OPTOVUE

Visualize. Analyze. Personalize.
OCT + OCTA

Avanti™

WIDEFIELD OCT

with

AngioVue™

OCTA IMAGING

Avanti Widefield OCT with AngioVue OCTA Imaging

Comprehensive Structural and Functional Imaging —
in a Single Imaging Platform

Comprehensive OCT Imaging

The Avanti™ Widefield OCT is a powerful clinical tool that will transform the way you diagnose ocular disease — from the anterior segment to the choroid — to let you tailor your approach to treatment for truly personalized care.

- Visualize the vitreous and deep choroid and gain new information beyond the traditional 6x6mm cube
- Track and estimate rate of change in RNFL and GCC thickness
- Quantitatively assess the anterior segment to expand the clinical utility of your OCT system

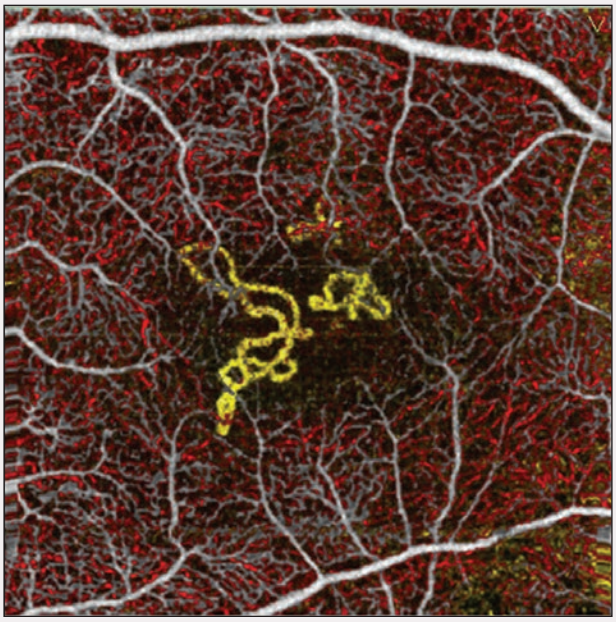
The Future of Retinal Imaging

AngioVue™ OCTA Angiography (OCTA) brings valuable new information to clinical practice through non-invasive visualization of retinal and choroidal vascular structures.

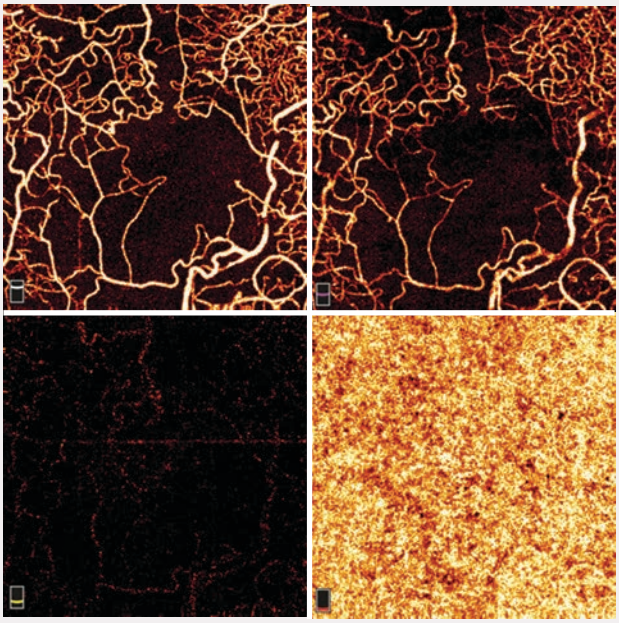
- Visualize vascular structures non-invasively in a matter of seconds
- Analyze individual layers of vasculature to isolate areas of interest
- Personalize patient care with novel, real-time information that aids in treatment decisions

