert and one daughter Tatiana. With Stephen's help, he published the critically acclaimed "A New Beginning in Sight," in September 2006, chronicling the development of modern cataract and refractive surgery.

## **Denis Wilson**

### **1922-2011**

Denis Wilson practiced as a surgeon in Cork for over four decades. A highly cultured and courteous man, he shared with his wife Mary a lifelong interest in the arts, music and theatre. His daughter is actress Fiona Shaw. The family home at Montenotte was a venue for private poetry readings, operatic evenings and musical recitals, pursuits that were to have a significant bearing on Fiona's decision to embark on a career on the stage.

Though quietly reserved at those evening soirees, he was a fine raconteur with a hearty laugh and a fund of entertaining stories about his boyhood days in Cobh. Educated at the local Presentation College he went on to study medicine at UCC where he played rugby for the university and indeed was capped for Munster. He worked for a short time as a GP in London before training to be an ophthalmologist at the Manchester Royal Infirmary in 1960.

On his return to Cork he was appointed to the Eye, Ear and Throat Hospital, where he worked until his retirement, which coincided with the transfer of the eye unit to Cork University Hospital. He taught at UCC and the RCSI.

After retiring he wrote *De Iron Trote*, a history of the Eye, Ear and Throat Hospital and continued his interest in the arts by studying for a Diploma in Art History at UCC.

In addition to daughter Fiona he was father to three sons with his wife Mary, John, Mark and Peter who predeceased him.

***The Council and Members of the Irish College of Ophthalmologists appreciate the support of the following companies for College activities:***

**Alcon  
Allergan  
AMO  
John Bannon & Co.  
Bausch & Lomb  
Eurosurgical  
Fannin Healthcare  
Grafton Optical  
Haag-Streit  
Heidelberg Engineering  
Hospital Services  
MED Surgical  
Merck Sharp & Dohme  
Novartis  
Perception Ophthalmics  
Pfizer  
Raynor  
Sedena  
Spectrum Thea  
Topcon  
Whelehan Surgicare  
WMO Healthcare**

**ICO Conference May 24<sup>th</sup> – 25<sup>th</sup> 2012**  
**RDS, Dublin**

**Thursday Programme May 24<sup>th</sup>, 2011**

- 8.30am      President's Welcome Address  
Patricia Logan
- 8.40am      Papers  
Chair - Patrick Talty  
*Ophthalmic Surgeon, Cork University Hospital, Cork*
- 8.40am      The Changing Practice of Trabeculectomy Surgery in a Tertiary Referral  
Centre, 1991-2008  
*Janice Brady*
- 8.48am      Outcomes of Collagen Crosslinking with Riboflavin in 111 eyes using an  
Epithelial Disruption Technique  
*Paddy Condon*
- 8.56am      Repositioning of Posteriorly Dislocated Intra-ocular Lenses using Sutureless  
Haptic Fixation  
*Stephen Farrell*
- 9.06am      Nd:YAG Capsulotomy National Audit: Results and Recommendations  
*Edward Loane*
- 9.14am      A Study of Anterior Chamber Iris-fixated Phakic Intraocular Lenses Requiring  
Re-enclavation  
*Sarah Moran*
- 9.22am      Intensity of Pain During IOL Insertion in Patients Undergoing Microincision  
Cataract Surgery (MICS)"  
*David Shahnazaryan*
- 9.30am      Q&A
- 9.45am      Cataract Symposium  
– Chair Conor Murphy  
*Ophthalmic Surgeon, Royal Victoria Eye & Ear Hospital, Dublin*

**'Advances in the Prevention and Management of Cataract Surgery Complications'**

Larry Benjamin

*Ophthalmic Surgeon, Stoke Mandeville Hospital*

**'Premium IOLs in Cataract Surgery'**

Billy Power,

*Ophthalmic Surgeon, Royal Victoria Eye & Ear Hospital, Dublin*

**'Thresholds for Cataract Surgery'**

Stephen Beatty

*Ophthalmic Surgeon, Whitfield Clinic, Waterford*

***11.15am Coffee Break***

- 11.45am      Keynote address  
**'Traffic Medicine; A Broader Vision'**  
Prof Des O Neill  
*National Programme Director for Traffic Medicine, RSA/RCPI*
- 12.30pm      Free Papers  
Chair – Philip O Reilly  
*Ophthalmic Surgeon, Mid-Western Regional Hospital, Limerick*
- 12.30pm      Orbital Implants – Our Experience  
*Elizabeth McElna*
- 12.38pm      Intra-orbital Pathology Presenting to an Orbital Surgeon in Ireland over a 5  
year Period  
*Aoife Naughton*
- 12.46pm      Tissue Expansion in Periorbital Reconstruction  
*Maeve O Doherty*
- 12.54pm      Disc Assessment for Optic Neuropathy: The ODAP Project  
*Evelyn O Neill*
- 1.02pm      Final Visual Outcome and Vision Related Quality of Life after Acute Optic  
Neuritis in Irish Patients  
*Wefong Siah*
- 1.10pm      Ocular Findings in a Cohort of Relapsing-Remitting Multiple Sclerosis Patients  
on Oral Fingolimod Therapy  
*Deepti Thacoor*

1.18pm Q&A

**1.30pm Lunch**

2.30pm Practice Management/Development Symposium  
Chair – Paul O Brien,  
*Ophthalmic Surgeon, Royal Victoria Eye & Ear Hospital, Dublin*

2.35pm **'Commercial Realities of a Community Ophthalmologist'**  
Margaret Pierse  
*Medical Ophthalmologist*

2.50pm **'New Consultants Contract'**  
Paul Connell  
*Ophthalmic Surgeon, Mater Hospital Dublin*

3.05pm **'Experience of Private Practice'**  
Jim O Reilly  
*Ophthalmic Surgeon, Kilkenny*

3.20pm **Employer/Employee Relations  
– Managing Staff Conflict and Complaints**  
Hugh Carolan  
*Head of HR, Greenstar Ltd*

3.35pm Q&A

**3.45pm Coffee Break**

4.00pm Workshops  
**OCT**  
Paul Connell  
*Ophthalmic Surgeon, Mater Hospital Dublin*

Trainee Workshop  
**Phaco Surgery**  
Princeton Lee  
*Higher Surgical Trainee, Mater Hospital, Dublin*

5.00pm Medical Ophthalmologists Meeting

8.00pm Pre-Dinner reception Four Seasons

8.30pm      **Celebration of 21 Years of the Irish College of Ophthalmologists**  
Dinner at Four Seasons Hotel – (*Black Tie*)

**Friday Programme May 25<sup>th</sup>, 2011**

8.30am      Posters  
Chair – Catherine McCrann  
*Medical Ophthalmologist, Limerick*

ESCRS Membership for Trainee Ophthalmologists  
*Peter Barry*

An audit of the introduction of a brain heart infusion broth as an enrichment and transport medium for corneal scrape samples  
*Sarah Chamney*

Ocular Microtremor and Extraocular Muscle Tension – a Study of Sixth Nerve Palsy  
*Niamh Collins*

Pseudo-Duane's Syndrome in a Child with Combined Nasal and Chest Wall Mesenchymal Hamartomas"  
*Niamh Collins*

Peri-Operative Perfluorocarbon Heavy Liquid with Supplemental SF6 gas in the Management of Giant Retinal Tear Detachments  
*Paul Connell*

Audit of Trauma Presenting to Cork University Hospital  
*Catherine Croghan*

Diabetes Eye Education and Barriers to Optimal Diabetes Care in a Tertiary Referral Ophthalmic Cohort  
*Sarah Gilmore*

The Retinal Pigment Epithelial Cell: Potential Mediator of Lamina Cribrosa Extracellular Matrix Remodelling and Optic Disc Cupping in Glaucoma?  
*Emily Hughes*

Management of Circumscribed Choroidal Haemangioma  
*Farahida Ibrahim*

Management of Proliferative Vitreoretinopathy Following Retinal Detachment-  
An Irish Experience

*Estera Igras*

Vision Screening by Orthoptists – how Accurate is it

*Tony McAleer*

Orthoptic Screening Service – a 19 Month Review

*Tony McAleer*

Childhood Craniopharyngiomas; the Irish Experience

*Lisa McAnena*

A Case Series of Rapid Tightening of Diabetic Control and Worsening of  
Diabetic Retinopathy Requiring Vitrectomy

*Orla McNally*

NAD Ratio at Age of Referral; A 5 Months Review

*Rachel O Connor*

Tracking the Disc: Systematic Gaze Behaviors in Glaucoma Sub-Specialists  
During Optic Disc Examination

*Evelyn O Neill*

A Description of the Pathological Features of Corneal Specimens of Patients  
Requiring Tectonic Penetrating Keratoplasty for Rheumatoid Melt

*Michael O Rourke*

A Method for Prescription of Inexpensive Spectacles by Non-specialist  
Healthcare Workers: S-Glasses

*Max Treacy*

Deep Sclerotomy Revision Surgery for Recurrent Uveal Effusion Syndrome

*JP Doris*

10am **Irish College of Ophthalmologists Annual General Meeting**

***11.30am Coffee Break***

12.00pm Workshops

**The Aftermath of Diagnosis: the Practical and Emotional Impact of  
Low Vision**

Elaine Howley, NCBI & Lean Kennedy, Guide Dogs for the Blind

Trainees workshop

**'Useful Tips for Young Ophthalmologists'**

Sonia Manning

*Higher Surgical Trainee, Mid-Western Regional Hospital, Limerick*

**1.00pm Lunch**

- 2.00pm Free Papers  
Chair – Dara Kilmartin  
*Ophthalmic Surgeon, Royal Victoria Eye & Ear Hospital, Dublin*
- 2.00pm The Retinal Pigment Epithelial Cell: Potential Mediator of Lamina Cribrosa Extracellular Matrix Remodelling and Optic Disc Cupping in Glaucoma?  
*Emily Hughes*
- 2.08pm Differential Expression of Key Epigenetic Re-programming Genes in Human Lamina Cribrosa Cells in Glaucoma  
*Fiona McDonnell*
- 2.16pm Proteomic Research in Uveal Melanoma  
*Pathma Ramasamay*
- 2.24pm The Role of Viral Regulatory Protein ICP0 in Herpes Simplex Virus Type-1 (HSV-1) Keratitis  
*David Shahnazaryan*
- 2.32pm Anti-Connective Tissue Growth Factor Antibody Therapy Combats Expression of Fibrotic Genes in Glaucoma  
*Deborah Wallace*
- 2.40pm Q&A
- 2.50pm Different Location. Improved Performance? Transitioning an Intravitreal Injection Service  
*Elizabeth McElnea*
- 2.58pm 10 weekly Bevacizumab for maintenance treatment for Neovascular AMD  
*Mairide McGuire*
- 3.06pm Risk Factors Associated With Neovascular Age-related Macular Degeneration in Irish Population  
*Sorcha Ni Dhubhghaill*

- 3.12pm The Role of Prophylactic Intraocular Pressure Lowering Medications in Modifying the Intraocular Pressure Spike Associated with Intravitreal Injection  
*Olya Pokroyskaya*
- 3.20pm Q&A
- 3.30pm Coffee Break**
- 4.00pm Strabismus Symposium  
– Chair Donal Brosnahan  
*Ophthalmic Surgeon, Royal Victoria Eye & Ear Hospital, Dublin*
- 'The Surgical Management of Complex Strabismus'**  
David Coats  
*Baylor College of Medicine & Texas Children's Hospital, Houston Texas*
- 4.20pm **'Refractive Surgery in Children'**  
Evelyn Paysse  
*Baylor College of Medicine & Texas Children's Hospital, Houston Texas*
- 4.40pm **'What's New in Paediatric Ophthalmology and Strabismus 2012'**  
Kathryn McCreery  
*Ophthalmic Surgeon, Our Lady's Hospital for Sick Children, Crumlin*
- 5.00pm **"Get your life back: Effective implementation of voice recognition software into your Electronic medical record"**  
David Coates
- 5.15pm Panel Discussion
- 5.30pm **Presentation on research from 2011 Pfizer Award Recipient**  
'Targeting Toll-Like Receptor Pathways in Herpes Simplex Keratitis'  
Conor Malone  
*Research Fellow, RCSI & RVEEH*
- Interval*
- 6.30pm Mooney Lecture  
**'Retinal Oximetry in Health & Disease'**  
Prof Einar Steffanson  
*Professor and Chairman of Ophthalmology, University of Iceland, National University Hospital*
- Followed by Presentation of Barbara Knox and Sir William Wilde Medal
- 7.15pm *Evening Reception with Welcome for EASDec delegates*

***Book  
Of  
Abstracts***

## **"The Changing Practice of Trabeculectomy Surgery in a Tertiary Referral Centre, 1991-2008"**

*Brady J, Merceica K, Khan MI, Quinn S, Au L, Fenerty CH, Spencer AF  
Manchester Royal Eye Hospital*

**Objectives:** This study aims to examine the change in practice during this period in a large UK tertiary referral centre, particularly the differences in sub-specialist roles, antimetabolite use and the effect on primary outcomes and complications.

