ONLY FROM

optovue®

INTRODUCING

THE NONINVASIVE WAY TO IMAGE MICROVASCULAR FUNCTION

AngioVue™

IMAGING SYSTEM

Not FDA cleared.
Not for distribution in the US.

optovue®

EVOLVING OCULAR IMAGING IN CLINICAL PRACTICE

Optovue's commitment

Working with you to improve clinical evaluation and innovate clinical applications to address patients with ocular disease

Rich R&D heritage

20 true innovations that helped establish the industry standard for OCT imaging

Advancing clinical acumen

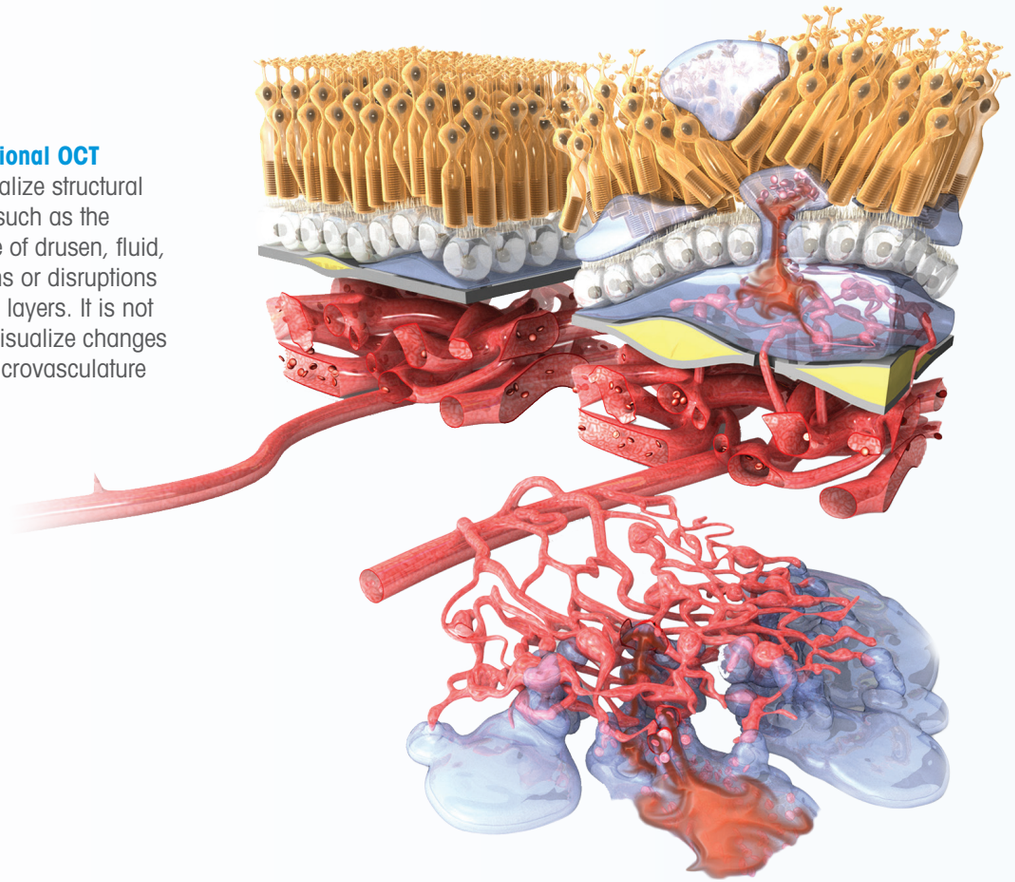
Delivering on the most anticipated ocular bloodflow imaging modality

THE ARRIVAL OF OCT-ANGIOGRAPHY (OCTA)

A new way of visualizing the presence of ocular bloodflow in the vessels

Enables physician assessment of microcirculation in ocular diseases with unprecedented microvascular detail

Conventional OCT can visualize structural change such as the presence of drusen, fluid, elevations or disruptions in retinal layers. It is not able to visualize changes in the microvasculature



