Irish College of Ophthalmologists

Eye Doctors of Ireland, protecting your vision

IRISH COLLEGE OF OPHTHALMOLOGISTS

YEARBOOK

2010-2011

Incorporating the Scientific Programme for the

Annual Meeting in the Radisson Hotel, Farnham Estate, Cavan

Thursday 12th – Saturday 14th, May 2011

TABLE OF CONTENTS

IRISH COLLEGE OF OPHTHALMOLOGISTS
121 St. Stephens Green, Dublin 2.
Tel: + 353-1-402 2777 & +353-1-402 8535
Fax: + 353-1-402 2778
www.eyedoctors.ie
ico@rcsi.ie

COUNCIL 2010/2011

President: Paul Moriarty
Vice President: Peter Tormey, *President Elect:* Patricia Logan
Secretary: Patricia Quinlan, *Treasurer:* Marie Hickey - Dwyer
Members of Council
Mark Cahill, Aideen Hogan, Noel Horgan, David Keegan, Joanne Kearney, Catherine McCrann, Gerard O Connor, Garry Treacy

STANDING COMMITTEES:

Medical Eye Specialists Committee
Chairman: Joanne Kearney
Members: Ursula Behan, Amanda Collum, Collette Dalton, Aideen Hogan, Tim Horgan, Marie Houlihan, Fiona Kearns, Susan Mullaney, Catherine Mc Crann, Grace O' Malley and Garry Treacy

Finance, Policy and Professional Standards Committee
Chairman: M. Hickey-Dwyer
Members: Honorary Officers

Manpower, Education and Research Committee
Chairman: Noel Horgan
Members: Paul Moriarty, Denise McAuliffe-Curtin, Peter Tormey, Tim Horgan, Marie Hickey-Dwyer, Frank Kinsella, Mohammed El Morsey, Yvonne Delaney, Patricia McGettrick, Tim Fulcher, Sinead Fenton, Mark Mulhern, Conor Murphy, Patricia Logan and Kevin Tempany

Scientific and Yearbook Committee
Chairman: Mark Cahill
Members: Patricia Logan, Paul Moriarty, Stephen Beatty, Fiona Kearns and Denise Curtin

Public Affairs Committee
Chairman; Mark Cahill
Mark Cahill, Gary Treacy, Alison Blake, Kathryn McCreery, Martin Coyne, Darragh O Doherty

Professional Competence Committee
Chairman; Noel Horgan
Susan Mullaney, Aideen Hogan, Paul O Brien

LETTER FROM THE PRESIDENT

Dear Fellow College Members

I have had a full and enjoyable 2 years in my stint as President and as my term draws to a close I would like to recap some of the more notable happenings of the last 2 years.

The busiest part of College life has been on the education side. We have revised and formalised the basic specialist training programme through negotiation with the HSE Medical Education Training & Research unit and the Forum of Postgraduate Medical Training Bodies. The BST scheme is now signed off by the Medical Council, with centralised interviews and training rotations and all new trainees issued with training contracts. I would like to acknowledge in particular the efforts of our Dean, Denise Curtin and also Yvonne Delaney for the online School for Surgeons teaching modules and Patricia McGettrick for the simulator teaching programme

The other major issue in focus this year is the forthcoming introduction of the mandatory professional competence schemes. You will be happy to hear that the College is launching its own scheme to facilitate members meeting their statutory requirements and that the RCSI will be our partners in maintaining the electronic record of our professional competence activities and providing the annual report and evaluation of points.

A small number of participants, perhaps 3%, may be required to provide paper documentation for their accumulated points. The PCS Committee under the direction of Noel Horgan with Susan Mullaney, Aideen Hogan and Paul O Brien will validate the different activities for professional development.

The cost of the new scheme will be approx €275, but I am pleased to say that once the initial set up is completed the College will be in a position to offer a substantial discount to members

The 2010 Annual Meeting in the RCSI was a great success and the Dublin meeting had an especially eventful social programme. The return to Dublin for the annual congress was a welcome novelty and enjoyed by all. The meeting was enhanced by the attendance of a group from the New England Ophthalmological Society who joined us in Dublin with the College reciprocating by attending the NEOS autumn meeting in Boston.

The College has become increasingly busy in the medical political arena in the last year. New legislation to regulate the opticians' profession under CORU and the repeal of the Opticians Act has been proposed. Much work has been done by Garry Treacy in elucidating the effect of the proposed changes to the regulatory framework and in keeping the College up to date on any further developments in this area.

Recent changes in visual standards for driving in an EU directive have been somewhat misinterpreted by the Road Safety Authority instigating a very complex form of eye exam. Dr Treacy has put in many hours work to ensure a reasonable interpretation of the rules so that we may return to a simpler eye examination.

At the present time it seems that the previous eye examination standards are acceptable. Only when the patient fails will they need to go on for more comprehensive testing and perhaps a more restricted form of driving licence. However this has not yet been clarified.

Two areas of major forthcoming change will have an impact on community ophthalmic practice. One is the proposed national diabetic screening programme. This will be supervised by the National Cancer Screening Service and will be put out to commercial tender. Having written to both the Department of Health & Children and the National Cancer Screening Service we have been assured that the new programme will not be rolled out until the system is fully established and until that time all currently existing prior arrangements will remain in place

Looking to the future we have asked Prof Charles Normand, Healthcare Economist at Trinity College Dublin to undertake a study on ophthalmic service integration. This is in order to achieve a regionally based eye service where patients will be seen in the community or hospital in an integrated fashion to the benefit of both patient and practitioner. Prof Normand will be speaking at our meeting which I'm sure will be of great interest and the issues raised will be debated at the AGM

In order to implement any changes identified in Prof Normand's study, I have applied to Dr Barry White to have an ophthalmology directorate appointed. This will give us direct access to change management in the Department of Health and Children and the Health Service Executive. Many other specialties such as dermatology and epilepsy have their own clinical leads and I believe it is essential that we have the same footing to enable future change.

In the next 2 years as I fulfil the role of Vice President, I hope to drive the integration changes that will hopefully be initiated through Prof Normand's study and I will report back to you through the College newsletter on this front.

I am sad to note the passing of John Lee, a good friend both personally and to the College. I am delighted that Arabella, John's wife will be attending our conference dinner and we will present the Montgomery medal to her in John's honour.

I have enjoyed the 2 year term as President of the College and am confidently handing over the reins to Patricia Logan, our first lady President. Pat is already busy on many of the College Committees & the College Council and I'm sure she will make an excellent Chief Executive.

I would like to thank all those who support the College activities, including Marian and Siobhan, and all the Chairs of Committees and Council members who work to represent and further the College interests. This is at their own personal expense as there is a policy in the College that no subsidies are paid and all monies received accrue towards paying the running costs.

I'd especially like to thank Dr Curtin for investing long hours with METR, Forum, Medical Council, and the various other representative committees and for organising the BST scheme. At the present time continued funding for the Dean's job is being reviewed by METR but with all the administrative changes undertaken I don't think the College could manage without the post and I hope it will be renewed in definitely.

I would like to welcome Marie Hickey Dwyer as the new President-Elect and to thank her for years of careful stewardship of the College finances as treasurer, this function will now be transferred to Mark Cahill and I wish him well. I would like to thank the departing members of Council and welcome those newly elected as they step into their new roles.

And lastly I would like to thank everyone for their support over the two years. We can look forward to the celebrations for our 20th Anniversary in 2012 under incoming President Patricia Logan.

With Best Wishes

Paul Moriarty
President
Irish College of Ophthalmologists
2009-2011

May 2011

REPORT OF COUNCIL 2010-2011

Patricia Quinlan, *Honorary Secretary*

There have been four Council meetings: April 30th 2010, October 9th 2010, January 22nd 2011 and April 2nd 2011,

The Council Members are
Paul Moriarty, Peter Tormey, Patricia Logan, Marie Hickey-Dwyer, Patricia Quinlan, Mark Cahill, Joanne Kearney, Gerard O Connor, David Keegan, Aideen Hogan, Catherine McCrann, Garry Treacy, Noel Horgan

All Council members have attended the minimum required number of meetings

Appointment of Standing Committees:

Finance and Professional Standards Committee:
Chairman: Marie Hickey-Dwyer
Members: Hon. Officers

Medical Eye Specialists Committee:
Chairman: Joanne Kearney
Members: Ursula Behan, Amanda Collum, Collette Dalton, Aideen Hogan, Marie Houlihan, Fiona Kearns, Susan Mullaney, Catherine Mc Crann, Tim Horgan, Grace O' Malley and Garry Treacy

Scientific and Yearbook Committee:
Chairman: Mark Cahill
Members: Denise Curtin, Fiona Kearns, Stephen Beatty, Patricia Logan, Paul Moriarty

Manpower Education and Research Committee:
Chairman: Noel Horgan
Members: Paul Moriarty, Denise McAuliffe-Curtin, Peter Tormey, Tim Horgan, Marie Hickey-Dwyer, Frank Kinsella, Mohammed El Morsey, Yvonne Delaney, Patricia McGettrick, Tim Fulcher, Sinead Fenton, Kevin Tempany, Mark Mulhern, Conor Murphy, Patricia Logan

Public Affairs Committee;
Chairman: Mark Cahill
Members: Garry Treacy, Alison Blake, Kathryn McCreery, Darragh O Doherty & Martin Coyne

Professional Competence Committee:
Chairman: Noel Horgan
Members; Susan Mullaney, Aideen Hogan, Paul O Brien

Changes in Council Membership
The following terms on Council are coming to a close; Dr Joanne Kearney, Mr Gerard O Connor & Mr Mark Cahill Many thanks to all for their hard work during their time on Council and their continuing committee work.

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

College Membership

The college membership remains very strong and we currently have 193 members.

FINANCE, POLICY AND PROFESSIONAL STANDARDS COMMITTEE

Marie Hickey-Dwyer, *Treasurer*

At the close of 2010, the membership for the Irish College of Ophthalmologists stood at 193, subdivided into the following four categories of membership:

Ordinary Members;	128
Affiliate Members;	21
Overseas Members;	13
Senior Members;	12
Life Members;	18
Hon Life Members;	1
Total;	**193**

Membership Fees

The membership fees for the Irish College of Ophthalmologists for 2011 are.

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

Current Financial Status as at 31.12.2010 (details for discussion at AGM)

Bank of Ireland:
Total cash at bank
Mooney Lecture Fund:
Bank of Ireland
Canada Life Policy:
Investment Portfolio

MANPOWER, EDUCATION & RESEARCH COMMITTEE

Noel Horgan *Chairman*

Committee Members: Paul Moriarty, Denise McAuliffe-Curtin, Peter Tormey, Tim Horgan, Marie Hickey-Dwyer, Frank Kinsella, Mohammed El Morsey, Yvonne Delaney, Patricia McGettrick, Tim Fulcher, Sinead Fenton, Kevin Tempany, Mark Mulhern, Conor Murphy, Patricia Logan

The committee met on six occasions in 2010-11; May 8th, July 10th, October 9th, December 4th, February 18th and March 23rd

National Basic Specialist Training Programme: The first centralised interviews for the National Basic Specialist Training Programme took place on March 23rd. Five new trainees have been appointed to the programme and will commence their training in July. An induction day for new trainees will be held in the College on July 1st.

Higher Surgical Training: One SpR has successfully completed her exit assessment and will be conferred with her CCST in July. Three new trainees have been appointed to the Higher Surgical Training Programme and will commence their training in the coming months.

Trainee Representatives; Trainee representatives from the basic specialist and the higher surgical training programmes have attended the committee meetings during the year, and briefed the committee on relevant training matters from the trainees' perspectives. This has been very informative for the committee and the participation of the trainees is greatly appreciated. We look forward to the continued participation of the trainees in this way.

SCIENTIFIC AND YEARBOOK COMMITTEE

Mark Cahill, *Chairman*

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

Last year's annual conference was held in the Royal College of Surgeons, Dublin during April as part of the RCSI's 200 year celebration of its St Stephen's Green location. The meeting was a great success and the venue enjoyed by all attendees.

Pfizer/ICO Fellowship
Congratulations to Dr Con Malone who has been awarded this year's Pfizer/ICO Research Award. The prize will be presented during the Conference.

The College very much appreciates the help of Dr David Henshall, Senior lecturer in the Department of Physiology in RCSI, Prof Conor Murphy, Mr Noel Horgan and Miss Marie Hickey Dwyer in deciding this year's recipients. I would also like to thank Dr Declan O Callaghan and Ms Luan Smith from Pfizer Healthcare for their continued support of this important research award.

During the Conference, last year's winners Dr We Fong Siah and Dr Fergus Doyle will give an update the research they have carried out with the support of the 2010 award

ICO Medals
Dr Danny Mitry was the winner of the Barbara Knox medal at the 2010 Conference for his paper "*Epidemiology And Clinical Associations Of Primary Retinal Detachment In Scotland: 2 Years Of Prospective Recruitment*"

The winner of the William Wilde Medal was Dr Ian Dooley for his poster "*Prediction Of Effective Lens Position Using A Method Independent Of Preoperative Keratometry Readings*"

Montgomery Lecture
The 2010 Montgomery Lecture had been scheduled to take place in Trinity College on November 5th and Mr John Lee, Honorary Life member of the College and President of the Royal College of Ophthalmologists in London was looking forward to his trip to Dublin to give the lecture. Unfortunately this was not to be as John died suddenly during October on a trip to America.

The College is delighted to welcome John's wife Arabella, together with his son Ben and daughter-in-law Miranda, to this year's conference where they will be presented with the Montgomery Medal John had been due to receive.

This year's Montgomery lecture will see a return to the RCSI and will be given by Prof Lloyd Paul Aiello in early December.

Mooney Lecture
The 2010 Mooney lecture was delivered by Prof John Forrester, Head of Section of Immunology & Infection at the University of Aberdeen in Scotland on "The Link between Infection and Uveitis"

The College welcomes Prof Cindy Toth to this year's conference and we look forward to her Mooney Lecture.