**Methods:** Theatre records from 1990 to 2008 at the Royal Eye Hospital, Manchester (MREH) were analysed for numbers of procedures performed, use of antimetabolite and sub-speciality of surgeon. Four periods were examined in detail (2001 (n=76), 2002/2003 (n=93), 2004/2005 (n=85) and 2008 (n=85) by retrospective case note analysis.

The periods 2004/2005 and 2008 were further sub-analysed for indications, post-operative surgical outcomes, rates of further procedures including needling and complications. The results from the two time periods were compared to each other and to the National Survey of Trabeculectomy (1996) standards.

**Results:** Number of trabeculectomies per year reduced from maximum of 730 in 1996 to 95 in 2008. The use of antimetabolites increased from 10% in 1995 to 100% in 2008 (5FU 40%, MMC 0.2 mg/ml 55%, MMC 0.4 mg/ml 5%). The proportion of glaucoma sub-specialists performing trabeculectomies increased from 35% to 85%. Success rates for achieving IOP less than 2/3 from listing improved from 73% to 90% and for IOP <21mmHg from 76% to 95% in 2004/2005 compared to 2008. Compared to 2005/2006, in 2008 repeat procedures reduced from 32% to 11.7%, and postoperative complications reduced overall (hyphaema 2.4%, shallow AC 1.2%, hypotony 7%, wound leak 5%, cataract 4.7%). The number of encapsulated blebs increased from 9% in 2005/2006 to 19% in 2008. Post-operative antimetabolites (5FU) were used in 28% of patients.

**Conclusions:** This study highlights the decline in number of trabeculectomies performed during the last two decades. Glaucoma subspecialists are now performing the majority of trabeculectomies. This might be reflected in the excellent surgical outcomes in the latest cohort. The high rate of bleb encapsulation might suggest that a more aggressive use of anti-metabolites may be necessary.

## **“Outcomes of Collagen Crosslinking with Riboflavin in 111 eyes using an Epithelial Disruption Technique”**

*Condon PI, Daya S, Daya M.*

*Waterford Eye Specialists, Centre for Sight, Cornea- Plastic Unit, UK,*

**Objectives:** To evaluate the outcomes of corneal collagen Crosslinking (CXL) using an epithelial disruptive technique to promote Riboflavin absorption.

**Methods:** The notes of 72 patients (111 eyes) with progressive keratoconus underwent CXL using an epithelial disruptive technique were reviewed. Epithelial disruption was performed by making multiple applications of a disruptive device (Daya Epithelial Disruptor, Duckworth & Kent, UK) followed by Riboflavin application. Parameters evaluated were uncorrected (UCDA) and corrected visual acuities (CDVA) refraction, keratometry, topographic parameters for steepness, pachymetry and endothelial cell counts.

**Results:** Successful absorption of riboflavin occurred in 45 mins. In all but 2 cases epithelium was completely healed by 48 hours. One eye developed a sterile infiltrate. Mean CDVA preop was LogMAR 0.20 (SD 0.23) and 0.23(SD 0.27) at 6 months, 0.08 (SD 0.19) (20/25) at 1 year. At 6 months 7.7% gained 2 or more lines of best spectacle corrected Snellen acuity and 12.8% lost 2 or more lines.

Endothelial cell counts did not change significantly at 2608 (SD 419) preoperatively, 2545 (SD 331) at 6 months and 2615 (SD 275) at 1 year.

**Conclusions:** CXL performed using an epithelial disruptive method is effective in arresting the progression of keratoconus and carries the advantage of more rapid recovery with a reduction in discomfort and complications.

## **“Repositioning of Posteriorly Dislocated Intra-ocular Lenses using Sutureless Haptic Fixation”**

*Farrell S, Keegan D.*

*Mater Misericordiae University Hospital, Mater Private Hospital*

**Background:** Post-operative dislocation of a posterior chamber intra-ocular lens can be surgically managed by removal, removal and replacement or repositioning of the lens. Previous methods to stabilise the lens following repositioning, such as sutured scleral or iris fixation, are often unsatisfactory.

**Method:** We present a series of 6 cases in which we use an adaptation of a recently developed technique to retrieve a series of dislocated intraocular lenses from the vitreous cavity and stabilise them. In this technique, a 20 gauge pars plana vitrectomy is performed, scleral tunnels are fashioned, the displaced intra-ocular lens (three piece acrylic (n=4), sutured PMMA (n=1) and one piece PMMA (n=1) lenses) is mobilized and the haptics are delivered out of the eye through sclerostomies 1.5 mm posterior to the limbus and threaded into the sclera tunnels which are subsequently closed using fibrin glue.

**Results:** Successful repositioning of the lens with good centration was achieved in all cases. All repositioned intra-ocular lenses remain in position in subsequent follow up over an 11 month period.

**Conclusion:** This sutureless method of intra-scleral haptic fixation appears to be an effective method of stabilisation of a repositioned intra-ocular lens however longer follow up is required. We will present an algorithm of care.

## **“Nd:YAG Capsulotomy National Audit: Results and Recommendations”**

*Loane E, Thacoor D, Fulcher T, Logan P*

*Department of Ophthalmology, Mater Misericordiae University Hospital*

**Objectives:** To investigate national variation in Nd:YAG laser capsulotomy practice in Ireland and to make recommendations based on these findings.

**Methods:** Irish College of Ophthalmologists members and affiliate members were invited to take part in a short online questionnaire. This questionnaire comprised of 15 questions on aspects of practitioner’s usual technique of Nd:YAG laser capsulotomy. The questionnaire was anonymised and was designed to take no more than four minutes to complete. Participation was entirely voluntary.

**Results:** Pending. To include data on: details of the procedure; the use of medications pre- and post-procedure; patient follow-up.

**Conclusions:** Nd:YAG laser capsulotomy has been practiced since the early 1980s, and is the standard treatment for posterior capsular opacification. It is also one of the first laser procedures that trainees learn and are required to perform on a routine basis. Despite this, there is a lack of consensus on the technique of performing this procedure, reflected in the variation in techniques across all grades of Ophthalmologists. We recommend modifications to practitioner’s technique to facilitate delivery of safe and effective care to their patients.

## **"A Study of Anterior Chamber Iris-fixated Phakic Intraocular Lenses Requiring Re-enclavation"**

*Moran S, O'Keefe M*

*Mater Misericordiae University Hospital, Mater Private Hospital*

**Objectives:** 1. To report the rate of patients requiring re-enclavation amongst 1000 patients with anterior chamber iris-fixated phakic intraocular lenses.  
2. To assess patient characteristics and determine causal factors in cases of phakic intraocular lenses requiring re-enclavation.  
3. To evaluate clinical outcomes following re-enclavation of phakic intraocular lenses..

**Methods:** A retrospective analysis of a cohort of iris-fixated anterior chamber phakic intraocular lenses (IOL's) requiring re-enclavation was performed. The data was drawn from a group of 1000 patients who underwent phakic IOL implantation in one eye centre in Dublin within the last 10 years. One surgeon, experienced in phakic IOL implantation performed all surgeries.

The following data was collected and analysed; Patient demographics - Age, occupation, hobbies/ sports, Pre-operative visual acuity, refraction, and endothelial cell count. Type of dis-enclavation – partial/total, spontaneous/traumatic. Post re-enclavation outcome: Visual acuity, refraction, endothelial cell count, cases requiring further re-enclavation.

**Results:** 22 eyes of 18 patients required re-enclavation- a rate of 2.2%. 7 patients (38%) had phakic IOL's dislocated secondary to trauma, while the remainder were spontaneous. Four patients (22%) required bilateral re-enclavation. 61% of patients requiring re-enclavation were female. The average time from original insertion of the phakic IOL to re-enclavation was 3 years. On average all patients maintained within one line of their best corrected visual acuity following the initial phakic IOL insertion. Endothelial cell counts post re-enclavation are comparable to the levels seen following initial enclavation of the phakic IOL.

**Conclusions;** Patient outcome following re-enclavation of phakic intraocular lens is favourable. Further follow-up is necessary to evaluate long-term outcomes. Patients who participate in certain sports/occupations that predispose them to blunt trauma should be counseled about the possibility of traumatic dislocation.

## **"Intensity of Pain During IOL Insertion in Patients Undergoing Microincision Cataract Surgery (MICS)"**

*Shahnazaryan D, O'Brien P*

*Royal Victoria Eye and Ear Hospital, Dublin, Ireland*

**Objectives:** To compare the intensity of pain during IOL insertion in patients undergoing microincision cataract surgery (MICS) and more specifically IOL insertion through a wound-assisted insertion technique, using 2 different ocular viscoelastic agents (OVA).

**Methods:** 42 consecutive patients who underwent coaxial microincision cataract surgery (2.2mm) with topical anaesthesia were randomly assigned to one of 2 groups (21 patients in each group). In Group 1 patients received intra-operative Visthesia (Sodium Hyaluronate + 1.0% lidocaine) and Group 2 patients received intra-operative Amvisc (Sodium Hyaluronate). Prior to surgery, the patients were shown a visual analogue pain scale ranging from no pain to worst imaginable pain (0-10). They were asked to report their subjective pain scores at three different times during surgery: on instillation of pre-operative proxymetacaine 0.5%, wound-assisted IOL insertion and for the total procedure.

**Results:** The mean pain score on administration of proxymetacaine was not statistically different between the groups (0.40 in Group 1 and 0.42 in Group 2). In Group 1 the mean pain score was less for both the IOL insertion and for the total procedure (mean 1.89 and 1.79 respectively) compared with Group 2 (mean scores of 2.66 and 2.55 in same categories). None of the patients in Group 1 scored higher than 3 (mild pain).

**Conclusions:** In our study wound-assisted IOL insertion through the microincision wound was associated with only mild discomfort. Addition of 1% lidocaine in OVA reduced the amount of discomfort or pain that patients experience during MICS although this was not significant possibly due to a small sample size. Although the average pain score for both IOL insertion and overall operation remained equal or below "mild pain" in both groups, some of the patients in Group 2 reported "moderate pain" (pain>4) at IOL insertion.

## **“Orbital Implants – Our Experience”**

*McElnea E, Ryan A, Fulcher T.*

*Department of Ophthalmology, Mater Misericordiae University Hospital, Dublin.*

**Objectives:** To examine our current practice in the management of those patients requiring enucleation or evisceration surgery.

**Methods:** A retrospective chart review of all patients who underwent an evisceration or enucleation in a single centre over a five year period was performed. The indication for surgery, the type and size of orbital implant used, details of the surgical technique adopted and those of the postoperative complications observed were recorded.

**Results:** Over a five year period 25 patients had enucleation and 14 had evisceration. 25 patients were male. 14 patients were female. The main indication for surgery was trauma. 23 of these procedures were performed by an ophthalmic surgeon with a special interest in Orbit and Oculoplastics while the remaining 16 procedures were performed by ophthalmic surgeons with other sub-specialty interests. Vicryl mesh wrapped bioceramic orbital implants were most commonly used. Orbital implant exposure occurred in 7 cases. Implant removal was necessary in 2 cases.