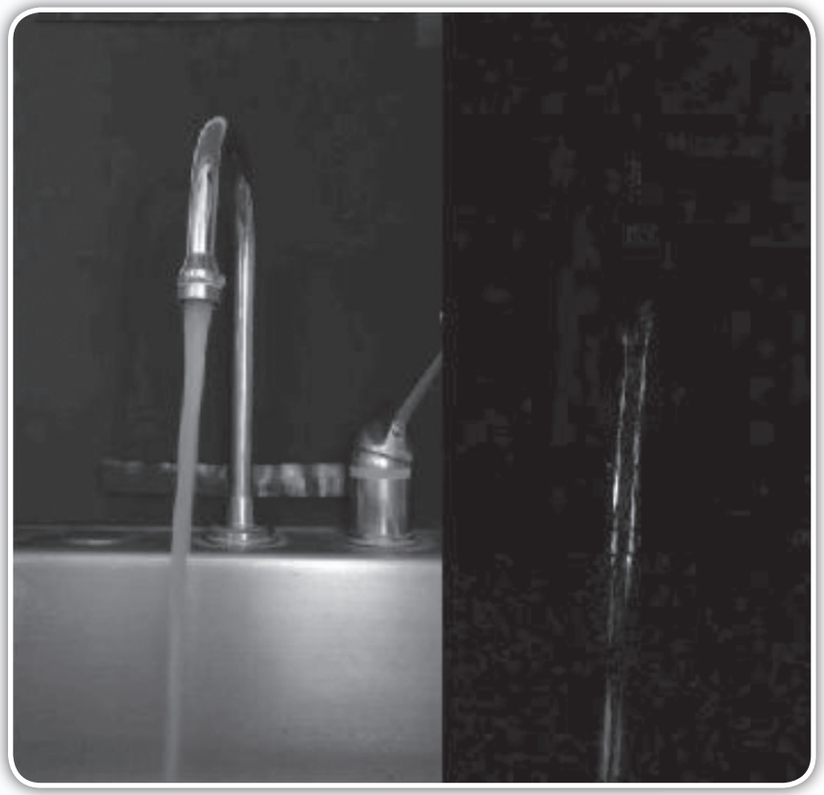
OCT-Angiography can visualize the presence of ocular bloodflow in the vessels. Therefore, it may help the clinician identify changes in the microvasculature such as chorodial neovascularization associated with wet AMD*

*Jia Y, Bailey S, Wilson D, et al., Quantitative OCT angiography of CNV in age-related macular degeneration. Ophthalmology 2014; 121: 1435.

PRINCIPLES OF OCT-ANGIOGRAPHY

Visualizing flow through motion contrast microvascular details which may not be visible in traditional FA or ICG*

- Flowing water can be distinguished from static background by comparing sequential video frames to highlight motion
- Motion contrast is similarly used in OCT Angiography to distinguish the presence of blood flow



*Spaide R, et al., Retinal Vascular Layers Imaged by Fluorescein Angiography and Optical Coherence Tomography Angiography, *JAMA Ophthalmology*, 2015; 133(1):45-50

INTRODUCING
THE ANGIOVUE IMAGING SYSTEM

The only commercially available, dual-modality OCT system capable of imaging and displaying function and structure of the ocular microvasculature—through a non-invasive procedure.

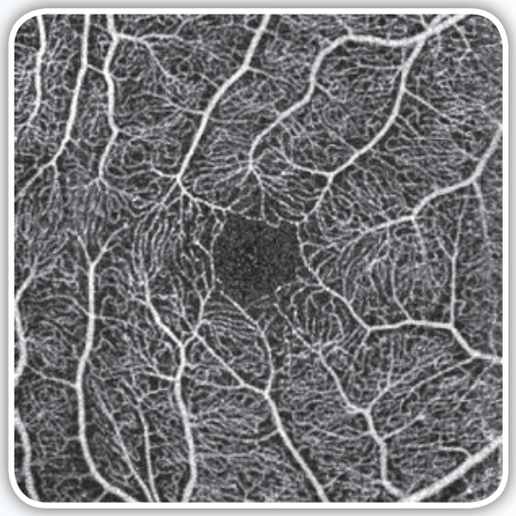
Dual-modality OCT system expands clinical utility:

Integrates non-invasive microvascular enhanced imaging—Optovue's proprietary OCTA-based technology platform—with your existing Optovue high-speed, wide field, en face OCT technology platform