Retina Applications

See Retinal and Choroidal Vascular Structures in Exquisite Detail

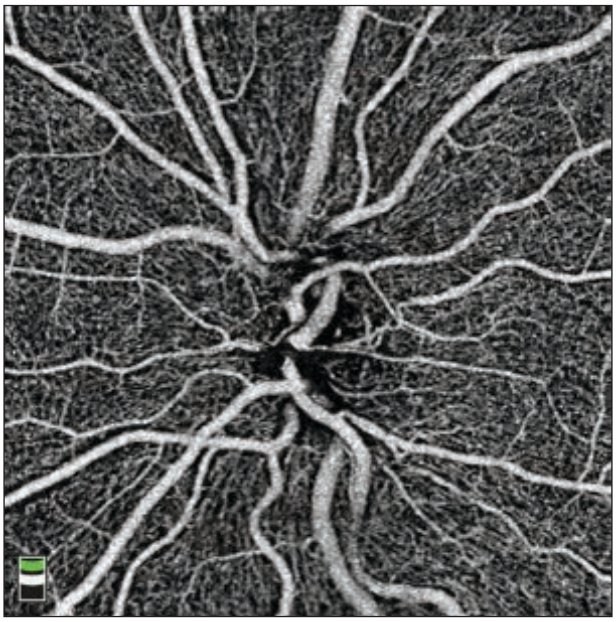


Assess Individual Layers of Vasculature

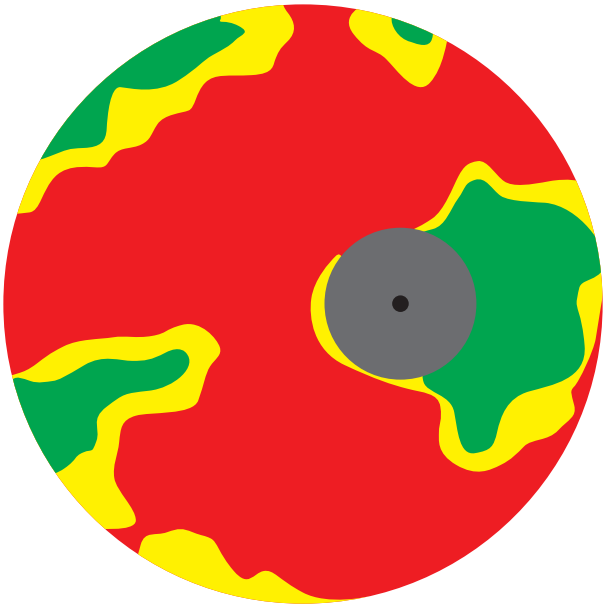


Optic Nerve Applications

Visualize Optic Disc Vasculature

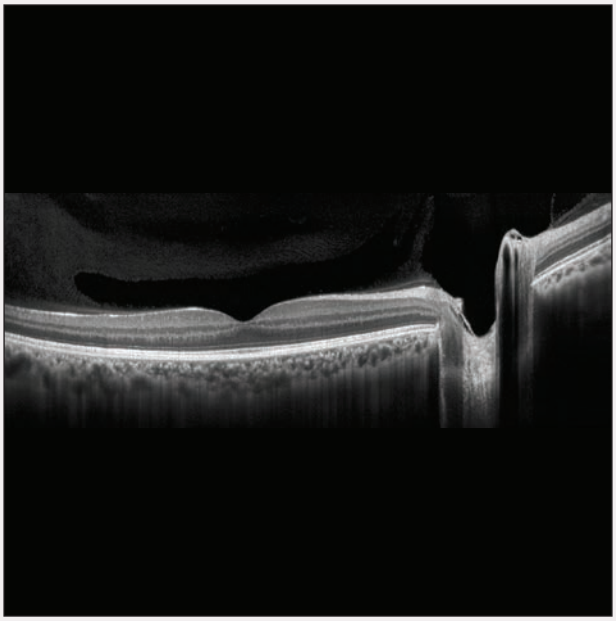


Measure Ganglion Cell Thickness with Normative Comparison

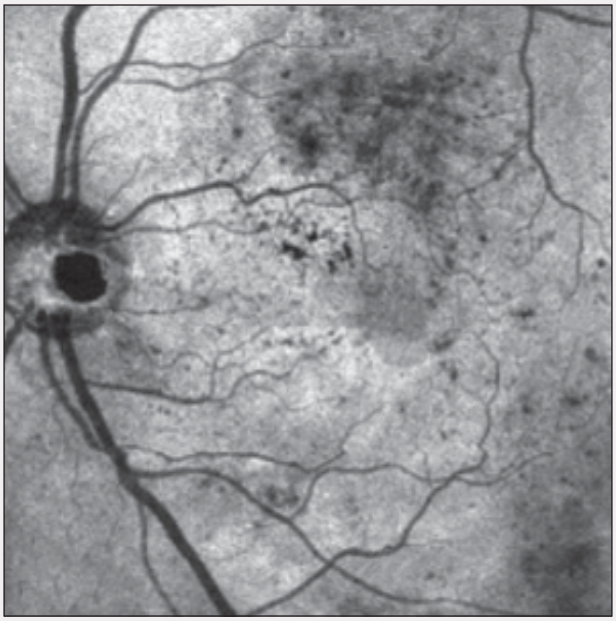


Images courtesy of Pravin Dugel, MD.