**Conclusions:** Orbital implant exposure remains a significant cause of morbidity in those patients undergoing enucleation or evisceration surgery. Management is challenging. Changes in surgical practice may be necessary to prevent its occurrence.

## **“Intra-orbital Pathology Presenting to an Orbital Surgeon in Ireland over a 5 year Period”**

*Naughton A., Fulcher T.*

*Mater Misericordiae University Hospital*

**Objectives:** To establish the demographic distribution, presentation and aetiology of intra-orbital masses presenting to one Orbital surgeon during the period 2007-2011 inclusive.

**Methods:** A retrospective chart review was carried out for 32 consecutive patients presenting with a suspected orbital mass over a 5-year period. The lesions were grouped into general categories, including benign, malignant, inflammatory and cystic masses. The specific diagnosis in each case was based on clinical findings, computed tomography scan and/or magnetic resonance imaging results, and histopathologic analysis results. The number and percentage of benign and malignant tumors per age group also was determined.

**Results:** Analysis of theatre records identified 32 patients that underwent orbital biopsy by a single surgeon from January 2007 to December 2011. 53% were female, 47% male. Average (range) patient age was 50 (16-96) years. The right orbit was involved in 17 cases (53%) and the left orbit in 15 (47%). There were no cases of bilateral orbital involvement. The superior orbit was the most commonly involved location accounting for 16 cases (50%), 7 of which were arising from the lacrimal gland (21.8% overall). Three (9.4%) of the masses were located inferiorly, 5 (15.6%) medially, 1 (3.1%) in the lateral orbit, 3 (9.4%) were intraconal and 4 (12.5%) arose from skin tumors with posterior invasion. Eleven cases (34.4%) of malignancy were diagnosed. Of these, there were 3 cases of lymphoma, 1 Ewing’s sarcoma, 4 invasive skin tumors (including 2 basal cell carcinomas, 1 squamous cell carcinoma, 1 sebaceous cell carcinoma all requiring an exenteration) and 3 cases of metastasis (the primary cancer was breast carcinoma in 2 patients and small cell lung carcinoma in the other). 73% of malignancy occurred in patients over the age of 70 years. Furthermore, of the 10 patients presenting with an orbital mass over the age of 70, 7 were found to be malignant. Benign tumors accounted for 8 cases (25%) comprising 2 cavernous haemangiomas, 1 capillary haemangioma, 1 pleomorphic adenoma, 1 optic sheath meningioma, 2 plexiform neurofibromas and 1 Langerhans cell histiocytosis. The average (range) patient age in this category was 35.3 (16-75) years. Idiopathic orbital inflammation accounted for 7 cases (21.9%) occurring in patients with an average (range) age of 41 (17-76) years. The remaining 6 patients (18.7%) were found to have cystic lesions (specifically dermoid cysts and mucoceles).

**Conclusions:** A variety of tumors and pseudotumors can involve the orbit. In this series of 32 lesions, 65.6% were benign and 34.4% were malignant. The percentage of malignant tumors increased with age, with malignancies being common in older patients because of the higher incidence of lymphoma, invasive skin cancer and metastasis in the elderly. Ireland’s relatively small population and numbered orbital surgeons make it amenable to conducting a national audit of orbital masses. We are currently collecting patient data from other orbital centres in Ireland, with results to follow.

## **“Tissue Expansion in Periorbital Reconstruction”**

*O'Doherty M, Collier J, Kirkpatrick N, Joshi N.  
Chelsea Westminster Hospital , London*

**Objectives:** In this study we report our experience of using osmotic tissue expansion over the past 5 years in challenging periorbital and facial reconstruction

**Methods and Results:** This was a retrospective case review of patients treated with osmotic tissue expanders for periorbital reconstruction. 7 patients were treated during the 5 year period, 2 children and 5 adults. The male to female ratio was 5:2, with a median age of 35 years. Treacher Collins syndrome was the commonest indication (42%),

Post blepharoplasty syndrome (28%). Giant melanocytic naevus of the eyelid, Reconstruction post radiotherapy in a patient with maxillary sinus carcinoma. A total of 14 osmotic tissue expanders were used

**Conclusions:** Tissue expansion is a valuable technique to create anterior lamellar excess in particular for cases where midface augmentation is planned and without which skin would be recruited from lower eyelid. Auxillary procedures may be necessary. Infection rate is low.

## **“Disc Assessment for Optic Neuropathy: The ODAP Project”**

*O'Neill E C, Kong G X.Y. Mackey D A, Hewitt A W, Coote M A, Danesh-Meyer H V and Crowston J G.*

*Centre for Eye Research Australia, University of Melbourne, The Royal Victorian Eye and Ear Hospital, 32 Gisborne Street, East Melbourne VIC 3002.*

**Objective:** Optic nerve morphology is affected by genetic and acquired disease. Worldwide, glaucoma is the commonest optic neuropathy; dominant optic atrophy (DOA) and Leber's hereditary optic neuropathy (LHON) are the commonest hereditary optic neuropathies. These three entities exhibit similar topographical changes at the optic nerve head, particularly in advanced disease. The purpose of this study is to determine whether experts can accurately differentiate these forms of optic neuropathy on disc assessment alone.

**Methods:** 23 optic nerve specialists (10 glaucoma sub-specialists and 13 neuro-ophthalmologists) participated in the assessment of 60 high resolution stereoscopic optic disc photographs (15 DOA images, 15 LHON, 15 glaucoma and 15 normal controls) which were randomised and masked. Experts were asked to assess the disc on 12 conventional topographic features and assign a presumptive diagnosis. Intra- and inter-analysis was performed using the index of qualitative variation (IQV) and absolute deviation (AD).

**Results:** The correct diagnosis was identified in 85%, 75%, 27% and 16% of normal, glaucoma, ADOA and LHON disc groups, respectively. The proportion of correct diagnoses within the ADOA and LHON groups was significantly lower than both normal and glaucomatous ( $P < 0.001$ ). Where glaucoma was chosen as the most likely diagnosis, 61% were glaucomatous, 34% were pathological but non-glaucomatous discs and 5% were normal. There was higher agreement for individual parameters assessed within the normal disc set when compared to pathological discs. ( $P < 0.05$ ) The only parameter to have a significantly higher agreement within the glaucomatous disc set when compared to ADOA or LHON disc sets was pallor, whereby experts agreed on its absence in the glaucomatous discs but were not in agreement on its presence or absence in the ADOA and LHON discs. ( $P < 0.01$ )

**Conclusions:** Optic neuropathies can result in similar topographic changes at the optic disc, particularly in late stage disease, making it difficult to differentiate ADOA and LHON from glaucoma based on disc assessment alone. Other clinical parameters such as acuity, color vision, history of visual loss and family history are required to make an accurate diagnosis.

## **“Final Visual Outcome and Vision Related Quality of Life after Acute Optic Neuritis in Irish Patients”**

*Siah WF, McAleer T, O'Rourke M, Cassidy L.  
Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin 2.*

**Objectives:** To determine the final visual function and vision related quality of life following acute optic neuritis in Irish patients.

**Methods:** Irish patients who presented to the Royal Victoria Eye & Ear Hospital with acute optic neuritis between January 2002 and December 2010 were invited to participate in this study. Neuro-ophthalmic examination included Snellen visual acuity, contrast sensitivity and Goldmann visual field were performed. Vision related quality of life was also assessed using the 25-item National Eye Institute Visual Function Questionnaire (NEI VFQ-25) and 10-item neuro-ophthalmic Supplement.

**Results:** Our preliminary results include data of 41 eyes with a history of optic neuritis from 39 patients. Majority of patients achieved good final visual acuity following optic neuritis. However, contrast sensitivity scores were significantly lower in eyes affected with optic neuritis compared to unaffected eyes (at 3 cpd,  $p=0.03$ ; at 6 cpd,  $p=0.05$ ). The NEI VFQ-25 scores were generally lower than those reported for a disease-free group. The scores were significant lower for specific NEI-VFQ subscales: general vision ( $p=0.0346$ ), near activities ( $p=0.0439$ ), role difficulties ( $p=0.0001$ ) and peripheral vision ( $p=0.0001$ ).

**Conclusions:** Final visual acuity in patients who had a history of optic neuritis is generally favourable. Self-reported visual dysfunction using NEI VFQ-25 is useful in providing the clinician information about the patient's activities of daily living.

## **“Ocular Findings in a Cohort of Relapsing-Remitting Multiple Sclerosis Patients on Oral Fingolimod Therapy”**

*Thacoor D, Loane E, Logan P*

*Departments of Ophthalmology, Beaumont University Hospital and Mater Misericordiae University Hospital*

**Objectives:** Multiple sclerosis is a debilitating neurological disorder characterized by demyelination of the CNS in young and middle aged patients. In Oct 2010, Fingolimod (Gilenya), a sphingosine-1-phosphate receptor modulator, was approved by the FDA as the first oral disease modifying agent for the treatment of relapsing-remitting multiple sclerosis (RRMS). Two large clinical trials – FREEDOMS and TRANSFORMS - have reported dose-dependent, reversible macular oedema in MS patients on Fingolimod, with onset at 3-4 months and complete spontaneous resolution within 3 months of discontinuation of therapy. It is difficult to differentiate between symptoms of optic neuropathy and macular oedema, making OCT an essential diagnostic tool. Also, macular oedema cannot be considered in isolation, as patients with RRMS often have other ocular findings such as optic neuritis, uveitis and eye movement disorders.

**Methods:** We will study the first group of RRMS patients who have recently been commenced on once daily oral 0.5 mg Fingolimod. These patients have been sourced from referrals for ocular examination from the Neurology Department in Beaumont Hospital. Visual acuity, colour vision, Amsler grid screening, fundoscopic examination, pupillary examination, OCT and optic nerve head photography will be performed for all patients in order to determine the incidence and effect of macular oedema with Fingolimod therapy.

**Results:** Pending

**Conclusions:** Pending

## **“The Retinal Pigment Epithelial Cell: Potential Mediator of Lamina Cribrosa Extracellular Matrix Remodelling and Optic Disc Cupping in Glaucoma?”**

*Hughes EL, Browne JG, Crean JK, Wallace DM, O'Brien CJ  
School of Medicine and Medical Sciences, Unobersity College Dublin, Institute of Ophthalmology, Mater Misericordiae University Hospital, Dublin, UCD Conway Institute of Biomolecular and Biomedical Research, School of Biomolecular and Biomedical Science, University College Dublin*

**Objectives:** There is a well established link between peripapillary atrophy (PPA) and glaucoma, but it's aetiology is unknown. Histologically, the beta zone- that adjacent to the optic disc, is bare of retinal pigment epithelial (RPE) cells. Epithelial cells in other organs have been shown to differentiate to a fibroblast-like phenotype through the process of epithelial to mesenchymal transition (EMT) in response to a variety of stimuli in vitro, including stretch, hypoxia and transforming growth factor beta (TGF $\beta$ ), a growth factor known to be elevated in the optic nerve head in glaucoma. The purpose of this work is to examine the possibility that these stimuli may induce EMT in the RPE cell, thus inferring a potential role for PPA in lamina cribrosa extracellular matrix (ECM) remodelling and optic disc cupping.

**Methods:** The human retinal pigment epithelial cell line, ARPE-19, was treated with TGF $\beta$ , (10ng/ml) and connective tissue growth factor (CTGF, 25ng/ml) in serum free media. Post-treatment analysis included real time polymerase chain reaction (qPCR), western blotting, microarray analysis and immunocytochemistry. Results were considered to be significant ( $p < 0.05$ ).

**Results:** Treatment of ARPE-19 cells in culture with TGF $\beta$  or CTGF induced an EMT change from a cobblestone morphology to a more elongated swirl pattern indicating a mesenchymal phenotype. Western blot analysis and immunofluorescence of cells post-treatment showed a loss of epithelial markers (Zona Occludins-1), and a gain of mesenchymal markers (alpha smooth muscle actin and vimentin). There was also an increased migratory ability of the cells on scratch assay. Microarray analysis and differential gene expression analysis demonstrated an upregulation of genes associated with cytoskeletal structure and motility, and downregulation of genes associated with cell adhesion ( $p < 0.05$ ). This was further confirmed by qPCR.