MEDICAL OPHTHALMOLOGISTS COMMITTEE

Joanne Kearney, *Chairman*

Secretary: Tim Horgan
Committee Members: Ursula Behan, Amanda Collum, Collette Dalton, Aideen Hogan, Marie Houlihan, Fiona Kearns, Susan Mullaney, Catherine Mc Crann, Grace O' Malley and Garry Treacy

The committee met on four occasions and the members showed exemplary commitment of their time and effort, despite the long distances travelled in most cases, to the ongoing work on committees, sub-committees and the development of documents over the past year, which included the following:

Public Affairs Forum: Garry Treacy was our representative on this committee in which capacity he undertook a great deal of work. The ICO met with the Department of Health and Children in November 2010 at Hawkins House and Medical Ophthalmologists in the ICO delegation included Kevin Tempany, Joanne Kearney and Garry Treacy. An overview of the type and scope of community medical eye practice in Ireland was presented to the DOHC representatives including the Chief Medical Officer. The College's document on 'Eye Care in Ireland', concerns about the subsumption of the Opticians Board into CORU and the deregulation of eye care were discussed. Feedback from the Department was minimal but the College was invited back at a future date for further discussions. The ICO has written to the department seeking a further meeting.

Delegates from the ICO, including Garry Treacy representing Medical Ophthalmologists, attended the RCPI's Policy Group on driving safety in Ireland and the College's draft document on recommendations on this subject will be finalised shortly and presented to the Road Safety Authority in due course.

Professional Competence Committee: Susan Mullaney and Aideen Hogan represented the Medical Ophthalmologists on this important committee to help set up a Continuing Professional Competence scheme to support us in maintaining and recording our CPD.

Manpower Committee: Tim Horgan was joined this year by Kevin Tempany as our two representatives on this committee. This year will hopefully see the roll out of the Ophthalmology Trainee Registrar Year. After completion of the European Board exams the Trainee will qualify for Registration in the Ophthalmology section of the specialist register.

Scientific and Yearbook Committee: Many thanks to Fiona Kearns who is the Medical Ophthalmology representative on this committee and the key person for organising our Medical Ophthalmology Symposium titled

"Maintaining Medical Standards in Ophthalmology". This being our first symposium to organise and chair, will be one of the highlights of the programmer for many and we are expecting a good turnout. I hope this is the first Medical Ophthalmology Symposia of many more to come.

Council Elections: Congratulations to Margaret Morgan on her election success. She will now join Aideen Hogan, Catherine Mc Crann and Garry Treacy as Medical Ophthalmology representatives on the council of the ICO.

My term on council is ending. I enjoyed my time as chairperson of this committee and would like to thank my fellow committee members for their dedication, hard work and support in my term of office. In particular I would like to thank Siobhan Kelly for her invaluable help and advice and outgoing President Paul Moriarty for his good communication, support and fairness. I extend my congratulations to Catherine Mc Crann who is the new Chairperson of the Medical Ophthalmology Committee.

Chairperson: Joanne Kearney

PUBLIC AFFAIRS COMMITTEE

Mark Cahill, *Chairman*

Committee members; Alison Blake, Gary Treacy, Kathryn McCreery, Martin Coyne and Darragh O Doherty

2010-2011 has been an extremely busy year for the Public Affairs Committee. The Committee membership has been extended and I would like to welcome Kathryn McCreery, Martin Coyne and Darragh O Doherty on board. The remit of the Committee has expended to include a focus on the issues of concern to our eye specialist colleagues also in General Practice and Martin and Darragh's contribution to the Committee is particularly welcome at this time. Hopefully they will be joined by John Barrett at the next meeting.

Public Relations: Following the successful media campaign undertaken around the 2010 annual conference the College has once again engaged Pembroke Communications to run a similar campaign around his year's conference. The keynote addresses by Prof Charles Normand, Healthcare Economist at Trinity College and Dr Stevie Tan from the Academic Medical Center in Amsterdam who will discuss the Dutch Universal Healthcare model, will be of particular media interest.

Eye Care Strategy Document: The Committee produced a detailed response from the College's perspective to proposed legislative changes to the Health and Social Care Professionals Act. During November a representative delegation from the College met with Dr Tony Holohan, Chief Medical Officer at the Department of Health & Children to discuss our concerns. The document was also forwarded to Ms Ginny Hanrahan at CORU and the representative post graduate medical and surgical training bodies; RCSI, RCPI, Irish College of General Practitioners, Irish College of Psychiatrists and the Medical Council.

We have had mixed response but are still actively engaged with CORU & the DOHC to ensure that our concerns are addressed.

Visual Standards for Driving; The Committee members have been engaged in drafting a document to submit to the RCPI Fitness to Drive Committee on the most appropriate visual standards for driving and to ensure appropriate interpretation of Irish and European legislation.

My term as Chairman of the Committee has drawn to a close and I would like to thank the Committee members for their important contributions and wish Dr Garry Treacy every success as he takes over the role.

PROFESSIONAL COMPETENCE COMMITTEE

Noel Horgan *Chairman*

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

The committee has met frequently in recent months as the College prepared its submission for the Medical Council for approval for its professional competence scheme

From May 2011, all doctors are legally obliged to maintain their professional competence by enrolling in a professional competence scheme and following the requirements set by the Medical Council.

The ICO has received approval from the Medical Council to administer a professional competence scheme in line with the requirements of the Medical Practitioners Act. All registered medical practitioners have a statutory obligation to register for and participate in such a scheme run by the Postgraduate Training Body to which they are aligned.

The College's scheme will be open for enrollment to both members and non-members. Enrollment will be completed through an online eportal where you will upload your details together with the details of the CME points collected throughout the year. The College has outsourced the electronic element of the scheme for a trial period of one year but the administration and governance of the scheme will be retained by the College . The function of the eportal is to assist doctors in recording their points and to generate regular reports as required by the Medical Council.

The College's Professional Competence Committee will review and accredit appropriate activities for CME points. The Medical Council requires that the College audit 3-5% of participants annually.

The Medical Council has set €275 as the maximum fee the post graduate bodies may charge for participation in a scheme. The Council of the College has agreed that the fee for non –members or those who have not paid their annual subscription in the current year will be €275, however a reduced fee of €175 will be charged to those members who have paid their annual subscription.

An information session on the Professional Competence Scheme will be held on Thursday 12th May at the Conference.

JOHN BLAKE

John Blake, who died recently, was one of the most brilliant medical professionals of our time and someone who, through tireless campaigning, saved the sight of many road crash survivors. He was, for many years, one of Ireland's most eminent consultant ophthalmic surgeons.

His campaigning for the outlawing of toughened glass in car windscreens in Ireland in the Eighties led to a dramatic decrease in eye perforations.

John Blake, who was described as "one of the true scholars and gentlemen of Irish medicine" by Professor Barry O'Donnell in his book on the Royal College of Surgeons in Ireland, was born in Cork in 1932 into a medical family. His father, a GP, died when John was 11 and the family struggled financially for some time. With money in short supply, only a scholarship could ensure his third level education and this proved to be no difficulty to the dedicated student.

Educated at Presentation Brothers College in Cork, he attained first place in Ireland in Mathematics in the Leaving Certificate and won a scholarship to UCC's medical school. He also won the Cork Corporation scholarship, the Honan scholarship and later the Ainsworth scholarship for young surgeons.

While studying in UCC, John met Eithne Power from Kiltealy in Co Wexford. Eithne was every bit a match for him.They were in their 52nd year of a very happy marriage when John died on January 9th.

John did his ophthalmology training in Nottingham Eye & Ear Hospital, studied in the Royal Eye Hospital and later worked in Moorfields Eye Hospital in London.

Returning to Dublin, he succeeded Professor Lavery in Our Lady's Hospital for Sick Children in Crumlin and the Royal Victoria Eye and Ear Hospital where he would later become chairman of the medical board. In 1971 he joined the staff of St Vincent's hospital, at the time the hospital moved to Elm Park in Donnybrook.

While working as an eye surgeon in the UK and Ireland, he was disturbed at the number of serious eye injuries arising from sometimes minor car accidents compared with the US and Canada. Laminated glass was used in American cars whereas Europe continued to use toughened glass that shattered on impact.

John continued to research this problem and pointed out to the Irish government that the natural progression of a sudden impact virtually assured that the head of a front-seat car passenger would hit the windscreen, smash through it and end up with their eyes on, or level with the window fitting and the remaining shards of glass.

He wrote a definitive paper "Road Blindness" on the subject which was published in the British Medical Journal in 1983 and lobbied extensively to change the law. The Irish government eventually relented.

Prior to 1986, more than a hundred eye perforations from road traffic accidents were seen every year. Nowadays, with many more accidents, that figure has fallen to about three per year.

He was President of the Irish Ophthalmological Society when it amalgamated with the Faculty of Ophthalmology to form the Irish College of Ophthalmologists and was involved in the complex negotiations to establish the ICO at that time.

John Blake was everything you wanted in a consultant surgeon: extremely well read, professional, courteous and competent at nearly everything he turned his hand to. He worked tirelessly, loved helping patients and they loved him. Always helpful to his colleagues, his opinion was highly respected by them. Privately, he was a warm and devoted family man. He loved the company of others but family always took priority. It isn't any great surprise that all five Blake children should join the medical profession.

A member of Elm Park and Woodenbridge Golf Clubs and Donnybrook and Fitzwilliam Tennis Clubs, John's other passions were architecture and opera. He was a regular on the golf course on a Sunday morning with his friend and colleague Joe Walsh and it was the routine games of tennis that kept him fit into his later years.

He suffered Alzheimer's towards the end of his life, but was supported greatly by his family and friends.

John Blake is survived by his wife Eithne, children Alison, Richard, Patricia, Michael and Gavin and his brother Tom, as well as 14 grandchildren.

May the good Lord bless him abundantly

R.E.

Eithne Walls

Eithne Walls was a young doctor in RVEEH and just starting out on her exciting journey to fulfilling a lifelong ambition of becoming an eye surgeon. She was a gifted, vibrant and special person and her loss has had a profound impact on all who were privileged to know her.

On 1 June 2009 Dr Eithne Walls, along with her two friends and colleagues Dr Aisling Butler and Dr Jane Deasy, was a passenger on the ill-fated Air France flight AF447 which disappeared over the Atlantic as it travelled from Rio de Janeiro to Paris.

Eithne was a talented dancer, who spent a year with Riverdance on Broadway in New York, before studying medicine at Trinity College, Dublin. She was also a former Irish dancing star.

Eithne was a competitive dancer for more than 20 years and won many medals from the All-Ireland, American, British, Ulster, and World Championship.

In 2000, she retired from competition and became a member of the Riverdance troupe. She performed with the troupe on Broadway for a year before studying medicine at Trinity College.

While in college, Eithne remained a member of the troupe's "flying squad" and returned as a full-time member in 2004 for its summer appearance at the Gaiety Theatre. She was among the Riverdale cast that performed at the 2003 Special Olympics in Dublin along with The Corrs and U2.

Eithne was traveling home from Brazil with her two friends, Aisling Butler and Jane Deasy. The trio graduated from Trinity College, Dublin in 2007.

Following the tragic accident Eithne's family established a research fund at theRoyal Victoria Eye & Ear's Research Foundation in her memory. This fund supports vital research work into eye disease.

John Lee

With great sadness we report that John Lee died suddenly on the 8th October aged 63. A man of great energy and vitality and exceptional intellect, John was the pre-eminent strabismus surgeon of his generation and a valued teacher, colleague and friend. He was born in Kingston on Thames, one of eleven children too Irish parents, both school teachers and was educated at University College Oxford and The Westminster Hospital. By his own admission he was not a model student and he only just scraped through his final exams.

He trained at Moorfields Eye Hospital with Peter Fells and completed a fellowship at the Bascom-Palmer Institute in Miami with John Flynn before his appointment to a consultant post at Moorfields in 1984. Whilst in America he visited Alan Scott in San Francisco and on his return he had in his hand luggage the first vials of botulinum toxin to be used in the United Kingdom. John was the first to treat strabismus with botulinum toxin in the UK and went on to develop the leading toxin clinic in the world.

He also ran a tertiary referral service for complex strabismus cases, seeing patients from all over the UK. His advice was sound and helpful and he never undermined the referring specialist. I once sent him a complex case on whom I had carried out surgery with great reluctance and who had subsequently made a complaint against me. John was pleased to tell me that the patient had a good outcome after a further operation, but he did not hesitate to tell me a few months later that the patient had also made a complaint against him! John was the author of more than 200 papers and many book chapters. He championed the use of botulinum toxin in strabismus and published 45 papers on this subject alone.

John was an outstanding teacher. He taught at the American Academy of Ophthalmology for over 20 years and organised the Moorfields Squint Grand Rounds for 15 years. Always approachable and laid back, he was keen to encourage junior doctors. His fellowship programme at Moorfields has produced a steady stream of strabismologists who now practise worldwide. I was his first registrar when he took up his appointment at Moorfields. On one occasion we were operating together in theatre and I was recessing a previously resected medial rectus muscle. I had just been working with him for a short time and was a novice strabismus surgeon. As I divided the muscle from the insertion a dark patch appeared in the sclera and a jelly-like substance began to emerge. I was horrified, but John mildly observed how lucky we were that I had just finished working with the vitreo-retinal team and was ideally placed to deal with this interesting and unusual complication.

John was very active in promoting his specialty. He was President of the International Strabismus Association, Vice President of the European Strabismus Association and

founder of the British Isles Strabismus Association. He was President of the Ophthalmology Section of the Royal Society of Medicine and Master of the Oxford Congress. John was an excellent speaker and his contributions were always knowledgeable, erudite and highly entertaining. His good natured, irreverent sense of humour ensured that he kept the rapt attention of the audience. He was on his usual sparkling form at the ISA meeting in Istanbul the week before he died.

The following story, recalled by Tim Freeguard, illustrates John's characteristic sense of fun and generosity of spirit. "I was coming up to a training assessment (around the time they were first introduced) and I was sat before two people whom I perceived to be terrifying potentates of the ophthalmic world - John Lee and Peter Leaver, to assess me and I was not at all confident of a positive outcome. They quickly came on to talk about my MD thesis for which I had already taken time out, but was still in that no-man's land of not having quite written up. Peter Leaver said very sternly that I must write it up (shaking his head with a rictus of disapproval) and said that to not do so did not look very good at all and it would hold me back - "a bit like qualifying from Oxford with a third class degree". There was a pregnant silence and a pause at the end of which Peter Leaver turned to John Lee with an incredulous look of consternation (had he been a monocle wearer it would have theatrically fallen out at this point). "Good God John - you didn't get a third did you?" - and at John Lee's shrugging hands held aloft response in apology/acquiescence (that we all have seen so many times) we all fell about laughing and I went on to have a very constructive assessment. Needless to add this was pure theatre set up by John Lee and Peter Leaver for the desired purpose of putting me at my ease....very much appreciated at the time!"

