Technical Data

Product model
OCT+CRO SE / OCT+CRO PRO / OCT+CRO MAX

Field of View
135°* / 90° / 45°

OCT Technology
SS-OCT / AS-OCT*

OCTA
SSADA

Color Image OCT
MCOLOR / External Eye Imaging

Layered Imaging
MC / IR / R / G / B

Autofluorescence
G-AF / B-AF

Angiography
FFA* / ICGA* / FFA+ICGA*

Synchro Imaging
MC+OCT / IR+OCT / FAF+OCT / FFA+OCT*
ICGA+OCT* / (FFA_ICGA)+OCT*

Cones&Blood Vessel*

Product model
CRO SE / CRO PRO / CRO MAX

Field of View
165°* / 135° / 90° / 45°

Color Image
MCOLOR / External Eye Imaging

Layered Imaging
MC / IR / R / G / B

Autofluorescence
G-AF / B-AF

Angiography
FFA* / ICGA* / FFA+ICGA*

Cones&Blood Vessel*

Synchro Imaging:

The same platform device can quickly obtain 'ultra-wide field multi-modal images and SS-OCT synchro imaging' with a single scan, enabling real-time synchronization and precise alignment of retinal plane and structural images.

***Note:**

Items marked with an asterisk are optional features and should be considered in conjunction with clinical needs.

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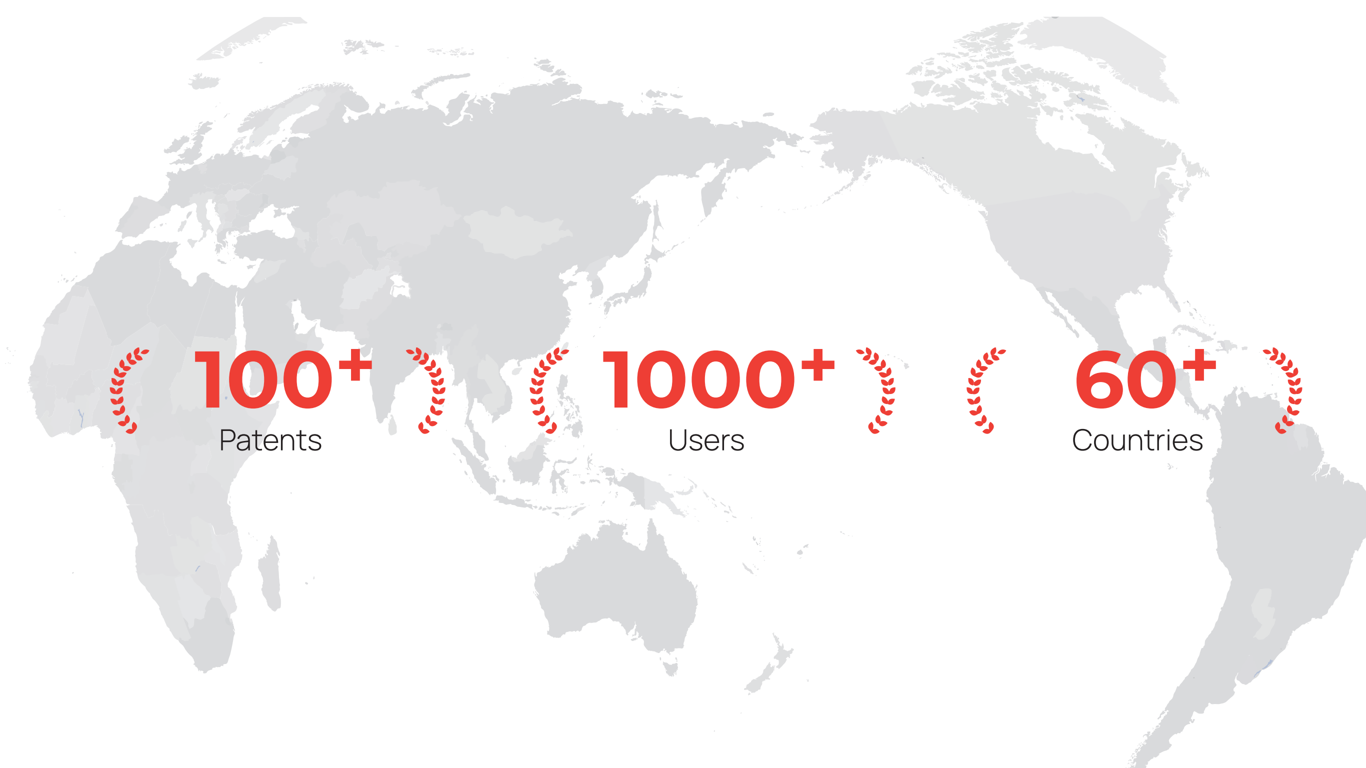
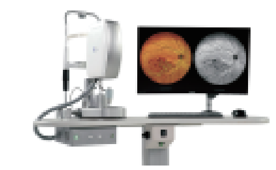
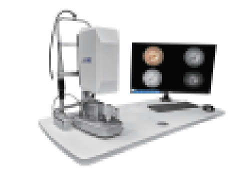
SKY Whole Eye Imaging Platform

Suzhou Microclear Medical Instruments Co., Ltd.

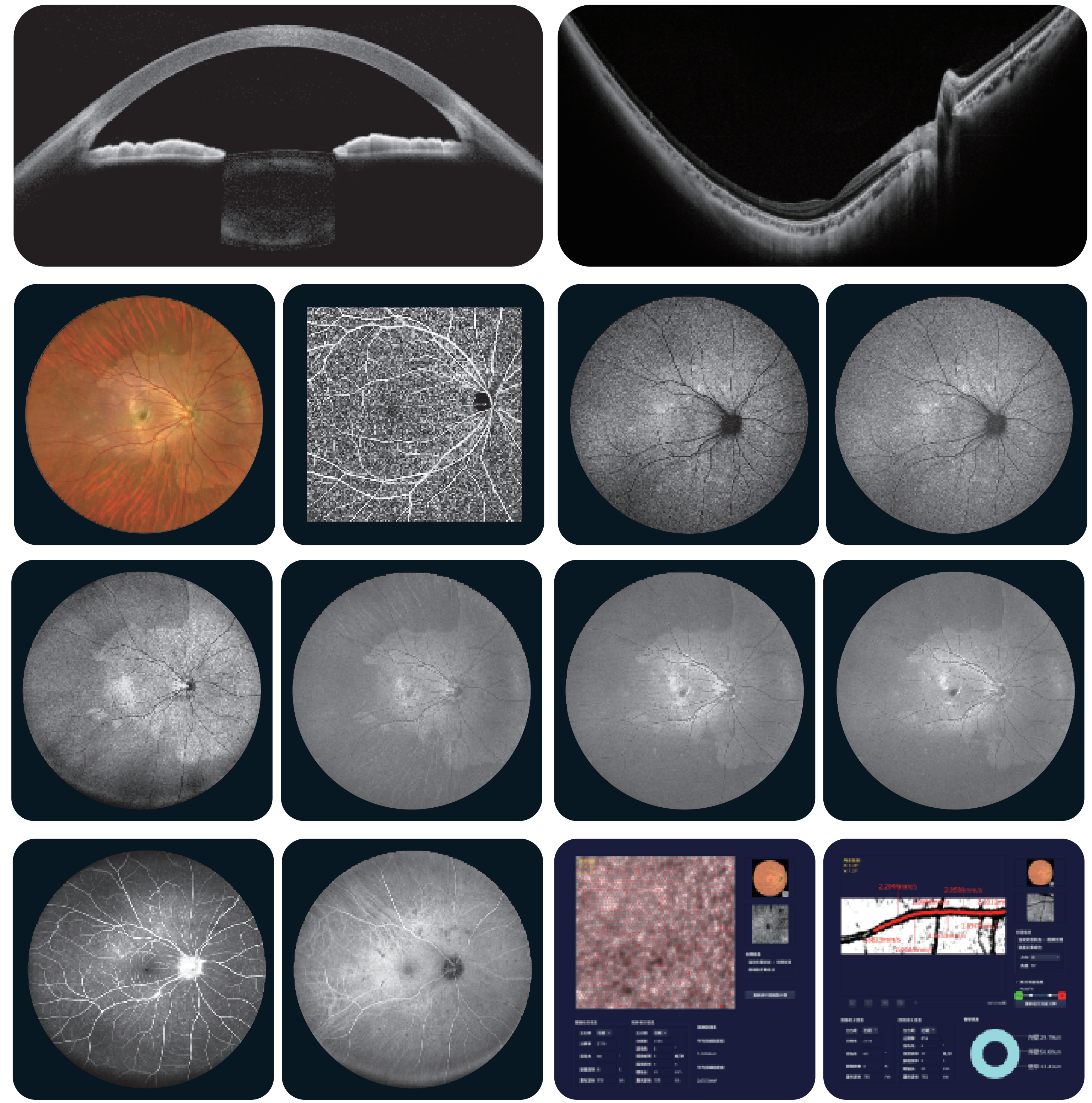
Founded in 2011, Microclear Medical is positioned as a global high-end brand in ophthalmic imaging, focusing on the research and industrialization of eye health imaging diagnostic equipment. Based on independent core hardware, the company integrates artificial intelligence and information technology to provide core technological products such as ultra-wide-angle laser fundus cameras, ultra-wide and ultra-deep scanning OCT, and the SKY whole eye imaging platform for medical institutions in ophthalmology, endocrinology, health check-ups, and maternal and child health. Microclear Medical is a leading provider of eye health diagnostic equipment and data platforms globally and domestically.

Microclear Medical series of products have successfully filed over 100 patents, with 46 authorized patents, 4 software copyrights, and 3 PCT patents. The company has received various overseas certifications, including China NMPA, US FDA, and EU CE. In 2023, Microclear's ultra-wide-angle confocal fundus imaging system won the Ministry of Science and Technology's National Key R&D Program Special Award and the BCCIA Gold Award. In 2024, it was honored with the title of National Specialized and New "Little Giant" Enterprise and recognized as one of the Top Ten Original Advances in Ophthalmology in China.As of now, Microclear products have been deployed in over 60 countries and regions, serving more than 1,000 hospitals and medical institutions worldwide.