View Retinal Structure
in High Definition

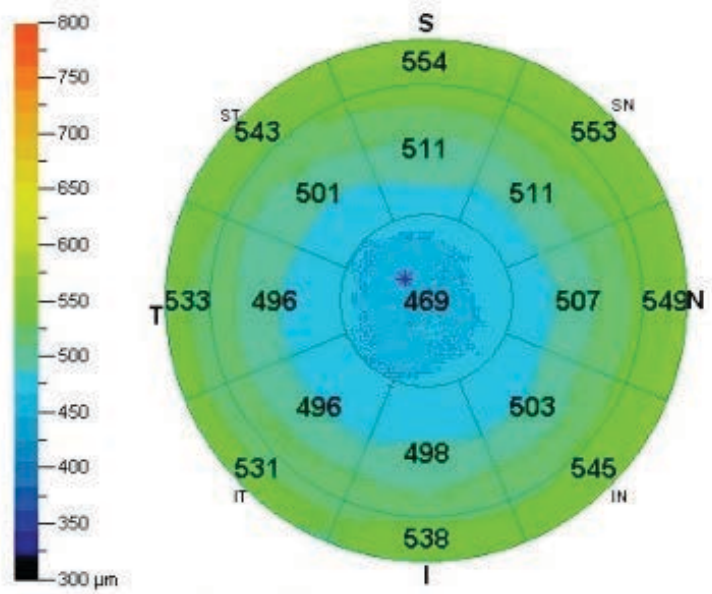


Evaluate Individual
Layers of the Retina

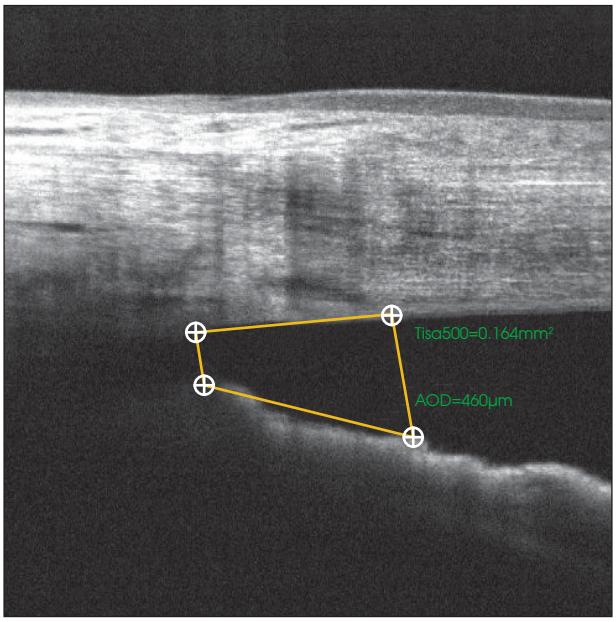


Anterior Segment Applications

Measure Corneal Thickness



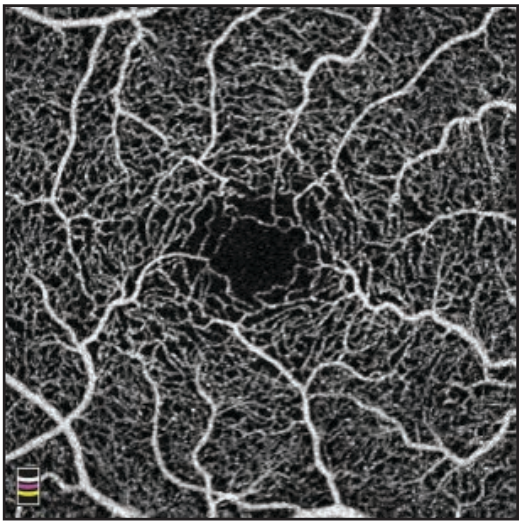
View and Quantify Anterior
Chamber Structures