ANGIOVUE IMAGING SYSTEM

Capable of imaging and displaying function and structure

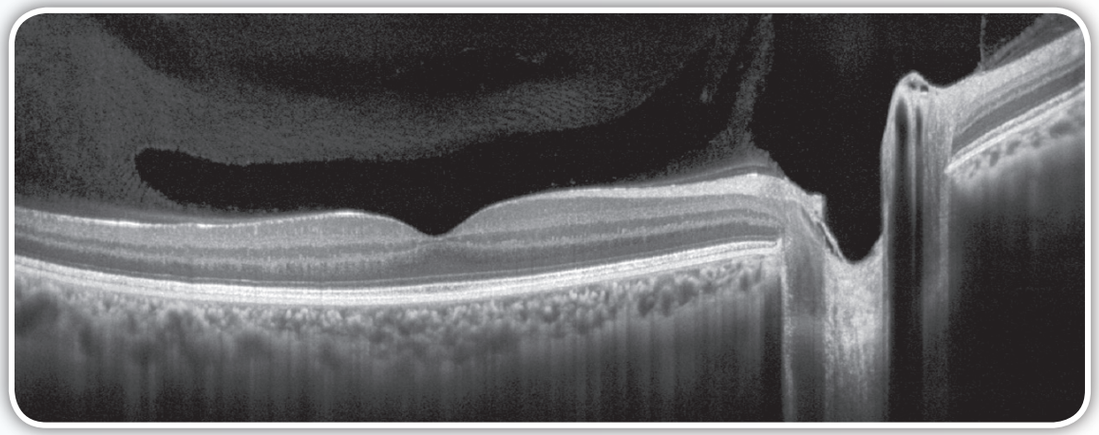
FUNCTION



3x3 mm AngioVue image of fovea

AngioVue image of optic disc

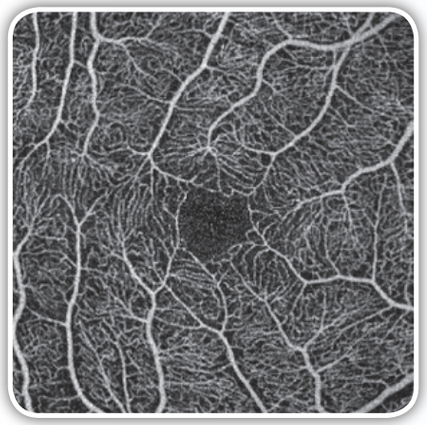
STRUCTURE



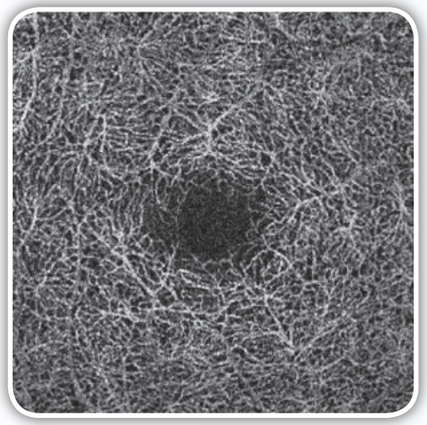