2017	First Domestically Produced Confocal Laser Ophthalmoscope	
2020	First Domestically Produced Ultra-widefield Confocal Laser Fundus Imaging System.	
2024	First Domestically Produced Multi-modality Confocal Laser Fundus Imaging Platform	
2025	The World's First Whole Eye Imaging Platform	

MICRO INSIGHTS CLEAR VISION



Multi-Technology Integration

Highly integrated with technologies such as confocal SLO and SS-OCT, it combines ultra-wide SLO color imaging, confocal laser angiography, autofluorescence imaging, and ultra-wide and deep, anterior and posterior segment tomographic images in one system.

Synchronous Imaging

A single scan can quickly obtain synchronized images of ultra-wide angle color images/FAF/FFA/ICGA and SS-OCT, achieving real-time synchronization and precise alignment of retinal flat and structural images.

Optical Zoom

Equipped with unique lossless optical zoom technology, it allows for angle of view switching (135°, 90°, 45°, and 8°) without changing lenses, enabling a transition from wide angle to fine details, providing clearer and more detailed image information for clinical needs.

Video Recording

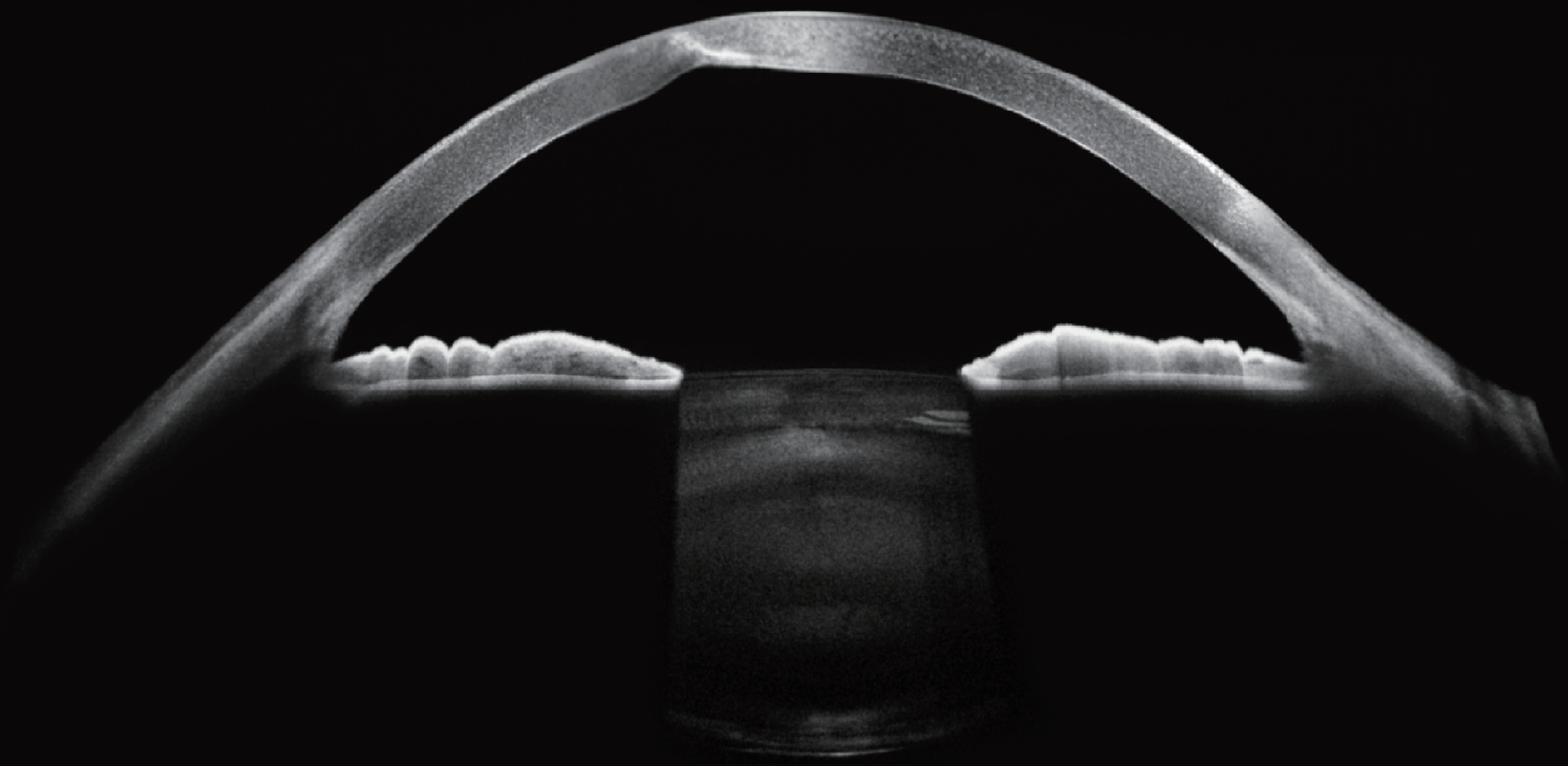
Real-time record the infrared video of retina and vitreous to show the movement of floaters. With FFA and ICGA modes, the video of early injection phase will be recorded as dynamic angiography for better diagnosing vascular diseases, e.g. CRVO.

