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Asia-Pacific urges streamlined strategies to combat myopia progression with optimal measures

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Dr Li Lian Foo, Clinical Director, Myopia Service, Singapore National Eye Centre The International Myopia Institute's 2024 Clinical Management Guidelines report highlights the need for uniform protocols to help eye care professionals worldwide align their practices and improve adoption rates



Singapore hosted **"International Myopia Summit Singapore 2025"** from 16-17 May 2025 at The Academia to explore cutting-edge research, innovative approaches, and collaborative strategies to address one of the most pressing public health challenges- "Myopia".

The event themed ‘‘The Art and Science of Clinical Myopia Management" featured global and regional leaders in vision science, ophthalmology and public health through scientific symposium sessions dedicated to advancing understanding and creating impactful solutions for myopia management.

One of the key speakers of the session, **Dr Li Lian Foo,** *Clinical Director, Myopia Service at Singapore National Eye Centre* shared exclusive insights with *Biospectrum Asia.*

1. What is the cause of the rapid rise in myopia in Asia, and what are the public health implications of this surge?

The rapid rise in myopia prevalence across Asia is largely driven by environmental and lifestyle factors, particularly increased near work, reduced time spent outdoors, and urbanization. Academic intensity and prolonged screen exposure from a young age are key contributors. In **China**, for example, myopia rates escalate with age and schooling level, affecting 36.7% of primar y school students, 71.4% of junior high students, and 81.2% of those in senior high school.

Limited exposure to natural outdoor light has also been shown to play a significant role. In **Singapore**, where outdoor time is constrained by urban living and academic commitments, 65% of children are myopic by 12-years old, and 83% of young adults are affected. Alarmingly, the prevalence of high myopia among children has doubled in the past decade, rising from 10% to 20%.

Urbanization further exacerbates this issue by limiting access to green spaces and encouraging sedentary, indoor lifestyles. **Taiwan**, for instance, reports that over 85% of 18-year-olds are now myopic. In response, government initiatives such as the "Tian-tian 120" policy recommending at least two hours of outdoor activity daily have been implemented to help curb this trend.

While genetics do contribute to myopia susceptibility, the sharp and sustained increase in prevalence across just one to two generations underscores the predominance of environmental triggers.

2. How are evidence-based clinical practices and innovation shaping myopia management's future?

The future of myopia management is being defined by the shift from reactive vision correction to proactive disease control. This is grounded in evidence-based clinical practices and accelerated by ongoing innovation in diagnostics and treatment.

Mounting research shows that early intervention can significantly slow myopia progression in children. For example, a 2024 randomized controlled trial presented at the International Myopia Conference found that specific myopia control lenses reduced axial elongation by up to 50% in children aged 6–10 over a two-year period. This approach has led to the adoption of multifactorial treatment approaches beyond standard single-vision correction.

Innovation in diagnostic tools is also transforming how clinicians identify and monitor at-risk patients. Portable axial biometers and AI-powered systems can now measure and model eye growth patterns more accurately. One 2025 development enables the creation of 3D digital twins of the eye from 2D fundus photos, helping clinicians track structural changes linked to high myopia progression.

Alongside these advances, global clinical consensus is strengthening. The International Myopia Institute and similar expert bodies are continually updating best practice guidelines, promoting standardized treatment protocols across regions. This alignment is especially critical in Asia, where myopia prevalence is among the highest globally.

Together, these developments are enabling eye care professionals to not only slow myopia progression but also reduce long-term risks of complications such as retinal detachment, myopic macular degeneration, and glaucoma ultimately shifting the model of care toward long-term ocular health protection.

3. What are the latest advancements in myopia management and how are they transforming treatment practices?

There is significant progress in both optical and pharmacological interventions for myopia management, leading to more personalized and effective treatment strategies.

