

# Precise sessions continue to impress delegates

The 5th annual gathering of practitioners at Eye Institute's Annual Scientific Conference held last month at the Owen G Glenn Building at the University of Auckland's Business School continues to be a major attraction for clinical education.

The day was jam-packed with 20 lectures and various panel discussions. Once again the conference highlighted the great working relationship between Eye Institute's specialists and their optometry colleagues. The event would not have been possible without the wonderful support of sponsors – Alcon, Bank of New Zealand, Carl Zeiss, Designs for Vision, GE Money, OHL Eyetechnology, OIC and Pfizer.

The key issues and highlights of the lectures are as follows:

**Associate Professor Gerard Sutton** (Sydney) was the invited speaker who made three presentations. The first, *Clinical nuances in the treatment of corneal disease*, focused on the subtleties in history, examination and therapeutic treatment of common corneal and external eye disease. Diseases covered included dry eye, herpes simplex, Fuchs' dystrophy, blepharitis, corneal infiltration and Thygeson's punctate superficial keratitis. Key points about the therapeutic use of topical steroids and other anti-inflammatory agents such as cyclosporine were discussed based on the recently understood importance of inflammation in dry eye. In Herpes Simplex there is an important role for topical steroids but the timing and frequency of usage, with and without antiviral cover, requires an appreciation of the various clinical scenarios and immune-based nature of many herpetic presentations.

A/Prof Sutton's second lecture entitled *Tales of the Unexpected* drew on complex case studies to illustrate the importance of clinical decision making in the medical and surgical treatment of corneal disease. Whilst the cases are often extreme, the lessons learnt are universal and stress the importance of a complete history, ability to detect subtle clinical features of disease and dealing with the patient in a holistic manner.

In his third presentation, *Controversies in the surgical management of Keratoconus*, new treatment modalities were discussed including collagen cross-linking, intracorneal ring segment insertion, deep anterior lamellar keratoplasty and refractive surgery. A new surgical paradigm was presented and argued for with evidence-based medicine.

**Dr Trevor Gray** discussed studies that have demonstrated *ocular benefits associated with increased omega-3 fatty acids intake*. These benefits include: 39% lower risk of ARMD and 20% reduced risk of dry eye syndrome. The most bio-available dietary sources of omega-3 fatty acids include fish and fish oils (salmon, tuna and snapper), lesser bio-available sources include flaxseeds and their oil. A healthy balance of omega-6 ('bad fats') to omega-3 ('good fats') is thought to be important. The ideal balance is 4:1 or lower. The western diet contains 10-30 times more omega-6 than omega-3 fatty acids. The whole body benefits of omega-3 fatty acids should not be forgotten.

In this second talk Dr Gray covered *Epithelial Ingrowth: Causes, Identification & Management*. Corneal epithelium can be found under a LASIK flap as a result of more innocent implantation, or more serious progressive ingrowth. Progressive epithelial ingrowth can threaten vision by causing astigmatism, corneal distortion, opacification and ultimately flap melting/scarring. The fluorescein dye diffusion test is a useful tool to identify ingrowth that has the potential to progress and threaten vision. Although rare, epithelial ingrowth is found more often when mechanical microkeratomers are used to create the LASIK flap as compared with femtosecond lasers (such as IntraLase). The latest version of the IntraLase (iFS IntraLase) has the lowest risk of ingrowth and greatest flap stability. If detected, prompt referral back to the surgeon usually results in excellent outcomes.

**Dr Peter Hadden** talked about the *physiology of the lens and how the lens changes* as it gets older, as well as the possibility of preventing cataract – although currently that's not much. He also presented several cases of uveitis that initially presented like iritis, but on closer inspection turned out to be more complicated with posterior and systemic involvement. The most important lessons are to take a full history on all patients, revisit the history and examination if things don't go according to plan, and dilate all patients with seemingly anterior uveitis to examine the posterior segment and retina.

*Computer Vision Syndrome* was covered by **Dr Tony Morris** who explained some of the environmental factors that can alter the tear film and therefore the comfort of the eye while using a computer. Several studies have shown a decrease in blinking more with computer use than with reading. This reduced blinking causes a decrease in meibum secretion and a poor quality tear film. Micro-environment glasses (MEGS) were discussed as an effective aid in patients who were using artificial lubricants frequently. It is also important to modify the environment and allow frequent and effective blinking.