SKY

Cutting-edge Ophthalmic
Imaging Platform

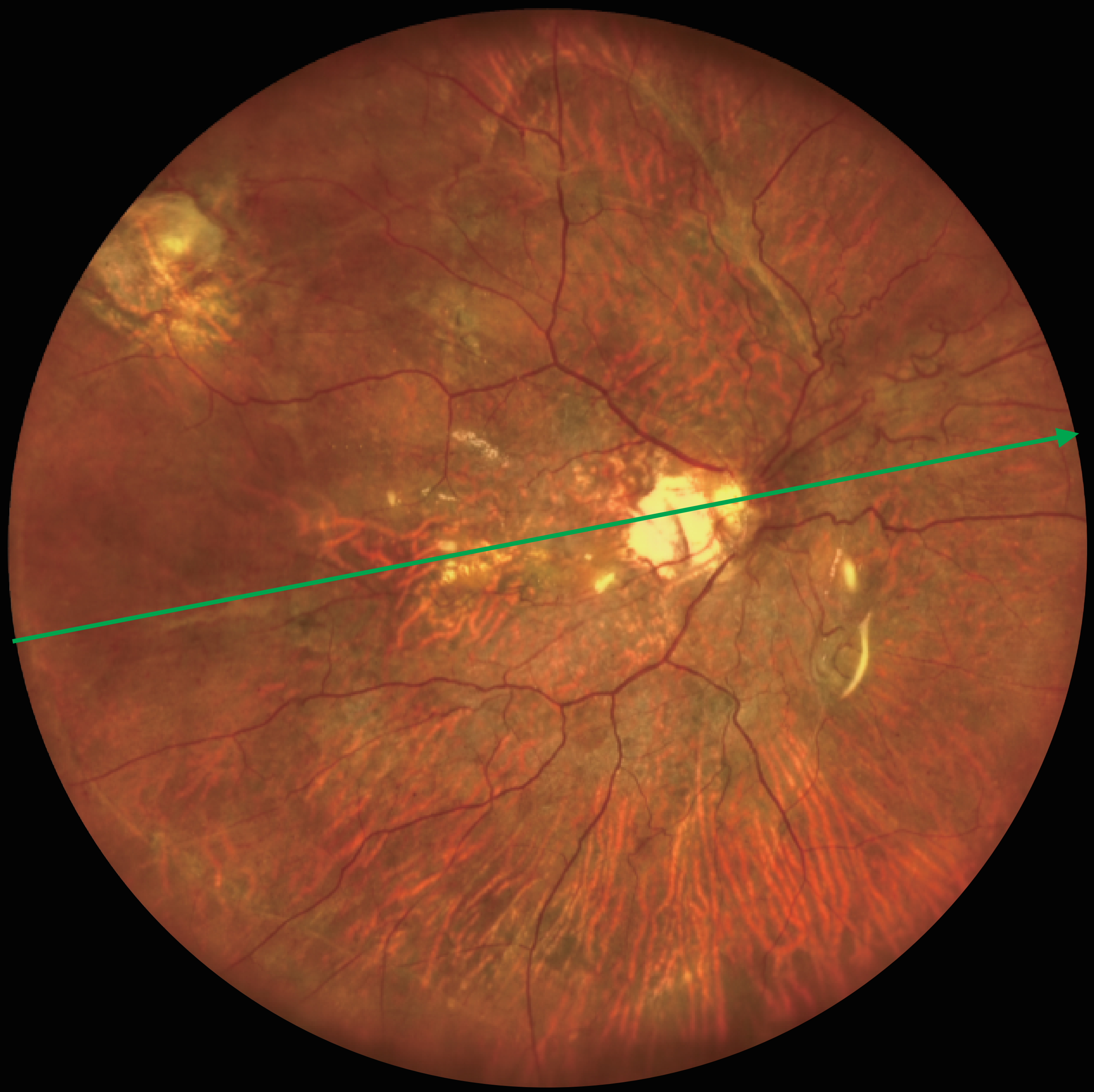
ANTERIOR SEGMENT

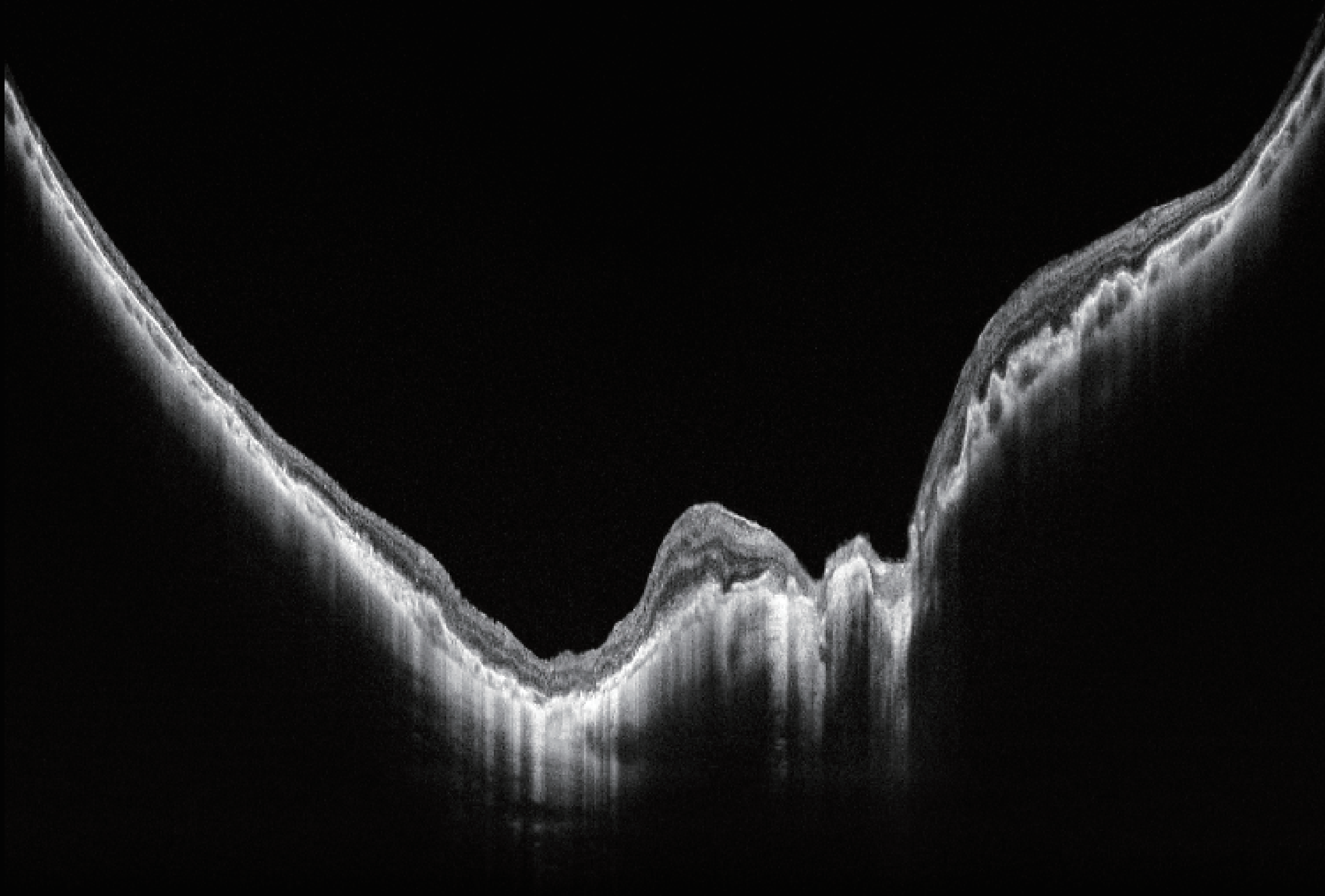
Anterior depth 12mm



ULTRA-WIDE

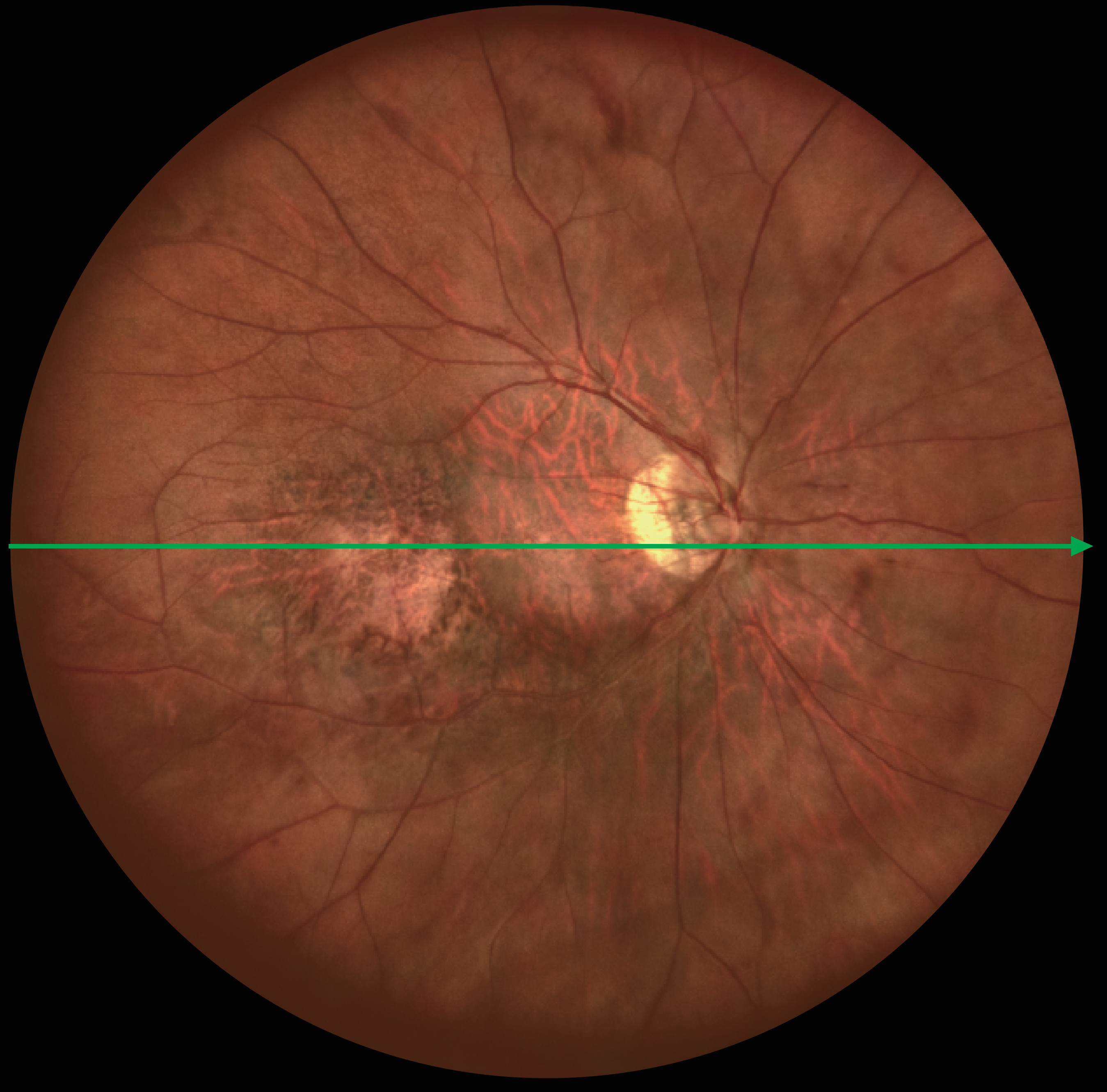
Scanning Width 28mm

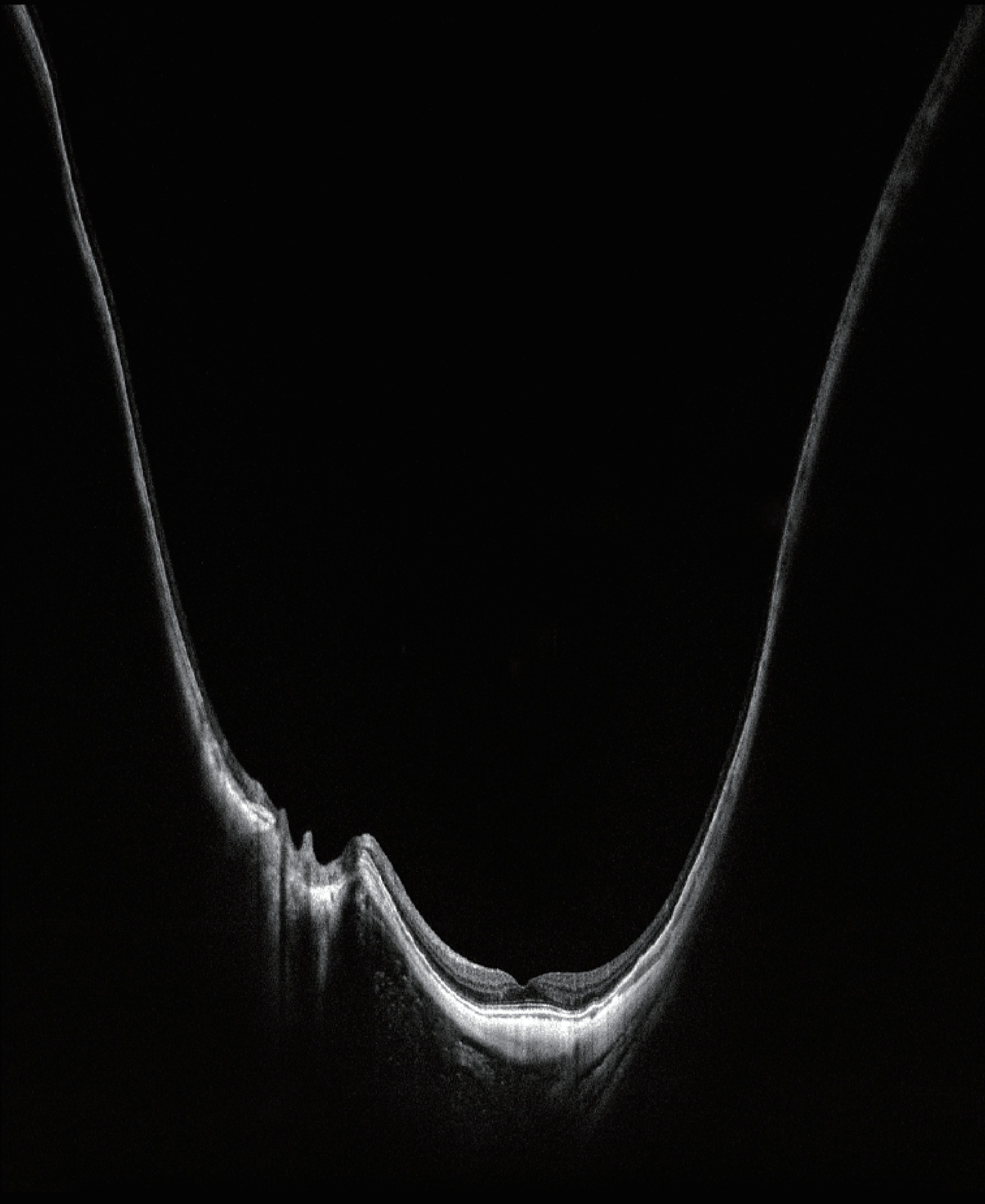




ULTRA-DEEP

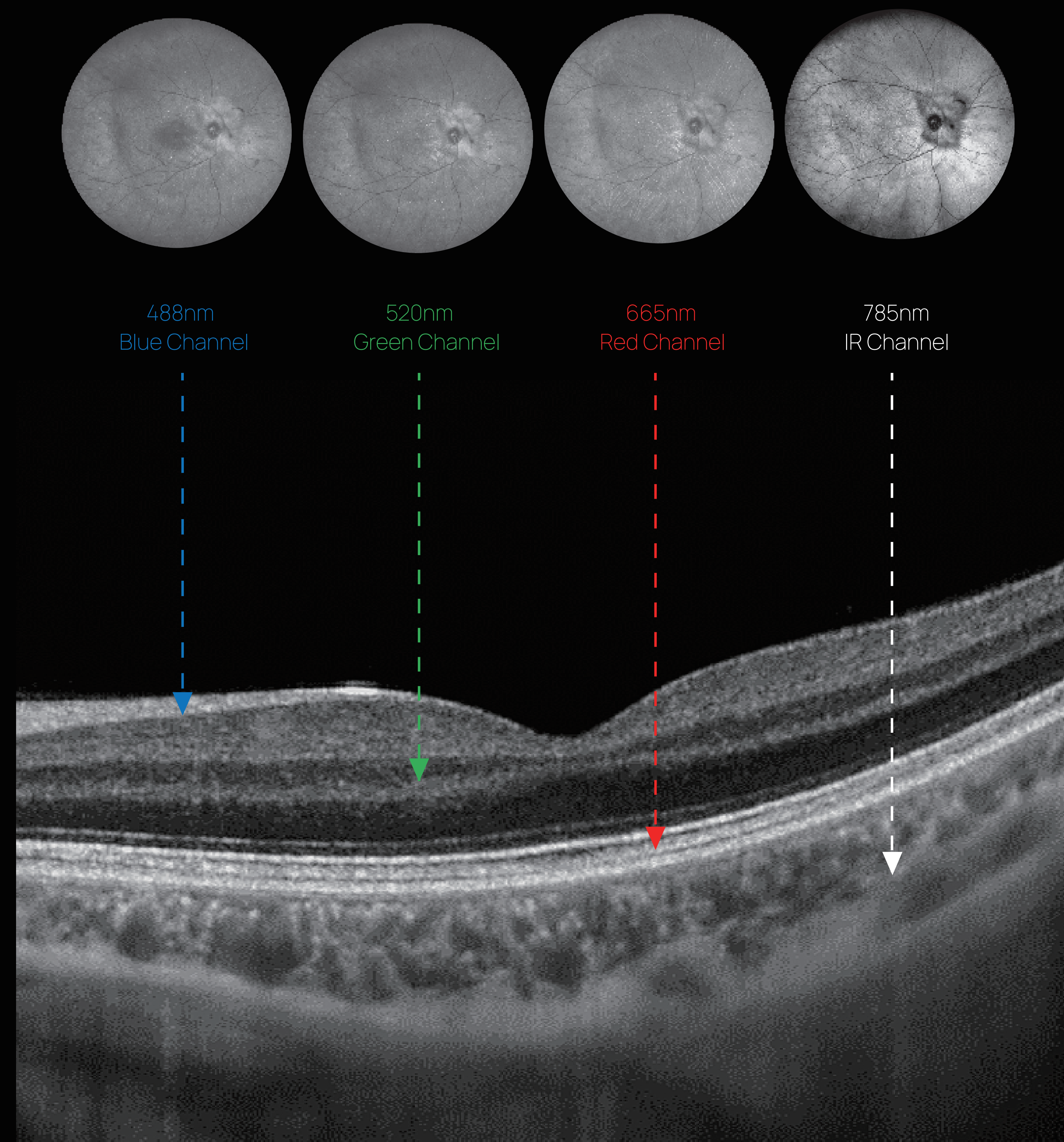
Scanning depth 9mm



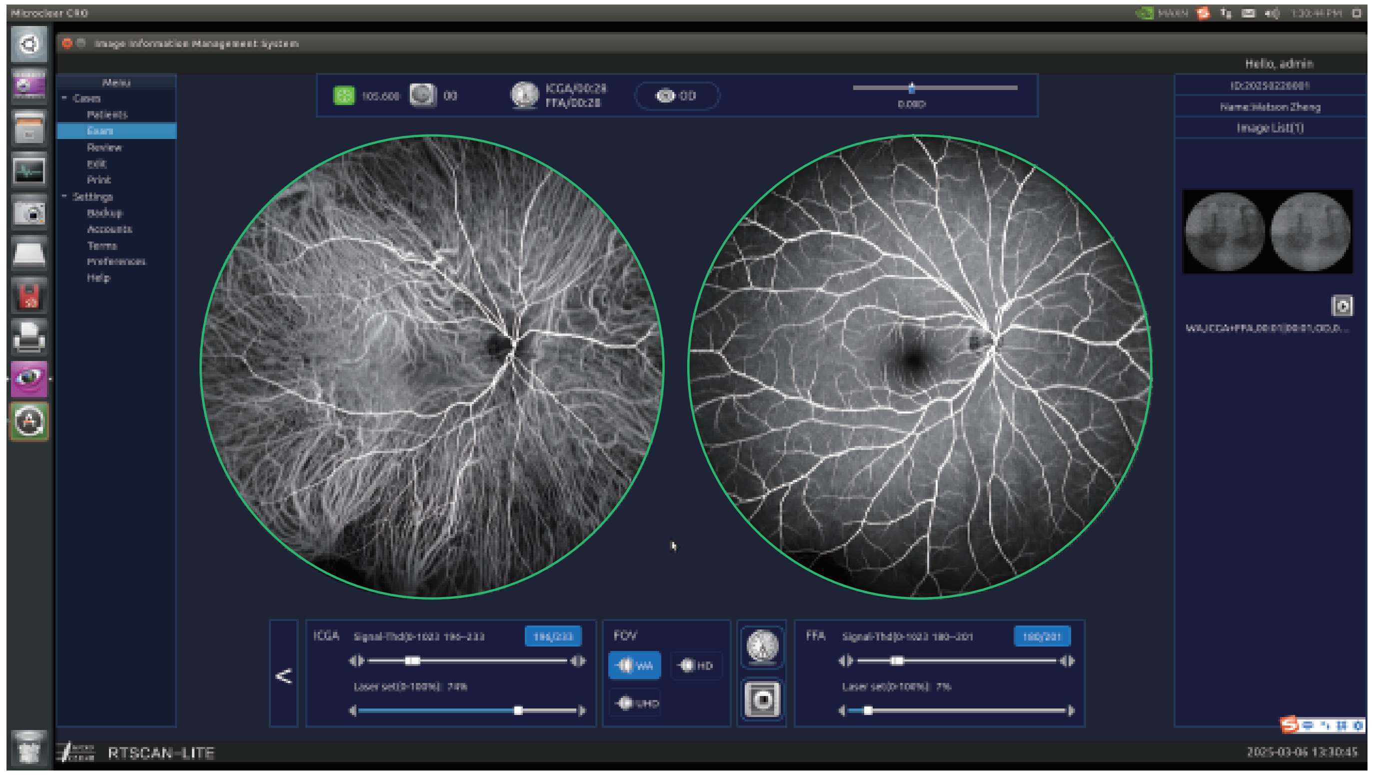


MCOLOR

Layered imaging



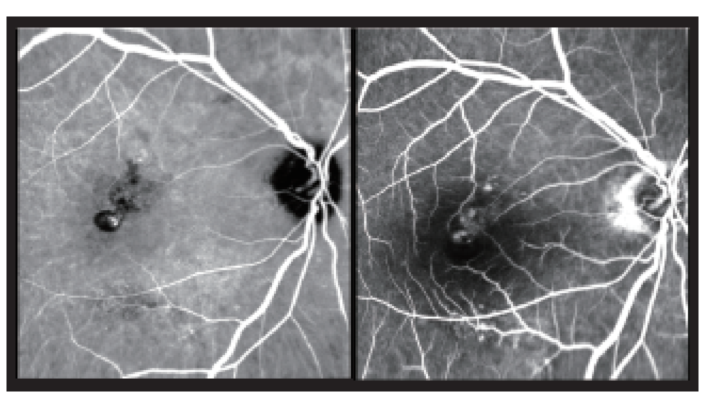
Ultra-wide Angle Angiography Laser Synchronous Dynamic



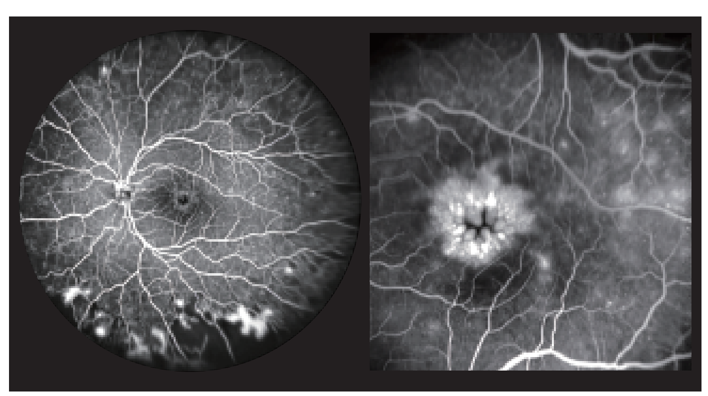
Synchronous FFA+ICGA Imaging

Ultra-wide angle laser dynamic imaging is an advanced ophthalmic examination technique that can obtain ultra-wide field laser imaging at a single instance under a 2mm small pupil, capturing images at an angle of 165 degrees. It is an important dynamic examination method and gold standard for assessing the condition of retinal blood vessels and tissues.

Microclear ultra-wide field fundus imaging features real-time dynamic fluorescein angiography and indocyanine green angiography, along with combined synchronous imaging capabilities. By integrating the principles of confocal scanning laser imaging with intelligent image gain control, it can obtain ultra-wide and ultra-clear vascular imaging while simultaneously recording real-time video.

