

## Abstracts

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*Wednesday, July 13, 2016*

### **Evidence-based Management of Diabetic Eye Disease: A Review of Therapeutic Options**

*L Moulton*

The current treatment modalities for the ocular complications of diabetes are having greater success in preserving vision. Diabetic macular oedema (DMO) is the major cause of poor vision in diabetic patients. It occurs as a result of chronic and subclinical inflammation that results in endothelial cell and pericyte dysfunction or death. This results in vascular permeability, a relative ischaemic environment, thickened basement membrane and accumulation of intraretinal fluid at the macula. Understanding the various chemical components resulting in increased vascular permeability, subsequent fluid leakage and inevitable decline in visual function has led to pharmacological agents that target vascular endothelial growth factor (VEGF) and non-VEGF inflammatory pathways. Newer drugs are being trialled that target specific cytokines responsible for various other aspects of the inflammatory process.

Vascular endothelial growth factor-A is a signal protein produced by cells which stimulates vasculogenesis, angiogenesis and increases vascular permeability. Anti-VEGF pharmacological treatments are aimed at antagonizing VEGF pathways, and include intravitreal injections of ranibizumab, aflibercept or bevacizumab. Non-VEGF inflammatory agents presently are steroids (fluocinolone, dexamethasone or triamcinolone). These drugs, used as single agents or in combination, have resulted in significant restoration and preservation of vision, though not offering a cure.

Laser photocoagulation has long been the mainstay of treatment for DMO with limited success. It stills plays an adjunctive role. It also remains the cornerstone of treatment in severe non-proliferative, proliferative diabetic retinopathy and rubeotic conditions, with anti-VEGF agents being an adjunct to improve the outcomes in these conditions.

This presentation examines the individual treatments available as monotherapies and the possible future drugs on the horizon. It considers the rationale and potential for combination therapy in DMO as well as the surgical management available for the ocular complications of diabetic eye disease.

*Thursday, July 14, 2016*

### **Microbiology**

*A Anduze*

This course offers a general discussion of infectious organisms commonly found in an ophthalmic office setting; their identification, mechanism of action, universal and specific precautions in control of inoculation and spread. The three most effective methods of control are through sterilization, disinfection and antisepsis, using heat and chemicals. The fact that our present use of infection control may be causing organism resistance is highlighted. The danger of methicillin-resistant *Staphylococcus aureus* (MRSA) and other antibiotic-resistant bacterial strains and the possibility of encounter with highly contagious viruses (eg Ebola) are discussed. Collection of specimens and cultures, indications for biopsy and extreme cases of high-risk eyes are presented.

### **Refractometry and the Diabetic Patient**

*S Flaherty*

This lecture will introduce the ophthalmic technician and nurse to basic refractometry. A basic step-by-step review of refractometry will be done. A review of diabetes and how it affects the body and the eye will be included. Additionally, the refraction and what type of refractive changes can occur in the diabetic patient will be reviewed.

## **Lensometry: The Basics**

*S Flaherty*

This lecture will introduce the ophthalmic technician and nurse to lensometry. Single vision, bifocal, and progressive lenses will be discussed in addition to sphere, sphere-cylindrical compound lenses and prism. The steps for transposing lens powers from plus to minus cylinder and minus to plus cylinder will be outlined.

## **Pupil Anatomy and Diagnostic Considerations**

*K Golnik*

This case-based approach will demonstrate pupil sympathetic and parasympathetic anatomy and diagnostic considerations. Specific pupil pathology such as relative afferent pupillary defect, Horner syndrome and pupillary light near dissociation will be illustrated with videos.

*Friday, July 15, 2016*

## **Tonometry for Ophthalmic Assistants**

*D Grosvenor*

*Department of Ophthalmology, The Queen Elizabeth Hospital, Bridgetown, Barbados*

Tonometry is a key component of the ophthalmic examination, and essential to the diagnosis and management of glaucoma patients. This presentation discusses the principles of tonometry, Goldmann applanation tonometry, other methods of contact and non-contact tonometry and factors influencing intraocular pressure.

## **Ophthalmic Imaging – The Value of Optical Coherence Tomography and Fundus Photography**

*K Highland*

Ophthalmic imaging has seen dramatic advancement over the past decade, becoming an indispensable tool in screening, diagnosing and managing many retinal conditions seen by both the retinal specialist and the general ophthalmologist. This talk seeks to outline the value of optical coherence tomography (OCT) and photography in a busy retinal clinic.

## **A-scan Biometry**

*C Simms*

This course will cover the basics of intraocular lens (IOL) calculations including the required measurements (axial length, keratometry) and other factors required. The course will cover the most commonly used IOL formulae and which ones to use under different circumstances.

## **Diabetic Screening and Diabetic Retinal Surgery**

*R Bhola*

The pathophysiology of diabetic disease and retinal surgery will be covered. The different methods of diabetic retinopathy screening as well as the grading used in diabetic retinopathy screening will be discussed.