John's hair went white when he was still young, and he was highly amused to discover that he was referred to as "the old fellow" by the candidates in the college exams, though he was at least twenty years younger than the other examiners. He enjoyed finishing the Times crossword with astonishing speed and he had an encyclopaedic knowledge of film and music of every description, which served him well when he appeared on the television programme "University Challenge" while a student at Oxford. He was a devoted fan of the Orchestra of the Age of Enlightenment. He relished his Irishness and loved his trips to the family home in Connemara, where fly fishing served as an important escape and relaxation.

In 2009 John was elected as the President of the Royal College of Ophthalmologists. This was the first time that the President had been elected by the members of the college rather than by the council of the college and his appointment is a measure of John's reputation and popularity in the UK. John had already proved himself an effective and pragmatic and well liked President in the short time that he was in office.

John's Irish connections remained strong throughout his life and the family have a holiday home in Connemara. He regularly attended the Irish College meeting and College members were delighted to bestow Honorary Life Membership of the College on him in 2009. He will be remembered with great affection and is much missed by his family, colleagues and patients, many of whom were his friends.

PFIZER/ICO RESEARCH AWARD

With the financial support of Pfizer Ophthalmics, the ICO gives an annual research award of €35,000 to a medical doctor who is undertaking full time unfunded research. The aim of this award is to facilitate trainees in ophthalmology to undertake a period of research or specific clinical training in an ophthalmology centre of excellence.

Applications for the award are invited annually and a short list of suitable candidates is selected for interview by representatives from various institutions. The interview is led by an external assessor.

2011 Pfizer/ICO Recipient

The recipient of the 2011 Award is Dr Con Malone who has outlined his research project;

Herpes simplex keratitis (HSK), caused by herpes simplex virus type 1 (HSV-1), is characterised by recurrent episodes of corneal inflammation leading to loss of vision. HSK is the most common infectious cause of blindness in the developed world. Toll-like receptors (TLRs), key components of the innate immune system that sense microorganisms, are highly expressed in human corneal epithelial cells (HCECs) and trigger induction of the anti-viral cytokine Type 1 Interferon upon exposure to HSV-1. The virus has evolved to evade the interferon response and cause lifelong latent infection, predisposing the host to recurrent corneal inflammation. Since HSV-1 induces strong up-regulation of several TLRs, we hypothesise that certain TLR agonists, through the induction of interferon, may prove beneficial in HSK treatment. This study aims to test the topical application of these agonists in promoting anti-viral immunity, viral clearance and corneal healing in an animal model of HSK.

Firstly, we are studying the expression of TLRs on the ocular surface, and the production of chemokines and cytokines in tears and corneal/conjunctival cells in patients with active HSK, before and during standard treatment, and in normal controls. Secondly, we will use immortalised and primary HCEC lines to assess the ability of TLR activation to prevent HSV-1 replication via the induction of anti-viral responses. Thirdly, we will determine the optimal topical drug preparation for the cornea by performing ex-vivo pharmacokinetic studies of TLR agonists on porcine and human cadaveric donor corneas using a corneal perfusion chamber.

Finally, we will evaluate the optimal formulation of these agents in the treatment of a murine model of HSK,

focusing on efficacy, immune reactivity and toxicity. The primary goal of this study is to identify novel therapeutic agents to improve long term visual outcomes in HSK.

2010 Recipients

The 2010 award was awarded to projects proposed by Dr Fergus Doyle and Dr We Fong Siah.

Dr Doyle has out-lined his research;

Current investigations in glaucoma are based mainly on assessment of intraocular pressure (IOP) and visual fields. However, the retinal ganglion cell loss characteristic of glaucoma often correlates poorly with these measures. For this reason, there has been significant recent emphasis on the discovery of alternative biomarkers.

Members of our group have recently approached this issue by using protein arrays to screen the serum of pseudoexfoliation glaucoma patients for antibodies. In doing so, they found an antibody, anti-c6orf129, which is uncharacterised, to be more prevalent in these patients than in controls. The purpose of our project is to characterise C6orf129.

We have treated immortalised rat retinal ganglion cells (RGC-5) with hydrogen peroxide and calcium ionophore (for 24 hours), reagents which mimic glaucoma conditions in vitro. Post treatment mRNA expression of C6orf129 was assayed by RT-PCR. In addition, expression of certain key markers of apoptosis was measured (APAF-1 and Caspase 3). Expression of C6orf129 mRNA is significantly up-regulated following these treatments, which were administered at non-toxic levels (as shown by crystal violet cell viability assay). There was a concomitant increase in mRNA expression of the key markers of apoptosis.

These findings are suggestive of a relationship between C6orf129 and apoptosis in glaucoma. Further work will include assessment of these findings at the protein level (immunoblotting and immunohistochemistry) and exploration of the relationship between C6orf129 and other subtypes of glaucoma using patient samples and ELISA testing.

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
Hospital Services
Ipsen Pharmaceuticals
MEDA
MED Surgical
Merck Sharp & Dohme
Novartis
Ocuco
Pfizer
Raynor
Sedena
Scope Ophthalmics
Topcon
Whelehan Surgicare
WMO Healthcare

ICO Conference Timetable 2011
Radisson Hotel, Farnham Estate, Cavan
Thursday 12th – Saturday 14th, May 2011

Day 1; THURSDAY 12TH MAY

8.30am **President's Welcome Address**

8.40am Papers
Chaired by Mr Tim Fulcher & Mr Paul O Brien

8.42 am **Pseudomonal Keratitis: 10 Year Retrospective Analysis Measuring Treatment, Risk Factors and Outcomes in Rveeh**
S Thinagaran

8.49am **The Efficacy of Phacoemulsification with Intraocular Lens Implantation in Phacomorphic Glaucoma**
M O Rourke

8.56am **Prognostic Indicators and Outcome Measures for Surgical Removal of Symptomatic Non-Advanced Cataract**
S Charlampidou

9.03am **Evaluation of Health Related Quality of Life (HRQOL) in Adults Post Strabismus Surgery**
H Moriarty

Q&A

9.10am **A Complete Analysis of More than 13 000 LASIK and Advanced Surface Ablation Cases**
A Cummings

9.17am **Visual Outcomes and Complications following Descemet Stripping Endothelial Keratoplasty: A Retrospective Review**
A Naughton

9.24am **Visual Outcomes, Device Retention And Complications Observed with the Use of Boston Keratoprostheses**
S Ni Dhubhghaill

9.31am **Identification and Characterisation of a Novel Missense Homeodomain Mutation in Zeb1 Resulting In Keratoconus**
C Willoughby

Q&A

9.45am **Presentation of Pfizer/ICO Research Award**

Update on Research from 2010 award recipients
Dr Fergus Doyle,
Mater Misericordiae Hospital

Dr We Fong Siah,
Mater Misericordiae Hospital

Presentation to 2011 Recipient
Dr Con Malone
RCSI & RVEEH, Dublin

10.00am Keynote address

"Why don't things that work happen? Using financing tools to improve Irish Health Services"
Prof Charles Normand
Edward Kennedy Professor of Health Policy & Management
Trinity College Dublin

'Shifting Towards a Health Care Market'
Dr Stevie Tan
Ophthalmologist
Academic Medical Center, Amsterdam

11.00am Coffee Break

11.30am; Current Concepts in the Management of Keratoconus

Keratoconus Management; an Overview
Mr William Power
Ophthalmic Surgeon
Royal Victoria Eye & Ear Hospital, Dublin

Diagnosis and Management of Keratoconus for the Medical Ophthalmologist
Mr. Patrick Condon,
Ophthalmic Surgeon
Waterford Eye Specialists

Visual Rehabilitation of Keratoconus – Current Concepts
Mr. Sheraz Daya
Ophthalmic Surgeon
Centre for Sight – Corneal Plastic Unit & Queen Victoria Hospital, UK

Discussion and Questions from Audience

1.00pm Information Session on ICO Professional Competence Scheme for Continuing Medical Education

1.15pm Lunch
(Afternoon Golf) 20 tee times 1.00 – 1.40

3.00pm Workshops
Paediatric Spectacle Correction – Amblyopia Prevention
Ms Kathryn McCreery
Ophthalmic Surgeon
Our Lady's Hospital for Sick Children, Crumlin

3.00pm **New Eyesight Standards for Driving Safety**
Fields
Dr Fiona Kearns
Beaumont Hospital, Dublin

Contrast Sensitivity
Dr Gary Treacy
Ophthalmologist
Medical Optics, Bray & Fairview

4.00pm **Visual Fields Workshop**

Dr Aoife Doyle
Ophthalmic Surgeon
Royal Victoria Eye & Ear Hospital, Dublin

Miss Yvonne Delaney
Ophthalmic Surgeon
Bon Secours Hospital, Dublin

Evening – Social Occasion, Lough Rynn Castle
Transport Departs at 6.30 – 6.45

Day 2; FRIDAY 13TH MAY

8.30am Papers
Chair; Dr Aoife Doyle

8.32am **MREH iStent Study I: Safety and Efficacy**
J Brady

8.39am **To Compare Intraocular Pressure Measurements Between the Tonosafe Tonometer and the Gold Standard Goldmann Tonometer and Correlate the Difference with Central Corneal Thickness**
C Baily

8.46am **Comparing a Disposable Tonometer Head with Goldmann Applanation Tonometer in Glaucomatous and Non-Glaucomatous Eyes**
S Farrell

Q&A

8.52am **Chemokine Expression During Corneal Allograft Rejection**
T Flynn

8.59am **Sutureless and Glue Free (SGF) Conjunctival Autograft in Pterygium Surgery – a Case Series**
J Moore

9.06am **Effects of Alcohol on Ocular Microtremor**
N Collins

Q&A

9.25am **Lipofuscin Accumulation and Autophagy in Glaucomatous Human Lamina Cribrosa Cells**
E McElnea

9.32am **Characterisation of Anti-C6orf129; An Antibody Associated with Pseudoexfoliation Glaucoma**
F Doyle

9.39am **Oxidative Stress, Mitochondrial Dysfunction and Calcium Overload in Human Lamina Cribrosa Cells from Glaucoma Donors**
D Wallace

Q&A

10.00am **Audit of Uveal Melanomas Patients in Ireland January-December 2010**
B Morris

10.07am **The Price of Sight? Treatment for Neovascular AMD in Ireland**
N Collins

10.14am **Gene Expression Profile in Endothelial Progenitor Cells (Epcs) Identify Novel Transcripts Upregulated in Diabetic Patients ProtectedfFrom Development of Diabetic Retinopathy (Dr)**
D Kent

Q&A

10.30am Coffee

11.00am AMD Symposium

Nutrition & AMD
Prof Stephen Beatty
Consultant Ophthalmic Surgeon
Waterford Institute of Technology

Surgical Role of Treatment for AMD
Prof Cindy Toth
Ophthalmic Surgeon
Duke Eye Center, Durham, North Carolina

Injections in AMD
Professor Sobha Sivaprasad
Ophthalmic Surgeon
King's College Hospital, London

12.30pm Lunch

2pm **Annual General Meeting of the Irish College of Ophthalmologists**

3.30pm Workshop
'Private Vs Public Practice; A Challenging Decision'
Prof Stephen Beatty
Waterford Institute of Technology

Dr Kevin Tempany
Ranelagh Eye Clinic

4.30pm Mooney Lecture
'OCT Application in Developing Eyes'
Prof Cindy Toth
Duke Eye Center, Durham North Carolina

Evening - Gala Dinner, Radisson Hotel
Pre dinner drinks reception 7.30pm, followed by dinner at 8.15pm

Day 3; SATURDAY 14TH MAY

9.00am Posters
Chaired by; Dr Catherine Cleary & Mr David Kent

9.00am **Orthoptic Secondary Screening Service – a 10 Month Review**
T McAleer

9.04am **Familial Congenital Superior Oblique Palsy**
S Callanan

9.08am **Idiopathic Intracranial Hypertension Secondary to Contraceptive Pill and Implant**
S Gilmore

9.12am **How Does Tear Hyperosmolarity Effect the Conjunctival Goblet Cell Population?**
S Twaij

9.16am **Re-Audit Of The Outcomes Of Cataract Surgery Using Medisoft Technology**
M McGuire

9.20am **The Use of Keraflex followed by Corneal Cross-Linking (CXL) in the Treatment of Keratoconus**
A Cummings

9.24am **Development of Allele-Specific Therapeutic Sirna in Meesmann Epithelial Corneal Dystrophy**
J Moore

9.28am **Intraorbital Perilesional Corticosteroid in the Treatment of Granulomatous Orbital Inflammation**
E McElnea

9.32am **A Case Report of a Large Lid Mass Secondary to Propionibacterium Canaliculitis**
S Moran

9.36am **Incidence of Angle Closure Glaucoma in the Northern Ireland Diabetic Screening Programme**
M Lagan

9.40am **iStent Trabecular Micro-Bypass Stent for Primary Open-Angle Glaucoma: Preliminary Results**
O McNally

9.44am **Accuracy of the Diaton Compared with the Goldmann Applanation Tonometer (GAT)**
M Abdelrahman

9.48am **Allelotyping in Primary Open-Angle Glaucoma using SNP Microarrays and DNA Pooling (SNP-MaP)**
W Jia

9.52am **Single Night Postoperative Prone Posturing in Idiopathic Macular Hole Surgery**
I Dooley

10.02am **A Screening Study of Diabetic Retinopathy in the Irish Traveller Population**
L McAnena

10.06 **Cutis Aplasia and Paediatric Retinal Detachment**
M Lagan

10.10am **Changing Trends in Indication for Fundal Flourescein Angiogram (FFA) and Ocular Coherence Tomography (OCT), Over a Five Year Period at Cork University Hospital**
F Ibrahim

10.14am **A Case Series of Solar Retinopathy in the West of Ireland**
S Moran

10.18am **Genomic Medicine and Stargardt Disease**
D Armstrong

10.22am **A Mutation in the Norrie Disease Gene (NDP) Associated with Familial Exudative Vitreoretinopathy**
S Chamney

10.30am Coffee

11.15am **"Maintaining Medical Standards in Ophthalmology"**
Chairman; Dr Maureen Hillery

'Managing Uveitis – Making the Most of Evidence'
Prof Conor Murphy
Ophthalmic Surgeon
Royal Victoria Eye & Ear Hospital, Dublin

'Quality and Safety in Ophthalmology; developments from UK'
Mr Simon Kelly
Ophthalmic Surgeon
Royal Bolton Hospital NHS Foundation Trust

'Clinical Audit for the Blind and Bewildered'
Dr. Ian Callanan
National Lead for Clincial Audit, Health Services Executive

1.00pm **Presentation of Medals**
– Sir William Wilde Medal for Best Poster Presentation
- Barbara Knox Medal for Best paper Presentation

1.10pm Close

Book Of Abstracts

PSEUDOMONAL KERATITIS: 10 YEAR RETROSPECTIVE ANALYSIS MEASURING TREATMENT, RISK FACTORS AND OUTCOMES IN RVEEH, DUBLIN

Thinagaran S, Tbrani J, Knowles S, O'Brien P, Curtin D.
Royal Victoria Eye and Ear Hospital, Dublin

Objectives: Pseudomonal keratitis has been documented in patients wearing disposable contact lenses. The aim of this study was to document Snellan visual acuity at the time of presentation in the affected eye, the associated risk factors, treatment and the final visual outcome in all cases. Antibiotic sensitivity and resistance were documented. The duration of inpatient stay, follow up and the number of affected patients requiring corneal transplant were also documented.