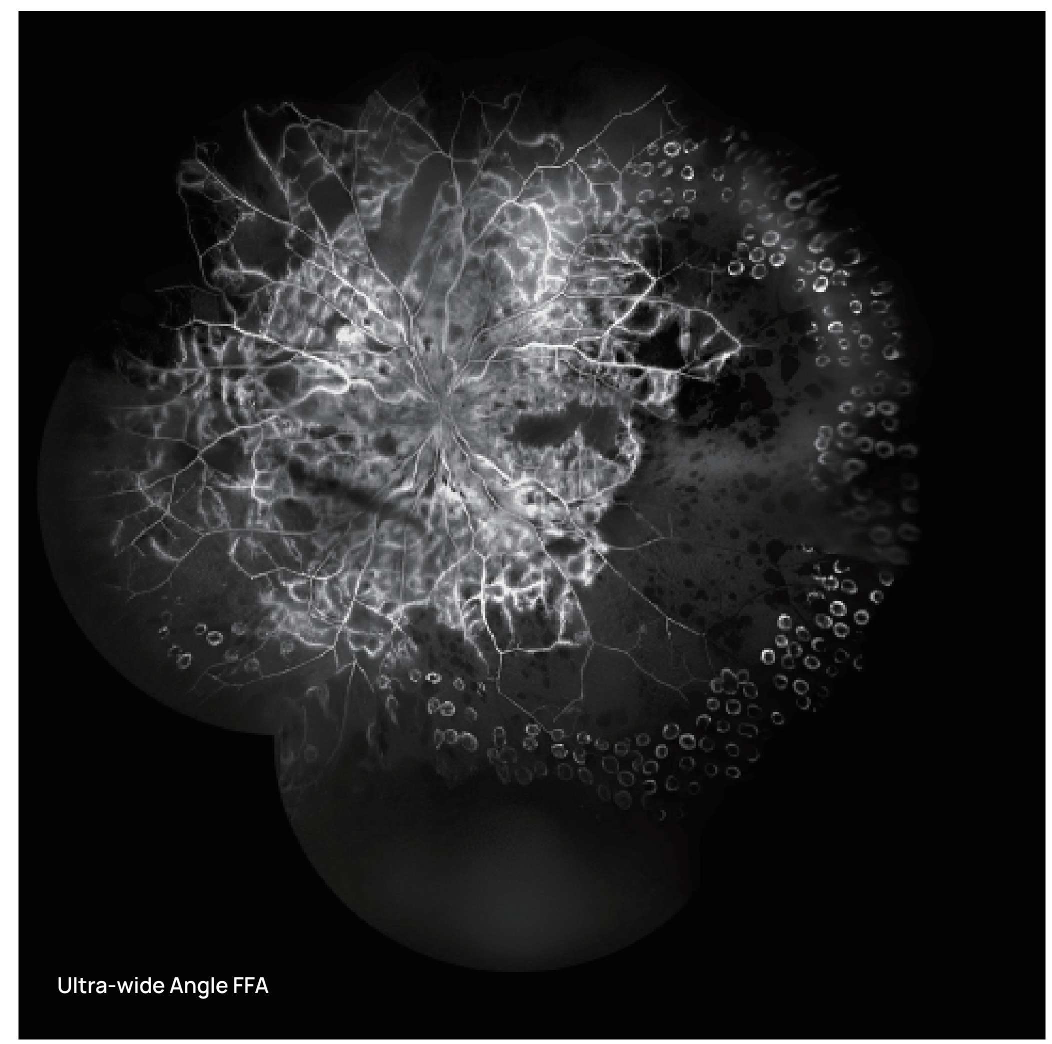


PCV



PDR

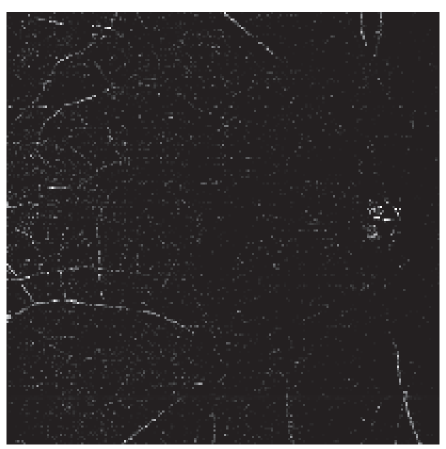
Ultra-wide Angle ICGA



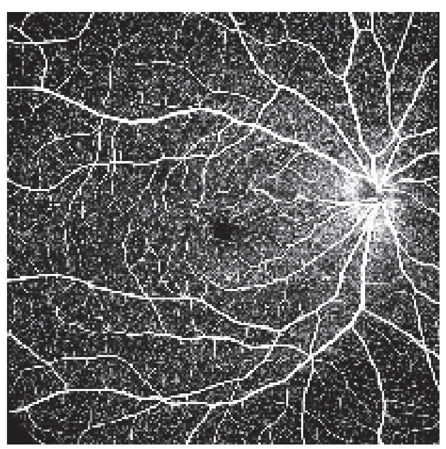
Ultra-wide Angle FFA

SKY OCTA MODULE

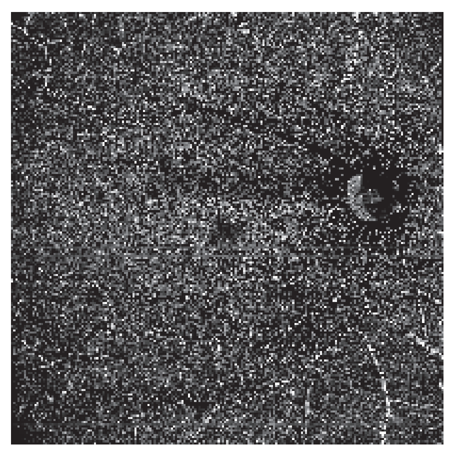
Entering a New Era of Real-time Synchronized Imaging for the Whole Eye Optical Coherence Tomography Angiography (OCTA) is a rapid, non-invasive blood flow imaging technology that enables the detection and quantitative analysis of blood flow signals. It allows for layered observation and differentiation of blood flow changes in the retina and choroid.