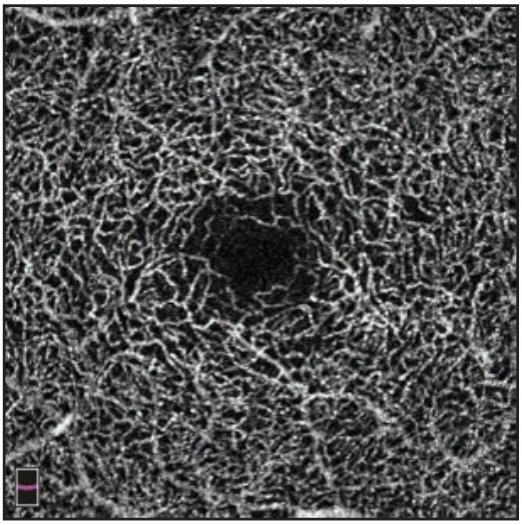
AngioVue OCT Angiography

Crystal Clear Imaging in Seconds

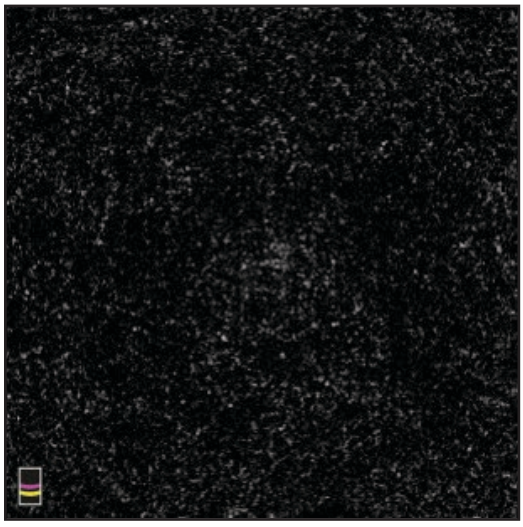
See retinal vascular structures in a whole new way with three-dimensional images that are shown as individual layers of vasculature to provide an unprecedented level of detail.



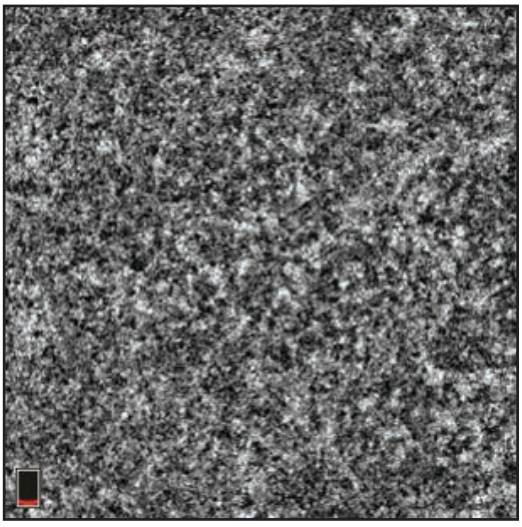
Superficial Capillary Plexus



Deep Capillary Plexus



Outer Retinal Zone



Choriocapillaris

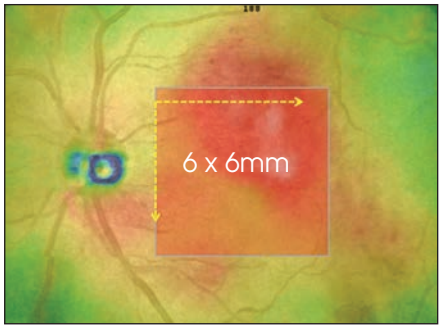
Leading OCTA Innovation and Clinical Applications

Since 2014, Optovue has been the leading provider of OCTA technology, having introduced the **world's first commercially available OCTA platform** with more installations worldwide than any other OCTA system.

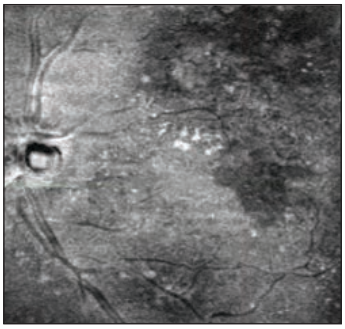
We remain focused on furthering the science, efficacy and clinical application of OCTA for enhanced eye health and are working in partnership with ophthalmic specialists around the globe to accomplish this mission. As a result, **the AngioVue system has been featured in more peer-reviewed publications and scientific presentations than any other OCTA system**.

