November 2020

Myopia tops the agenda as Academy stays At Home

Under the shadow of the COVID-19 pandemic, the American Academy of Optometry held its annual meeting online for the first time. Alison Ewbank reports on some highlights for educators

Watch a video of CEO Peter Scott closing the Academy 2020 At Home meeting

Discovering new delivery methods and making the Academy more relevant throughout the year and throughout the world were among the positives to take forward from Academy 2020 At Home (7-22 October). That's according to American Academy of Optometry CEO **Peter Scott**'s closing remarks, broadcast from the meeting hub in Orlando, Florida. This year's meeting had been due to take place in Nashville, Tennessee but moved to a virtual event due to the continuing COVID-19 pandemic.

Around 6,400 delegates from 55 countries registered this year compared to more than 8,000 in 2019, when the meeting was held in Orlando combined with the 3rd World Congress of Optometry.

Extended from the usual 5 days to 16 days, and with more than 300 hours of continuing education, Academy 2020 At Home looked and felt very different from the in-person event. Delegates around the world were able to join the program from the comfort of their own homes and time zones. And a virtual program of social events – from country music to cookery demonstrations – was designed to offset the absence of face-to-face networking and bring a flavour of the city of Nashville into delegates' homes.

In the virtual exhibit hall, among new products in the contact lens sector were daily disposable silicone hydrogels: Precison1 from Alcon and the Infuse lens from Bausch + Lomb. B+L also announced a global licensing agreement with the Brien Holden Vision Institute to develop potential myopia control treatments.

While myopia and its management was the most prominent theme, the meeting covered a broad range of contact lens topics. Here are just some of the highlights for contact lens educators from this year's program:

Surveys of optometry students

Two surveys were of particular interest to educators and students. A symposium on 'Diversity, equity and inclusion' (pictured) – co-sponsored by the Academy, the Association of Schools and Colleges of Optometry (ASCO) and the New England College of Optometry (NECO) – was chaired by **Professor Karla Zadnik** of The Ohio State University. NECO's **Dr Gary Chu** reported that, across 23 schools in north America, 49% of students in 2020 were White, 30% were Asian, 7% Hispanic/Latino and 3% Black or African American.

Trends since 2006 showed that the proportion of Black or African American optometry students remained flat and fell far short of the 12% currently among the wider US population. Dr Chu observed that many other health professions had created a call to action to increase diversity in their ranks. 'An inclusive school and workplace promotes and sustains a sense of belonging. Organizational and profession-wide commitment is needed,' he said.

Dr Yi Pang of the Illinois College of Optometry had studied the impact of the COVID-19 pandemic on mental health in optometry students, as well as in eye care practitioners and their staff. Students had the highest level of self-reported stress, both before and during the pandemic. Overall, 39% across all groups surveyed were identified as probable cases of anxiety or depression, or both. Risk factors for these mental health issues were being a student, being female, younger age and the number of new daily COVID cases in the respondent's state.

In other educational developments, **Dr Charissa Lee** – Head of North American Professional Affairs at Johnson & Johnson Vision – said that JJV had partnered with the Academy and ASCO to deliver 6 weeks of online clinical sessions to 40,0000 attendees at more than 20 schools and colleges of optometry in the US and Canada, in response to the pandemic.

The opening day's press conference highlighted some notable developments outside the contact lens field, including trials of the UNR844 ophthalmic solution for potential topical treatment of

myopia reported by **Dr Kathryn Richdale** from the University of Houston. Among new technologies were the Orcam MyEye 2 wearable device that allows blind and visually impaired to read text, and the Optejet device from Eyenovia that delivers microdoses of atropine to myopic children. B+L and Eyenovia recently announced a licensing agreement to develop and commercialize this technology for use in reducing myopia progression in children aged 3-12 years.

Latest myopia findings

With the first contact lens receiving a US Food & Drug Administration indication for myopia control since the Academy last met, it was not surprising that this topic was prominent on the program. **Dr Paul Chamberlain**, Director, Research Programs at CooperVision, reported 6-year findings with that dual-focus soft lens – MiSight – compared to results from a demographically matched group completing 3 years in the same product, published in August 2019.

Older children (11-15 years of age) with greater myopia and longer axial lengths progressed at a similar rate over 3 years to the matched group treated for 6 years. While intervening with treatment at an early age was optimal for myopia management, commencing treatment at an older age could still be beneficial in slowing the rate of myopia progression.

Other recent findings that have attracted media attention are from the BLINK (Bifocal Lenses in Nearsighted Kids) Study, published in August 2020. In a session on 'The art and science of myopia control', **Professor Donald Mutti** of The Ohio State University described the randomized clinical trial to determine whether wearing multifocal soft contact lenses with either a +2.50D add or +1.50D add reduced the rate of myopia progression in children compared to single-vision soft contact lenses.

Wearing a +2.50 D add appeared to inhibit axial elongation slightly more than peripheral elongation, particularly in the vertical meridian, compared to single-vision lenses. These minor asymmetries were far smaller than the generally global, more symmetric effects on elongation of the eye as a whole. Factors potentially responsible might include choroidal thickness changes or effects due to alteration of the accommodative response, said Professor Mutti.

Alternative approaches

Among other optical approaches discussed, **Professor Carly Lam** (pictured) of The Hong Kong Polytechnic University described 3-year results with the Hoya MiyoSmart myopia control spectacle lens with DIMS (Defocus Incorporated Multiple Segments) technology that works on the simultaneous vision principle. The MiyoSmart lens is available in several countries in the Far East, in France and Canada, and would soon be launched in Australia, Korea and the UK, she said.