Optical Interventions:

- Myopia Control Glasses: Recent advancements in myopia control spectacle lenses focus on optical designs that create myopic defocus to help slow axial elongation in children. By incorporating features such as highly aspherical lenslets or defocus incorporated multiple segments, these lenses subtly alter the peripheral retinal image, which has been shown to effectively reduce the progression of myopia.
- Orthokeratology (Ortho-K): Customized Ortho-K lenses have demonstrated efficacy in slowing axial elongation in myopic children. A paired-eye study by Loertscher et al. compared multifocal orthokeratology lenses with conventional designs, finding that multifocal designs provided enhanced control over myopia progression.
- Multifocal Soft Contact Lenses (MFSCLs): These lenses, including center-distance designs like those studied in the BLINK Study, have been shown to slow myopia progression in children. Some soft lenses employ concentric zones of myopic defocus to reduce axial elongation.
- Radial Gradient Power Contact Lenses: Amorim-de-Sousa et al. conducted a study assessing the impact of radial gradient power contact lenses on choroidal thickening and retinal electrical response. The results suggested that these

lenses might induce an increase in choroidal thickness and alter the electrical response of the retina, indicating potential mechanisms for controlling myopia progression.

Pharmacological Interventions:

- Low-Dose Atropine: Low-dose atropine eye drops (typically 0.01% to 0.05%) have been shown to effectively slow myopia progression in children with minimal side effects. The LAMP study has consistently supported the safety and efficacy of low-dose atropine in myopia management.

Emerging Therapies:

- Red-Light Therapy: Repeated low-level red-light therapy (RLRL) has emerged as a promising non-invasive treatment. A multicenter randomized controlled trial demonstrated that RLRL, combined with orthokeratology, effectively reduced axial length elongation in myopic children.

The trend is moving towards individualized treatment plans that combine optical and pharmacological interventions based on the patient's age, rate of myopia progression, lifestyle, and risk factors. This personalized approach aims to optimize treatment efficacy and quality of life while minimizing the risk of high myopia and associated complications. There is also a growing emphasis on treating myopia early, focusing on primary prevention at the premyopia stage to delay the onset of myopia.

4. Why is it crucial to establish standardized clinical guidelines for myopia management, and how couldconsistent treatment protocols improve adoption and adherence across the region?

Standardized clinical guidelines are essential to ensure consistent, evidence-based care across diverse healthcare settings. They provide a clear framework for clinicians to make informed decisions, facilitate early intervention, and build patient trust. When treatment protocols are consistent, practitioners feel more confident applying best practices, which leads to better patient outcomes.

In the Asia-Pacific region, where the prevalence of myopia is rapidly increasing, having unified guidelines is critical to scale effective interventions and improve long-term vision health. The International Myopia Institute's 2024 Clinical Management Guidelines report highlights the need for uniform protocols to help eye care professionals worldwide align their practices and improve adoption rates.

5. What should eye care professionals in Asia prioritize in regards toearly intervention and long-term care for children and young adults with myopia?

Early intervention is the most important priority. Evidence now shows that earlier onset of myopia significantly increases the risk of developing high myopia and related complications later in life. This means timely detection, through regular screenings, and proactive management strategies are crucial. Eye care professionals should educate parents about the importance of early treatment and employ interventions such as optical corrections, pharmacological options, and lifestyle modifications where appropriate.

The LAMP Study demonstrated that low-dose atropine can slow progression even in children who are not yet fully myopic. In parallel, innovative optical designs such as the Highly Aspherical Lenslet Target (HALT) lenses have shown early promise in reducing axial elongation among premyopic children.

6. Why are eye care professionals educating myopia patients and expanding patient access to varied treatment options important? What are the most active measures to upgrade ECP competencies in Asia?

Education is fundamental for both patients and practitioners. When families understand how myopia progresses and the available treatment options, they are more likely to engage fully and adhere to prescribed care. At the same time, eye care professionals must stay informed through continuous education and practical training to guide patients effectively.

Across Asia, initiatives like regional symposiums and certification programs are actively enhancing practitioner knowledge and skills. The International Myopia Summit (IMS) showcased how translating research into clinical practice and strengthening communication skills are vital to elevating care standards. These efforts empower eye care professionals to offer

comprehensive, patient-centered treatment, improving outcomes throughout the region

7. What is the key message you wish to convey through the International Myopia Summit (IMS) forum?

IMS was a valuable opportunity to bring together diverse voices from across the Asia-Pacific eye care community. The key takeaway was the shared recognition that addressing childhood myopia demands early intervention, collaboration, and a strong foundation in evidence-based treatment. IMS created a space for us to reflect on the latest clinical insights and reaffirm the importance of patient-centered care and continuous learning in our field.

It was a privilege to contribute to the conversation in a session that explored the latest evidence-based modalities in myopia management with a focus on the evolving role of soft contact lenses. This spirit of shared learning and professional growth is what makes forums like IMS so impactful for the future of myopia care.

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