**Conclusions:** ARPE-19 cells were shown to change from an epithelial to a mesenchymal phenotype after exposure to glaucoma-like stimuli in-vitro. This transdifferentiation to a fibroblast-like cell indicates a potential role for the RPE cell in the ECM remodelling of the lamina cribrosa seen in glaucoma. Possible therapeutic benefit may arise from the role of EMT inhibitors in this process.

## **“Differential Expression of Key Epigenetic Re-programming Genes in Human Lamina Cribrosa Cells in Glaucoma”**

*McDonnell<sup>1</sup> F, Clark<sup>2</sup> A, O'Brien<sup>1,3</sup> C J, Wallace<sup>1,3</sup> DM.*

*<sup>1</sup>School of Medicine and Medical Science, University College Dublin, Belfield, Dublin 4, Ireland. <sup>2</sup>North Texas Eye Inst., University North Texas Health Center, Ft. Worth, TX, USA, <sup>3</sup>Dept. of Ophthalmology, Mater Misericordiae University Hospital, Dublin, Ireland.*

**Objectives:** Current treatment for glaucoma focuses on lowering of intraocular pressure (IOP), but despite apparently well-controlled IOP some patients continue to suffer progressive damage and the cause of this observation remains unknown. Epigenetics refers to heritable changes in gene expression or cell phenotype caused by mechanisms (such as methylation or deacetylation) other than changes in the underlying DNA sequence. Local environmental factors such as tissue hypoxia as is present at the optic nerve head in glaucoma are known to result in global epigenetic modifications. The objective of this study is to compare the expression of key genes involved in epigenetic re-programming in lamina cribrosa (LC) cells obtained from normal and glaucomatous donors.

**Methods:** Total RNA was extracted from LC cells isolated from glaucomatous and normal donors and reverse transcribed to cDNA. Quantitative real-time PCR was performed using gene specific exon-exon spanning primers to DNA (cytosine-5)-methyltransferase 1 (DNMT1), P300/CBP-associated factor (PCAF), Histone deacetylase 7 (HDAC7), Histone deacetylase 1 (HDAC 1) and the tumour suppressor p53 which can affect DNA binding capacity, histone acetylation and DNA methylation. Gene expression rates were compared using 18s rRNA normalized threshold cycle number values (cT's). The equation  $2^{-\Delta cT}$  was used to derive a fold difference in gene expression.

**Results:** Importantly, genes involved in the maintenance of DNA methylation (DNMT1) and acetylation (PCAF, HDAC7 and HDAC 1) status are significantly increased ( $P < 0.05$ ) in LC cells isolated from glaucomatous donors. Interestingly levels of tumour suppressor gene p53 were also up regulated; p53 itself can be acetylated and also has a function in oxidative stress and autophagy.

**Conclusions:** These data support our hypothesis that aberrant epigenetic modification occurs in human optic nerve head LC cells in glaucoma. Further studies will include investigation of differential epigenetic gene expression profiles in trabecular meshwork (TM) cells with the goal of exploring the potential of novel therapies such as HDAC inhibitors in the management of glaucoma.

## **“Proteomic Research in Uveal Melanoma”**

*Ramasamy P, Kennedy S, Meleady P, Clynes M, Murphy C, Horgan N.  
Royal Victoria Eye and Ear Hospital AND National Institute of Cellular Biotechnology, Dublin  
City University*

**Objectives:** This paper reviews the relatively recent development and use of proteomics research in oncology. Specifically, it discusses proteomics of uveal melanoma (UM) to date and future prospects of this type of research in improving our understanding, and ultimately, treatment of this disease.

**Methods:** Search words “proteomic”, “proteomics”, or “proteome” in combination with either “uveal melanoma”, “choroidal melanoma”, & “ocular melanoma” were used in PUBMED/MEDLINE and EMBASE.

**Results:** The majority of the limited number of studies have used cultured cell line models. The first proteomic study in uveal melanoma analysed the global proteome of a primary UM cell culture (UM-A). Ninety-six percent of those have never been reported in UM before. Proteins identified included those involved in invasion, metastasis, cell division and proliferation. Another study analysed the differential protein expression between three cell lines. One cell line was derived from primary uveal melanoma (Mel 270) and two were derived from liver metastases from the same primary tumour (Omm 1.3 and Omm 1.5).

Twenty-four differentially expressed proteins between the primary tumour and tumour metastases were identified. Most of them have previously been reported to be involved in tumour metastasis in other malignancies. In another study, the proteome of primary UM cell cultures (UM-A < 7) and invasive cell cultures (UM-A >7) were compared. This study also revealed a number of differentially regulated proteins that may serve as possible clinical biomarkers. The same authors then performed proteomic analysis of UM cell culture secretomes (UM-A, UW-1, OCM-1, SP5.6, and 92.1). This led to the identification of two potential biomarkers, cathepsin D and gp100 . Proteomic validation of 11 UM patients' serum (without metastasis) and 8 healthy subjects' serum found higher levels of cathepsin D and gp100 in UM patients' serum compared to those of healthy subjects.

A recent proteomic study compared 4 monosomy three to 3 disomy three tumours, the first to use UM tissue rather than cell lines. This study found that low levels of heat shock protein 27 (HSP-27) is correlated with chromosome 3 loss in higher grade UM tumours. The expression of HSP-27 in 50 monosomy three and 49 disomy three tumours was analysed, resulting in a complex model predicting survival by incorporating the level of HSP-27 expression along with other clinicopathologic factors and cytogenetic data.

**Conclusions:** Only a few proteomic studies have been carried out so far, with encouraging results. Many proteins which have not been described in the biology of UM have been identified. Most of these novel proteins were involved in cell growth, proliferation, adhesion, invasion and metastasis. It highlights the need for more proteomic studies in the post-genomic era. This will give us more insight into the molecular and biological characteristics of uveal melanoma, and may provide new biomarkers and therapeutic targets for this disease.

## **“The Role of Viral Regulatory Protein ICP0 in Herpes Simplex Virus Type-1 (HSV-1) Keratitis”**

*Shahnazaryan D 1, Lasari E 2, Jefferies C 2 Murphy C 1,2*

*1.Royal Victoria Eye and Ear Hospital, Dublin. 2. Department of Molecular and Cellular Therapeutics, Royal College of Surgeons in Ireland, Dublin.*

**Objectives:** Immediate early protein ICP0 is known to play an important role in herpes simplex virus type 1 (HSV-1) keratitis, but the exact mechanisms behind this are unclear. We have investigated the interaction of ICP0 with different components of the Interferon pathway to analyse the role of innate immunity in HSV-1 keratitis.

**Methods:** 293T cell lines were transfected with a plasmid expressing ICP0. Luciferase dual reporter gene assays were used to reveal its interaction with different components (TRIF, IRF3, TBK1, MyD88) of the type 1 interferon (IFN) pathway.

**Results:** ICP0 has a strong inhibitory effect on IFN  $\gamma$  production driven by different promoters, especially TRIF ( $p < 0.05$ ) and IRF3 ( $p < 0.05$ ).

**Conclusions:** A key element of the innate immune response to HSV-1 infection is the production of IFN  $\gamma$  by infected epithelial cells. ICP0 is able to alter these responses by inhibiting the IFN  $\gamma$  production as demonstrated above. This is a further step in understanding the pathogenesis of HSV-1 keratitis.

## **“Anti-Connective Tissue Growth Factor Antibody Therapy Combats Expression of Fibrotic Genes in Glaucoma”**

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**Objectives:** We have previously demonstrated elevated levels of connective tissue growth factor (CTGF) in the aqueous humour of Pseudoexfoliation glaucoma (PXFG) and Primary open angle glaucoma (POAG) patients compared to controls. CTGF was also shown to upregulate fibrillin-1 (a component of PXF-material) expression in cultured human trabecular meshwork (TM) cells. The objective of this study was to investigate the therapeutic potential of anti-CTGF immunotherapy in PXFG & POAG in combating fibrosis using oxidative stress and aqueous humour samples as stimuli in primary TM and primary lamina cribrosa (LC) cells.

**Methods:** Aqueous humour samples from PXFG, POAG and control cataract patients (n=3) were applied to porcine TM and human LC cells in the presence or absence of the monoclonal anti-CTGF antibody FG-3019 (10 $\mu$ M) (FibroGen Inc, South San Francisco, CA). Hydrogen peroxide (200 $\mu$ M H<sub>2</sub>O<sub>2</sub>, a subtoxic dose as determined by crystal violet assay) was used as a glaucoma-like (oxidative stress) stimulus +/- FG-3019. CTGF, fibrillin-1 and fibronectin-1 expression levels were assessed by quantitative PCR using gene specific exon-exon spanning primers. IgG antibody (10 $\mu$ M) was included as a negative control in both sets of experiments.

**Results:** Results showed that incubation of LC and TM cells with aqueous humour from both PXFG and POAG patients induced a significant ( $P<0.05$ ) increase in expression of CTGF, fibrillin 1 and fibronectin 1. This fibrotic response was significantly reduced by the inclusion of FG-3019 ( $P<0.05$ ). Similar results were obtained for oxidative stress treatment of LC and TM cells ( $P<0.05$ ).

**Conclusions:** The anti-CTGF antibody FG-3019 is effective in blocking CTGF, fibrillin 1 and fibronectin 1 production. These observed anti-fibrotic effects support a pathologically significant role for the use of anti-CTGF immunotherapy as a possible approach for treatment of PXFG and POAG.

## **“Different Location. Improved Performance? Transitioning an Intravitreal Injection Service”**

*McElnea E, Townley D, Thacoor D, McGoldrick A, Keegan D, Connell P.  
Department of Ophthalmology, Mater Misericordiae University Hospital, Dublin*

**Objectives:** To investigate the impact on patient satisfaction of transitioning from a theatre based intravitreal injection service to a ward based service for the same.

**Methods:** A self-administered satisfaction questionnaire was administered to 100 patients who transitioned from a theatre based intravitreal injection service to a dedicated ward based intravitreal injection facility. The main outcome measures concerned ease of access and transition through the care pathway.

**Results:** Of the 100 people who completed the questionnaire, 53 were male and 47 female. The mean age was 73.2years. The average number of injections received prior to transition was 5.5. In comparison to the previous service, 75% reported increased satisfaction, based on the parameters of ease of access, care pathway expedition, and 95% of patients felt that it reduced the anxiety pertaining to receiving subsequent therapy. Comparison to other care pathways in Ireland is outlined.

**Conclusions:** The transition of an intravitreal service from a theatre to a ward based setting was accompanied by increases in patient satisfaction with the service and has led to an improvement in patient compliance with further therapy.

## **“10 weekly Bevacizumab for maintenance treatment for Neovascular AMD”**

McGuire M, Cahill M  
Royal Victoria Eye and Ear Hospital, Dublin

**Objectives:** Treatment of Neovascular AMD has been revolutionized by the use of Intravitreal Anti-VEGF. To date, following initial treatment with 3 successive anti-VEGF injections, there has been little evidence to demonstrate the effectiveness of maintenance injections, nor the timing of such injections, as opposed to monitoring in an outpatient setting.

**Methods:** This was a retrospective study which identified all of the patients treated with maintenance 10 weekly Bevacizumab injections from a single consultant’s retinal clinic. Patients treated with maintenance Bevacizumab in the first 6 months of 2011 were identified and retrospectively followed for a period of 1 year. Baseline visual acuity, Fluorescein angiography and OCT at their initial presentation was compared with visual acuity and OCT following their initial course of successive Bevacizumab injections at 6 week intervals and again following their course of 3 intravitreal injections at 10 weeks intervals to the affected eye.

**Results:** 55 patients were identified in the study. Analysis confirmed preservation of best corrected visual acuity in the majority of patients.

**Conclusions:** 10 weekly maintenance therapy should be considered in all patients with Neovascular AMD following successful initial treatment with Intravitreal Anti-VEGF.