In his second talk, Dr Tony Morris discussed *correction of astigmatism using IntraLase Enabled Astigmatic Keratotomies (IEAK)*. The iFS IntraLase, the latest version of the IntraLase, is the only laser able to perform IEAK. It creates an intrastromal plane of cleavage, the separation of which can be determined by the amount of gas creation. It is very convenient for patients and very precise incisions are able to be created. The efficacy depends on the length of the incisions, their distance from the visual axis and

the depth of the incision. Early results of 15 patients with up to two diopters of astigmatism show an improvement in all patients often gaining two lines of unaided vision. It was particularly useful in improving vision from 6/6 where the other eye was 6/5. IEAK would seem to be a safe and precise way to correct small degrees of astigmatism.

**Dr Simon Dean** covered *Ocular Allergy*. Its diagnosis is made simple by the adage – if it itches, it is allergy. However, there is distinction between simple seasonal allergic conjunctivitis, and the more serious atopic and vernal keratoconjunctivitis. Control of ocular allergy covers the often overlooked importance of stopping the itch / rub / itch cycle, with behavioural, and pharmacological strategies. Using dual action antihistamine / mast cell stabiliser drops aid compliance, with additional either NSAID, antihistamine, or even steroid as required to titrate the treatment to the clinical symptoms and signs.

*Thyroid ophthalmopathy* was **Dr Peter Ring's** first topic.

He said the thyroid gland is involved in controlling the body's metabolism. An overactive thyroid (Grave's disease) is associated with eye involvement in 50%. This invariable involves a degree of proptosis and involvement of the extra ocular muscles, which can lead on to corneal exposure problems. Muscle involvement can give rise to diplopia or if severe, compress the optic nerve and lead to blindness. Surgical procedures such as squint surgery or decompression of the orbit may be necessary for cosmetic or functional reasons. Corneal exposure may be dealt with by lateral tarsorrhaphy and / or extensive lubrication with long lasting lubricating agents.

In his second presentation Dr Ring discussed *Blepharoplasty*, a surgery involved in the removal of skin and muscle from the upper (or lower) eyelids plus additional fat in some situations. The most common reason is cosmetic (dermatochalasis) but these patients may be significantly bothered by heaviness of the eyelids and brow ache from lifting their lids. Superior visual field loss is often encountered. Medical insurance will cover this surgery on production of photographic evidence of the dermatochalasis and 30-2 Humphrey visual fields demonstrating field loss. Complications are uncommon but dryness of the eyes may be unmasked with removal of the protective veil of skin.

**Dr Nick Mantell** spoke on *Pterygium*. Ultraviolet light remains the most important cause, and appropriate use of sunglasses and hats is the best prevention. Maintenance of the ocular surface is important, in particular treatment of blepharitis and tear film instability. Surgery involves the safe removal of the pterygium and prevention of recurrence. Conjunctival auto-grafting is now the gold standard with recurrence rates as low as 5%. The use of Tisseel tissue glue instead of sutures is a relatively new approach which may reduce surgical and recovery time.

In his second talk, Dr Mantell said *developments in retinal surgery* are leading to shorter surgery times, reduced complication rates, and quicker recovery times. A comparison of the outcomes reported in the international literature and local outcomes are favourable. Despite these advances cataract, endophthalmitis, iatrogenic retinal tears and re-detachment remain issues that must be considered when evaluating the risks and benefits of surgery.