Methods: Obtaining data from the microbiology department, a list of all patients who were culture positive for Pseudomonas Aeruginosa from corneal scrapings, contact lenses or their cases was obtained. Charts from January 2000 to Dec 2010 were reviewed in this study. All the aforementioned criterias in each chart were summarized.

Results: 49 patients were positive for Pseudomonas species. 300 samples were received for keratitis culture over the 10 year period. Average age of patients was 36.3 years and a male to female ratio of 1:2. Final Snellan visual acuity ranged from 6/5 to HM. Average inpatient stay was 10 days and average duration of follow up was 12.3 months. Penetrating keratoplasty (PK) was performed in 2 patients (4%). The type of contact lens (CL) used were soft monthly disposable CL and daily gas permeable disposable lenses. Over the latter part of the 10 year period, the use of daily disposable lenses increased (33 patients, 67%). 7 patients (14.2%) contracted the organism despite not wearing contact lenses. Organism cultures were sensitive to Ciprofloxacin, Ceftazidime, Ofloxacin and resistant to Cefuroxime, Vancomycin and Chloramphenicol. 4 patients (8%) had final visual outcome of HM due extensive stromal scarring in neurotrophic corneas. PK was not thought to be beneficial due to underlying pathology and age of those patients. 3 patients (6%) had evisceration due to endophthalmitis associated with stromal abscess at the time of presentation. 1 patient had both Acanthomeaba and Pseudomonal species identified on CL and corneal scraping.

Conclusions: Despite being a sight threatening disease the majority of the 49 patients had good visual outcomes. The PK rate was 4% over the 10 year period. Antibiotics sensitivity and resistance was based on culture and this range remained stable over the 10 year period. Extended wear of contact lenses was identified as the most important risk factor for Pseudomonas keratitis. Pattern of contact lens wear have changed from monthly to daily disposable lenses due to patient education and awareness. Despite these changes, the rate of Psedomonas keratitis increased in this study.

THE EFFICACY OF PHACOEMULSIFICATION WITH INTRAOCULAR LENS IMPLANTATION IN PHACOMORPHIC GLAUCOMA

O'Rourke M, Doyle A.
Royal Victoria Eye and Ear Hospital, Dublin 2

Objectives: To evaluate the therapeutic efficacy of phacoemulsification surgery with intraocular lens implantation in phacomorphic glaucoma.

Methods: This retrospective case series evaluated eyes that had phacoemulsification with IOL implantation to treat raised intraocular pressure. Intraocular pressure [IOP], best corrected distance visual acuity [BCVA], number of glaucoma medications were evaluated with a minimum follow up of 12 months.

Results: A total of 16 eyes of 10 patients were included with mean age 74.6 years [SD 8.34]. The mean reduction in IOP was 4.6mmHg (SD 4mmHg) post operatively. No eye required additional glaucoma treatment with 50% completely off treatment. The mean reduction in number of drops was 1.02 drops [SD 0.875].

Conclusions: Phacoemulsification with IOL implantation was effective in treating raised intraocular pressure.

PROGNOSTIC INDICATORS AND OUTCOME MEASURES FOR SURGICAL REMOVAL OF SYMPTOMATIC NON-ADVANCED CATARACT

(Accepted for publication in Archives of Ophthalmology on February 3rd 2011)

Charalampidou S, [1,2] Loughman J, [3,4,5] Nolan J, [1,3] Stack J, [3] Cassidy L, [6,7] Pesudovs K, [8] Beatty S, [1,3]

[1] Institute of Eye Surgery & Institute of Vision Research, Whitfield Clinic Waterford [2] Department of Postgraduate Studies, School of Medicine, Trinity College Dublin [3] Macular Pigment Research Group, Waterford Institute of Technology [4] Department of Optometry, Dublin Institute of Technology [5] African Vision Research Institute, University of KwaZulu-Natal, Durban South Africa [6] Royal Victoria Eye and Ear Hospital Dublin [7] Department of Ophthalmology, Trinity College Dublin [8] NH&MRC Centre for Clinical Eye Research, Department of Optometry and Vision Science, Flinders Medical Centre and Flinders University of South Australia

Objectives: To report changes in perceived visual functioning following surgery for symptomatic cataract with preoperative corrected-distance visual acuity [CDVA] better than or equal to 0.4 logMAR (Snellen 20/50), and to investigate the relationship between any observed changes and preoperative physical characteristics and psychophysical consequences of the lens opacity, and any changes in psychophysical findings following the procedure.

Methods: Eighty-five patients with cataract completed Priquest, a validated questionnaire, and a series of visual performance assessments, prior to and two months following cataract surgery. Lens optical density (LOD) and Lens Opacities Classification System (LOCS) III score of the cataract were recorded. Correlations between changes in Rasch-analyzed questionnaire score and changes in visual performance following cataract surgery, as well as preoperative psychophysical measures, LOD and LOCSIII score, were determined.

Results: Mean questionnaire score (±SD) improved from 2.15(±0.36) to 1.54(±0.4;$p<0.01$). Preoperative questionnaire score ($r=-0.442$), preoperative mesopic glare disability [GD] (1.5 cycles per degree [cpd] [$r=0.342$] and 3 cpd [$r=0.267$]), and preoperative photopic GD (1.5 cpd [$r=0.237$] and 3 cpd [$r=0.302$]) showed statistically significant correlations with perceived improvements in visual functioning following surgery ($p<0.05$). Changes in perceived visual functioning correlated significantly with changes in: mesopic GD (1.5 cpd [$r=-0.427$] and 3.0 cpd [$r=-0.280$];$p<0.05$) and photopic GD (1.5 cpd [$r=-0.236$] and 3.0 cpd [-0.388];$p<0.05$). Neither preoperative CDVA nor change in CDVA following surgery correlated significantly with perceived improvement in visual functioning following the procedure ($p>0.05$ for both).

Conclusions: Psychophysical tests alternative to CDVA better represent improvements in self-reported visual functioning following removal of non-advanced cataract.

EVALUATION OF HEALTH RELATED QUALITY OF LIFE (HRQOL) IN ADULTS POST STRABISMUS SURGERY

Moriarty H, Stokes J.
Department of Ophthalmology, Waterford Regional Hospital

Aim: To investigate the impact corrective surgery has on the HRQOL of adult strabismic patients.

Methods: A validated questionnaire (AS20)[1] was completed by 11 consecutive patients of a single surgeon, at clinic visits pre-operatively and post-operatively over a 12 month period. Statistics were performs using GraphPad and differences between the groups were analyzed.

Results: The mean age was 39 years (Range 33-57 years). There were 4 males and 7 females. The majority (10/11) of patients had a significantly improved overall HRQOL post strabismus surgery ($p = 0.008$). There was also a significant improvement in psychosocial well-being post corrective surgery ($p = 0.002$). Seventy two percent (8/11) of patients reported a post-operative functional improvement but this was not statistical significant ($p = 0.18$).

Conclusions: This study shows that strabismus surgery is not simply an aesthetic procedure but that the psychosocial and functional benefits afforded by corrective strabismus surgery contribute greatly to an improvement in quality of life for adults.

[1] Hatt S.R., Leske D.A., Bradley E.A., Cole S.R., Holmes J.M. Development of a quality of life questionnaire for adults with strabismus. *Ophthalmology* 2009;116:139-144)

A COMPLETE ANALYSIS OF MORE THAN 13 000 LASIK AND ADVANCED SURFACE ABLATION CASES

Cummings A B, Corkin R H.
Wellington Eye Clinic & UPMC Beacon Hospital, Sandyford, Dublin

Objectives: To determine the efficacy, safety and predictability of LASIK and Advanced Surface Ablation for Myopia, Hypermetropia and Astigmatism.

Methods: Retrospective study of more than 13 000 eyes that underwent LASIK or Advanced Surface Ablation at the Wellington Eye Clinic in past 5 years. A comparison is made in terms of refractive outcomes as well as the following:
Different microkeratomes are compared to the femtosecond laser.
Different ablation speeds of the excimer lasers are compared.
The outcomes of primary versus secondary procedures are compared.
Different ablation profiles are compared.

Results: Primary procedures do better than enhancement surgeries in terms of safety. Ablation profile outcomes differ in terms of the indication: topography-guided surgery does best for enhancement surgery while ray-tracing profiles do best for primary procedures. Femtosecond lasers improve the refractive outcomes and are more predictable in terms of flap thickness and standard deviation

Conclusions: Both LASIK and Advanced Surface Ablation are very safe procedures with excellent refractive outcomes.

VISUAL OUTCOMES AND COMPLICATIONS FOLLOWING DESCEMET STRIPPING ENDOTHELIAL KERATOPLASTY: A RETROSPECTIVE REVIEW

Naughton A, Fulcher T.
Mater Misericordiae University Hospital

Objectives: To evaluate the visual outcomes of all Descemet Stripping Endothelial Keratoplasty procedures performed at the Mater Misericordiae University Hospital, demonstrating the most commonly encountered complications. To identify the demographics of candidates achieving best results and assess outcomes in high-risk patients with previously failed Penetrating Keratoplasty.

Methods: Retrospective, Single Surgeon, Single Centre analysis of 27 consecutive DSEK procedures in 25 patients during the period June 2008 – February 2011 was performed. Mean follow-up was 12.4 months (range 2-47 months). Outcome was evaluated using BCVA at most recent follow-up and any complications encountered.

Results: Twenty-seven eyes of 25 patients underwent Descemet Stripping Endothelial Keratoplasty. Three procedures were combined with Phacoemulsification and IOL implantation. Mean patient age was 65.29 years (range= 43-81 years): 60% male, 40% female. Indications for surgery were Fuch's Endothelial Dystrophy 22.23% (n=6); Bullous Keratopathy 44.44% (n=12); Graft failure 29.63% (n=8); and Irido Corneal Endothelial Syndrome 3.7% (n=1). All patients with Fuch's Endothelial Dystrophy had an improvement of visual acuity, 83% achieving BCVA>6/9. In patients with Uncomplicated Bullous Keratopathy, 100% had BCVA>6/12; 50%>6/9 at most recent follow-up. In patients with previous ipsilateral Penetrating Keratoplasty, 50% showed a sustained improvement in visual acuity; 50% resulted in graft failure. Post-operative complications included graft dislocation 29.6%, rejection episode 14.1%, sustained IOP rise 3.7%, Primary graft failure 3.7% or Secondary graft failure 14.8%.

Conclusions: DSEK has emerged as an attractive option for the treatment of patients with corneal endothelial dysfunction. It may be performed as a combined procedure with Phacoemulsification/IOL implantation. Careful pre-procedural patient selection is required. All patients with uncomplicated Bullous Keratopathy and Fuch's Endothelial Dystrophy achieved significant improvement in Visual Acuity. In high-risk patients with previously failed Penetrating Keratoplasties, DSEK is a viable option for selected patients; a 50% success rate was demonstrated in this study.

VISUAL OUTCOMES, DEVICE RETENTION AND COMPLICATIONS OBSERVED WITH THE USE OF BOSTON KERATOPROSTHESES

Ni Dhubhghaill S, Ng E, Power W.
Royal Victoria Eye and Ear Hospital, Dublin

Objectives: The purpose of this study was to determine the best corrected visual acuity (BCVO) outcomes for patients who have undergone insertion of Boston keratoprostheses. Secondary aims set were to determine the leading indication for insertion, rate of device retention and quantify intraoperative and postoperative complications.

Methods: This study was performed as a retrospective chart review of all cases of keratoprosthesis insertion performed over the five year period 2006 to 2010 in a single surgical centre. All patients had vision of 6/36 or worse. The series contains six monthly follow data for 16 patients who received prostheses over this period. Indications for surgery, additional procedures at time of prosthesis insertion, intraoperative and post operative complications were also documented.

Results: After 6 months, 62% achieved a visual acuity greater than 6/120, 42% had a VA greater or equal to 6/36. At 12 months 87% of patients had vision better than 6/120 and 42% had VA greater or equal to 6/36. At 18 months 87% of patients attained VA of greater than 6/30. At 24 months 68% of patients maintained a VA of 6/30 or better. Detailed data up to 60 months is available for 3/16 patients. The most common post operative comlication is posterior capsular opacification requiring ndYAG capsulotomy (9/16).

Conclusions: The Boston keratoprosthesis is a viable option providing significant visual benefits for patients that are not candidates for standard penetrating keratoplasty procedures. Patients require life long follow up after device insertion.