## **“Risk Factors Associated With Neovascular Age-related Macular Degeneration in Irish Population”**

*Ni Dhubhghaill SS, Cahill MT, Cassidy L, Kenna P, O'Rourke M, Humphries MM.  
Royal Victoria Eye and Ear Hospital, Smurfit Institute of Genetics, Trinity College Dublin*

**Objectives:** Age-related macular degeneration is the most common cause of visual impairment over 65 in the Western world. The objective of this project was to characterise the presence of known and potential risk factors in the Irish population.

**Methods:** The risk factors assessed were family history, cigarette smoking (current or previous), BMI, hypertension, hyperlipidaemia, diabetes, medication use, history of myocardial infarction (MI) or cerebrovascular accident (CVA, stroke). The study was constructed as a prospective cohort study. Patients with neovascular AMD confirmed by clinical examination and angiography were recruited from specialist retinal clinics. Age-matched control participants were recruited from the community and underwent a full ophthalmic examination. All participants completed questionnaires detailing their relevant medical histories.

**Results:** 206 participants were recruited into the AMD group and 127 participants in the control group in total. The ages were matched with an average age of 80.4 years in the AMD group and 75.64 years in the control group. There was no difference in the breakdown of sex between the AMD and control groups. Positive parental history of AMD was recorded in 8.7% of patients with AMD vs 7.1% in the control group ( $p=0.6822$ ). Within the AMD group, 17.96% of patients had at least one sibling with AMD compared with 4.72% of controls ( $p = 0.0003$ , OR 4.415). 5.51% of control recruits had a positive smoking history versus 14.07% in the AMD group ( $p=0.0008$ , OR 4.19). The prevalence of hypertension in the AMD group was 60.19%, significantly higher than the 38.58% rate in the control group ( $p= 0.0002$ , OR 2.407). There was no association found between AMD and hypercholesterolaemia, diabetes, steroids, warfarin, aspirin or statin medications. There was no association between myocardial infarction or cerebrovascular accident and AMD observed.

**Conclusions:** In this research we present risk factors associated with AMD in the Irish population. A significant strength of this presented work is the thorough characterisation of the control cohort. Family history, cigarette smoking and hypertension were associated with neovascular AMD in this population consistent with previous population studies. Hypercholesterolaemia, diabetes, vascular disease and medication history were not associated with AMD in this cohort.

## **“The Role of Prophylactic Intraocular Pressure Lowering Medications in Modifying the Intraocular Pressure Spike Associated with Intravitreal Injection”**

*Pokrovskaya O, Cullinane A, Dooley I  
Department of Ophthalmology, Cork University Hospital*

**Objectives:** The temporary IOP spike immediately post intravitreal injection (IVT) is well documented, and carries the potential risk of acute retinal vascular occlusion <sup>2, 3</sup>. At present, there is a lack of reliable clinical evidence for whether the use of prophylactic intraocular pressure (IOP) lowering medications are effective in preventing or reducing this adverse IOP spike <sup>1</sup>. The objective of this study is to investigate the role of prophylactic IOP lowering medications in modifying the intraocular pressure spike associated with intravitreal injection.

**Methods:** Prospective randomised control trial. Following written informed consent, patients admitted for 0.05 ml IVT anti-VEGF injections were randomly assigned to study group (received topical IOP lowering drugs apraclonidine and dorzolamide 30 minutes prior to IVT, or control group. Identical injection and IOP measuring technique was used across cases. IOP was measured using the Perkins tonometer at baseline, immediately before injection, immediately after injection, at 5 minutes and at 15 minutes post injection.

**Results:** The study group showed a pre IVT drop in mean IOP. The mean IOP spike immediately post injection was similar across study group (27.4mmHg) and control group (28.8mmHg, student's t-test; P = 0.9). The mean IOP in the study group returned to baseline more quickly than the control group.

**Conclusions:** This study shows a trend that prophylactic IOP lowering agents prior to intravitreal injection may favourably alter the course of the subsequent rise. This evidence supports the use of prophylactic IOP lowering agents in the context of intravitreal injection, especially in patients with preexisting glaucoma, or vascular compromise.

- 1 *M. P. Frenkel, S. A. Haji, and R. E. Frenkel, 'Effect of Prophylactic Intraocular Pressure-Lowering Medication on Intraocular Pressure Spikes after Intravitreal Injections', Arch Ophthalmol, 128 (2010), 1523-7.*
- 2 *V. Sharei, F. Hohn, T. Kohler, L. O. Hattenbach, and A. Mirshahi, 'Course of Intraocular Pressure after Intravitreal Injection of 0.05 Ml Ranibizumab (Lucentis)', Eur J Ophthalmol, 20 (2010), 174-9.*
- 3 *L. Wu, and T. Evans, '[Immediate Changes in Intraocular Pressure after an Intravitreal Injection of 2.5 Mg of Bevacizumab]', Arch Soc Esp Oftalmol, 85 (2010), 364-9.*

## **“ESCRS Membership for Trainee Ophthalmologists”**

*Barry P.*

*Royal Victoria Eye and Ear and St. Vincent's University Hospital*

**Objectives:** To identify the benefits of membership of the ESCRS for ophthalmologists in training.

**Methods:** Trainees must produce proof of their trainee status.

**Results:** Membership of ESCRS from 2012 for all Trainee Ophthalmologists is Absolutely Free of Charge. Each will receive the following benefits of membership:-

1. Access to ESCRS on Demand.
2. Access to the CME accredited i-Learn.
3. On-line access to the Journal of Cataract and Refractive Surgery.
4. Minimal registration fees for the winter and annual ESCRS congresses.

**Conclusions:** This free membership is available to all trainees for a total number of three years during their training. Join now!

## **“An Audit of the Introduction of a Brain Heart Infusion Broth as an Enrichment and Transport Medium for Corneal Scrape Samples”**

*Chamney S, Farren D, Church J, Ong G, Willoughby, C E  
Department of Microbiology and Department of Ophthalmology, Royal Victoria Hospital,  
Belfast*

**Objectives:** To assess if the introduction of brain heart infusion broth (BHIB) as a transport medium increased microbial identification following corneal scrapes for presumed bacterial keratitis.

**Methods:** A retrospective chart review of a period of six months prior to and post the introduction of the new transport medium for corneal scrape samples. The traditional corneal scrape method of plating multiple scrape samples at the slit lamp was replaced with one scrape and the placement of the corneal sample into BHIB. This was incubated x 24 hour, plated out and assessed for growth at 24 and 48 hours.

**Results:** In the 6 months prior to the introduction of BHIB 7 of 18 traditional scrapes identified the causative organism (40%). In the six months following the introduction of BHIB 28 of 46 specimens grew a causative microbe (60.87%). The 28 samples accounted for 21 patient episodes of presumed bacterial keratitis (i.e. some patients had more than one sample sent). Two of the patient episodes results were considered false positives and 19 were found to be true positive. The number of scrapes undertaken in the ophthalmology department increased due to less stringent requirements, longer shelf life and ease of access to BHIB. Smaller lesions were sampled with BHIB than with the traditional method as less scrapes were required.

**Conclusions:** The introduction of brain heart infusion broth as a transport medium increased the identification of the causative microbe in bacterial keratitis in our department.

## **“Ocular Microtremor and Extraocular Muscle Tension – a Study of Sixth Nerve Palsy”**

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Dept. of Clinical Medicine, Trinity College Dublin; Mercer's Institute for Research on Ageing,  
St James's Hospital; Royal Victoria Eye & Ear Hospital, Dublin, Ireland.*

**Objectives:** Ocular microtremor (OMT) is a minute high-frequency oscillation of the eyes, related to tone in the extraocular muscles (EOM). This study of sixth nerve paresis investigated the relationship between OMT frequency parameters and EOM tension and motoneuron firing, inferred based on known relationships between EOM tension and motoneuron firing in the extensive eye movement literature.

**Methods:** Twelve patients (median age 56 years, 8 male) with unilateral sixth nerve paresis were recruited from the orthoptics department in the Royal Victoria Eye and Ear Hospital, between April 2007 and May 2008. Examination included assessment of degree of strabismus using prisms and cover test. Twelve healthy control subjects (median age 47 years; six male) were recruited for comparison. OMT recordings were performed in the primary position and in lateral gaze.

**Results:** OMT peak frequency was lower in paretic eyes vs. non-paretic eyes in patients with sixth nerve paresis (mean difference 4.4Hz, 95% CI (0.6, 8.3Hz),  $p = 0.02$ ), and lower in paretic eyes vs. control eyes (mean difference 9.2 Hz 95% CI (6.2, 12.3Hz),  $p < 0.0005$ ). OMT spectral distribution was significantly shifted towards lower frequencies in paretic eyes compared to controls. Paretic eyes with greater degrees of esotropia in the primary position had a greater difference in OMT peak frequency between the two eyes (Spearman's rho 0.749,  $p = 0.008$ ). An increase in OMT frequency was seen in both abduction and adduction in controls, and in adduction in patients. However, OMT frequency did not increase in the paretic eyes in abduction.

**Conclusions:** The main findings were: (1) a reduction in OMT peak frequency in subjects with sixth nerve palsy, with more severe clinical limitation of lateral rectus function being associated with relatively lower OMT frequencies and (2) in lateral rectus paresis the normal increase in OMT frequency exhibited by healthy subjects when the eye is deviated in the direction of action of the lateral rectus was attenuated. The findings support the hypothesis that OMT frequency is related to EOM tension and the firing frequency of ocular motoneurons.

## **“Pseudo-Duane’s Syndrome in a Child with Combined Nasal and Chest Wall Mesenchymal Hamartomas”**

*Collins N, McCreery K.  
Our Lady’s Hospital for Sick Children, Crumlin*

**Objectives:** To present the first reported case of a child with naso-orbitall and chest wall mesenchymal hamartomas, in association with abnormal eye movements and restrictive strabismus.

**Methods:** A six-month old infant who had undergone excision of a thoracic wall mesenchymal hamartoma presented with right enophthalmos and esotropia. Examination revealed abnormal eye movements simulating Duane’s syndrome Type 1. There was gross restriction of eye movement, a right face turn and amblyopia OD. CT and MRI revealed a 2.5 cm x 1.5 cm mass in the orbital apex, right ethmoid aircells with extension into the anterior cranial fossa, consistent with a nasal chondromesenchymal hamartoma (NCMH).

**Results:** The NCMH mass was managed conservatively, imaged on a yearly basis and was unchanged at most recent review at age 6 years. Strabismus surgery (right medial rectus recession with a hangback technique) was performed at 31 months of age, resulting in improvement in the abnormal head posture. Intra-operatively the extra-ocular muscles were found to be densely fibrotic with global restriction on forced duction testing. The child’s amblyopia was managed with glasses and occlusion therapy and responded well to this.

**Conclusions:** Nasal chondromesenchymal hamartomas are the histopathological analogue of chest wall hamartomas. To our knowledge the combination of both nasal and chest wall hamartomas in one patient has not previously been reported. This case also represents the first report of strabismus surgery in the context of restrictive strabismus in association with orbital chondromesenchymal hamartoma.

## **“Peri-Operative Perfluorocarbon Heavy Liquid with Supplemental SF<sup>6</sup> gas in the Management of Giant Retinal Tear Detachments”**

*Connell PP, O'Neill EC, Fabinyi D, Yeoh J, McCombe M, Roufail E, Clarke B, Wolff B, Chiu D, Allen P, Essex R, Buttery R, Campbell W.*

*Centre for Eye Research Australia, University of Melbourne, The Royal Victorian Eye and Ear Hospital, 32 Gisborne Street, East Melbourne VIC 3002. Vitreo-retinal Unit, The Royal Victorian Eye and Ear Hospital, 32 Gisborne Street, East Melbourne, VIC 3002.*

**Background:** Giant retinal tears (GRT) are uncommon but represent a management challenge. Despite recent advances in vitreoretinal surgical technique, retinal re-detachment remains a problem. Perfluorocarbon liquids (PFCLs) have aided in the perioperative and post-operative management of GRT detachments. We evaluated the effect of short-term postoperative retinal tamponade with perfluorocarbon liquids (PFCL) and additional supplemental 50% sulphur hexafluoride (SF<sup>6</sup>) gas for superior retina involving GRT detachments.