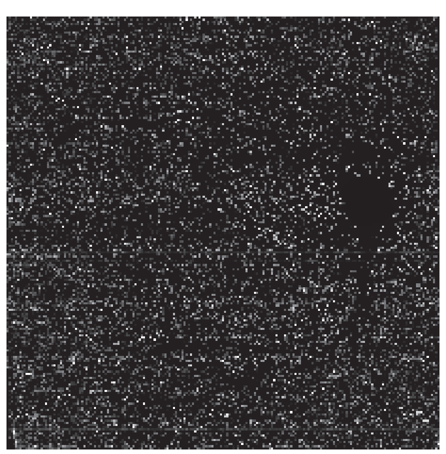
Vitreous layer



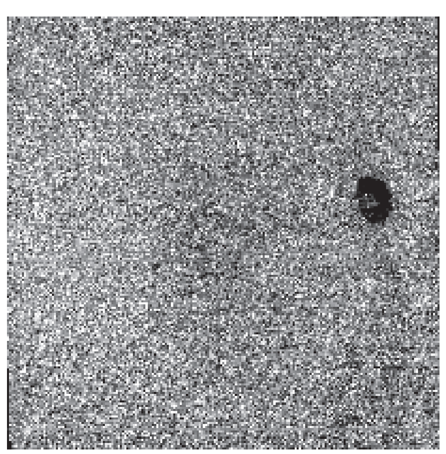
Superficial vascular complex



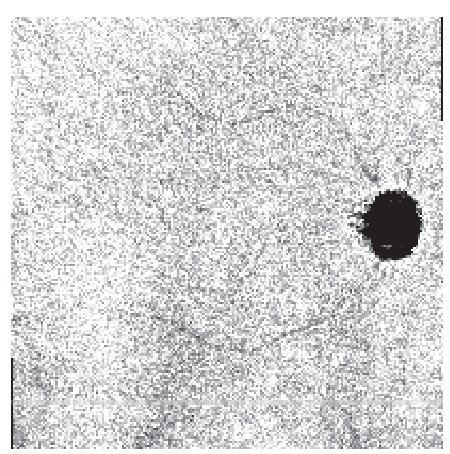
Deep vascular complex



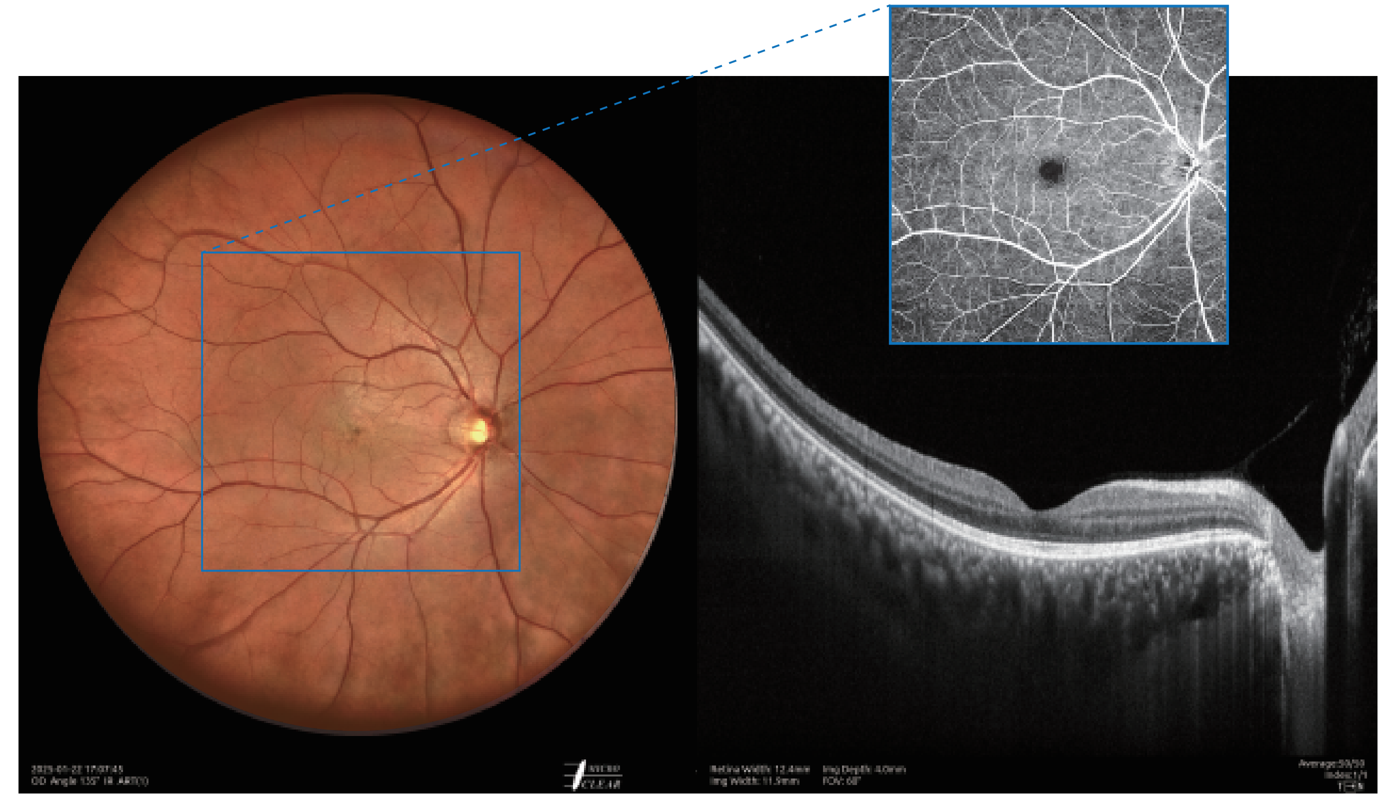
Avascular

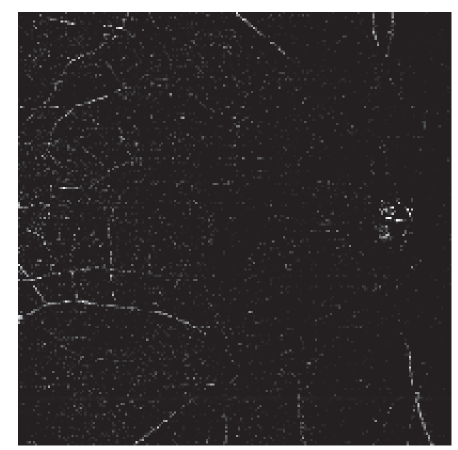


Choriocapillaris layer

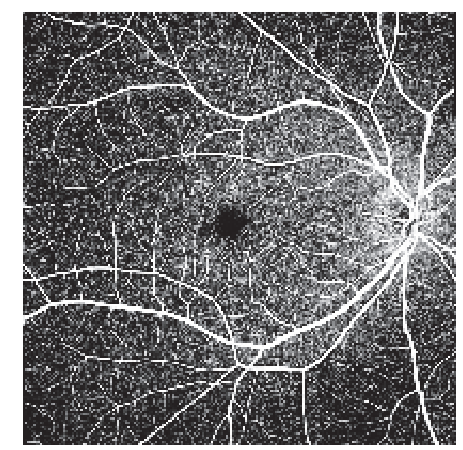


Choroid layer

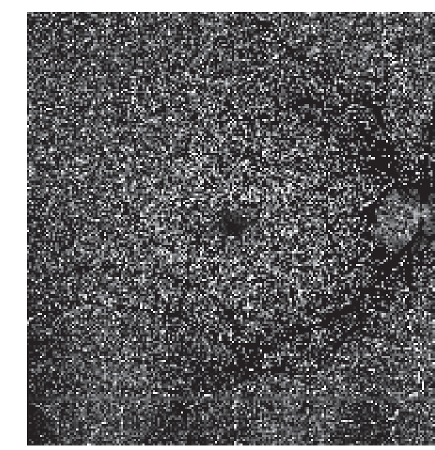




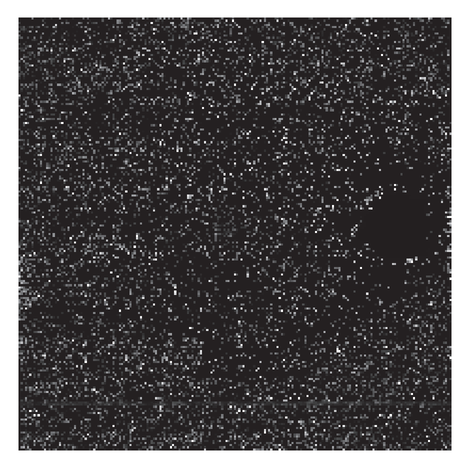
Vitreous layer



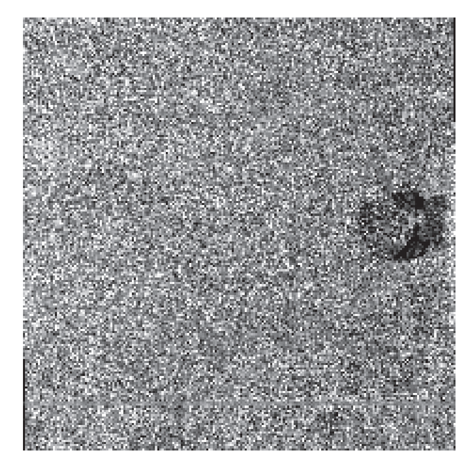
Superficial vascular complex



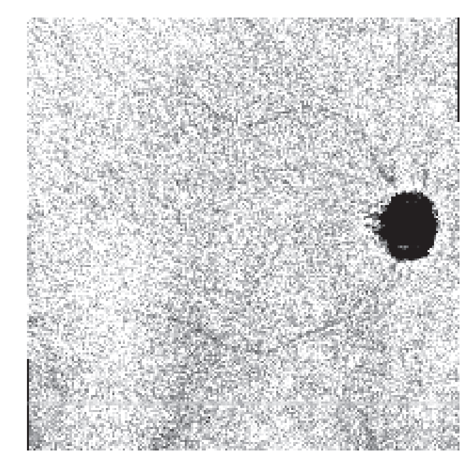
Deep vascular complex



Avascular

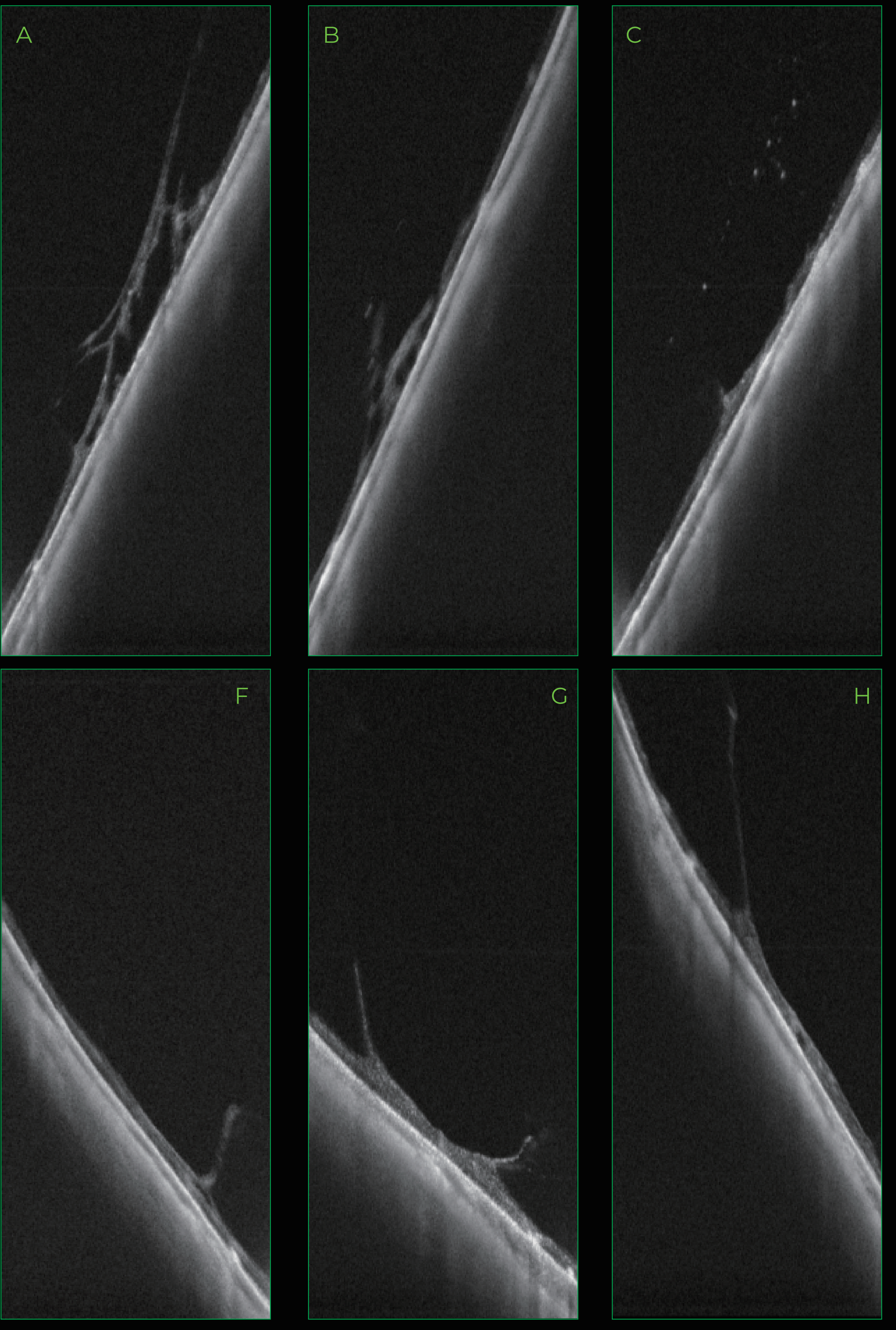


Choriocapillaris layer

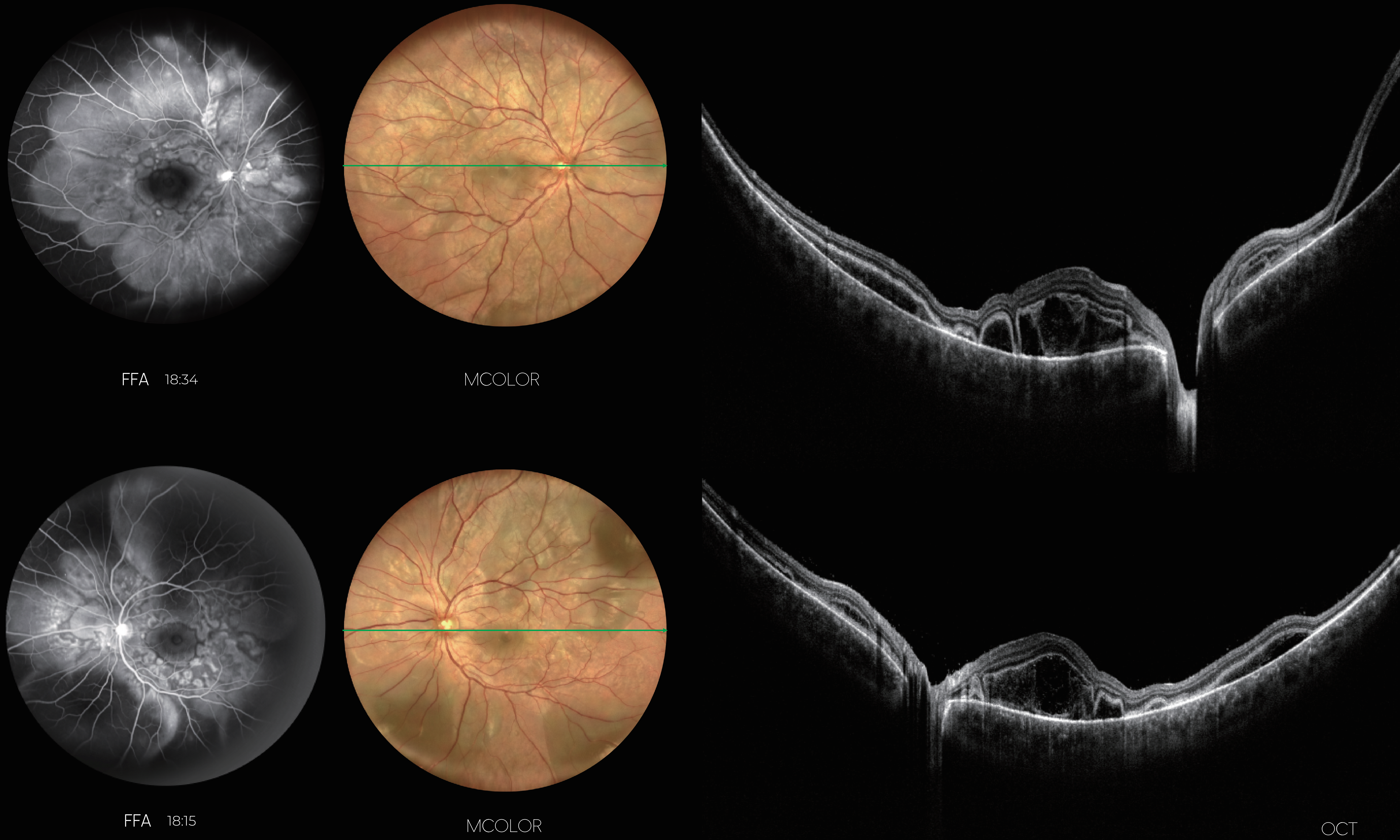


Choroid layer

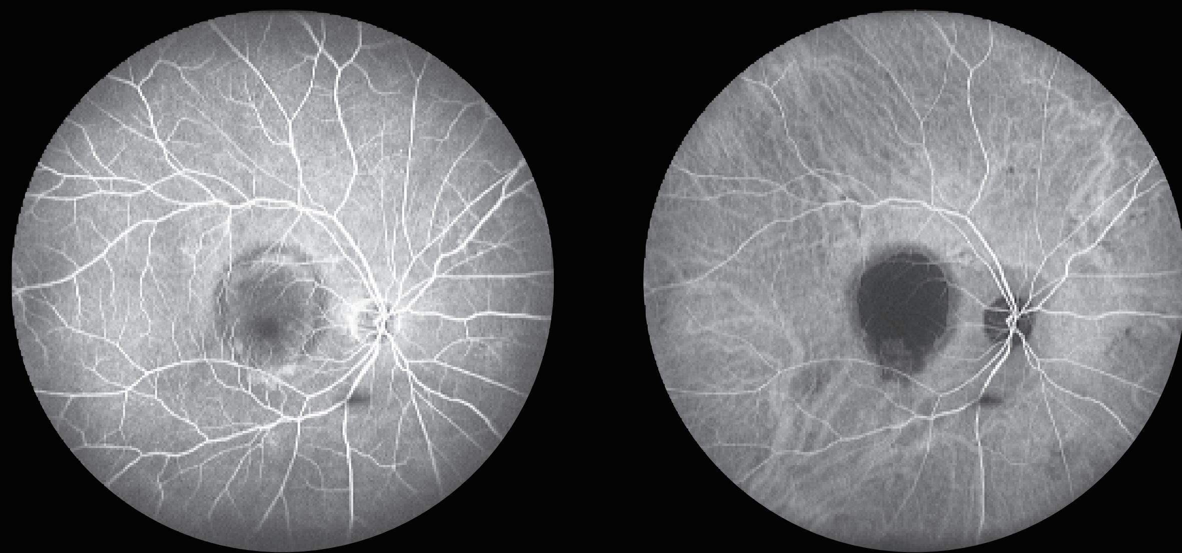
PERIPHERAL RETINA DEGENERATION



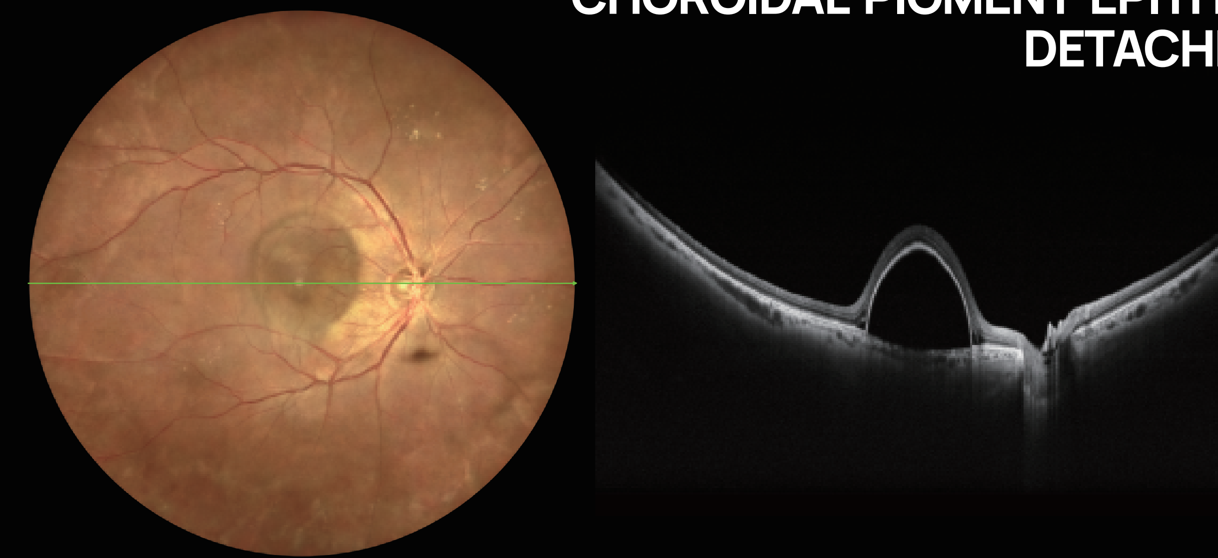
VKHS



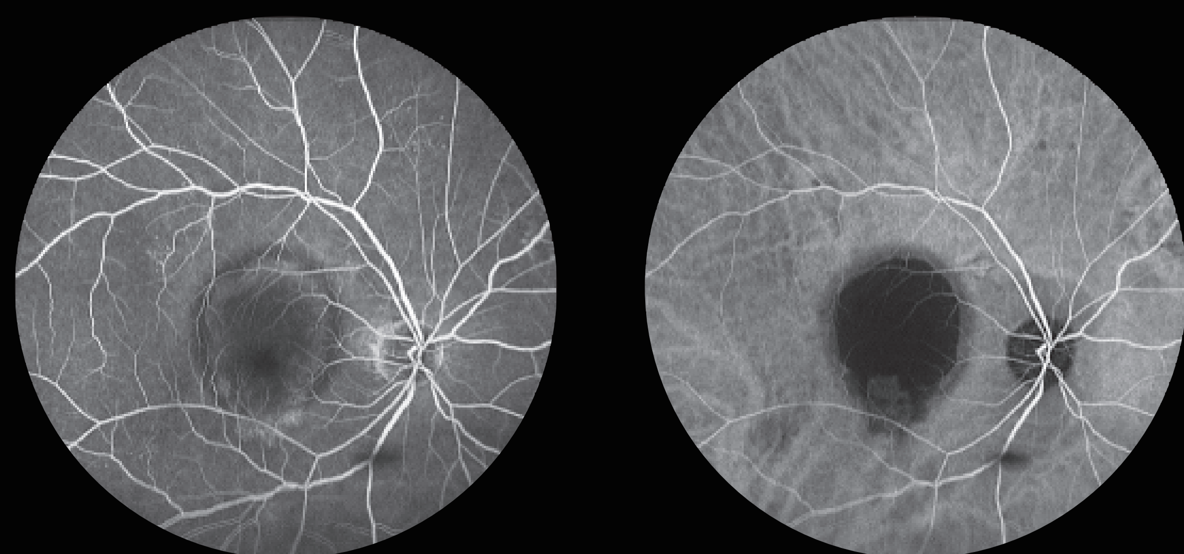
CHOROIDAL PIGMENT EPITHELIAL DETACHMENT



FFA+ICGA 135°

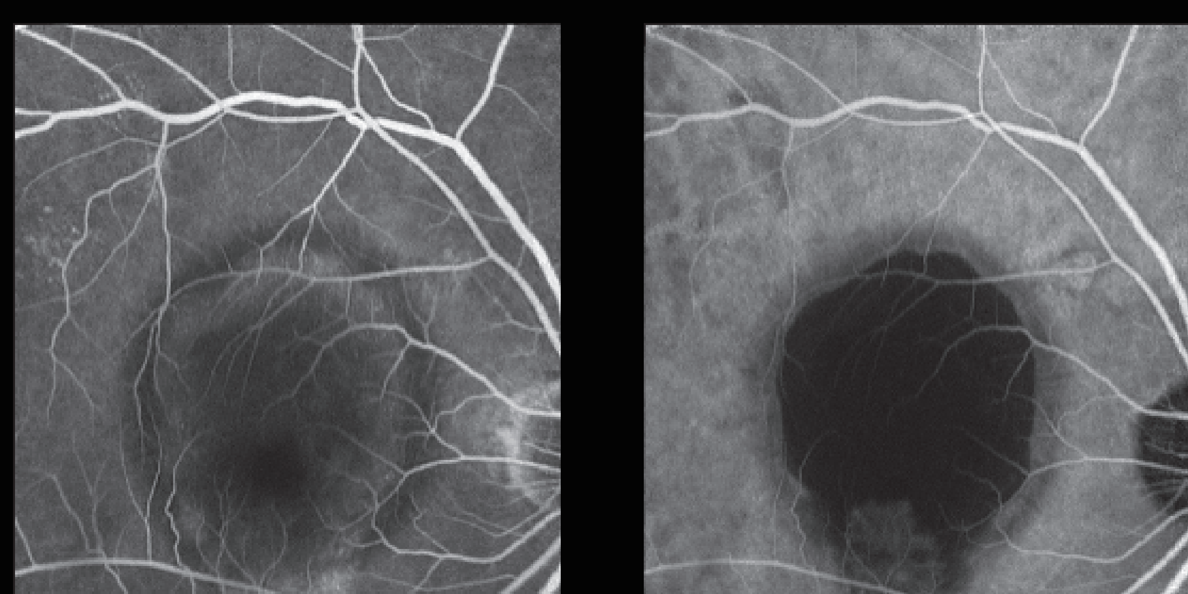


COLOR+OCT 135°



FFA+ICGA 90°

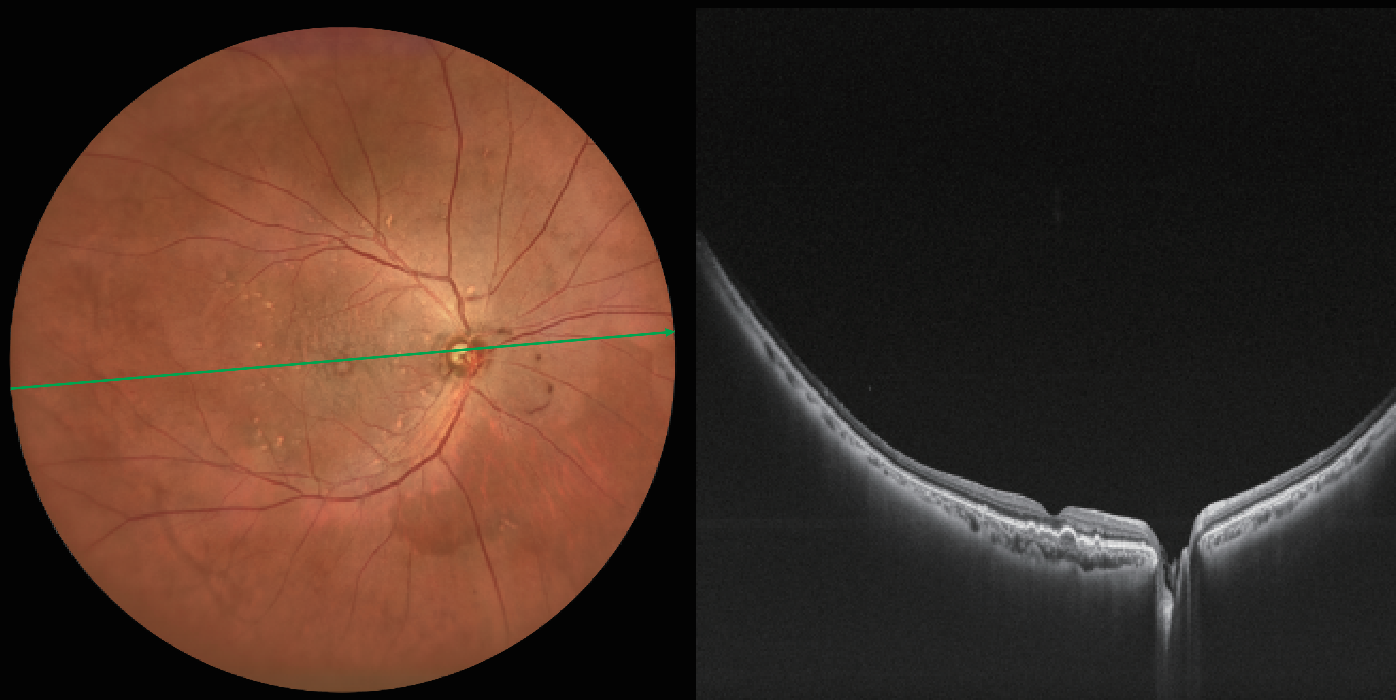
COLOR+OCT 90°



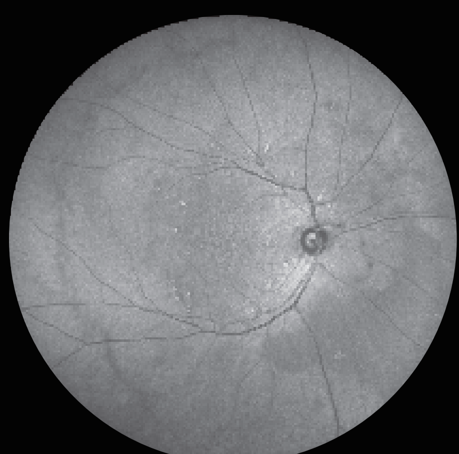
FFA+ICGA 45°

COLOR+OCT 45°

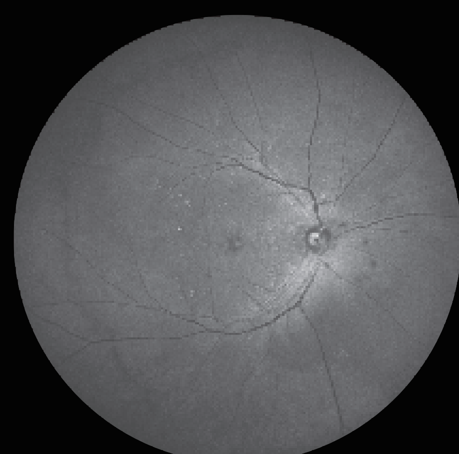
DRY AMD



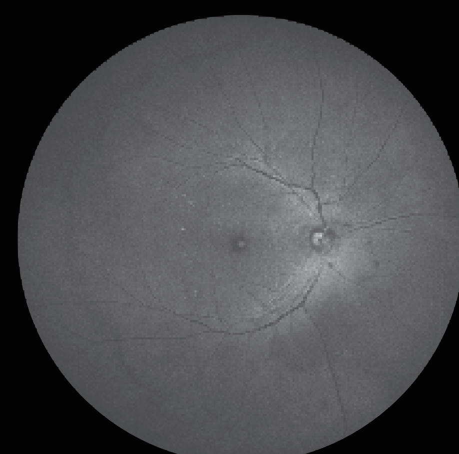
COLOR+OCT



R



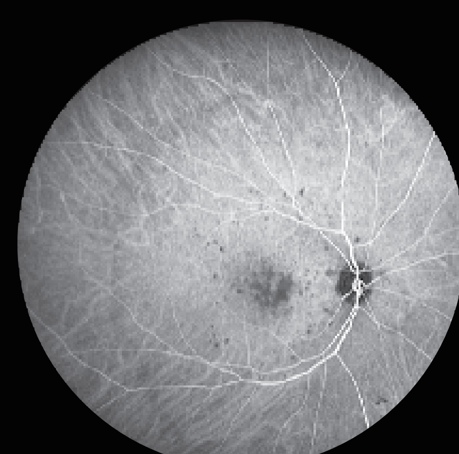
G



B

IR

FFA



ICGA

Technology and Clinical Research Publications