IDENTIFICATION AND CHARACTERISATION OF A NOVEL MISSENSE HOMEODOMAIN MUTATION IN ZEB1 RESULTING IN KERATOCONUS

Willoughby C E, Muszynska D, Lechner J, Dash D, Donnelly U, Frazer D G, Moore J, Hughes A E.
Queen's University Belfast & Belfast HSC Trust

Objectives: Mutations in zinc finger E-box binding homeobox 1 (ZEB1) have been reported in posterior polymorphous corneal dystrophy (PPCD) and Fuch's endothelial corneal dystrophy (FECD). Although PPCD and keratoconus (KTCN) involve different layers of the eye, PPCD has been associated with KTCN in several reports and mutations in *VSX1* have been reported in both conditions. The purpose of this study was to screen *ZEB1* for mutations in KTCN patients.

Methods: The patient cohort consisted of 70 patients with sporadic and familial KTCN of Northern European ethnicity. All patients had a full ophthalmic examination and the diagnosis of keratoconus was made on the basis of clinical examination, a history of penetrating keratoplasty for keratoconus and corneal topography. Mutational analysis of *ZEB1* was performed by direct cycle sequencing of all 9 exons. One hundred unrelated individuals (200 chromosomes) without ocular disease from the Northern Irish population were used as normal controls. An anterior corneal lamellar was available for one patient with a novel *ZEB1* homeodomain mutation and corneal keratocytes cultured. RT-qPCR was used to analyse the expression levels of ZEB1 transcriptional targets identified from bioinformatics analyses.

Results: A novel heterozygous missense mutation, c.1920G>T, in exon 7 of ZEB1 which was detected in a patient familial KTCN and was not seen in 200 normal chromosomes. This nucleotide change results in a nonsynonymous substitution of a glycine with hisitdine (p.Gln640His), a highly conserved residue in the homeodomain of ZEB1. The mutation segregated within the family. RT-qPCR was performed on cultured keratocytes from the proband to investigate the downstream consequences of the homeodomain ZEB1 mutation on ZEB1 transcriptional activation.

Conclusions: Mutations in ZEB1 have not previously been associated with keratoconus. The functional consequences of this mutation on potential ZEB1 transcriptional targets provides significant insight into keratoconus pathogenesis.

MREH ISTENT STUDY I: SAFETY AND EFFICACY

Brady J, Doris J P, Au L.
Manchester Royal Eye Hospital

Objectives: To evaluate the safety and efficacy of the iStent trabecular micro-bypass stent at six months follow-up.

Methods: A prospective study of all iStent procedures carried out in MREH to date with a minimum of 6 months follow-up. Data was collected with regard to patient demographics, preoperative assessment, surgical procedure and postoperative course.

Results: 28 eyes in 26 patients underwent iStent implantation. Mean follow-up was 8.2 months (range 6 to 12 months). Mean preoperative intraocular pressure was 22.7 mmHg and mean number of medications before surgery 2.4. At six months mean intraocular pressure was 15.8 mmHg. 68% had an intraocular pressure of ≤ 21 off all drops which increased to 96% with adjunctive treatment. One eye failed requiring a diode laser to control intraocular pressure and one eye had a postoperative hyphaema which cleared after three days.

Conclusions: Our pilot study shows promising results that compare well with those published previously by Spiegel et al, although we are aware that our follow-up is limited to six months. We intend to follow these patients forward in time to accumulate longer term data. This procedure is a relatively simple quick adjunct to cataract surgery with a low incidence of complications and shows promise as a useful adjunct to established glaucoma therapies.

References; Spiegal D, Wetzel W, Neuhann T et al. Co-existent primary open angle glaucoma and cataract: interim analysis of a trabecular micro-bypass stent and concurrent cataract surgery. Eur J Ophthalmol 2009;19(3):393

TO COMPARE INTRAOCULAR PRESSURE MEASUREMENTS BETWEEN THE TONOSAFE TONOMETER AND THE TONOPEN WITH THE GOLD STANDARD GOLDMANN TONOMETER AND CORRELATE THE DIFFERENCE WITH CENTRAL CORNEAL THICKNESS.

Baily C, Dooley I, Collins N, Hickey-Dwyer M.
Department of Ophthalmology, Mid-West Regional Hospital, Limerick

Objectives: The literature suggests that Tonosafe tonometers are a reasonable alternative to the traditional Goldmann tonometer with regards to measurements under 25mmHg. In clinical practice however the Goldmann tonometer is felt to be a more reliable instrument. We aim to explore this relationship further by comparing intraocular pressure measurements between the Tonosafe tonometer and the gold standard Goldmann tonometer and correlating the difference with central corneal thickness. The difference in the measurements between the two tonometers has not to date been correlated with central corneal thickness.

Methods: Intraocular pressure was determined in 80 patients using both the Tonosafe and the Goldmann tonometers. Central corneal thickness was determined using a pachymeter.

Results: Student T-test demonstrated a mean difference between the Goldmann tonometer and the Tonosafe tonometer of 1.038, (1.672 SD, 95 % CI) $p<0.000$. There was a significant correlation with central corneal thickness (Pearson's correlation of 0.2, $p<0.02$).

Conclusions: The Tonosafe underestimates IOP when compared with the gold standared Goldmann tonometer. There is a significant correlation with central corneal thickness.

COMPARING A DISPOSABLE TONOMETER HEAD WITH GOLDMANN APPLANATION TONOMETER IN GLAUCOMATOUS AND NON-GLAUCOMATOUS EYES

Farrell S, Dooley I, O'Connell E, Bashir S, Foley-Nolan A, Kearns F, Logan P, Fulcher T.
Department of Ophthalmology, Beaumont Hospital, Dublin.
Department of Ophthalmology, Mater Misericordiae University Hospital, Dublin

Objectives: Goldmann applanation tonometry is widely performed as the most accurate method of measuring intraocular pressure in the clinical setting and was used in the large clinical trials on which we base our management of glaucoma / ocular hypertension. Disposable tonometer heads eliminate the risk of spreading infection during applanation and eliminate tonometer head cleaning which is time consuming.
We performed a study to investigate whether the Tonojet disposable tonometer would give similar results to the Goldman tonometer.

Methods: All patients attending the Ophthalmology clinic in Beaumont hospital over a period in 2010 had the intraocular pressure of both eyes checked with both the Goldman and the Tonojet tonometers. The central corneal thickness of each eye was also. We also documented any diagnosis of glaucoma, or corneal disease.

Results: The pressure in 294 eyes was measured using both devices. 49 eyes had a diagnosis of glaucoma or Ocular Hypertension. The average IOP with Goldman was 14.0 (SD=3.4) the mean IOP measured with Tonojet was 11.80 (SD = 3.3). Using the Bland-Altman method the Tonojet underestimates IOP compared to the Goldman with an average bias of -2.3mmHg. The 95% limits of agreement range from -5.9mmHg to +1.4mmHg. The bias is present over the entire range of pressures. We also found that the bias was greater in patients with glaucoma/ ocular hypertension than those without with a mean bias of - 2.8 in the Glaucoma/OHTN group vs.- 2.1mmHg in the non-glaucoma/OHTN group .

Conclusions: We conclude that the Tonojet disposable Tonometer head is not sufficiently accurate to constitute a suitable alternative to traditional Goldmann applanation tonometry especially considering it's increased inaccuracy in glaucoma/OHTN eyes. .

CHEMOKINE EXPRESSION DURING CORNEAL ALLOGRAFT REJECTION

Flynn T H, Ohbayashi M, Dawson M, Ono S J, Larkin D F.
Moorfields Eye Hospital/ UCL Institute of Ophthalmology

Objectives: To identify changes in chemokine expression during corneal allograft rejection

Methods: Corneal allografts (C57Bl/6 donors; n=9) and isografts (n=9) were performed in AJ mice. At day 12 eyes were removed and RNA was extracted. Chemokine mRNA was analysed using a ribonuclease protection assay.
Further allografts (Balb/c donor; n=6) were performed in CCR1KO mice and in WT control mice (n=6) and graft survival in these groups was compared.

Results: Higher levels of mRNA of the following chemokines were found in corneal allografts than in isografts: Lymphotactin (XCL1), IP-10 (CXCL10), RANTES (CCL5) and MCP-1 (CCL2). Allograft survival in CCR1KO recipients was not prolonged compared with WT controls.

Conclusions: Increased expression of certain chemokines is seen during corneal allograft rejection. The role of these proteins in the rejection process and their therapeutic potential remain unclear.

SUTURELESS AND GLUE FREE (SGF) CONJUNCTIVAL AUTOGRAFT IN PTERYGIUM SURGERY – A CASE SERIES

Shanu S, Dewit D, Twaij S, Moore J.
Belfast HSC Trust and Cathedral Eye Clinic, Belfast

Objectives: Foreign materials used in ocular surface surgery may lead to local complications such as discomfort, scarring or infection. Plasma derived products such as fibrin glue may produce possible hypersensitivity reactions while the risk of viral transmission remains. We describe asimple method of achieving conjunctival autograft adherence during pterygium surgery avoiding potential complications associated with the use of fibrin glue or sutures.

Methods: After pterygium excision and fashioning of the autologous conjuntival graft, the recipient bed is encouraged to achieve natural haemostasis and relative dessication prior to graft placement. Excessive haemorrhage in the graft bed is tamponaded. Graft adherence and positioning is examined twenty minutes post surgery.

Results: 40 eyes of 32 patients {mean (SD) age 68 (12.1) year}, underwent SGF autologous conjunctival graft post pterygium excision. Mean follow up time was 9.2 (2.2) months. Cosmesis was excellent in all cases and visual acuity improved in one patient. There were no intra or postoperative complications requiring further treatment.

Conclusion: This simple technique for pterygium surgery may prevent potential adverse reactions encountered with the use of foreign materials and in this small series provided safe and comparable results to current methods.

EFFECTS OF ALCOHOL ON OCULAR MICROTREMOR

Collins N [1, 2], AlKalbani M [2], Blake O [3], Kavanagh P [4] , Mahmud A [4], Boyle G. [2], Coakley D [1, 2]
[1] Dept of Medical Gerontology, Trinity College Dublin, [2] Mercer's Institute for Research on Ageing, [3] Dept. of Clinical Biochemistry [4] Dept. of Pharmacology and Therapeutics, St James's Hospital Dublin

Objectives: To investigate the effect of acute alcohol ingestion on ocular microtremor. Ocular microtremor (OMT), a minute eye movement present at all times in normal subjects, is a measure of arousal in terms of reticular-formation activity. OMT has been shown to be a potential measure of brainstem integrity in coma and brainstem death. Alcohol intoxication is a confounding factor in determinations of level of brainstem function in coma. Saccadic eye movements are known to be profoundly affected by alcohol intoxication, but the effects on OMT are unknown. We investigated whether acute alcohol ingestion affects OMT frequency parameters.

Methods: The effect of a single oral dose of alcohol on OMT was examined in a randomised double-blind crossover study. Seventeen healthy subjects (36 +/- 12 years, 8 male) were studied after ingestion of ethanol (0.8g ethanol or 0.1 alcohol units per kg body weight) and placebo, in randomized order. OMT recordings were made using the piezoelectric strain-gauge technique, at baseline, 45 and 90 minutes after alcohol ingestion. Serum alcohol concentration (SAC), heart-rate and blood pressure were measured at each test period.

Results: There was a small reduction in OMT peak frequency after alcohol ingestion from 86.4 Hz (SD 4.6 Hz) at baseline to 80.9 Hz (SD 5.2 Hz) at 90 minutes (95% CI for difference between means: 3.8Hz, 7.2Hz; $p < 0.001$). A multivariate general linear model ANOVA was constructed on change in OMT peak frequency parameters from baseline. There was a significant main effect of Treatment (alcohol or placebo), $F (2, 56) = 5.62$, $p = 0.006$, partial eta squared = 0.167. Heart-rate and blood pressure changes were not significant (Fs <1.2 and respective p values = 0.31, 0.63 and 0.35). When the analysis was repeated with SAC (mg/dL) included as an additional covariate it did not reach significance as a main effect ($F (2, 55) = 0.49$, $p = 0.62$), indicating that small differences in SAC did not have a significant effect on subjects' OMT frequency parameters.

Conclusions: The results demonstrate that the frequency of OMT is reduced following acute alcohol ingestion. However, OMT is less sensitive to alcohol effects than saccadic eye movements: the observed reduction in OMT frequency was relatively small, and not clinically significant in the context of previous studies of OMT.

LIPOFUSCIN ACCUMULATION AND AUTOPHAGY IN GLAUCOMATOUS HUMAN LAMINA CRIBROSA CELLS

McElnea E M, [1,2] Quill B, [1,2] Docherty N, [1,2] Wallace D M, [1,2] Irnaten M, [1,2] Farrell M, [3] O'Brien C J, [1,2]
[1] University College Dublin School of Medicine and Health Sciences [2] Institute of Ophthalmology, Mater Hospital Dublin, [3] Department of Neuropathology, Beaumont Hospital Dublin

Objectives: The ageing and oxidative stress associated intralysosomal accumulation of lipofuscin impairs autophagy and may promote declines in the function of glial cells of the lamina cribrosa implicated in the pathogenesis of disease related changes occurring at the optic nerve head (ONH) in glaucoma. This study aimed to compare levels of lipofuscin-like material in lamina cribrosa cells from normal (NLC) and glaucomatous (GLC) donor eyes and assess its effects on autophagy.

Methods: NLC and GLC cells were examined by transmission electron microscopy (TEM) and the number of peri-nuclear lysososomes per high powered field (x 20,000) recorded. The cells were stained with Sudan Black B, and peri-nuclear lipophilic body number assessed. Cellular autofluorescence was quantified by flow cytometry. Real-time PCR (Rt-PCR) measured the cell content of Cathepsin D and Autophagy protein 5 (ATG5) mRNA in NLC and GLC. Cellular protein levels of the former were analysed at Western blot.

Results: The number of peri-nuclear lysosomes was increased in GLC (11.1 +/- 3.8 v 4.2 +/- 3.7 p = 0.002) at TEM. The quantity of Sudan Black B stained peri-nuclear lipophillic bodies was also increased in GLC (22.10 +/- 3.57 v 13.77 +/- 5.66 p = 0.07). An increase in whole cell autofluorescence was observed in GLC (83062 +/- 45.1 v 41.01 +/- 3.9 p = 0.2). Cathepsin D mRNA and protein content did not differ significantly between the two cell groups. There were significantly higher levels of ATG5 mRNA in GLC samples compared to NLC.