**Methods:** A prospective non-comparative, observational, case series of 19 patients with superior involving GRT associated retinal detachment is presented. Subjects underwent pars plana vitrectomy with short term post-operative retinal tamponade with PFCL and supplemental 50% SF<sup>6</sup> gas. Primary outcome measures were retinal re-attachment rates and recurrent detachment.

**Results:** 19 eyes from 19 patients were included. 16 (88.9%) patients were male and 12 (66.7%) eyes were myopic. 14 (73.6%) GRTs involved the temporal/superotemporal retina and 5 (26.3%) the nasal/superonasal retina. 12 (63%) presented with macula off detachments and PVR was present at initial presentation in 5 (26.3%). 19 eyes (88.9%) had supplementary SF<sup>6</sup> 50% gas tamponade above the PFCL bubble. Mean duration of post-operative tamponade was 14.9 days. 4 (21.0%) patients re-detached in the post-operative period and required further detachment surgery. Successful re-attachment was achieved in all cases (100%), with a primary re-attachment rate of 79.0%. Final visual acuity ranged from snellen 6/6 to CFs. There was improvement in visual acuity in (10) 55.5%, stabilization in 2 (11.1%) and worsening in 6 (33.2%).

**Conclusion:** Short term post-operative tamponade with PFCL and supplemental SF<sup>6</sup> gas appears safe and effective in reducing PVR and re-detachment rates following surgery for GRT.

## **"Audit of Trauma Presenting to Cork University Hospital"**

*Croghan C, Kirwan C  
Cork University Hospital*

**Objectives:** This study was conducted to categorize eye trauma which presented to Cork University Hospital over a five month period from 01/09/2011 to the 31/01/2012. Work related accidents along with any preventative measures such as use of safety goggles were identified. The number of presentations and the nature of injury were also recorded.

**Methods:** A prospective survey was undertaken of trauma patients attending the Eye Casualty in Cork University hospital between the 01/09/2011 to the 31/01/2012.

**Results:** During the study period, 400 patients with eye trauma were reviewed in eye casualty. 316 (79%) male and 84 (21%) were female. The average age of patients was 40. There were 14 (3.5%) patients admitted following trauma. The most common diagnosis was of corneal foreign body, accounting for 190 (47.5%) of cases, 120 (63.2%) of these followed angle grinding. Corneal abrasion was the diagnosis in 60 (15%) of cases. 35 (8.75%) presentations followed chemical injury. Alleged assaults lead to 13 (3.25%) cases of ocular trauma. 165 (41.25%) of trauma cases occurred at work, protective eyewear was used in 44 (26.7%) cases of trauma which occurred at work.

**Conclusions:** In conclusion, more frequent use preventive safety measures in the workplace would reduce the number of attendances to Eye Casualty. This would be of economic benefit to the health service and industry. This issue should be highlighted to those with responsibility for safety in the workplace.

## **“Deep Sclerotomy Revision Surgery for Recurrent Uveal Effusion Syndrome”**

*Doris JP, Charles S*

*Department of Vitreoretinal Surgery, Manchester Royal Eye Hospital*

**Objectives:** to demonstrate modifications of classical surgical approach to recurrent uveal effusion syndrome that enhance success.

**Methods:** We describe a short case series (n = 4) of patients with recurrent uveal effusion syndrome undergoing enhanced deep sclerotomies using mitomycin C and up to four drainage sites.

**Results:** All patients had previous dual site sclerotomies which failed. Patients had recurrences ranging from four months to five years post initial surgery. Repeat surgery was undertaken a minimum of four months post first procedure. All had complete resolution at a minimum of six months follow-up. Best Corrected Visual Acuity at six months ranged from 6/7.5 to 6/30.

**Conclusions:** We have demonstrated enhanced surgical approaches to this rare recurrent condition.

## **"Diabetes Eye Education and Barriers to Optimal Diabetes Care in a Tertiary Referral Ophthalmic Cohort"**

*Gilmore S, Bashir S, Connell P.  
Mater Misericordiae University Hospital*

**Objectives:** To primarily assess patient knowledge of risk factors for progressive diabetic care disease and secondarily to assess perceived barriers to optimal diabetes ophthalmic care.

**Methods:** A prospective self-administered questionnaire addressing diabetes ophthalmic education and barriers to ophthalmic care of diabetic patients attending a tertiary referral centre.

**Results:** 114 patients were recruited of which 48 had Type 1 diabetes, 58 were male and the mean age was 58. The average duration of diabetes was 8.5 years. Regarding glycemic control, 57% of all patients were unfamiliar with the term HbA1C. Of the remaining 43%, 46% were unaware of their current or previous value. A higher proportion of patients with no retinopathy recorded accurate HbA1C readings. HbA1C knowledge was unrelated to diabetes duration or previous laser treatment or other ocular interventions. 90% of patients recorded glycemic control as extremely important in diabetic eye disease.

Regarding lipid control, 54% of all patients were unaware of their last cholesterol reading, with 90% of patients rating cholesterol control as very important in diabetic eye disease control.

Regarding blood pressure, 56% of all patients were unaware of their last reading, with 60% unaware of normative values, 75% recorded BP as very important to diabetic control. The main barriers to optimal diabetes care included appointment cancellation of which 47% had experienced greater than 2 cancellations. 78% reported 100% clinic attendance and 8% of patients cited themselves as responsible for their diabetic control.

**Conclusions:** Pivotal studies have demonstrated the importance of glycemic, blood pressure and lipid control both in the initiation and control of progressive eye disease. Diabetes education among our cohort was poor demonstrating a mismatch of actual knowledge and perceived accuracy and importance of these risk factors for eye disease progression. Improved targeting and communication is integral to disseminate the importance of these factors between care provider and patient.

## “Management of Circumscribed Choroidal Haemangioma”

Ibrahim F, Kelly S, Horgan N.  
Royal Victoria Eye and Ear Hospital, Dublin

**Objectives:** To describe a case series of circumscribed choroidal haemangiomas.

**Methods:** In the setting of a tertiary referral centre, 5 patients with circumscribed, choroidal haemangioma were evaluated over a 2-year period. Four patients had associated serous detachment of the neurosensory retina extending into the macula. Treatment with photodynamic therapy (PDT) using a diode laser (692 nm) and a sensitizing dye, verteporfin, was recommended.

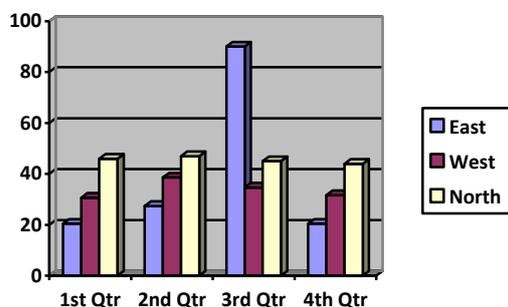
Three patients were treated with PDT. All patients had pre-treatment and post-treatment ophthalmoscopy, optical coherence tomography, fluorescein angiography and ultrasonography.

Treatment parameters applied were according to the study protocol *Treatment of age related macular degeneration by photodynamic therapy (TAP)* without modification: infusion of verteporfin,  $6\text{mg}/\text{m}^2$ , in ten minutes, compliance with a lag time of five minutes, then photoactivation (intensity:  $600\text{mW}/\text{cm}^2$ , duration: 83s, total light dose:  $50\text{J}/\text{cm}^2$ ).

**Results:** One patient with posterior pole circumscribed choroidal haemangioma, with no associated subretinal fluid and good vision remains stable under observation. Treated cases showed regression of the tumour with resolution of subretinal fluid following a single PDT treatment. Visual acuity remained stable or improved in all three cases. There were no ocular or systemic complications.

**Conclusions;** Circumscribed choroidal hemangioma is a benign, vascular hamartoma that is usually diagnosed when it causes a decrease in visual acuity associated with an exudative retinal detachment. The decision to treat circumscribed choroidal haemangioma depends on the severity of symptoms, degree of vision loss and the potential for recovery of vision.

Since this is a benign tumor and asymptomatic in the absence of complications, the primary goal of treatment should not be the destruction of the tumour but rather restoring and maintaining long-term visual function.



## **“Management of Proliferative Vitreoretinopathy Following Retinal Detachment- An Irish Experience”**

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**Introduction;** Proliferative vitreoretinopathy, (PVR), a complication of retinal detachment (RD), can result in redetachment of the retina post surgical repair. Poor visual outcomes are due to persistent detachment, delayed intervention and hypotony. The use of silicone oil can improve visual outcome in these cases but is associated with published, long-term complications including, cataract formation and glaucoma.

**Methods;** We performed a retrospective chart review of consecutive patients, attending a university teaching hospital, who for the management of RD associated with PVR, had silicone oil inserted, between 2008 and 2010. Where possible, all patients with primary RD, recurrent RD with PVR or RD associated with trauma were included.

**Results;** 58 charts of 87 patients were located. Of these, 41(71%) cases related to silicone oil use for RD with PVR. 71% were male, (n=29), 29% female. Average age, at time of surgery, was 46. Half of all eyes were filled with 1000 centistokes (cSt) of oil and half with 5000cSt. 17% (7/41) were found to have their macula on, at any time prior to surgery. Post-operatively, best corrected visual acuity (VA), for the majority (31/39) of patients with silicone oil, was improved. Only half of cases of “macula on” RD had improved VA. At last follow-up, 30 had undergone removal of silicone oil, (ROSO), four were lost to follow-up and seven had oil in situ. Where available, the majority (21/ 29, 72%), had stable or improved VA after ROSO, (10 improved, 11 unchanged). Eight (28%) were reduced. At their last review, 16 patients were pseudophakic, 18 were aphakic, and 5 were phakic . Few complications were noted. Six patients had a transient post-operative rise in intra-ocular pressure, necessitating treatment and three cases (7%) had redetachment following ROSO.

**Conclusion;** The use of silicone oil for the management of RD with PVR, improved final VA for the majority of patients. ROSO further improved or left VA unchanged in most cases. In this audit, the use of silicone oil was associated with few complications. Active management of complicated detachment and redetachment is indicated.

## **“Vision Screening by Orthoptists – how Accurate is it?”**

*McAleer T.*

*Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin 2*

**Objectives:** To determine the accuracy and reliability of secondary screening by Orthoptists of children referred to this hospital from the community screening services and from general practice.

**Methods:** All new referrals of children to the Paediatric Ophthalmology Service were assessed by an orthoptist and triaged for onward referral to an ophthalmologist. The patients were subsequently examined by an Ophthalmologist and the findings compared with those from the initial screen.

**Results:** 196 patients were assessed and subsequently reassessed. The accuracy of the screening in detecting defects at various ages will be reported and the rates of false positive and negative cases will be reported.

**Conclusions:** The sensitivity and specificity of the orthoptic screening will be reported and implications for the development of screening services in the future will be discussed.

## **"Orthoptic Screening Service – a 19 Month Review"**

*McAleen T, O'Connor R, Sheehan C, Brosnahan D.  
Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin 2*

**Objectives:** To report on the patient cohort examined in the Orthoptic Screening Service at this hospital over a period of 19 months.

**Methods:** All new referrals of children to the Paediatric Ophthalmology Service were assessed at the Orthoptic Screening Service. The referrals were reviewed in respect of age at referral and clinical findings.

**Results:** 873 patients were appointed; 69.8% were seen, 30.2% failed to attend. Age at referral ranged from 3 weeks to 14.6 years. 50.4% had NAD, 14% had squint, 32.4% had refractive error as their primary defect.

95.4% of referrals under 1 year of age and 83% of those aged 1-2 years of age had NAD.

**Conclusions:** The prevalence of each condition at key ages is presented. The relevance of screening at these ages is discussed.

