

The inaugural AMD for Optometrists CET event took place in the spectacular and historic surroundings of the Howard Theatre at Downing College in Cambridge last month. The event was generously hosted by the Howard Foundation, and provided delegates with the opportunity to explore the latest diagnostic, therapeutic and preventive healthcare approaches to AMD.

AMD for Optometrists was opened and chaired by **Dr James Loughman**, a lecturer in optometry, and ocular disease/visual performance researcher based at the Dublin Institute of Technology. The expert panel of speakers also included **Professor Stephen Beatty**, an ophthalmologist with strong clinical and research interest in AMD and cataract, **Dr John Nolan**, a biochemist and opinion leader in the role of macular pigment for AMD prevention, and **Professor David Thurnham**, whose primary interest is in micronutrients and the interaction between infection, inflammation and nutrition. Postgraduate researchers from the Macular Pigment Research Group and Institute of Vision Research in Waterford presented their latest relevant research findings during the poster sessions. The varied expertise of the speaker panel added significantly to the quality of the debate and interaction with delegates throughout the proceedings.

Terminology and epidemiology

Professor Beatty opened the lecture series with a talk on the diagnosis and types of AMD. Delegates were particularly encouraged to adopt a standardised terminology in relation to the types of AMD, which can be clinically defined into two types; early AMD and late AMD. He explained that early AMD is characterised by the presence of drusen and/or pigmentary changes, but without significant effect on vision. Late AMD, however, describes the progression of AMD to cause significant loss of vision through atrophic (dry) or neovascular (wet) effects on retinal structure and function.

In the subsequent lecture, Dr Nolan explored the epidemiology of, and risk factors for AMD. The problems posed by the increasing prevalence of AMD for practitioners, patients and already over-burdened health services were addressed. The potential importance of visible light exposure (especially short wavelength blue light in contrast to the traditionally assumed UV light risk) in the aetiology of

AMD for optometrists

Optician reports on a new conference, held last month, offering the latest insights into age-related macular degeneration (AMD) and its risk factors



Late AMD is when acuity has dropped

AMD was of particular interest to delegates, and sparked discussion regarding modern lighting systems and their possible role in AMD.

Dr Nolan further explored the use of SightRisk software (www.sightrisk.com) to allow optometrists to evaluate patient risk of developing AMD. SightRisk technology is based on the latest scientific evidence in relation to AMD risk, and allows the practitioner to provide the at-risk patient with a comprehensive, and scientifically valid, customised plan to reduce their risk of developing AMD.

The final speaker of the morning session was Professor Thurnham, who covered the measurement of macular carotenoids, with a strong emphasis on nutritional aspects of AMD. He explained the synergistic role of all three macular carotenoids (lutein, zeaxanthin and meso-zeaxanthin) and outlined clinically relevant aspects such as the requirement for dietary fat to aid absorption of the macular carotenoids from food or supplement sources. The use of an oil-based formulation to store and deliver the macular carotenoids in supplement form was also advocated, both from a digestive absorption and a product stability perspective (the quantity of carotenoid listed on the box has been shown to degrade during product shelf life if not stored in a more stable oil base).

Measurement and treatment

Dr Nolan, in his second talk, explored the relative merits of the various

macular pigment measurement devices which are currently available to optometrists for use in clinical practice. The lecture included an assessment of the most commonly used commercial techniques, including a number of heterochromatic flicker photometry methods, and a fundus reflectance method.

In the penultimate talk, Dr Loughman discussed the relevance and the evidence that macular pigment can have a significant influence on vision, both in healthy individuals, and those suffering ocular disease such as AMD. Delegates were encouraged to think about macular pigment exclusively in relation to its impact on vision, rather than just in relation to AMD. Macular pigment can enhance vision through a range of optical filtration and polarisation properties, which allow the pigment to reduce ocular aberrations and positively affect patient symptoms such as glare. Furthermore, as an antioxidant, it can both enhance and preserve visual performance through health effects on photoreceptor, retinal and possibly cortical function. Such benefits apply equally to every patient seen in optometric practice, and are not confined to those with AMD.

The day was closed by Professor Beatty discussing the signs, symptoms and management of AMD. The recent developments around treatment of the neovascular form of late AMD was of particular interest. He outlined his clinical management protocol which facilitates rapid but considered initiation of anti-VEGF therapy, and provoked debate regarding UK systems for similar anti-VEGF therapy.

A consistent theme throughout was the importance of the third, and often overlooked, macular carotenoid, meso-zeaxanthin. As the most centrally located carotenoid at the macula, and as the most powerful antioxidant of the three macular carotenoids, it possesses a unique capacity to influence vision through its effects on image quality and retinal health. The availability of meso-zeaxanthin in supplement form facilitates the augmentation of this central macular carotenoid. ●