Conclusions: Increased lipofuscin formation is a feature of lamina cribrosa cells from donors with glaucoma and has important downstream effects on autophagy therein. Potential future anti-glaucoma strategies might therefore include attempts at stimulation of cellular degradation systems.

CHARACTERISATION OF ANTI-C6ORF129; AN ANTIBODY ASSOCIATED WITH PSEUDOEXFOLIATION GLAUCOMA

Doyle F G [1, 2], Dervan E [2], Wallace D M [1, 2], O'Brien C J [1, 2]
[1]Catherine McAuley Clinical Research Centre, Mater Misericordiae University Hospital, Dublin [2] Institute of Ophthalmology, Mater Misericordiae University Hospital

Objectives: Current diagnostic modalities in glaucoma are based on assessment of intraocular pressure (IOP) and visual fields. Glaucoma symptoms often correlate poorly with IOP. This has led to increased interest in serum biomarkers as a potential diagnostic tool. Our group has previously shown that anti-C6orf129 (a hitherto uncharacterized antibody) is present at elevated levels in the serum of pseudoexfoliation glaucoma patients. The objective of this study was to further investigate the role of this autoantibody in glaucoma.

Methods: Rat retinal ganglion (RGC-5) cells were treated with Hydrogen Peroxide (200 µM, 400 µM, or 600 µM) or Calcium Ionophore (A23187) (2µM or 5µM) for 24 hours. mRNA expression of C6orf129 level was assayed by RT-PCR using gene-specific primers and SyBr-green labeling. Post-treatment cell viability/toxicity was evaluated using crystal violet cell viability assay. Post treatment transcription levels of FGFR3 (Fibroblast Growth Factor Receptor 3) were also analysed as this was also found to be elevated in pseudoexfoliation glaucoma.

Results: Expression levels of C6orf129 is significantly up-regulated in RGC5 cells following a 24 hour exposure to glaucoma-like stimuli (C6orf129; $p=0.03$-5µM A23187 treatment, $p=0.07$-H_2O_2 200µM treatment) at non-toxic levels as assessed by crystal violet staining (>85% cell viability at all treatment concentrations). We also found a concomitant increase (APAF-1; $p=0.03$- 200µM H_2O_2 treatment) (Caspase-3; $p<0.01$ - 200µM H_2O_2 treatment, $p=0.027$-2µM A23187, and $p=0.047$-5µM A23187) in the key markers of apoptosis (Caspase 3 and Apaf-1). FGFR3 expression was not elevated following exposure to the above glaucoma-like stimuli.

Conclusions: Treatment of RGC5 cells with glaucoma-like stimuli increases expression of C6orf129; this is in parallel to markers of apoptosis. These findings suggest a potential relationship between C6orf129 and apoptosis in glaucoma. Further work will include characterization of C6orf129 and exploration of the relationship between these autoantibodies and other forms of glaucoma (Ocular Hypertension/Low Tension Glaucoma/Primary Open Angle Glaucoma).

OXIDATIVE STRESS, MITOCHONDRIAL DYSFUNCTION AND CALCIUM OVERLOAD IN HUMAN LAMINA CRIBROSA CELLS FROM GLAUCOMA DONORS

McElnea E M [1, 2,] Quill B [1,2] * Docherty N G [1,2,] Irnaten M [1,2,] Siah W F [1, 2,] Clark A F [3,] O'Brien C J [1, 2,] Wallace D M [1,2]*

[1] Institute of Ophthalmology, Mater Misericordiae University Hospital Dublin 2 University College Dublin School of Medicine-Medical Science 3 Dept. Cell Biology & Anatomy and the North Texas Eye Research Institute, University North Texas Health Science Center

Objectives: Oxidative stress is implicit in the pathological changes associated with glaucoma. The objective of this study was to compare levels of oxidative stress in glial fibrillary acid-negative protein (GFAP) lamina cribrosa (LC) cells obtained from the optic nerve head (ONH) region of 5 normal (NLC) and 4 glaucomatous (GLC) human donor eyes and to also examine mitochondrial function and calcium homeostasis in this region of the ONH.

Methods: Intracellular reactive oxygen species (ROS) production was examined by a thiobarbituric acid reactive substances (TBARS) assay which measures malondialdehyde (MDA), a naturally occurring product of lipid peroxidation and is used as an indicator of oxidative stress. Mitochondrial membrane potential (MMP) and intracellular calcium ([Ca2+]i) levels were evaluated by flow cytometry using the JC-1 (5,5',6,6'-tetrachloro-1,1',3,3'-tetrabenzimidazolecarbocyanine iodide) and fluo-4/AM probes respectively. Anti-oxidant and Ca2+ transport system gene and protein expression were determined by RT-PCR using gene-specific primer/probe sets and western immunoblotting respectively.

Results: Intracellular ROS production was increased in GLC compared to NLC (27.19 ± 7.05 µM MDA vs 14.59 ± 0.82 µM MDA, $P<0.05$). Expression of the anti-oxidants Aldo-keto reductase family 1 member C1 (AKR1C1) and Glutamate cysteine ligase catalytic subunit (GCLC) were significantly lower in GLC ($P=0.02$) compared to NLC control. MMP was lower in GLC (57.5 +/- 6.8%) compared to NLC (41.8 +/- 5.3%). [Ca2+]i levels were found to be higher ($P<0.001$) in GLC cells compared to NLC. Expression of the plasma membrane Ca2+/ATPase (PMCA) and the sodium-calcium (NCX) exchangers were lower, while intracellular sarco-endoplasmic reticulum Ca2+/ATPase 3 (SERCA) expression was significantly higher in GLC compared to NLC. Subjection of NLC cells to oxidative stress (200µM H202) reduced expression of NCX-1 and PMCA-1 & -4 as determined by RT-PCR.

Conclusions: Our data supports oxidative stress, mitochondrial dysfunction and impaired calcium extrusion in GLC cells compared to NLC cells and suggests their importance in the pathological changes occurring at the ONH in glaucoma. Future therapies may target reducing oxidative stress and / or [Ca2+]i.

AUDIT OF UVEAL MELANOMAS PATIENTS IN IRELAND JANUARY-DECEMBER 2010

Morris B, Kelly S, Elkhair N, Horgan N.
Royal Victoria Eye & Ear Hospital Dublin

Objectives: To investigate the incidence and epidemiology of uveal melanoma in Ireland over a 12 month period

Methods: Review of all new patients presenting to the Ocular Oncology service in the Royal Victoria Eye and Ear Hospital (RVEEH) between January and December 2010

Results: During this period 41 new patients had a diagnosis of uveal melanoma. 35 had a choroidal melanoma, 2 had a ciliary body melanoma and 4 had an iris melanoma. 59% of patients were male. The mean age was 57 years for choroidal melanoma and 30% of patients were under 50 years of age. Treatment for the majority was carried out with plaque radiotherapy in Liverpool prior to November 2010. Thereafter brachytherapy was carried out in St. Lukes Hospital. Eleven patients had surgical treatment in RVEEH

Conclusions: Uveal melanoma occurred with an annual incidence of 9 cases/million in Ireland in 2010. This is similar to the reported incidence in other countries

THE PRICE OF SIGHT? TREATMENT FOR NEOVASCULAR AMD IN IRELAND

Collins N [1], Kenny D [2], Horgan [3]
[1] Midwestern Regional Hospital, Limerick; [2] NCBI – working for people with sight loss [3] Royal Victoria Eye and Ear Hospital Dublin

Objectives: Neovascular age-related macular degeneration (NV-AMD) is the leading cause of blindness in those aged over 65 in the developed world. With an ageing population, treatment for NV-AMD presents a daunting challenge in terms of cost and service provision for the Irish health-care system into the future.

Methods: National Council for the Blind Ireland (NCBI) data for 2005 – 2009 was reviewed to assess rates of referrals and blind registration due to AMD. 'Hospital In Patient Enquiry' (HIPE) records for the Royal Victoria Eye and Ear Hospital (RVEEH) 2005 - 2009 were reviewed to assess rates of intravitreal anti-Vascular Endothelial Growth Factor (IVT anti-VEGF) treatment for NV-AMD. Population trends were based on estimates from the Central Statistics Office (CSO). Estimated costs relating to service provision were calculated based on the unit cost of anti-VEGF agents and estimates of overall provision of care from UK and US studies.

Results: The use of IVT anti-VEGF injections for NV-AMD increased 13-fold (from 54 to 719 injections) in RVEEH between 2005and 2009. In total, 667 patients have received 2,217 anti-VEGF injections for NV-AMD between 2005 and 2009. The average number of injections per patient increased from 2 injections per patient in 2006 to 4.3 injections per patient in 2009, but is, as yet, well below trial-based protocols. The estimated drug cost alone in 2009 is €18,000 for bevacizumab. If ranibizumab had been used the drug cost would have been over €1million. Based on Royal College of Ophthalmology estimates for service provision for NV-AMD, the estimated cost among the Irish population of two years of intensive IVT anti-VEGF treatment (including all service costs) is at least €50million for ranibizumab (or €25million for bevacizumab).

However, the prevalence of NV-AMD in Ireland is increasing. NCBI referrals due to AMD have increased by 50% from 2005 to 2009 (291 vs 435), and account for an increasing percentage of NCBI referrals (up from 15% to 46%). The number of Irish people registered as blind due to AMD has increased steadily between 2005 and 2009 with, on average, 244 people per year newly registered as blind due to AMD. The population in Ireland aged over 65 years is projected to almost double by 2026 (from 495,000 to 885,000: CSO estimates). Prevalence of NV-AMD in those 65 years and older is estimated at 2.29% (EUREYE study 2006). If these trends continue, there will be over 20,000 patients with NV-AMD in Ireland in 2026, a considerable cost and service burden.

Conclusions:
The burden of NV-AMD in terms of both visual impairment and treatment costs has major resource implications. This burden is projected to increase with Ireland's ageing population. Adequate service planning should be undertaken as a matter of urgency, in support services as well as clinical treatment.

GENE EXPRESSION PROFILE IN ENDOTHELIAL PROGENITOR CELLS (EPCS) IDENTIFY NOVEL TRANSCRIPTS UPREGULATED IN DIABETIC PATIENTS PROTECTED FROM DEVELOPMENT OF DIABETIC RETINOPATHY (DR)

Kent D [1], Bhatwadekar A [2], Yan Y 2, Nikonova E V [3], Tanis K Q [3], Stone D J [3], Medina R [4], Stitt A W [4], Thut C [3], Finney E M [3], Grant M B [2]

[1] The Vision Clinic, Kilkenny, [2] Department of Pharmacology and Therapeutics, University of Florida, Gainesville [3] Molecular Profiling and Research Informatics, Merck & Co. Inc, Pennsylvania, USA, [4] Centre for Vision Science, Queen's University, Belfast.

Objectives: A rare, but highly significant group of diabetic patients have long standing disease (>20 years), poor glucose control (9-11% HbA1c) but show no evidence of DR. Why such individuals are protected is unknown, but we postulated that the EPCs of these patients have more robust vasoreparative potential compared to matched patients with DR and therefore suffer less early-stage vasodegenerative pathology. To explore this possibility, gene array analysis was performed on freshly-isolated EPCs from this unique patient population and compared to age, sex, diabetes-duration and HbA1c-matched diabetics with DR.

Methods: Peripheral blood CD34+ EPCs were isolated from matched diabetic patients. One group had no DR (n=5) while the other had severe nonproliferative DR (NPDR) (n=5). CD34+ cells were also obtained from a non-diabetic control group (n=5). RNA from CD34 cells was extracted using Trizol followed by AffyNugen amplification, and cDNA was probed to Human RSTA Affymetrix 2.0 chip. After normalization, analysis of data was performed using one way ANOVA and changes in gene expression were further analyzed using pathway analysis software.

Results: There was a robust gene signature of CD34+ cells of diabetic vs. non-diabetic controls and between poorly controlled diabetic patients with and without DR. ~1000 transcripts significantly separated diabetic patients from controls ($p<0.001$, FDR 5.5%) and of these, 857 were up-regulated and 90 were down-regulated. 121 genes were up-regulated in diabetic patients with no DR as compared to patients with severe NPDR. Genes up-regulated in patients with no DR included transcription factors (e.g. Zinc finger protein 331, SPRY2), cell cycle controllers (e.g. CDC14A), and cytoskeletal components (e.g. Spectrin). Mapping of these transcripts using pathway analysis software showed involvement of FOXO transcription factors, renin angiotensin system, TGF□1-PAI-1 pathway and upregulation of aplein expression, all of which play a key role in EPC survival, migration, differentiation, adhesion and proliferation.

Conclusions: Our data show that EPC from patients protected from DR compared to those with severe NPDR have a strikingly different gene expression signature including genes that enhance EPC reparative function.

ORTHOPTIC SECONDARY SCREENING SERVICE – A 10 MONTH REVIEW

McAleer T, O'Connor R, Sheehan C, Brosnahan D
Royal Victoria Eye and Ear Hospital, Dublin

Objectives: This is a report on the establishment of an orthoptic screening clinic. The throughput is described in relation to findings at examination, age and subsequent action.

Methods: All new children referrals to the Ophthalmology department were first assessed in a screening clinic by an Orthoptist to determine the appropriate time for further ophthalmology assessment. The referrals were divided into pre-school, school entry and school exit for comparison purposes.

Results: Over 450 children were assessed. 55% had no abnormality detected, 33% had appropriate pathology and 12% had myopia. In the pre-school group 88% had no abnormality detected; in the school entry group, 67% had appropriate pathology (amblyopia, hypermetropia, strabismus); in the school exit group 64% had myopia and 22% had previously completed treatment for amblyopia.

Conclusions: The findings are discussed with respect to the age of referral and the conditions found. Implications for delivery of service are discussed.

FAMILIAL CONGENITAL SUPERIOR OBLIQUE PALSY

Callanan S. Blake A.
Cavan General Hospital

Objectives: To describe a case of 2 members (father and daughter) of 1 family with Congenital Superior Oblique Palsy.

Methods: The presentation to the clinic, history and clinical findings are described.

Results: A diagnosis of Familial Congenital Superior Oblique Palsy is made and the incidence of Familial Congenital Superior Oblique Palsy is discussed with reference to suggested inheritance patterns.

Conclusions: This case highlights the need to consider familial tendencies in all cases of strabismus even incomitant deviations.

