

Eye Institute seminar series continues to appeal to NZ optometrists

Eye Institute held another successful seminar as part of its 2009 Education Series recently with more than 150 optometrists and final year students attending from all over the country. Eye Institute was very appreciative of the support from Alcon, who were sponsors for this seminar.

Attendees were divided into three rooms with Eye Institute's doctors rotating between the rooms, presenting their sessions covering diagnostic and therapeutics in everyday practice and the latest advances in shared-care management in New Zealand.

Dr Trevor Gray presented a number of case studies that addressed issues optometrists may come across in the therapeutic co-management of refractive surgery patients. Central to his presentation was the way in which epithelium healing progresses.

"By explaining to a patient how the epithelium heals you can prepare them with what to expect through that process," said Dr Gray. "If they understand, they'll be less likely to be unhappy or disappointed with their resultant vision. Emphasis should be placed on the point that every 2 days, a normal healing epithelium becomes clearer and smoother, resulting in better vision."

Professor Charles McGhee continued with a look at evidence based results for the increasingly high-profile technique of riboflavin collagen cross-linking (CXL) in keratoconus. Using the outline of an invited paper he presented to the European Society of Ophthalmology (SOE) in June he highlighted both the limited long term data and the lack of alternative minimally invasive treatments that treat the underlying corneal changes in progressive keratoconus.

"There are various levels of dependable evidence and unfortunately for clinical studies of CXL in keratoconus the quality of studies are extremely variable and difficult to easily interpret," explains Professor McGhee. "However, one of the best studies at the moment is the Melbourne study, a randomised controlled

trial of CXL in progressive keratoconus, whose preliminary results suggest a genuine stabilisation of corneal steepening in almost all treated eyes after CXL."

The possible complications were also outlined but as Prof McGhee stated serious complications of CXL are uncommon and the alternative for more than 20% of sufferers is progression to a corneal transplant during the course of the disease.

"The ideal patient is the younger, progressing keratoconic," said Prof McGhee. "Not so much the 40-50 year old who is stable and doing well with their contact lenses. Indeed, Charlotte Jordan and I have now treated a number of early keratoconics, typically in their late teens or early twenties, with a view to keeping them in contact lenses and preventing progression to corneal transplantation. If I were a keratoconic today, and my cornea was steepening by a dioptre or more per year, having carefully studied the evidence base and looked at the early results of our Auckland Study, I would certainly consider CXL as a treatment option."

In summary, Prof McGhee concluded that there were few prospective studies and with more than 20,000 patients treated, fewer than 400 eyes have actually been reported on for more than 12 months follow-up. Nonetheless, it has generally been shown to be clinically safe and effective in the short term with visually significant complication rates typically being less than 2-3%, but very long term consequences of CXL are unknown at this stage. Overall, CXL generally appears to be effective in halting keratoconus progression in appropriately selected cases, and some patients have a modest degree of keratoconus reversal.

Dr Gray's second presentation looked at the improved LASIK and corneal transplant outcomes offered by New Zealand's latest IntraLase Femtosecond (iFS) laser that Eye Institute has been working with for a few months.

"Emerging applications for the iFS include corneal transplants, astigmatic keratomies

others. Emotions can also affect a patient's ability to cope with issues that may arise along the patient care path and their subsequent response to an optometrist's reassurance in regards to these issues.

"There are four essential core qualities that patients want," explains Dr Morris. "Communication, access, interpersonal skills and coordination and follow-up care. In today's healthcare environment the technical skills of a health professional in a good practice are taken for granted, there is no longer a point of difference based on this. A positive point of difference now comes with the level of service that a practice can provide."

In Professor Danesh-Meyer's second presentation she looked at the management of ocular hypertension with a case study of a 34 year old lawyer with recurrent irritation from contact lenses and a noted elevated RE pressure. This case highlighted the points to consider when presented with asymmetric IOP, namely, trauma, anterior segment inflammation, angle closure, pigment dispersion and pseudoexfoliation or carotid-cavernous fistula.

The topical treatment for posterior disease was the next session with Dr Peter Hadden outlining the causes, risk factors and treatment options for cystoid macular oedema. Dr Hadden also expanded on the possible causes and treatment options for raised intraocular pressure in an inflamed eye and the relationship between this and steroids and how topical, inhaled or systemic steroids can cause it.

"Systemic steroids in renal transplant patients causes a rise in IOP in 10% of cases," said Dr Hadden. "Optometrists should look towards working with GP's in these cases and checking these patients IOP's."