【1】 Shen, Y., Ye, X., Zhou, X., Yu, J., Zhang, C., He, S., Wu, J., Guan, H., Xu, G. and Shen, L., 2024. In vivo assessment of cone loss and macular perfusion in children with myopia. Scientific Reports, 14(1), p.26373.

【2】 Wu, S., Zheng, F., Sui, A., Wu, D. and Chen, Z., 2024. Sodium-iodate injection can replicate retinal and choroid degeneration in pigmented mice: Using multimodal imaging and label-free quantitative proteomics analysis. Experimental Eye Research, 247, p.110050.

【3】 Jiang, L., Wang, F., Zheng, R. and Li, C., 2023, November. Cross-Domain Images Generation of Fundus Fluorescence Angiography Based on Generative Adversarial Networks with Self-Attention Mechanism. In 2023 International Conference on Image Processing, Computer Vision and Machine Learning (ICICML) (pp. 6-10). IEEE.

【4】 Zhang, Y., Zheng, R., Hu, X., Li, C. and Wang, F., 2023, May. An SVM-based method for classifying retinal lesion vessels. In Second International Conference on Electronic Information Engineering, Big Data, and Computer Technology (EIBDCT 2023) (Vol. 12642, pp. 702-707). SPIE.

【5】 Liao, N., Li, C., Jiang, H., Fang, A., Zhou, S. and Wang, Q., 2016. Neovascular glaucoma: a retrospective review from a tertiary center in China. BMC ophthalmology, 16, pp.1-6.

【6】 Li, Chao hong, Hao Xian, Wenhan Jiang, Changhui Rao, 2012. Measurement error of Shack-Hartmann wavefront sensor. In Topics in Adaptive Optics. IntechOpen.

【7】 Hofer, H., Sredar, N., Queener, H., Li, C. and Porter, J., 2011. Wavefront sensorless adaptive optics ophthalmoscopy in the human eye. Optics express, 19(15), pp.14160-14171.