IDIOPATHIC INTRACRANIAL HYPERTENSION SECONDARY TO CONTRACEPTIVE PILL AND IMPLANT

Gilmore S, Siah W F, Logan P.
Ophthalmology Department, Mater Misericordiae, Dublin

Idiopathic Intracranial Hypertension (IIH) is caused by raised intracranial pressure in the absence of a brain space- occupying lesion. Main symptoms include nausea, vomiting, blurred vision or diplopia secondary to sixth nerve palsy. Here we discuss the salient features and management of IIH in two patients secondary to contraceptive pill and implant.

HOW DOES TEAR HYPERSMOLARITY EFFECT THE CONJUNCTIVAL GOBLET CELL POPULATION?

Twaij S, Moore T, McGilligan V, Shanu S, Moore J.
Belfast HSC Trust and Cathedral Eye Clinic, Belfast. University of Ulster, Coleraine

Purpose: To investigate the effect of tear hyperosmolarity and signs of clinical ocular surface pathology upon conjunctival goblet cell population.

Methods: 111 participants were defined as normal (0) or dry eye based upon a combination of tear osmolarity and clinical parameters (clinical pathological grade I-IV) or based on the population of total, filled, and empty goblet cells. In this study grade IV represented moderate dry eye. Total number of goblet cells was determined by immunofluorescence microscopy with anti-cytokeratin 7 (CK7) that stains goblet cell bodies. Filled goblet cells were identified by periodic acid Schiff's reagent (PAS) staining that stains secretory product or by staining with the lectin Helix pomatia agglutin that also stains secretory product. Based on number of goblet cells per unit area participants were defined as normal (0) or grades 1-4.

Results: When total number or goblet cells was compared with tear osmolarity there was a trend of increasing goblet cell number with decreasing osmolarity. When total number of goblet cells (CK7+) were divided into 4 grades (1 highest number of goblet cells to 4 lowest number) and compared with tear osmolarity, there was a significant increase in tear osmolarity with only grade 4 goblet cell number. When the number of filled goblet cells (PAS+) was analyzed there was significant increase in tear osmolarity for two grades of severity; grades 3 and 4. At the highest level of osmolarity the ratio of filled to unfilled goblet cells significantly altered.

Conclusions: At certain thresholds of increasing osmolarity the goblet cell population alters. There is a change in goblet cell emptying and filling functions at the highest level of tear osmolarity.

RE-AUDIT OF THE OUTCOMES OF CATARACT SURGERY USING medisoft® TECHNOLOGY

McGuire M, Mullaney P.
Sligo General Hospital

Objectives: To compare the clinical outcome post cataract surgery with the original audit (2001) and the first re-audit in 2007, both of which used the UK National Cataract Survey (1999) as standards.

In this re-audit we also use American Academy of Ophth Preferred Practice Pattern (AAO 2006) and the Cataract National Dataset Electronic Multicentre Audit (Jaycock 2009) as benchmarks in our outcomes.
This re-audit utilizes medisoft® technology and we evaluate the convenience and complexities that arose from this.

Methods: The audit was a retrospective data collection by a single doctor in Sligo General Hospital. The first 120 cataract operations performed by a single surgeon form 01/01/2010 were analysed by exporting data to Excel. Completed data was then analysed using an Excel spreadsheet. Time input by the doctor was documented and compared to projected information collection without the use of medisoft® technology.

Results: Standards of post-operative visual acuity were comparable to previous audits. Post-operative visual acuity was also of similar levels to the standards aforementioned.
Using medisoft®, it took one doctor 9 hours to complete this audit. By contrast, manual collation of this data would have taken one doctor and two clerical staff an estimated total of 100 hours.

Conclusions: The degree of post-operative visual acuity after cataract surgery in Sligo General Hospital continues to meet UK and international yardsticks. Use of medisoft® technology significantly reduced time and personnel in auditing.

THE USE OF KERAFLEX FOLLOWED BY CORNEAL CROSS-LINKING (CXL) IN THE TREATMENT OF KERATOCONUS

Cummings A B.
Wellington Eye Clinic & UPMC Beacon Hospital, Sandyford, Dublin

Objectives: To determine the efficacy and safety of microwave thermal corneal remodeling (Keraflex) followed by CXL in the treatment of keratoconus.

Methods: Retrospective study of 4 keratoconic eyes that were treated in October 2010 with the Keraflex device. CXL was performed 4 to 7 days later. Pre-operative and post-operative data was collected for visual and refractive metrics as well as topography and tomography data.

Results: Keraflex led to a significant flattening effect of the cornea that started regressing within days. CXL slowed down the rate of progression in all cases and in 2 cases further improved the outcome. At the 6 week post-operative visit, all eyes were significantly better than they would have otherwise been with CXL alone.

Conclusions: Keraflex corneal remodeling may be a very useful adjunct to CXL in the management of keratoconus

DEVELOPMENT OF ALLELE-SPECIFIC THERAPEUTIC SIRNA IN MEESMANN EPITHELIAL CORNEAL DYSTROPHY

Moore J [1], Liao H [2], Irvine A [2,3], MacEwenC [5], Weed K [5], Porter L [2], Corden L [2], Gibson B [2], Moore T [1,5] McLean W [2]

[1] School of Biomedical Sciences, University of Ulster, Coleraine, [2] Division of Molecular Medicine, University of Dundee, [3] Department of Paediatric Dermatology, Our Lady's Hospital for Sick Children, Crumlin [4] Institute of Molecular Medicine, Trinity College Dublin [5] Department of Ophthalmology, Ninewells Hospital & Medical School, Dundee

Purpose: To investigate the cause of severe Meesmann epithelial corneal dystrophy (MECD) and to develop siRNA therapy for dominant corneal disorders.

Design: Single-center molecular genetic study.

Participants: 8 individuals from one MECD kindred were investigated.

Methods: The genes encoding keratins K3 and K12 were analyzed and a functional assay was developed. Potential mutation-specific siRNAs were assayed systematically. Biochemical assays were developed to measure siRNA potency and specificity.

Main Outcome Measures: The relative ability of various mutant keratins to form normal filaments versus pathogenic aggregates was measured. The ability of siRNA species to block mutant K12 expression without affecting wild-type K12 expression was investigated.

Results: Affected members of the severe MECD family were shown to carry heterozygous missense mutation L132P in the K12 gene. Using a cell-culture assay of keratin filament formation, L132P was shown to be significantly more disruptive than R135T, which is associated with typical, mild MECD. A siRNA sequence walk identified a number of potent inhibitors for the mutant allele, which had no appreciable effect on wild-type K12. The most specific and potent inhibitors were shown to completely block mutant K12 protein expression with negligible effect on wild-type K12. The lead inhibitor was able to significantly reverse the filament aggregation phenotype in cultured cells.

Conclusion: Unusually severe MECD can be caused by particular mutations that are highly disruptive to keratin filament assembly. It is possible to design highly potent siRNA inhibitors against mutant alleles for future treatment of MECD and other corneal dystrophies caused by dominant-negative mutations.

INTRAORBITAL PERILESIONAL CORTICOSTEROID IN THE TREATMENT OF GRANULOMATOUS ORBITAL INFLAMMATION

McElnea E [1], Hynes S [2], Fahy G [1]
[1] Department of Ophthalmology, University Hospital Galway, [2] Department of Histopathology, University Hospital Galway.

Objectives: To report the successful treatment of granulomatous orbital inflammation with perilesional corticosteroid.

Methods: In a 77 year old gentleman with biopsy proven granulomatous orbital inflammation and a history of pulmonary TB, Isoniazid induced hepatitis precluded the treatment of his orbital disease with oral corticosteroid. Intraorbital, perilesional Triamcinolone (40mg) was used instead.

Results: Significant clinical improvement was noted in the week following this treatment. A further injection at 3 months achieved clinical and radiological resolution of this gentleman's orbital inflammation.

Conclusions: Intraorbital, perilesional corticosteroid injection is an attractive alternative to systemic therapy for the treatment of granulomatous orbital inflammation in select cases.

A CASE REPORT OF A LARGE LID MASS SECONDARY TO PROPIONIBACTERIUM CANALICULITIS

Moran S, Fahy G.
Ophthalmology Department, University Hospital Galway

Objectives: To report a case of a large lid mass caused by Propionibacterium canaliculitis.

Methods: A review of the case notes and a Pubmed literature research was carried out.

Results: A 70 year old lady presented with a large painless lower lid mass, which had been presented for over 30 years. Yellow purulent material was seen to extrude from the mass. Canaliculotomy was performed and the contents of the mass curetted. Gram positive bacilli were identified as Propionibacterium propionicum by a reference laboratory. One week post-operatively the lid mass had resolved and there have been no recurrence of symptoms to date.

Conclusions: Chronic canaliculitis can masquerade as many conditions. It is rare for canaliculitis to cause such a significant lid mass. Propionibacterium propionicum is a gram-positive bacillus which is probably commonly confused with Actinomycosis infection. Surgical treatment with canaliculotomy and curettage of contents is recommended as treatment.

INCIDENCE OF ANGLE CLOSURE GLAUCOMA IN THE NORTHERN IRELAND DIABETIC SCREENING PROGRAMME

Lagan M A, O'Gallagher M, Hart P, Johnston S.
Royal Victoria Hospital Belfast

Objectives: To ascertain the incidence of angle closure to the diabetic population undergoing screening.

Methods: Northern Ireland has two main centres for Ophthalmology acute care. In these two centres we retrieved patient details who were coded as having a diagnosis of angle closure glaucoma from January 2007 to June 2010. We also included all patients over the same time period that had a peripheral iridotomy performed. We then cross referenced this data with anyone who had been screened and allowed a two week window from screening to presentation of angle closure. We then reviewed the medical records to confirm the diagnosis

Results: We found 3 patients who presented with angle closure glaucoma shortly after dilation for diabetic retinopathy screening

Conclusions: Angle closure is a rare event in the diabetic screening programme, however it is a potentially sight threatening condition. The WHO guidelines for screening includes the screening test should be acceptable to the patient. Therefore all efforts should be made to minimise risk from angle closure.

THE iSTENT TRABECULAR MICRO-BYPASS STENT FOR PRIMARY OPEN-ANGLE GLAUCOMA: PRELIMINARY RESULTS.

McNally O, Moore J, Willoughby C E.
Belfast HSC Trust and Cathedral Eye Clinic, Belfast.

Objectives: There is evidence that increased outflow resistance and thus reduced outflow facility in the trabecular meshwork occurs in primary open-angle glaucoma (POAG). The iStent trabecular micro-bypass stent (Glaukos Corporation, CA) was designed to create a patent bypass through the trabecular meshwork to facilitate physiologic outflow and thus lower IOP. The objective of this study was to report the preliminary results of iStent implantation in terms of safety and efficacy in a non-randomised observational case series.

Methods: Implantation of the iStent trabecular micro-bypass stent was performed either as an isolated procedure in patients with POAG or in combination with phacoemulsification in patients with POAG and visually significant cataract. POAG was diagnosed on the basis of pre-treatment IOP > 21mmHg, optic disc cupping, visual field loss and open drainage angles on gonioscopy. The indications for iStent insertion were patients with uncontrolled intra-ocular pressures despite multiple topical medications and patients experiencing side effects from medication. Safety measures included best-corrected visual acuity (BCVA), slit-lamp observations, complications, and adverse events.

Results: 9 eyes of 6 patients underwent iStent insertion under peribulbar anaesthesia. 5 eyes underwent implantation in combination with phacoemulsification and 4 eyes as an isolated procedure. The duration of follow-up ranged from 1 month to 18 months. All patients achieved a lowering in IOP and/or a reduction in IOP-lowering medication. To achieve effective IOP lowering two stents were inserted in 3 eyes. No complications or adverse events were detected.

Conclusions: Preliminary results of the iStent trabecular micro-bypass stent in a limited case series with a modest follow-up has demonstrated positive results in terms of IOP lowering either in isolation or in combination with cataract surgery with no adverse effects. Recently, a prospective, randomized, controlled, multicenter clinical trial of iStent implantation combined with cataract surgery in the USA involving 240 eyes demonstrated favourable outcomes.

ACCURACY OF THE DIATON COMPARED WITH THE GOLDMANN APPLANATION TONOMETER (GAT)

Abdelrahman M, Coleman K.
Right to Sight

Objectives:

1. To compare intraocular pressure measurements obtained using the Diaton, a portable hand-held transpalpebral tonometer, with those from the Goldmann Applanation Tonometer (GAT).
2. To assess the accuracy of the measurements of an unskilled workforce (a medical student) using a Diaton compared with a consultant ophthalmologist using the GAT.

Methods:

Subjects: Patients attending the ophthalmology department in Blackrock clinic were selected. Ages varied between 40-80 years. Before each procedure, an information leaflet was provided to patients and informed written consent was obtained. Exclusion criteria included patients with recent eye surgery and those with lid pathology.

Measurements: IOP was measured using the Diaton and Goldmann Applanation Tonometer (GAT). The Diaton is a portable hand-held transpalpebral tonometer. It is used with the patient in an upright position and measurement is obtained through the upper eyelid over the sclera not the cornea.

Visual acuity and refraction tests were performed as well to check each patient's vision.

ALLELOTYPING IN PRIMARY OPEN-ANGLE GLAUCOMA USING SNP MICROARRAYS AND DNA POOLING (SNP-MAP)

Jia W, Lechner J, Dervan E, Dash D, Logan J, Rankin S, O'Brien C, Willoughby C E.
Queen's University Belfast, Belfast HSC Trust and Mater Misericordiae University Hospital Dublin

Objectives: Genome-wide association studies (GWAS) using SNP arrays are a fundamental approach to identify genes associated with complex genetic disorders like primary open-angle glaucoma (POAG). One way to address the cost, time and labour that are involved in large-scale genotyping is to carry out analyses not on individual DNA samples, but pools made up of DNA from many individuals: allelotyping. Pooled DNA can be allelotyped on SNP microarrays, a method called SNP Microarrays and DNA Pooling (SNP-MaP). This approach was applied to determine alleles associated with high and low tension glaucoma.