Dr Adam Watson's overview of contact lens related corneal epitheliopathy and its management provided attendees with some common and less common forms of epitheliopathy, followed by a closer look at the uncommon

ones, tips on how to identify them and their treatment.

"The less common forms of contact lens associated epitheliopathy, hurricane keratopathy and limbal stem cell dysfunction epitheliopathy's have in common a 'whorling' pattern of punctate staining and variable presence of epithelial microcysts," he said. "The whorling is an exaggerated pattern of normal epithelial migration that becomes more apparent when epithelial turnover increases or in limbal stem cell dysfunction."

Dr Watson explained that the aetiology of limbal stem cell dysfunction, and eventual failure, probably lies in a chronic insult to the limbal stem cells causing inflammation and stem cell death. Probable causes may include hypoxia, chronic inflammation and chemical injury.


"Treatment involves removing the stimulus for damage, suppressing inflammation and creating a supportive environment for recovery of function. This may include no contact lens wear, consideration of infection as a possibility, the avoidance of preservatives when possible, removal of unnecessary topical medications, use of non-preserved lubricants, non-preserved steroids and doxycycline, appropriate lid hygiene, Botox-induced ptosis or tarsorrhaphy, amniotic membrane transplant or limbal stem cell transplant if permanent or disabling damage.

"It is important to note also that recovery is slow and may take months."

More commonly seen, and less severe is contact lens related microcystic epitheliopathy that has a similar aetiology but without stem cell injury. Recovery is also prolonged, relying on the turnover of epithelium to restore a healthy cornea with consequent improvement in vision and the principles of treatment are the same. Return to contact lens wear should be with close review for further epitheliopathy, and strategies to reduce the

likelihood of future injury such as decreasing wear time, daily disposables or ceasing contact lens wear should be considered.

The final session was a clinical quiz conducted by Dr Peter Ring that discussed patient cases and subsequent treatment for the following conditions; Hydroxychloroquine (Plaquenil toxicity), Amiodarone toxicity, Idiopathic Intracranial Hypertension, and examples of the difference between dermatochalasis and blepharochalasis, along with examples of Buphthalmos (Ox eye) and epiblepharon, entropion and trichiasis euryblepharon.

Eye Institute's clinical conference is being held November 1 at the Owen G Glenn Building, University of Auckland Business School and will feature, amongst Eye Institute's doctors, keynote speaker Associate Professor Gerard Sutton. 



Professors Charles McGhee, Helen Danesh-Meyer, Divya Perumal and Dr Ring

and iLASIK flap advances," said Dr Gray. "The iFS has a number of advantages over the previous 4th generation IntraLase for LASIK, such as a reduction in flap creation from 30 to less than 10 seconds, making the process quicker and safer with very short suction times on the eye. Also, for those particularly with astigmatism and hyperopia, an oval shaped flap can be made to match an oval shaped cornea, and finally the 'bevel-in' cut edge of the flap provides for greater flap strength and stability."

Continuing with some more case studies Professor Helen Danesh-Meyer covered key points that attendees wouldn't want to miss when assessing patients in regards to neuro-ophthalmic presentations, including an overview of Horner's syndrome.

"There are four important considerations to make when treating a patient who has presented with a visual/headache complaint," explains Prof Danesh-Meyer. "These are life threatening and definitely things you don't want to miss. They include, angle closure, pituitary apoplexy, GCA or aneurism."

Prof Danesh-Meyer also gave some questions that can be posed to the patient as a means of providing clues as to the possible diagnosis. Within her presentation she outlined the key features of Horner's syndrome; ptosis, miosis, hydrosis, upside down ptosis and dilation lag and the four signs for it. Classically, cocaine eye drops are used to diagnose Horner's syndrome. However, because they are not readily available, apraclonidine is a useful alternative. One drop of apraclonidine in both eyes will eliminate the anisocoria by resulting in dilation of the Horner's pupil.

Dr Tony Morris covered the role of patient psychology in a practice's success. He explained how the patient's perception of their connection with their optometrist can significantly influence their sense of satisfaction, and that their emotions can impact not only their decision making but their perception of their health care professional, the service supplied, the outcome, and the resultant expression of that perception to not only the professional involved but also



John West, Jeremy Wong and Bevan Young



Kate Hanafin, John Tarbutt and Mike Frith at the Eye Institute seminar



Raphael Moon, William Shew, Catherine Lee and Alphy Sunny



David Haydon, Helen Misur and Dr Trevor Gray