MYAH AS A TOOL FOR MODERN RESEARCH

The final part of a three-part series exploring myopia management.

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In September 2022, a group of eye care providers gathered at the 18th International Myopia Conference (IMC) in Rotterdam, the Netherlands, to discuss the latest innovations and research on myopia management. Select presentations from the Topcon Healthcare symposium at the IMC have been chosen for summarization.

In the debut article in this series, Prof. Joan Pérez-Corral reviewed how MYAH (Topcon Healthcare) guided his decision-making in orthokeratology. In the second installment (featured earlier in this issue), Dr. Liandra Jung examined the utility of growth curves and illustrated how MYAH allows clinicians to compare patients' axial length data to standardized datasets. In this final article of the series, Dr. Maria Liu discusses how MYAH has served as an invaluable research tool in her team's efforts to increase diversity in growth curve data sets, improve orthokeratology approaches, and expand the understanding of pharmacokinetics.

Readers who wish to watch videos of any of these presentations can do so by scanning the QR codes in the video section on the next page of this compendium.

Many clinicians already know that MYAH (Topcon Healthcare) is a valuable platform for everyday clinical practice. However, some optometrists may be unaware of its significance as a research tool. My research team and I have used MYAH as an instrument in our ongoing research projects, some of which I explore here.

DIVERSIFYING PEDIATRIC GROWTH CURVES AND EXPLORING ADULT MYOPIA

In her recent contribution to this ongoing series covering the IMC, Dr. Liandra Jung discussed the utility of growth curves in the examination and management of pediatric patients with myopia. She pointed out that, although growth curves serve as a useful tool to prognosticate myopia and high myopia risk in pediatric patients, the populations used to generate growth curves often do not reflect the demographics of real-world patients sitting in your chair. Clinicians are then tasked with the inexact science of reconciling specific patient characteristics with the broader trends outlined in growth curves.

I practice in San Francisco, a city with an ethnically diverse population. My research colleagues and I are collecting anatomic data on pediatric myopia patients in San Francisco to generate growth curves with a diversity that better reflects the demographics of our city. Specifically, we are aggregating datasets that include Asian-American children born in San Francisco and Asian children who have recently moved to the United States, which may allow us to learn about important differences between these cohorts. MYAH has been our go-to tool for capturing accurate axial length data in these patients.

In addition, the growth patterns of progressive myopia in adult patients are distinct from those in pediatric patients. With the help of MYAH's accurate measurements and quick data capture, my colleagues and I hope to improve our understanding of axial changes among this particular cohort. Doing so may allow our field to optimize treatments for progressive myopia among adults.

IMPROVING ORTHOKERATOLOGY TECHNOLOGY AND EXPLORING PHARMACOKINETICS

In the first installment of this series, Dr. Joan Pérez-Corral reviewed how MYAH has enhanced his ability to customize orthokeratology treatments. MYAH has been a boon to research in this field, too, empowering researchers to better understand the effects of interventions.

MYAH's dynamic pupillometry feature has played an instrumental role in research my colleagues and I have conducted on the interaction between pupil dynamics (ie, size, response, and decentration) and the performance of orthokeratology lenses. Based on this research, our field may be able to learn about the potential benefits of customizing the corneal treatment zone of orthokeratology lenses based on a patient's pupil profile, and may soon better understand how decentered optics influence the efficacy of orthokeratology interventions.

Dynamic pupillometry has a potential role in assessing the ocular pharmacokinetics of topical atropine of various concentrations. Such measurements may yield valuable information on the severity of side effects and topical absorption rates, thereby informing our understanding of atropine used in the clinic and for therapeutic purposes. Capturing all dynamic pupillometry data on the MYAH in

a single study would eliminate concerns about platform-to-platform variations in sensitivity and specificity.