Retina Applications

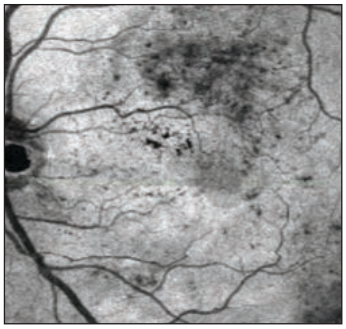
Visualize widefield views of retinal anatomy and en face views of structural layers.



9x12 mm Widefield

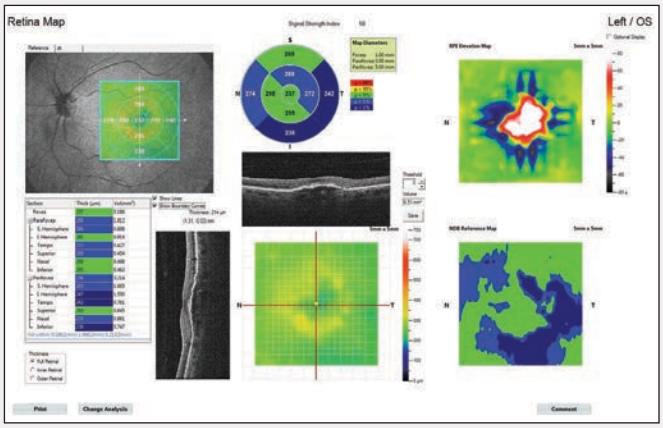


En Face View: IPL Layer

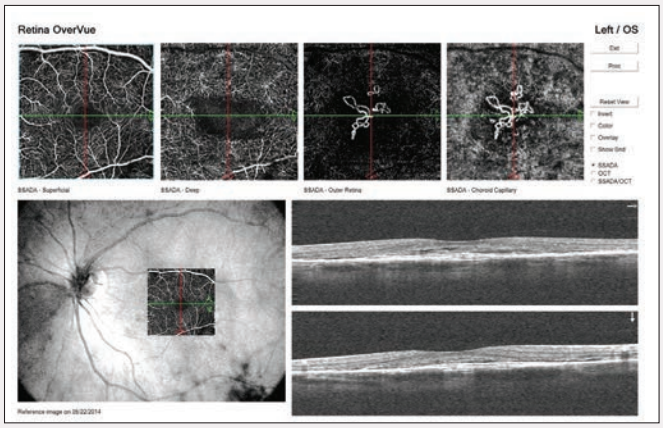


En Face View: RPE Layer

Analyze retinal structures with comprehensive reports.

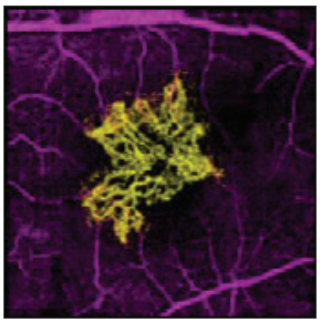


Retina Map Report

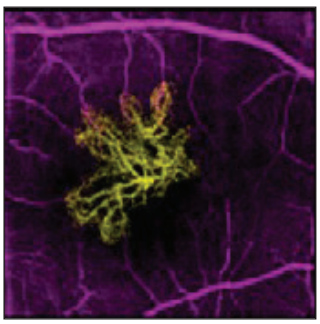


OCTA OverVue Report

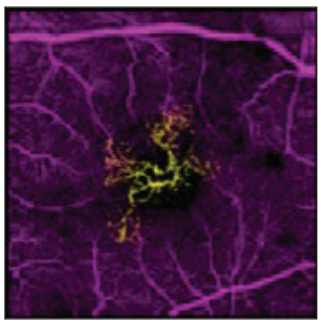
Personalize patient care by imaging as often as needed.