Canadian practitioner **Dr Shalu Pal** said that 'real-life' factors such as the time available to parents to manage their child's myopia treatment, the motivation of parent and child, and financial feasibility should be considered when making a myopia control recommendation, as well as subjective and clinical factors. This prompted a discussion on minimizing health disparity by ensuring that the costs of myopia treatment did not disadvantage poorer children.

Dr Pal also mentioned a range of myopia tools for use in practice, such as the Myopia Care, Myappia and My Kids Vision myopia risk calculators, the axial length calculator MyoCalc, and the BHVI Myopia Calculator.

Age, myopia and ageing

At the press conference **Dr Noel Brennan**, Clinical Research Fellow R&D at Johnson & Johnson Vision, observed that different criteria used to classify myopia and high myopia made it difficult to compare prevalence data. For a given prevalence of myopia, the corresponding prevalence of high myopia was about double in adults what it was in children.

For Brennan, there were far-reaching consequences of this finding. First, that there was continued progression of myopia over the adult years. And second, that the true burden of high myopia might be underestimated if high myopia rates of, for example, high-school graduates were used as an estimate of where they might be in later life.

In a poster on 'Risk of becoming highly myopic', Brennan and co-workers concluded that children 12 years and under receiving their first spectacles carried significant probability of progressing to high myopia and thus were at long-term risk of developing associated complications in later life. Given the inability to predict progression among those at a given age group, all young myopic children (<12 years) should be treated to slow progression, they said.

One of several talks by **Professor Mark Bullimore** of the University of Houston described a model of visual impairment as a function of age and axial length. The model allowed the benefits of myopia control to be explored; for example, slowing axial elongation such that a patient destined to have an axial length of 26mm instead ended up at 25.5mm, should prevent 1 year of visual impairment.

In a seminar on 'Myopia control from evidence to implementation', Professor Bullimore presented a review of current approaches to managing myopia, as described in a recent paper co-authored by Dr Kathryn Richdale. A prominent name on the program in this field was **Professor Jeff Walline** (pictured) of The Ohio State University, recipient of the 2020 Max Schapero Memorial Lecture Award from the AAO's Section on Cornea, Contact Lenses & Refractive Technologies (CCLRT), who delivered several presentations on aspects of myopia management and practice.

At the other end of the age scale, South Carolina hospital optometrist **Dr JulieAnn Roper** reviewed a rarely discussed topic: geriatric contact lens fitting. 'Practitioners should overcome the assumption that a patient is too old for contact lenses,' she said. Indications for medically necessary contact lenses in geriatric patients included high ametropia and anisometropia, corneal disorders such as keratoconus, pellucid marginal degeneration, post-LASIK ectasia, and corneal scarring, dry eye syndrome, post-keratoplasty or to correct aphakia, and therapeutic bandage lens use. A series of case studies illustrated the issues involved in fitting these patients, principally patient motivation, ocular surface changes with ageing, handling difficulties and dementia.

IACLE members and Fellows

IACLE involvement was necessarily more limited than last year in Orlando, when the association celebrated its 40th Anniversary, presented the annual IACLE Awards and held its annual general meeting. Several members and Fellows appeared on the program, among them:

- FIACLE **Dr Carol Lakkis** of iBiomedical Consulting covered a timely topic: 'Infection control guidelines for optometrists'. Useful resources included the US Centers for Disease Control and Protection (CDC) guidance on hand hygiene in health care settings and the Academy (and others) factsheet on in-office disinfection of multi-patient use diagnostic contact lenses.

- IACLE Treasurer **Professor Etty Bitton** of the Université de Montréal, Canada and IACLE member **Dr Jennifer Craig** from the University of Auckland, New Zealand presented on 'Understanding and combatting Demodex in clinical practice'. The key appearance to look out for was cylinder-shaped, dandruff-type debris on the lashes. Only topical Tea Tree Oil, complexed Manuka honey, and topical/oral ivermectin showed consistent effect against Demodex and with reasonable tolerability, they said.

- Etty joined **Dr William Ngo** from the University of Waterloo, Canada to present an overview of meibomian gland dysfunction and the latest imaging techniques and warming devices available in clinical practice. Thermal therapeutic options included the Blephasteam, LipiFlow, MiBo Thermaflo and Systane iLux devices. Among Etty's posters was a survey of physical activity among optometry students that identified a need for them to exercise more.

- FIACLE **Professor Renée Reeder** of the University of Kentucky, USA presented a review of 'Managing ocular surface disease and the impact on contact lens wear', including some useful case histories to illustrate management strategies.

- Australia-based members **Dr Kate Gifford** of Queensland University of Technology and **Dr Paul Gifford** of the University of New South Wales posed a series of questions on 'Burning hot topics in myopia control contact lenses' that focused mainly on orthoK. What does the ideal myopia controlling contact lens look like? In 2020, the ideal lens was likely to involve optimization of simultaneous defocus, lens design and prescribing based on accommodation, and whole-eye optical modelling. Dr Kate Gifford also took part a rapid-fire session asking, 'Can we predict myopia progression and control outcomes?

- And finally, FIACLE **Dr Dwight Akerman** joined the panel for a Section on CCLRT Symposium: 'Myopia management: the evidence is in…now let's make this happen!', a message that summed up the sentiment at Academy 2020 At Home and set the scene for the next annual meeting, due to take place in Boston, Massachusetts from 3-6 November 2021.

Academy 2020 At Home delegates can access the event virtually on-demand until 31 December.