KEY TAKE-HOME POINTS

MYAH serves as both a resource for clinical practice and a tool for furthering our field's knowledge through research. In that sense, it is a tool to improve our patients' experiences in the present and expand clinicians' potential for targeted treatment in the future. ■

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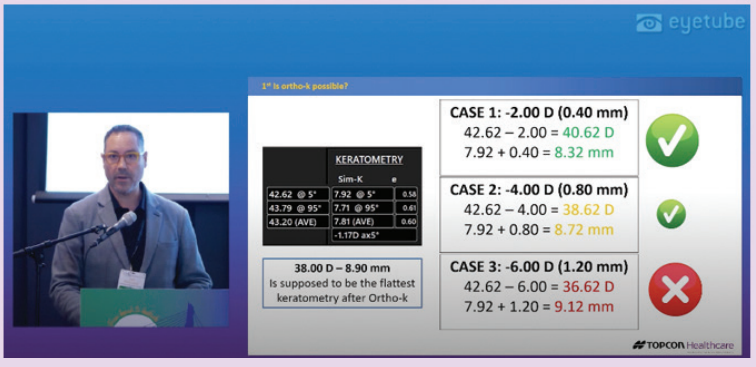
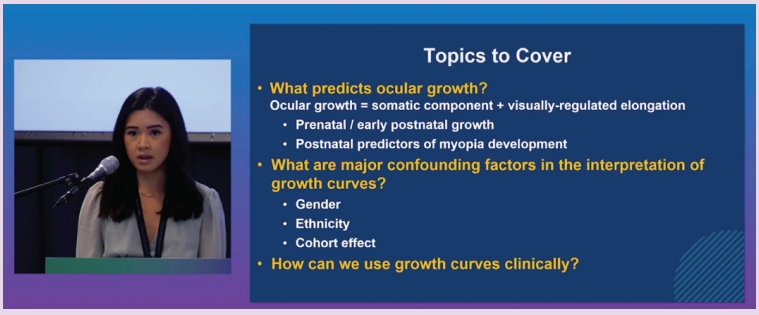
WATCH IT NOW

Topcon Healthcare partnered with Eyetube to showcase video presentations from the Topcon Healthcare symposium at the 18th International Myopia Conference (IMC). Scan the QR codes below to view those presentations and to hear directly from the researchers and clinicians who brought the symposium to life.



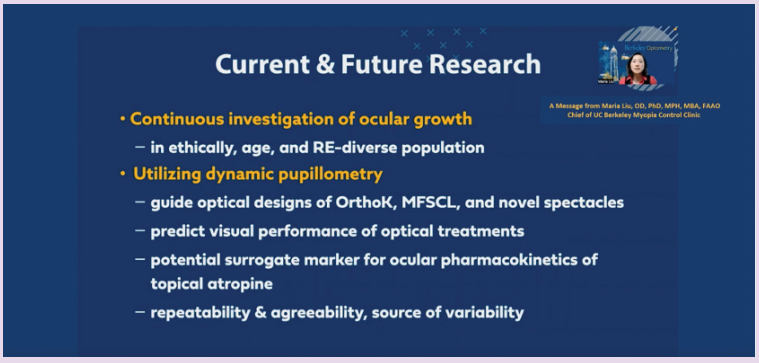
USING MYAH IN ORTHOKERATOLOGY FOR MYOPIA CONTROL

Joan Pérez-Corral, DO, PhD, FIAOMC, shares insights into orthokeratology lens fitting with topography and biometry, highlights the advantages of using MYAH, and outlines seven important considerations for orthokeratology for myopia control.



APPLYING GROWTH CURVES IN MYAH TO MODERN CLINICAL PRACTICE

Liandra Jung, OD, FAAO, discusses the utilization of growth curves to improve the early detection of myopic ocular growth. She shares two real-world cases that illustrate the utility of MYAH's growth curves in assessing risk of myopic progression.



MYAH AS A RESEARCH TOOL TO IMPROVE PATIENT OUTCOMES

Maria Liu, OD, PhD, MPH, MBA, FAAO, offers a roundup of current and future research in myopia and orthokeratology, and explains how MYAH has helped her and her research team acquire accurate and reliable data.