12 mm OCT B-scan of retina

ANGIOVUE IMAGES REVEAL MICROVASCULAR FLOW WITHIN VIRTUAL DISSECTED LAYERS OF THE RETINA

Segmentation is automatically generated—to isolate the layers of interest

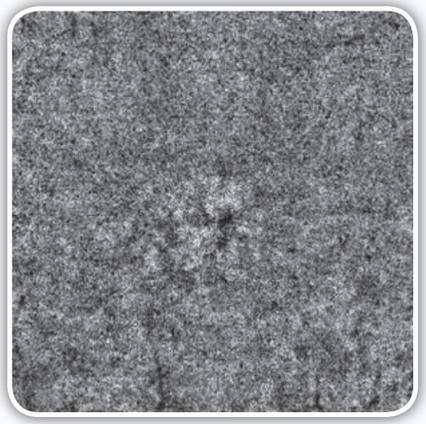


Superficial Capillary



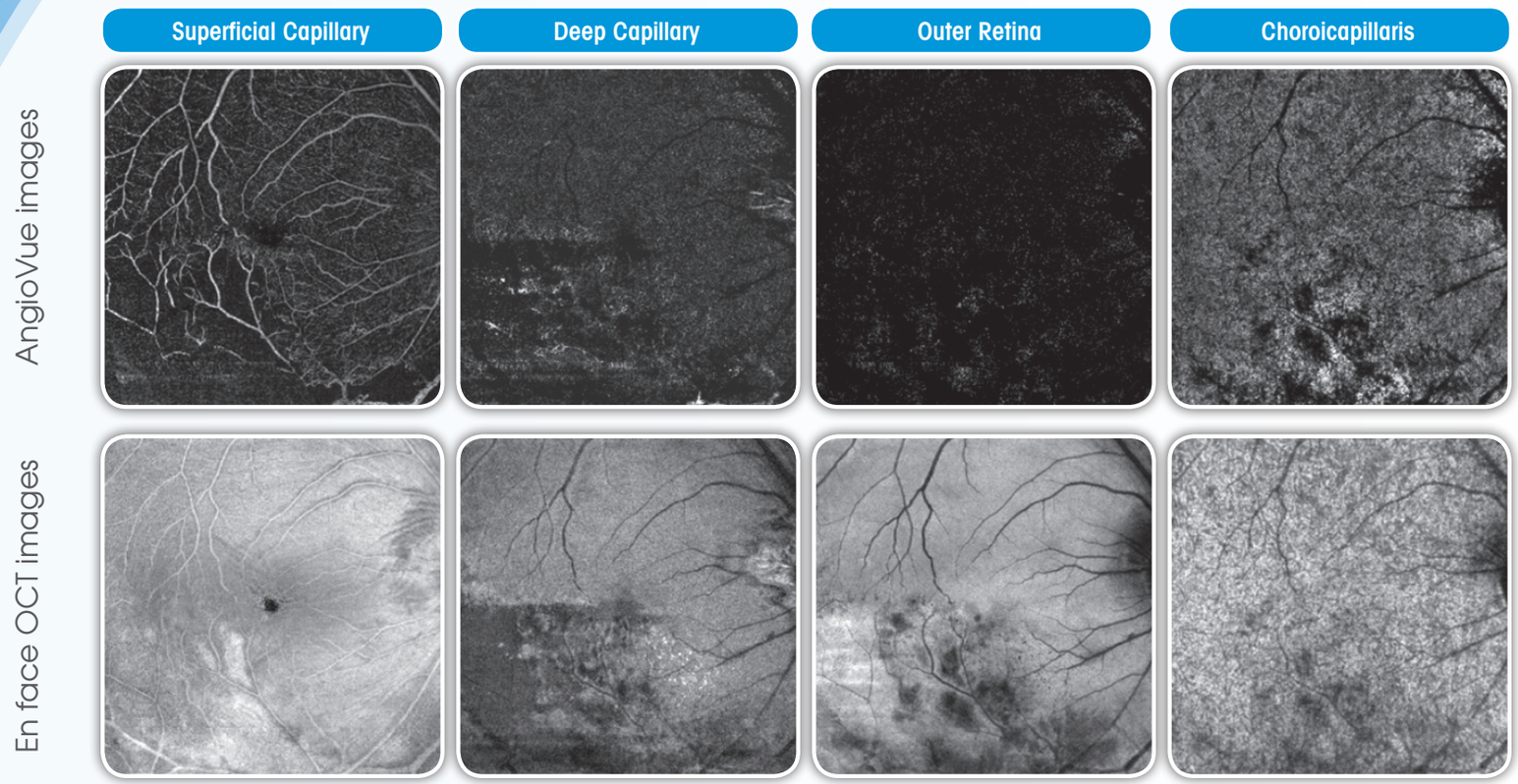
Deep Capillary

Outer Retina



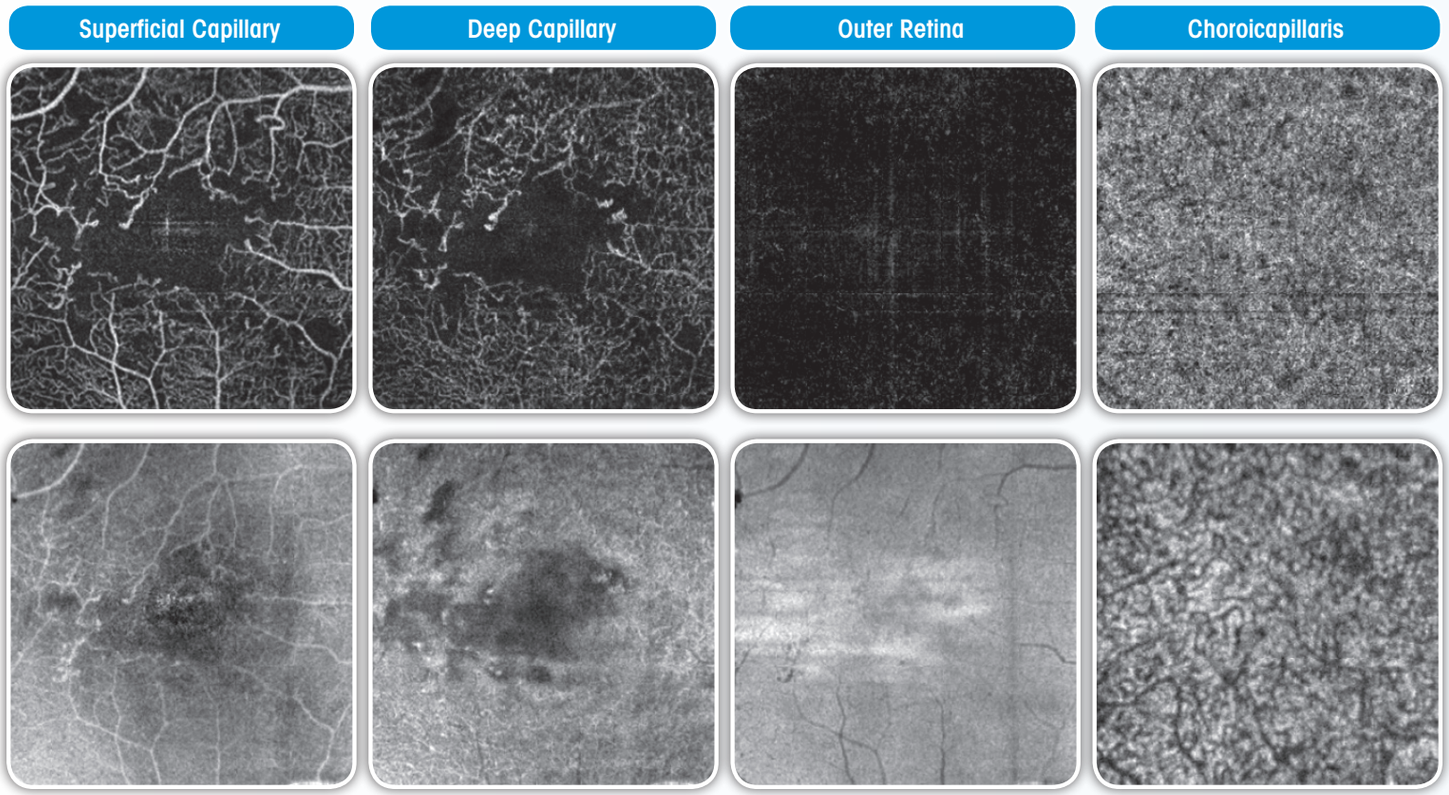
Choroicapillaris

ANGIOVUE IMAGES DEPICTING RETINAL VEIN OCCLUSION



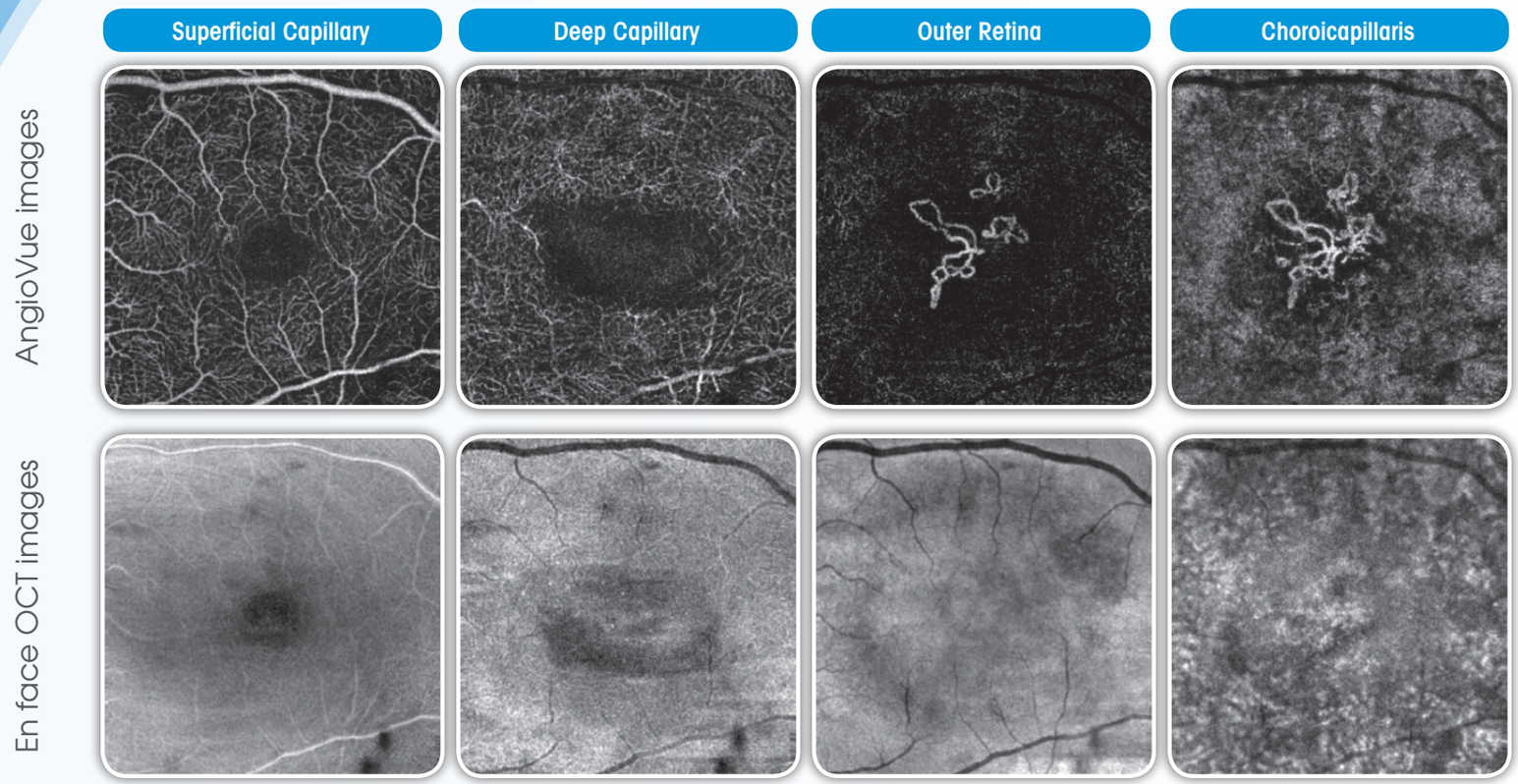
Case diagnosis and images provided by Dr. Ching-Jygh Chen