## **“Childhood Craniopharyngiomas; the Irish Experience”**

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*\*Dept of Ophthalmology, RVEEH, \*\* Dept of Oncology, OLHSC*

**Objectives:** Craniopharyngiomas are slow growing, benign tumours of the sellar and parasellar regions of the central nervous system arising from epithelial remnants of the craniopharyngeal duct or Rathke's pouch. The incidence of newly diagnosed craniopharyngiomas ranges from 0.13 to 2 per 100,000 population per year. Patients present with a variety of symptoms and signs of raised intracranial pressure, endocrine disturbance, and reduced vision/field defects. Treatment has moved from total tumour resection to partial resection/decompression with adjuvant radiotherapy to reduce mass effect. 5-year survival is approximately 80%.

Our study is a ten year retrospective review of paediatric craniopharyngioma patients treated at Our Lady’s Hospital for Sick Children, Crumlin. Our objective is to look at trends in clinical presentation, investigation, and surgical and radiotherapeutic interventions in these patients, with a focus on visual signs/symptoms at presentation and post-treatment outcomes.

**Methods:** Patient data was recorded retrospectively and entered into a secure database and analysed using standard parametric analysis

**Results:** 19 children (14 boys and 5 girls) aged between 2 and 14 years, with suprasellar tumours, diagnosed between 2002 and 2011, were treated at OLHSC. 89.3.2% presented with symptoms of raised intracranial pressure. 63.2% had visual disturbance at presentation and 26% had symptoms of endocrine dysfunction. 36% were treated with partial debulking surgery, while 73.7% had tumour decompression only. 84.2% of patients received radiotherapy at St Lukes hospital and one patient received proton therapy in Switzerland.

On analysis of post-treatment visual outcomes (best eye accounted),42% had normal vision, 16% had mild impairment (6/9-6/20), 10.5% had moderate impairment (6/20-6/48). 2 children were registered blind with VA< 6/60 bilaterally, while 3 children had vision of 6/60 or worse in one eye, with normal sight in the other eye. One child has died during this period

**Conclusions:** All children required surgical intervention, with the majority of procedures being aimed at tumour decompression, the remainder being partial resection. The majority received adjuvant radiotherapy, reflecting international trends. A multi-disciplinary approach is paramount to survey and treat the myriad complications of these benign tumours.. Visual outcomes are varied and unpredictable and the 5-year mortality rate is low, in line with published rates.

## **"A Case Series of Rapid Tightening of Diabetic Control and Worsening of Diabetic Retinopathy Requiring Vitrectomy"**

*Mc Nally O, Quinn MJ.  
Belfast Health and Social Care Trust*

**Objectives:** The Diabetes Control and Complications Trial (DCCT) showed that intensive blood sugar control and HbA1c reduction resulted in reduced risk of retinopathy and slowed progression of established diabetic retinopathy. However, it was also established that rapid control of blood sugar could also result in early worsening of diabetic retinopathy. The objective of this case series was to examine poorly controlled patients who had a recent rapid reduction in HbA1c with subsequent worsening of proliferative diabetic retinopathy requiring vitrectomy for fibrovascular membranes or tractional retinal detachment and assess outcome.

**Methods:** Case notes of patients referred through the Vitreo-retinal service requiring vitrectomy for removal of fibrovascular membranes/ tractional retinal detachment were reviewed. Reduction in Hba1c was measured and an average calculated. All patients had best-corrected visual acuity measured and slit-lamp examination pre and post-operatively.

**Results:** Six eyes underwent pars plana vitrectomy for sight threatening complications of proliferative diabetic retinopathy. All patients had recent (within the last year) rapid reduction of HbA1c >1% per month. All achieved a BCVA of 6/18 or more

**Conclusions:** Although, intensive control of blood sugar and reduction in HbA1c is important in reducing risk and slowing progression of diabetic retinopathy, it must be reduced slowly to prevent rapid worsening of diabetic retinopathy. This case series illustrates that rapid reduction in blood sugars can cause sight threatening complications requiring surgical intervention. Education of both patients and health professionals involved in adjusting insulin regimes and slow improvement in HbA1c is essential as there have been a number of such cases in recent years.

## **“Risk Factors Associated With Neovascular Age-related Macular Degeneration in Irish Population”**

*Ni Dhubhghaill SS, Cahill MT, Cassidy L, Kenna P, O'Rourke M, Humphries MM.  
Royal Victoria Eye and Ear Hospital, Smurfit Institute of Genetics, Trinity College Dublin*

**Objectives:** Age-related macular degeneration is the most common cause of visual impairment over 65 in the Western world. The objective of this project was to characterise the presence of known and potential risk factors in the Irish population.

**Methods:** The risk factors assessed were family history, cigarette smoking (current or previous), BMI, hypertension, hyperlipidaemia, diabetes, medication use, history of myocardial infarction (MI) or cerebrovascular accident (CVA, stroke). The study was constructed as a prospective cohort study. Patients with neovascular AMD confirmed by clinical examination and angiography were recruited from specialist retinal clinics. Age-matched control participants were recruited from the community and underwent a full ophthalmic examination. All participants completed questionnaires detailing their relevant medical histories.

**Results:** 206 participants were recruited into the AMD group and 127 participants in the control group in total. The ages were matched with an average age of 80.4 years in the AMD group and 75.64 years in the control group. There was no difference in the breakdown of sex between the AMD and control groups. Positive parental history of AMD was recorded in 8.7% of patients with AMD vs 7.1% in the control group ( $p=0.6822$ ). Within the AMD group, 17.96% of patients had at least one sibling with AMD compared with 4.72% of controls ( $p = 0.0003$ , OR 4.415). 5.51% of control recruits had a positive smoking history versus 14.07% in the AMD group ( $p=0.0008$ , OR 4.19). The prevalence of hypertension in the AMD group was 60.19%, significantly higher than the 38.58% rate in the control group ( $p= 0.0002$ , OR 2.407). There was no association found between AMD and hypercholesterolaemia, diabetes, steroids, warfarin, aspirin or statin medications. There was no association between myocardial infarction or cerebrovascular accident and AMD observed.

**Conclusions:** In this research we present risk factors associated with AMD in the Irish population. A significant strength of this presented work is the thorough characterisation of the control cohort. Family history, cigarette smoking and hypertension were associated with neovascular AMD in this population consistent with previous population studies. Hypercholesterolaemia, diabetes, vascular disease and medication history were not associated with AMD in this cohort.

## **"NAD Ratio at Age of Referral; A 5 Months Review"**

*O'Connor R S*

*Our Lady's Children Hospital Crumlin*

**Objectives:** The aim of this review is to help determine an ideal age and source of referral for patients referred to the Orthoptic and Ophthalmology Department in OLCHC in view of the current NAD (No Abnormality Detected) ratio

**Methods:** The orthoptists from OLCHC have reviewed the data for 270 new patients referred to the Orthoptic Department from the most common route between 01/01/2011 and 31/05/2011: Public Health Nurses (117), Area Medical Officers (48), and General Practitioners (105). The patients were classified by age group: 1) aged 0-12 months, 2) aged 1-2 years, 3) aged 2-3 years, 4) aged 4-6 years, 5) aged 7 years or over. The patients were then considered NAD where the Orthoptist did not identify any visual defect or any squint on first screening. This was noted prior to the Ophthalmology assessment.

**Results:** The NAD ratio for patients referred to the Eye Clinic in OLCHC from PHN, AMO and GP was: 92.85 % for patients aged 0-12 months, 79.04% for patients aged 1-2 years, 56.92% for patients aged 2-3 years, 31.11% for patients aged 4-6 years and 18.51% for patients aged 7 years or over.

**Conclusions:** In conclusion it can be shown from the data that on first screening patients under the age of 2 years referred from the conventional route, the Orthoptists demonstrated a significant NAD ratio which therefore implies a significant waste of resources.

## **“Tracking the Disc: Systematic Gaze Behaviors in Glaucoma Sub-Specialists During Optic Disc Examination”**

*O'Neill E C, Kong G.X.Y, Connell P.P, Ong D, Haymes, S. A, Cote M.A, and Crowston J. G. Centre for Eye Research Australia, University of Melbourne, The Royal Victorian Eye and Ear Hospital, 32 Gisborne Street, East Melbourne VIC 3002*

**Objective:** In this study we compare visual gaze behavior of glaucoma subspecialists with ophthalmology trainees during optic disc and retinal nerve fiber layer (RNFL) diagnostic examination for glaucoma.

**Methods:** 7 glaucoma subspecialists and 23 ophthalmology trainees participated in the project. Participants were shown 8 glaucomatous optic disc images with varied morphology. Eye movements during examination of optic disc photographs were tracked using a Tobii Eyetracker®. For each disc image graders were asked to assign a presumptive diagnosis for probability of glaucoma. There was no time restriction.

**Results:** Overall, trainees spent more time looking at disc images than glaucoma subspecialists (mean 27.1 and 17.7 seconds, respectively,  $P < 0.01$ ), had no systematic pattern of gaze behavior and gaze behavior was unaltered by disc morphology or topographical cues of pathology. Experienced viewers demonstrated more systematic and ordered gaze behavior patterns and spent longer time observing areas with the greatest likelihood of pathology (superior and inferior poles of the optic nerve head and adjacent RNFL) compared to trainees. For discs with focal pathology, the proportion of total time spent examining definite areas of pathology was on average 27.7% for glaucoma subspecialists compared with 12.2% for trainees ( $P < 0.05$ ). Furthermore, experts adapted their viewing habit according to disc morphology.

**Conclusion:** Glaucoma subspecialists adopt systematic gaze behavior when examining the optic nerve and RNFL, whereas trainees do not. It remains to be elucidated whether incorporating systematic viewing behavior of the optic disc and RNFL into teaching programs for trainees may expedite their acquisition of accurate and efficient glaucoma diagnosis skills.

## **"A Description of the Pathological Features of Corneal Specimens of Patients Requiring Tectonic Penetrating Keratoplasty for Rheumatoid Melt"**

*O'Rourke M, O'Connor J, Murphy C, Kennedy S.  
Royal Victoria Eye and Ear Hospital, Dublin 2*

**Objectives:** To provide a microscopic description of corneal specimens in rheumatoid arthritis associated corneal ulceration.

**Methods:** A review of corneal specimens from patients with rheumatoid arthritis associated corneal ulceration leading to perforation and subsequent tectonic penetrating keratoplasty at the RVEEH over the last 10 years was undertaken. Surgical corneal specimens of 3 patients were identified and studied.

**Results:** The specimens measured 0.8cm each. The perforation was located centrally in 2 cases, being peripheral in the other and measuring 0.1-0.2cm. All cases had thinning and disorganisation of the stroma with loss of the usual array of fibrils. Necrotising inflammation was seen in 2 cases with the remaining case showing no significant inflammatory infiltrate present. Descemet's membrane was intact in all 3 cases. Only 1 patient had decreased endothelial density.

**Conclusions:** The microscopic characteristics of rheumatoid arthritis associated corneal ulceration have not previously been described. We report these findings in 3 patients requiring tectonic penetrating keratoplasty at our hospital over a 10 year period.

## **"A Method for Prescription of Inexpensive Spectacles by Non-specialist Healthcare Workers: S-Glasses"**

*Treacy MP 1,2, Treacy MG 2, Dimitrov BD 3, Seager FE 1, Stamp MA 2, Murphy CC 1*

*1. Department of Ophthalmology, Royal College of Surgeons in Ireland, Dublin, Ireland, 2. Community Ophthalmology Practice, Medical Optics, Dublin, Ireland, 3. Department of General Practice, Royal College of Surgeons in Ireland, Dublin, Ireland*

**Objectives:** To verify a method whereby autorefractors could be used by non-specialist health-workers to prescribe spectacles, called S-Glasses, utilising a small stock of preformed lenses that fit frames with standardised apertures. Globally, 153 million people are visually impaired from uncorrected refractive error.

**Methods:** This prospective, single-cohort exploratory study enrolled 53 patients having 94 eligible eyes with uncorrected vision of 6/18 or worse. An autorefractor was used to obtain refractions which were adjusted so that eyes with astigmatism less than 2.00 dioptres (D) received spherical equivalent lenses and eyes with more astigmatism received toric lenses with a 2.50D cylindrical element set at one of four meridians. S-Glasses vision was compared to the WHO definition of visual impairment (6/18). Where astigmatism was greater than 1.99D, comparison to spherical equivalent was made. Mixed-model analysis was utilised to account for correlation between the vision of fellow eyes of the same individual.