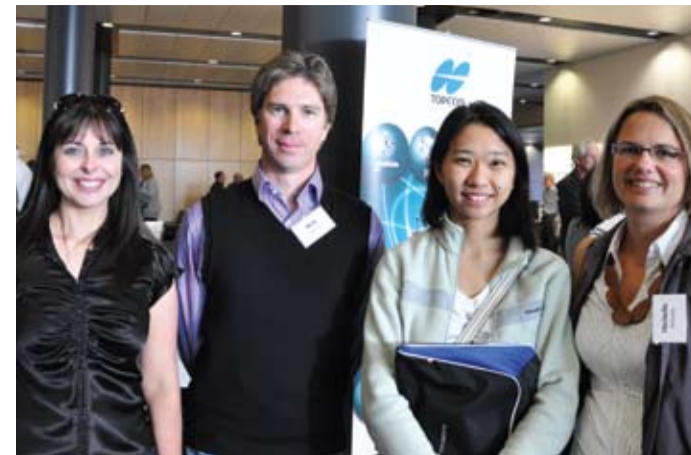
**Dr Adam Watson** spoke firstly about the place of *blended vision in cataract surgery*. He reviewed the results of two studies published recently that show very good visual function in blended vision patients for both distance and near. Patient satisfaction also tends to be very good with a trend toward higher levels of satisfaction in older patients. Independence from glasses varies – blended vision tends to deliver excellent 'lifestyle vision' but use of glasses for fine near tasks and occasionally distance tasks such as night driving may be expected. Finally, patient selection is the key – getting a good feel for your patient's needs and expectations – it is especially suited to those who prefer good distance and intermediate vision.

He then covered *watering eyes not caused by nasolacrimal duct obstruction*, especially those with multifactorial causes. Emphasis should be placed on systematic assessment to identify all the factors that contribute to this problem – from a general examination of the face through to eyelid exam, ocular surface, inciting factors such as inflammation, conjunctivochalasis, and dryness and floppy eyelids.

Speaking on *corneal dystrophies* **Professor Charles McGhee** said historically, our understanding of inherited corneal disorders has evolved slowly, consequently, the existing classification system is often confusing, cluttered by multiple eponyms, and largely constructed around the slit-lamp biomicroscopic appearance coupled with the limited histopathological data. Over the last two decades, an exponential increase in the field of molecular science has allowed elucidation of many of the genetic defects



A/Prof Sutton was a good sport and took the Wallabies loss (again!) on the chin when Prof Helen Danesh-Meyer presented this T-shirt to him



Shelley Brannigan, Nick Mathew, Selina Phuah and Michelle Richards at the conference



Brenton Clark, Tony Morris and Paul Stockman



Peter Ring, Chris Earnshaw and Mike Frith



The sponsors of the event



Bharat Raniga, Aaron Mirkin, Peter Hadden, Louise Wood and Trevor Gray

causing corneal disorders. Understanding the gene defect and the resultant behaviour of mutant protein provides a clearer characterisation of the disease process. Although still in its infancy, in the future this increased knowledge will allow further possible therapeutic interventions, particularly in an era where limited health resources and availability of donor tissue limits the number to whom traditional treatments may be offered. The corneal disorders included in this overview (part one of two), included the classical 'corneal dystrophies', such as macular and granular stromal dystrophies and discussion of the variety of laser and surgical approaches to treat dystrophies.

In his second talk, Professor McGhee discussed the *management of ametropia and astigmatism following uncomplicated corneal transplantation*. Corneal transplantation is frequently associated with significant myopia and astigmatism e.g. large studies typically report mean astigmatism of 5.0D or more in keratoconus. A stepwise approach to correction includes key clinical considerations. If the refraction is correctable by spectacles it may be amenable to a number of 'orthogonal interventions', whereas, if the cornea is failing or highly irregular then repeat corneal transplantation may be necessary. In wound misalignment or thinning, as occurs in around a third of cases, graft wound revision is the best option. Relaxing arcuate incisions are useful in high or asymmetric astigmatism with low spherical equivalent. In the elderly with low astigmatism, wound compression sutures may also have a role. If the magnitude of myopia and astigmatism is treatable by laser, then PRK (with mitomycin C) or LASIK should be considered.

Finally high ametropia and astigmatism not amenable to corneal surgery can be treated by a phakic IOL such as an ICL, or in the older patient with early cataract by phacoemulsification with a custom toric IOL. Thus, when contact lenses are not an option, the treatment of post graft refractive errors requires careful consideration and a full tool-kit of surgical options. ①



# Thank you

for attending Eye Institutes' Scientific Seminars & Conference this year.

**Please mark your calendars for next year's series**

Seminars 4th May, 10th August 2010  
 Conference 7th November 2010

Register online or email: [conference@eyeinstitute.co.nz](mailto:conference@eyeinstitute.co.nz)

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