ANGIOVUE IMAGES DEPICTING DIABETIC RETINOPATHY



Case diagnosis and images provided by Dr. Ching-Jygh Chen

ANGIOVUE IMAGES DEPICTING CHOROIDAL NEOVASCULARIZATION



Case diagnosis and images provided by Dr. Bruno Lumbroso

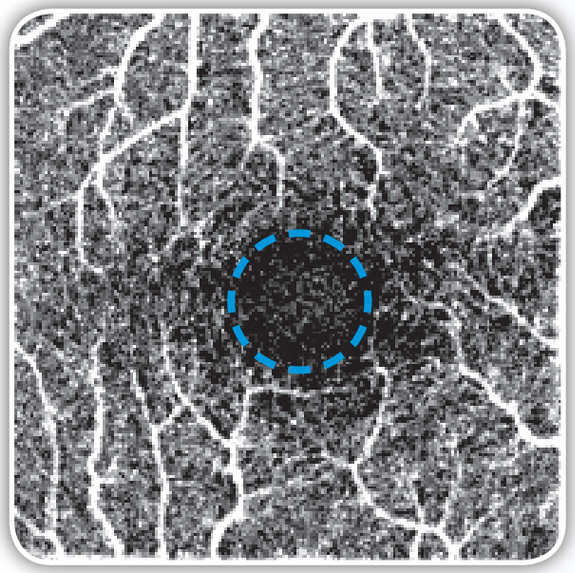

Split-Spectrum Amplitude-Decorrelation Angiography
Spectral Domain OCT System
En Face 3D Visualization
5
ESSENTIAL TECHNOLOGIES THAT DISTINGUISH THE ANGIOVUE IMAGING SYSTEM
CUDA Parallel Computing Platform
Motion Correction Technology (MCT)

SPECTRAL DOMAIN OCT SYSTEM

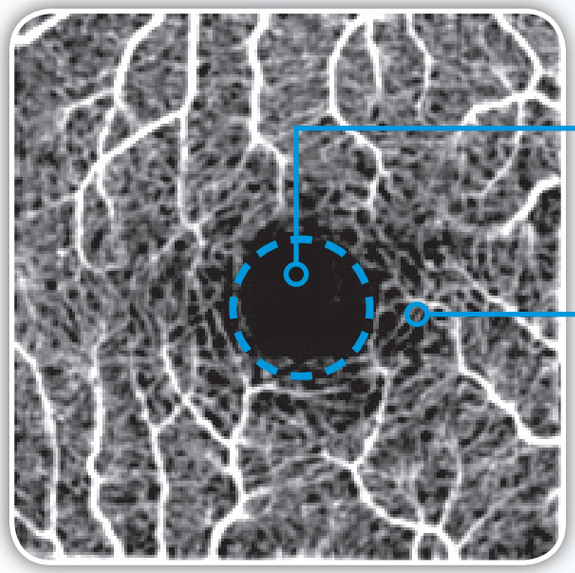
- High-speed scan acquisition: 70,000 A-scans per second
- Detailed B-scans up to 12mm and deep choroidal imaging
- Real-time tracking

SPLIT-SPECTRUM AMPLITUDE DECORRELATION ANGIOGRAPHY

- Uses motion contrast to detect the presence of flow
- Sequential OCT B-scans are acquired at a single cross section of the retina and compared to each other
- Large number of repeated B-scans, taken at different locations, create a 3D volume from which to generate the highest quality Angioflow images