【8】 Ivers, K.M., Li, C., Patel, N., Sredar, N., Luo, X., Queener, H., Harwerth, R.S. and Porter, J., 2011. Reproducibility of measuring lamina cribrosa pore geometry in human and nonhuman primates with in vivo adaptive optics imaging. Investigative ophthalmology & visual science, 52(8), pp.5473-5480.

【9】 Li, C., Sredar, N., Ivers, K.M., Queener, H. and Porter, J., 2010. A correction algorithm to simultaneously control dual deformable mirrors in a woofer-tweeter adaptive optics system. Optics express, 18(16), pp.16671-16684.

【10】 Li, Chaohong, et al, 2008. Measuring statistical error of Shack–Hartmann wavefront sensor with discrete detector arrays. Journal of Modern Optics, 55(14), pp.2243-2255.

【11】 Li, Chao hong., Xian, H., Jiang, W. and Rao, C., 2008. Wavefront error caused by centroid position random error. Journal of Modern Optics, 55(1), pp.127-133.

【12】 Li, Chao hong., Xian, H., Jiang, W. and Rao, C., 2007. Performance analysis of field-of-view shifted Shack–Hartmann wavefront sensor based on splitter. Applied Physics B, 88, pp.367-372.

【13】 Chao-Hong, L., Hao, X., Wen-Han, J. and Chang-Hui, R., 2007. Analysis of wavefront measuring method for daytime adaptive optics.

【14】 Li, C., Xlan, H., Rao, C. and Jiang, W., 2006. Field-of-view shifted Shack-Hartmann wavefront sensor for daytime adaptive optics system. Optics letters, 31(19), pp.2821-2823.