**Results:** S-Glasses corrected 100% of eyes with astigmatism less than 3.00D and 69% of eyes with astigmatism of 3.00D or greater. Whereas, spherical equivalent lenses corrected 25% of eyes with astigmatism of 2.00 to 2.99D and 11% with astigmatism of at least 3.00D.

**Conclusions:** S-Glasses could be beneficial to underprivileged populations without trained refractionists. This novel approach, using approximate toric lenses, results in superior vision for astigmatic patients compared to the practice of providing spherical equivalent alone.

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## **PFIZER/ICO RESEARCH AWARD**

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With the financial support of Pfizer Ophthalmics since 19XX, the ICO has been able to award an annual research fellowship to a medical doctor who is undertaking full time unfunded research. The aim of this award has been to facilitate trainees in ophthalmology to undertake a period of research or specific clinical training in an ophthalmology centre of excellence.

The 2011 recipient of the award was Dr Conor Malone. Conor will update the conference on his progress and give an over view of his research.

Unfortunately Pfizer are unable to continue their financial support for the award at this time but the College would like to thank the company for the important contribution this award has made to ophthalmic research in Ireland.

## **“Targeting Toll-Like Receptor Pathways in Herpes Simplex Keratitis”**

*Malone C, Shahnazaryan D, Conlon R, Chan T, Anyiam, Smith S, Ni Gabhann J, Murphy C, Jeffries C.*

*Royal College of Surgeons in Ireland and the Royal Victoria Eye and Ear Hospital, Dublin*

**Objectives:** Herpes Simplex Keratitis (HSK) is a sight-threatening infection caused by Herpes Simplex Virus Type 1 (HSV-1). Innate immunity to HSV-1 infection involves the recognition of pathogen-associated molecular patterns by specific toll-like receptors (TLRs). In particular, TLR3 and TLR9 have been implicated in the initial anti-viral response and subsequent pro-inflammatory cascade seen in HSK. Elucidation of the pathways involved may lead to novel therapeutic targets for this chronic disease.

**Methods:** Immortalised human corneal epithelial cells (HCECs) were cultured and stimulated with TLR ligands – poly I:C (TLR3), lipopolysaccharide (TLR4), imiquimod (TLR7), and CpG ODN (TLR9) – to induce type 1 interferon (type 1 IFN) production. Polymerase chain reaction (PCR) was performed to identify constitutive TLR3 and TLR9 transcription. Western blotting of whole cell lysates was used to measure interferon regulatory factor 3 (IRF3), nuclear factor  $\kappa$ B (NF $\kappa$ B) and mitogen-activated protein kinase (MAP kinase) production. Enzyme-linked immunosorbent assay (ELISA) was used to quantify levels of inflammatory cytokines in cell supernatant.

**Results:** TLR3 stimulation demonstrated increased IRF3 and NF $\kappa$ B production, compared to unstimulated controls. TLR9 stimulation showed activation of NF $\kappa$ B and MAP kinase. ELISA demonstrated increased production of a host of cytokines, including IL-6, potent anti-viral IFN $\gamma$ , and the interferon-dependent chemokine RANTES.

**Conclusions:** There is a paucity of data in the literature regarding the cytokine profiles of HCECs. Our results indicate activation of type 1 IFN pathways and induction of pro-inflammatory cytokines in HCECs in the presence of TLR ligands. Promotion of these pathways may lead to novel therapeutic approaches in the treatment HSK.

## **Past Presidents**

**2009 – 2011;** Mr Paul Moriarty

**2007 – 2009;** Mr Peter Tormey

**2005 – 2007;** Mr. Robert Acheson

**2003 -2005;** Prof. Philip Cleary

**2001-2003;** Mr. Brendan Young

**1999-2001;** Professor Louis Collum

**1997-1999;** Mr. Roger Bowell

**1995-1997;** Mr. John Nolan

**1993-1995;** Professor Peter Eustace

**1991-1993;** Mr. Stewart Johnston

## **PAST HONORARY LECTURES AND MEDAL WINNERS**

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### *Montgomery Lectures and Lecturers*

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#### **Royal College of Surgeons in Ireland**

2001 "Pathogenesis of Glaucomatous Damage"

J. Flammer, (Basle)

2002 "What's new in Ocular Tumours and Pseudotumours?"

Dr. Jerry A. Shields (Philadelphia)

2003 "Advances in the Diagnosis & Management Carotid-Cavernous Sinus Fistulas"

Prof. Neil Miller (Baltimore)

2004 "Age – related maculopathy: New aspects of pathogenesis, prevention and treatment"

Prof. Peter Wiedemann (Leipzig)

2005 "Biological Treatments of AMD"

Prof. Alan Bird (London)

#### **University of Dublin, Trinity College**

2006 "Developmental Eyelid Abnormalities"

Mr Richard Collin(London)

2007 "Is there any Room for Surgery in AMD Treatment now?"

Prof Dr Bernd Kirchhof (Dusseldorf)

2008 'Normal tension Glaucoma-does it exist?

Prof Roger Hitchings (London)

2009 "Practical Thoughts on how we Doctors can Best Help our Patients, Ourselves and the World"

Dr Geroge Spaeth (Philadelphia)

2010 The Lecture was not held due to the untimely death of Mr John Lee

#### **Royal College of Surgeons in Ireland**

2011 "Novel Therapeutic Approaches for Diabetic Retinopathy"

Prof Loyd Paul Aiello (Boston)

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*Mooney Lecture and Lecturers*

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2002 "What is Neuro-Ophthalmology"

Professor Peter Eustace, (Dublin)

2003 "Worldwide Eye Disease – It's Prevention and Treatment"

Professor Gordon Johnson

2004 "The Twist and Turn of Macular Surgery"

Mr. David Wong (Liverpool)

2005 "Challenging Cases and the Management of Complication during Cataract Surgery"

Mr. Robert Osher (Cincinnati)

2006 "Reconstruction of the Anterior Segment"

Mr Bruce Noble (Yorkshire)

2007 "Wavefront-Guided Refractive Surgery: Advances and Impediments"

Dr Dimitri Azar (Chicago)

2008 "An Update on Amblyopia"

Prof Gunther von Noorden (Houston)

2009 "Evolving Concepts in Pharmacologic Vitreolysis"

Dr Brooks W. McCuen (North Carolina)

2010 "The Link between Infection and Uveitis"

Prof John Forrester (Aberdeen, Scotland)

2011 "OCT Application in Developing Eyes"

Prof Cindy Toth (North Carolina)

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*Barbara Knox Medal Winners*

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2000 "Immunogenetics and Peptide Immunodominance in Sympathetic Ophthalmia in the UK and Ireland"

D. Kilmartin

2001 "The Role of Tissue Inhibitor of Matrix Metalloproteinase-1 in Pseudoexfoliation Syndrome"

S. L Ho

2002 "Incubation with Endogenous Retinal Antioxidants Inhibits Chemokine Release by PRE in an In-Vitro Model of Age-Related Macular Degeneration"

G.T. Higgins

2003 "Macular Pigment Optical Density and Dietary Intake of Lutein and Zeaxanthin in Healthy Subjects"

J. Nolan

2004 "Correlation of Central Corneal Thickness with vascular risk factors in Normal Tension Glaucoma"

A. Doyle

2005 "A Randomized Placebo Controlled Double-Masked Phase 3 Study of the Treatment of Subfoveal Predominantly Occult Choroidal Neovascularization (CNV) Secondary to Age - Related Macular Degeneration (AMD) using Transpupillary Thermotherapy (TTT)"

A. Hogan

2006 "Survivin Expression & Prognostic Significance in Choroidal Melanoma"

C. Cleary

2007 "MRI as a Novel Non-Invasive Method for *In Vivo* Tracking of Endothelial Progenitor Cells in a Model of Choroidal Neovascularisation"

D. Kent

2008 "A Retrospective Study of the Paediatric Practice of one Community Ophthalmologist Over Seventeen Years in Cavan"

A. Blake

2009 "The Effects Of Acute Cigarette Smoke Exposure on Retinal Pigment Epithelial Cells (Arpe-19)"

S. Ni Dhughbhaill

2010 "Epidemiology And Clinical Associations Of Primary Retinal Detachment In Scotland: 2 Years Of Prospective Recruitment"

D. Mitry

2011 "Prognostic Indicators and Outcome Measures for Surgical Removal of Symptomatic Non-Advanced Cataract"

S Charlampidou

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*Sir William Wilde Medal Winners*

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2000 "The Effects Of Topical Anti-Glaucoma Medications On The Ciliary And Optic Nerve Head Arterioles In The Rat Eye"

S. Byrne

2001 "Ocular Toxoplasmosis-Pathogenesis Revisited".

H. McLoone

2002 "Gene Expression in Diabetic Reinopathy"

R. Kane

2003 "Exposure of Photoreceptor outer segments to blue light induces a pro-angiogenic response from the retinal pigment epithelium"

E. Cosgrave

2004 "Investigation and management of Epidemic intraocular lens opacification"

R Altaie

2005 "The photopic and scotopic visual thresholds in eyes with solar retinopathy: a comparison with the anatomical damage"

L O'Toole

2006 "The Role of Sonic Hedgehog Protein in Ethanol-Induced Ocular Teratogenesis"

K. Kennelly

2007 "Visual Outcomes and Graft Survival following Corneal Transplants: the need for an Irish National Corneal Transplant Registry"

M Guerin

2008 "Age Dependent Rat Retinal Ganglion Cell (Rgc) Susceptibility To Apoptotic Stimuli: Implications For Glaucoma Research

M Guerin

2009 "A Cellular Model of Fuchs' Endothelial Dystrophy"

C Kelliher

2010 "Prediction of Effective Lens Position Using A Method Independent Of Preoperative Keratometry Readings"

I Dooley

2011 "Genomic Medicine and Stargardt Disease "

D Armstrong

2012 marks the 21st anniversary of the amalgamation of the Irish Ophthalmological Society and the Faculty of Ophthalmology.

The decision to join together the IOS and the Faculty was made in 1990, with Rob Acheson elected as the new organisation's first secretary in 1991 and Stuart Johnson the first President, taking office in 1992.

The background to the move to merge the two organisations came from the realisation that as a purely clinical society the IOS was not equipped to deal with the politics of ophthalmology, such as the discussions with the Dept of Health and the training of junior ophthalmologists amongst other important non-clinical issues. As a result, Frank McAuley founded the Irish Faculty of Ophthalmologists to deal with these areas as they might arise.

Discussion over an amalgamation of the IOS and the Faculty had been going on for at least two years prior to 1990.

The decision to amalgamate was taken in Autumn of 1990 and at the following Council meeting in the Spring of 1991 Rob Acheson agreed to undertake the secretaryship of the new ICO. It was then necessary to draw up the rules of the new College and to steer these through the various legal minefields and secure the acceptance of the Dept. of Health.

At the Spring Council meeting in 1992 Stuart Johnson was unanimously elected as the 1st President of the ICO. Stuart Johnson had always sought to bridge the gap between the Northern and Southern Irish ophthalmological worlds and was a loyal and long-standing member of the IOS and its Council.

Stuart took up Office at the first official AGM of the ICO in the early summer of 1992.

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*IRISH COLLEGE OF OPHTHALMOLOGISTS*

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Established in 1991, the Irish College of Ophthalmologists (ICO) is the professional body for medical and surgical eye doctors in Ireland.

The ICO is dedicated to promoting excellence in eye care through the education of its members, trainees and the public. Its goal is to maintain standards of excellence for the restoration of vision and the preservation of sight.

The College represents over 200 medical and surgical eye doctors throughout Ireland and Europe. It is the recognised body for ophthalmic training and education in the Republic of Ireland.

For further information, visit [www.eyedoctors.ie](http://www.eyedoctors.ie)