Methods: Irish caucasian patients with high tension (HTG) and normal tension (NTG) POAG were recruited following careful phenotyping from the Departments of Ophthalmology in Belfast and Dublin. Extracted DNA was accurately quantified and pools were constructed using equimolar amounts of DNA from each patient or control. Four DNA pools constructed (Belfast NTG POAG; Belfast HTG POAG; Dublin HTG POAG and Caucasian population controls). Pooled DNA was allelotyped on the Affymetrix SNP 6.0 Array. Pooled array data was analysed using GPFrontend and GPGraphics software tools and the GenePool algorithm to rank SNPs and assess SNP clustering.

Results: Four DNA pools consisting of 98 HTG patients in two separate pools (55 Belfast and 43 Dublin cases), 90 NTG patients and 90 Caucasian population controls were analysed on the Affymetrix SNP 6.0 Array. A number of chromosomal loci harbouring clusters of high ranking SNPs in biologically plausible candidate genes have been identified which require replication in further pools and SNP genotyping of individual samples. In particular, initial analysis of SNPs in the mtDNA has identified four significant target regions in NTG and one in HTG cases not seen in controls.

Conclusions: Preliminary data suggests that SNP-MaP is a cost effective strategy to identify genes associated with POAG. The role of the mitochondrial genome in POAG requires further exploration.

SINGLE NIGHT POSTOPERATIVE PRONE POSTURING IN IDIOPATHIC MACULAR HOLE SURGERY

Malik A, Dooley I, Mahmood U.
Waterford Regional Hospital

Objectives: To evaluate the role of postoperative prone posturing for a single night in the outcome of trans pars plana vitrectomy (TPPV) with internal limiting membrane (ILM) peel and 20% perflouroethane (C2F6)internal tamponade for idiopathic macular hole.

Methods: This prospective trial enrolled 14 eyes in 14 consecutive patients with idiopathic macular hole. All eyes underwent TPPV with vision blue assisted ILM peeling with and without phacoemulsification and intraocular lens (IOL) for macular hole. Intraocular gas tamponade (20% C2F6) was used in all cases with postoperative face-down posturing overnight and without specific posturing afterwards. LogMAR visual acuity, appearance by slit lamp biomicroscopy and ocular coherence tomography (OCT) scans were compared pre- and postoperatively to assess outcome.

Results: Among 14 eyes recruited, all eyes were phakic, 50% of patients underwent concurrent phacoemulsification with IOL. The macular holes were categorized preoperatively by OCT appearance, 4 (28.57 %) were stage 2, 7 (50%) were stage 3, and 3 (21.43%) were stage 4. Mean macular hole size was 0.35 disc diameters. Symptoms of macular hole had been present for an average of 6.5 months. All holes (100%) were closed 3 and 6 months postoperatively. Mean visual acuity (LogMAR) was improved to 0.61 at 3 months and was stable at 6 months after the surgery. None of the eyes had worse vision postoperatively.

Conclusions: Vitrectomy with ILM peeling and 20% C2F6 gas with a brief postoperative one night prone posturing regime is a reasonable approach to achieve anatomical closure in idiopathic macular hole. Concurrent cataract extraction, did not alter outcomes and was not associated with any additional complications.

A SCREENING STUDY OF DIABETIC RETINOPATHY IN THE IRISH TRAVELLER POPULATION

McAnena L, Slattery D, Harney F.
University Hospital Galway

Objectives: Irish Travellers are a distinct minority group in Ireland who experience significant social and health inequalities. Life expectancy for men and women Travellers is 15.1 and 11.5 years shorter than their respective counterparts in the background population1. Cardiovascular disease is a major cause of morbidity and mortality in the Traveller community2. The aim of our study was to screen a representative cohort of Travellers along the Atlantic Seaboard for the prevalence of type 2 diabetes (T2DM), pre-diabetes and Metabolic Syndrome (MetS) and to then screen the confirmed type 2 diabetes population for Diabetic Retinopathy (DR)

Methods: Travellers (>18 years) were recruited via Galway and Western Traveller movements, and, with informed consent, were screened for fasting glucose, lipids and 2-hour 75g oral glucose tolerance test (OGTT). Those with confirmed T2DM (defined as fasting glucose > 7 mmol/L, or 2 hr OGTT plasma glucose > 11.1 mmol/L) were offered retinal screening.

Results: Between July 2007 and December 2010, 354 Travellers were screened; 127 males and 227 females, mean age of 37 (SD: +/- 11.21). The prevalence of type 2 diabetes, pre- diabetes and MetS was 5.9% ($p=0.1302$), 9.3% ($p=0.014$) and 39% ($p<0.0001$) respectively. This compares with the background population prevalence of 4.5%, 6.2% and 21% respectively. Of the 21 Travellers with confirmed type 2 diabetes, 13 (61.9%) attended the Diabetes Day Center at UHG for retinal screening between December 2010 and February 2011. Of these 13 patients, 2 (15%) were diagnosed with background retinopathy, and 1 (7%) with preproliferative retinopathy (total; 22%) ($p=0.088$). Two studies [3,4] have demonstrated that, if one screens for Type 2 diabetes, the prevalence of DR in screen positive patients (7.6% and 6.8%) is much lower than the prevalence in the known population of people with diabetes

Conclusions: Our study shows a higher, but not statistically significant, rate of DR in screen positive patients in the Traveller Community compared with similar studies of general populations. Of note, only approximately 2 thirds of those with confirmed T2DM in our study had retinal screening, despite being given up to 3 repeat outpatient appointments. This high rate of failure to attend clinics may be explained by the social stigma attached to a diagnosis of diabetes amongst Travellers. Targeted screening for glucose abnormalities and their complications, with raised education and awareness is needed in Travellers.

CUTIS APLASIA AND PAEDIATRIC RETINAL DETACHMENT

Lagan M A, McLoone E, Brennan R.
Royal Victoria Hospital Belfast, Altnaglevin Hospital Derry

Objectives: A presentation of a case series of two patients born with cutis aplasia and associated conditions who progressed to retinal detachment as infants, one of whom received treatment.

Methods: Retrospective case notes analysis and literature review.

Results: Cutis aplasia and cutis maramorata are rare paediatric skin conditions. They have an unusual association with paediatric retinal detachment. This case series illustrates this rare condition with reference to the few case reports. It outlines treatment with laser not previously reported in the reviewed literature.

Conclusions: Cutis aplasia should prompt an ophthalmology referral for an ophthalmological examination due to the association with retinal detachment and glaucoma

CHANGING TRENDS IN INDICATION FOR FUNDAL FLOURESCEIN ANGIOGRAM (FFA) AND OCULAR COHERENCE TOMOGRAPHY (OCT), OVER A FIVE YEAR PERIOD AT CORK UNIVERSITY HOSPITAL

Ibrahim F, Dooley I, O'Connor G
Cork University Hospital

Objectives: This study was designed to analyse the changing role of fundal flourescein angiogram (FFA) since the introduction of ocular coherence tomography (OCT) in the clinical setting. With particular emphasis of the role of both imaging modalities in diabetic eye disease (including retinopathy, maulopathy, macular oedema and rubeosis) and age related macular degeneration (AMD).

Methods: Retrospective analysis of all requests for FFA or OCT during the same month (January) each year from 2007 to 2011, inclusive.

Results: In January 2007, there were 85 OCTs (41.5% of total imaging studies) and 120 FFA performed (58.5%). In January 2009, there were 136 OCT cases (60.4%) and 89 FFA cases (39.6%) and in January 2011, there were 132 OCT cases (69.5%) and 57 FFA cases (30.5%). With regard to AMD and diabetic eye disease, there was a significant reduction in requests for FFA over the 5 years with a corresponding increase in requests for OCT.

Conclusions: This study confirms that in this unit, there is a trend towards reduced request rate for FFA with a significant increase in OCT request rate. This may reflect that FFA is used for diagnostic purposes along with OCT, while OCT may be used alone for monitoring disease progress, in conditions such as diabetic macular oedema and neovascular AMD

A CASE SERIES OF SOLAR RETINOPATHY IN THE WEST OF IRELAND

Moran S, O' Donoghue E.
Ophthalmology Department, University Hospital Galway

Objectives: To report four cases of solar retinopathy occurring in the west of Ireland.

Methods: A review of case notes and optical coherence tomography images was performed, along with a Pubmed literature research.

Results: Solar retinopathy is a rare but well recognized form of macular damage caused by direct sun-gazing. We present four patients who attended the eye clinic in october and november 2009 with symptoms of central scotoma and metamorphopsia following episodes of sun-gazing. Three of the four cases had bilateral symptoms and signs. Fundal examination revealed discrete foveal lesions consistent with foveal burn. Optical coherence tomography in all cases showed changes at the fovea which decreased over time. All patients experienced improvement in symptoms but only one had complete resolution of symptoms within six months

Conclusions: Solar retinopathy generally has a favourable visual prognosis in the short-term. Patient education is important in preventing further cases.

GENOMIC MEDICINE AND STARGARDT DISEASE

Armstrong D, Simpson D A, Alexander S, Wolsley C, Silvestri G, Willoughby C E. Queen's University Belfast & Belfast HSC Trust.

Objectives: Molecular genetic testing is important for clinical care, enabling assignment of risk, genetic counselling and prognosis, and will be essential for enrolling patients in the future gene therapy trials. Mutations in *ABCA4* result in Stargardt Disease (STGD), fundus flavimaculatus (FFM), autosomal recessive retinitis pigmentosa (RP19) and cone-rod dystrophy (CORD). The aim of this study was to evaluate the ability of a commercially available genotyping platform to detect mutations in ABCA4 in STGD, FFM and CORD.

Methods: All patients underwent ophthalmic evaluation and electroretinography. DNA was extracted from peripheral blood leucocytes. A commercial genotyping platform based on an arrayed primer extension (APEX) system was used to screen for 558 known mutations in *ABCA4* (Asper Ophthalmics, Tartu, Estonia). One patient with CORD in which no *ABCA4* mutations were detected underwent targeted next generation DNA sequencing using a QUB custom design-array to assess the complete coding sequence of 40 genes associated with RP/CORD including ABCA4 in one experiment.

Results: 8 probands with STGD and 3 with CORD were tested for known *ABCA4* mutations on the Asper array. Two disease alleles were detected in 6/8 STGD patients and 0/3 CORD patients. Two STGD probands had familial disease and further analysis of other affected family members confirmed the inheritance pattern and segregation. This genetic information was particularly important in a family with pseudo-dominant inheritance. Next generation sequencing following a custom QUB array DNA capture detect two novel variants in ABCA4 associated with CORD in one patient.

Conclusions: Molecular genetic analysis of ABCA4 using the Asper array is a cost-effective first screen in STGD and improves genetic counseling. An accelerated accumulation of toxic end-products have been reported in a murine model of *ABCA4* retinal degeneration following vitamin A supplementation. Without a genetic diagnosis vitamin A supplementation may accelerate clinical deterioration in CORD and recessive RP19 due to *ABCA4* mutations, and should not be prescribed unless a causative mutation in ABCA4 has been excluded. Preclinical trials of *ABCA4* gene therapy in animal models are showing positive results and the ability to make a genetic diagnosis is essential for gene-specific clinical trials.

A MUTATION IN THE NORRIE DISEASE GENE (*NDP*) ASSOCIATED WITH FAMILIAL EXUDATIVE VITREORETINOPATHY

Chamney S, McLoone E, Willoughby C E.
Queen's University Belfast & Belfast HSC Trust

Objectives: Familial exudative vitreoretinopathy (FEVR) is a hereditary disorder that is characterised by aberrant and incomplete vascularisation of the peripheral retina. An early diagnosis of FEVR is important for adequate genetic counseling and treatment. FEVR is a genetically heterogeneous disease that shows X-linked recessive, autosomal dominant, and autosomal recessive modes of inheritance. X-linked recessive FEVR has been associated with mutations in the Norrie disease (*NDP*) gene.

Methods: A male infant was identified with FEVR and underwent a complete ophthalmic examination and EUA. FEVR was diagnosed on the basis of characteristic clinical features. DNA was extracted from peripheral blood leucocytes. The Norrie disease gene (*NDP*) was screened using Sanger sequencing by the NHS UK Genetic Testing Network (UKGTN).

Results: A 2 year old male infant was diagnosed with FEVR on clinical grounds and a lack of prematurity. The patient presented aged 1 with a left esotropia and an abnormal red reflex in the left eye. Fundoscopy at EUA detected inferotemporal peripheral vascular and gliotic changes in the right eye and a dragged macula with retinal exudation in the left eye. The right eye was treated with retinal laser photocoagulation and the left developed a total retinal detachment. Both parents had normal retinal examinations and FFAs. His sister underwent an EUA and the retinae were normal. A major concern in the family was the risks to other children. Mutational analysis of the *NDP* gene detected a C>T mutation in exon 2 resulting in a substitution of arginine by cysteine (p.Arg38Cys).

Conclusions: Genetic analysis of the *NDP* gene confirmed X-linked FEVR and enabled genetic counseling removing the requirement of EUAs in at-risk children. The *NDP* mutation detected (p.ARg38Cys) had previously been associated with Norrie disease but has never been reported in FEVR. The UKGTN now offers testing of three FEVR genes: NDP, frizzled -4 and LRP5 which will improve clinical care of families and children.

Past Presidents

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

Montgomery Lectures and Lecturers

Royal College of Surgeons in Ireland
2001 "Pathogenesis of Glautomatous 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

Mooney Lecture and Lecturers

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

2000 "Immunogenetics and Peptide Immunodominance in Sympathetic Ophthalmia in the UK and Ireland"
D. Kilmartin
2001 "The Role of Tissue Inhibitor of Matrix Metalloprpteinase-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 Chorodial 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

2000 "The Effects Of Topical Anti-Glaucoma Medications On The Ciliary And Optic Nerve Head Arterioles In The Rat Eye"
S. Byrne
2001 "Ocular Toxoplamosis-Pathogenesis Revisited".
H. McLoone
2002 "Gene Expression in Diabetic Reinopathy"
R. Kane
2003 "Exposure of Photoreceptor outer segments to blue light induces a pro-angiogentic response from the retinal pigment epithelium"
E. Cosgrave
2004 "Investigation and management of Epidemic intraocular lens opacifcation"
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 Dystophy"
C Kelliher
2010 "Prediction Of Effective Lens Position Using A Method Independent Of Preoperative Keratometry Readings"
I Dooley

IRISH COLLEGE OF OPHTHALMOLOGISTS

Established in 1992, 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