Without Split-Spectrum Amplitude-Decorrelation Angiography

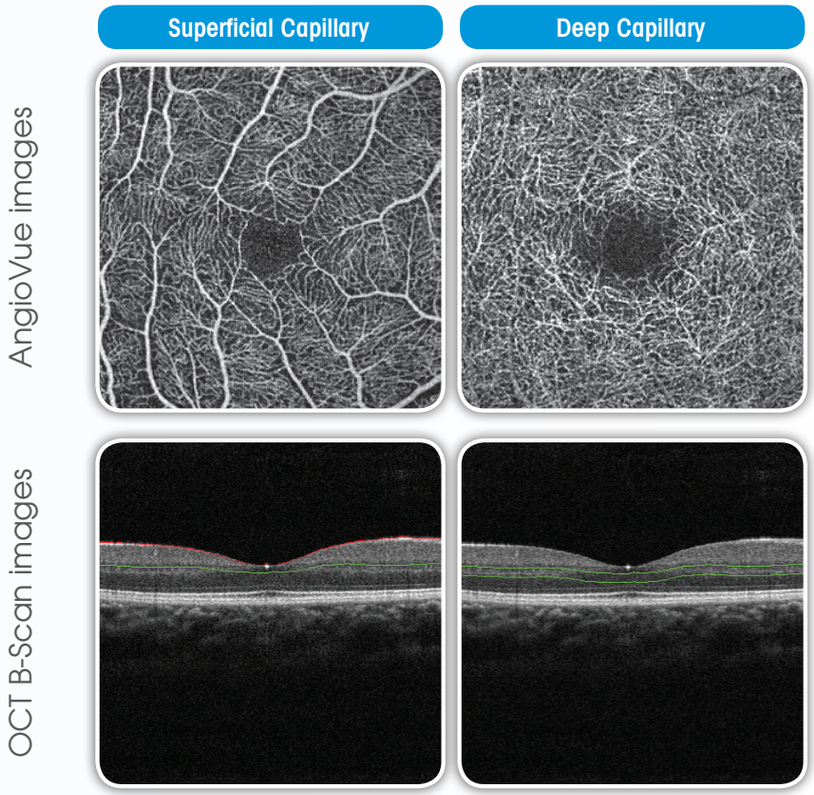


With Split-Spectrum Amplitude-Decorrelation Angiography

Jia Y, Tan O, Tokayer J, et. al., Split-spectrum amplitude-decorrelation angiography with optical coherence tomography. *Optics Express* 2012; 20:4710

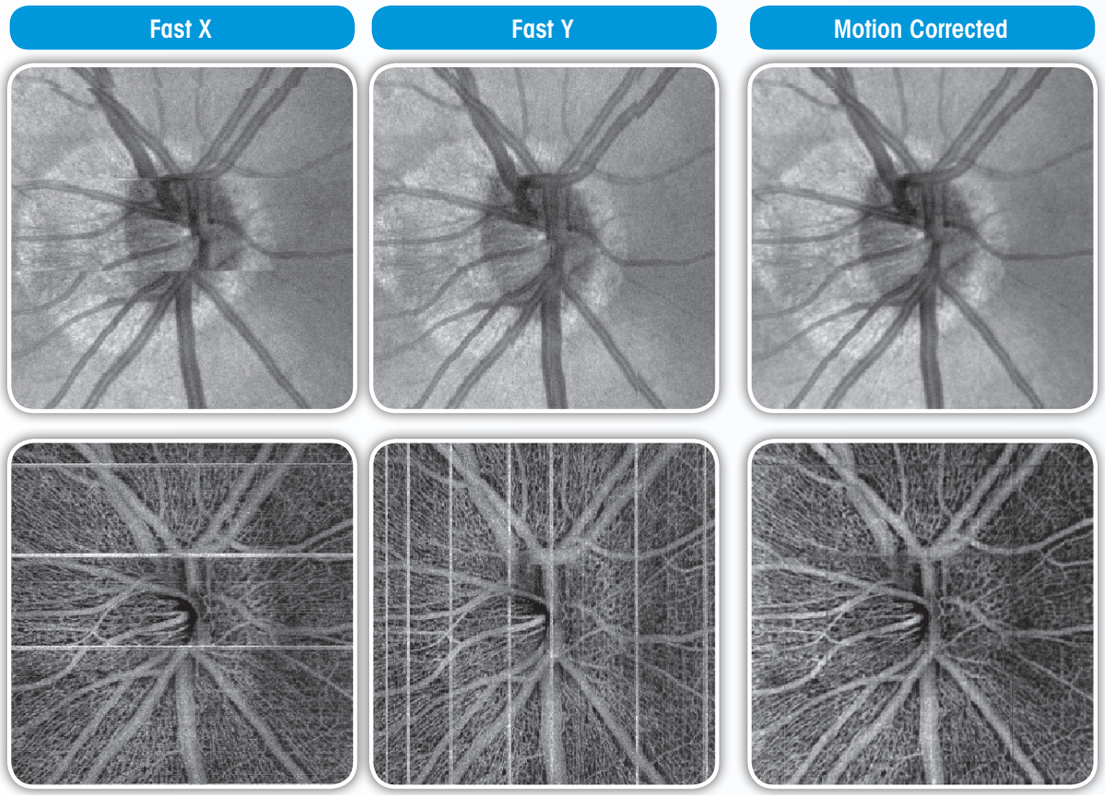
EN FACE 3D VISUALIZATION

- Enables visualization of the anatomical aspects of the vessels, including the superficial capillary, deep capillary, outer retina, choroidal capillary
- Data set is 3D and depth resolved
- Enface viewing of the 3D data allows for selected layers of the retina to be assessed for small changes in structure and function



