## OCT ON THE LOOSE





While traveling back from this year's Aspen Retinal Detachment Society (ARDS) meeting, a colleague shared that

their grandmother had, in her lifetime, both traversed the American West in a covered wagon and flown in an airplane. That sort of technological whiplash, which seems wild when put into historical terms, is simply the status quo these days, both in society in general and in the field of retina specifically. Think of our access to movies: We used to "be kind and rewind" our VHS tapes before returning them to Blockbuster, and now the only way to find a movie is through a streaming service.

What precipitated our colleague's comment was our discussion of the ARDS agenda, which was packed with sessions on intraoperative OCT (by Lejla Vajzovic, MD), ultra-widefield navigated peripheral OCT (by Szilárd Kiss, MD), and OCT/OCT angiography (OCTA) in pediatrics (by Audina M. Berrocal, MD). The talk that really caught our attention, however, was by John B. Miller, MD; he took the stage to contend that it might be time to replace fluorescein angiography (FA) with swept-source OCTA when imaging diabetic macular edema (DME).

OCT was first described in the 90s,1 and it's already integral to our clinical decision making, necessary for clinical trial endpoints, and making its way into our ORs.<sup>2-7</sup> Even some motivated patients are familiar with their own OCTs these days. While most of us aren't quite ready to replace FA with OCTA, Dr. Miller predicts that FA imaging for DME will be a relic within 5 years (check out the Eyetube meeting coverage of Dr. Miller's talk to hear more).

Because OCT is a mainstay in our practices, we focused on OCT in this issue, taking a deep dive into terminology, biomarkers, and more. First up, Marion R. Munk, MD, PhD, and Ferhat Turgut, MD, discuss their new research on standardized nomenclature for OCTA. They explain why it's time to replace terms such as flow void and flux, adapted from other imaging modalities, with something that better aligns with OCTA's binary principles of presence or absence. We also have disease-specific articles outlining the utility of new OCT biomarkers in DME (eg, disorganization



of retinal inner layers) and geographic atrophy (eg, thick basal lamina deposits).

OCT isn't just taking over our offices—it's also making its way into patient homes with the FDA clearance of the Scanly Home OCT (Notal Vision) system. For those who are unsure where this new tool fits into retina care, Sri Krishna Mukkamala, MD, has tips for incorporating the novel screening and management tool into your practice.

Of course, OCT isn't the only imaging modality in our clinics, and we have articles that share multimodal imaging pearls for pathologic myopia, macular telangiectasia type 2, and pediatrics.

There are so many ways for us to see the retina beyond what we can visualize through our ophthalmoscopes, and each one provides unique information to help us diagnose, treat, and monitor retina conditions like never before. We can only imagine what the next generation of retina researchers will be able to capture with newer, and more precise, imaging modalities.

Mm. Ho, me Tobet Lang ALLEN C. HO. MD CHIEF MEDICAL EDITOR

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On the cover (clockwise from top left): Widefield fundus imaging of a fibrovascular stalk, ultra-widefield OCT of a posterior staphyloma in a highly myopic eye, OCT imaging of disorganization of retinal inner layers in DME, ultra-widefield fundus imaging of a wide macular staphyloma with pigmentary changes, OCT imaging of drusen in geographic atrophy, and loss of temporal perifoveal hypoautofluorescence in early macular telangiectasia type 2.

<sup>1.</sup> Huang D, Swanson EA, Lin CP, et al. Optical coherence tomography. Science. 1991;254:1178-1181.

<sup>2.</sup> Choudhry N. Feasibility and clinical utility of peripheral OCT imaging using a novel integrated SLO ultra-widefield imaging full-field swept-source OCT device. Paper presented at: Macula Society Meeting; February 6-7, 2021.

<sup>3.</sup> Kaplan RI, Chen M, Gupta M, Rosen RB. Impact of automated OCT in a high-volume eye urgent care setting. BMJ Open Ophthalmol. 2019;4:e000187

<sup>4.</sup> Volz C, Grassmann F, Greslechner R, et al. Impact of optical coherence tomography (OCT) on decision to continue treatment for neovascular age-related macular degeneration. Invest Ophtholmol Vis Sci. 2016;57:3707

<sup>5.</sup> Schmetterer L, Scholl H, Garhöfer G, et al. Endpoints for clinical trials in ophthalmology. Prog Retin Eye Res. 2023;97:101160.

<sup>6.</sup> Yordi S, Cakir Y, Kalra G, et al. Ellipsoid zone integrity and visual function in dry age-related macular degeneration. J Pers Med. 2024;14(5):543.

<sup>7.</sup> Ciarmatori N, Pellegrini M, Nasini F, Talli PM, Sarti L, Mura M. The state of intraoperative oct in vitreoretinal surgery: recent advances and future challenges. Tomography. 2023;9(5):1649-1659.