MOTION CORRECTION TECHNOLOGY MCT*

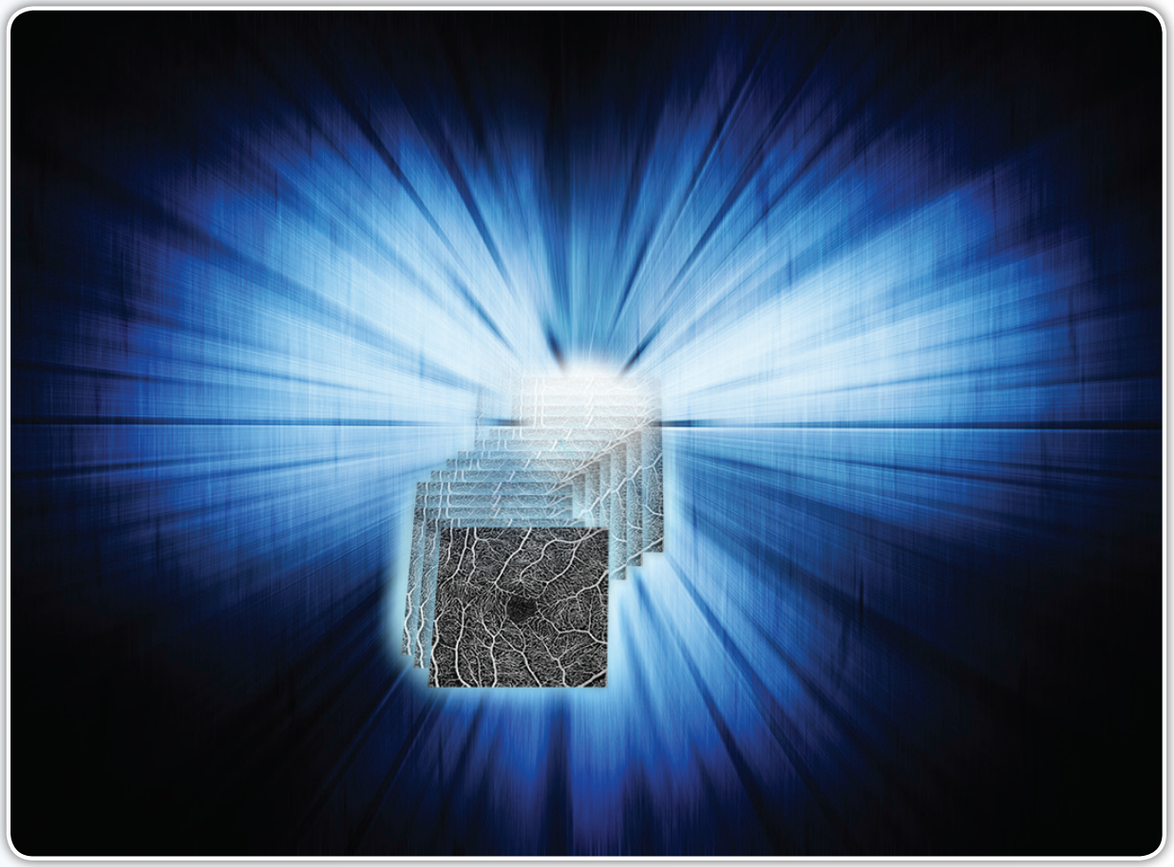
- MCT is used to remove motion artifacts such as saccades
- Working closely with MIT, Optovue developed significant improvements in MCT—available only in the AngioVue Imaging System



*Motion Correction Technology was originally developed at MIT

CUDA PARALLEL COMPUTING PLATFORM

- Dramatically reduces computation time needed to correct motion artifacts post data acquisition



THE ANGIOVUE PLATFORM UPGRADE

Convert your existing Avanti Widefield OCT to the AngioVue Imaging System platform

Contact your Optovue representative for more information.

AVANTI™
RTVUE XR

AngioVue™
IMAGING SYSTEM

SPECIFICATIONS

AngioVue image size: 304 x 304 pixels

Total acquisition time (one group): less than 3 seconds

AngioVue scan sizes (Retina):

- 3 x 3 mm
- 6 x 6 mm
- 8 x 8 mm

AngioVue scan size (Optic Disc):

- 3 x 3 mm
- 4.5 x 4.5 mm

NOTES

300-50326 Rev. A