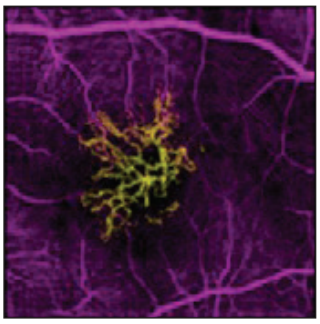
CNV Patient
Baseline



24 Hours
Post-injection



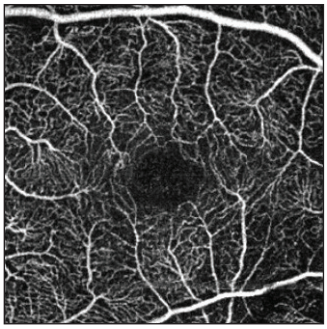
7 Days
Post-injection



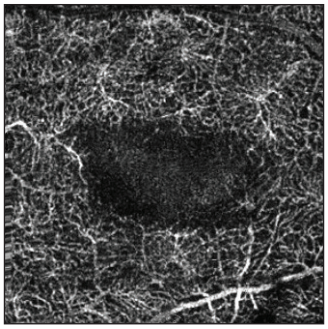
30 Days
Post-injection

Images courtesy of Bruno Lumbroso, MD, Rome, Italy

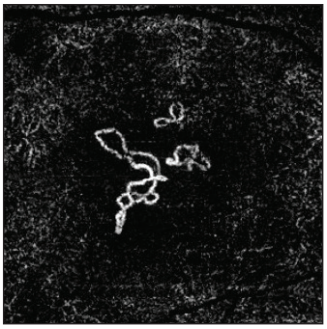
Visualize individual layers of vasculature.



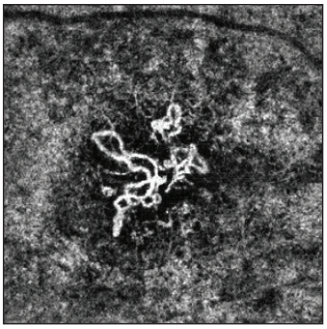
Superficial Capillary Plexus



Deep Capillary Plexus



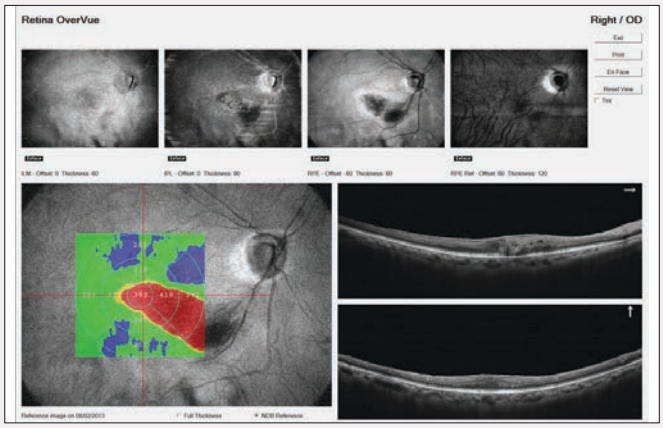
Outer Retina



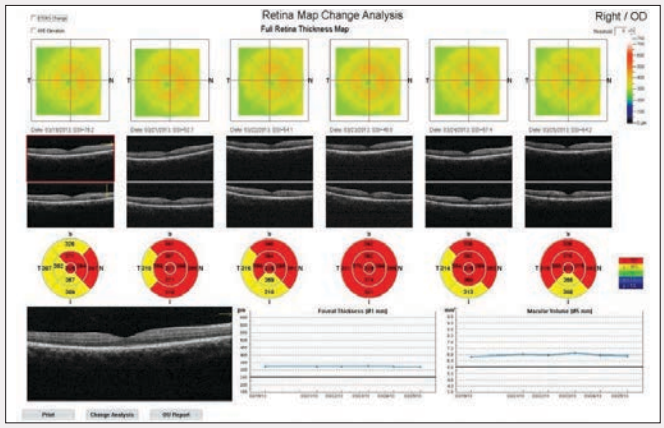
Choriocapillaris

Images courtesy of Pravin Dugel, MD, Phoenix, Arizona

Analyze retinal structures with comprehensive reports.



OCT OverVue Report



Change and Trend Analysis Report

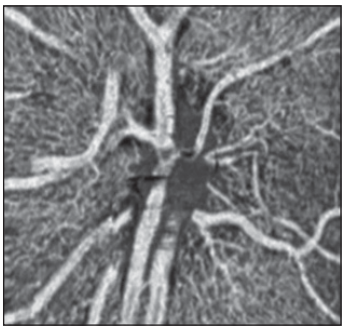
Personalize patient care with new information on retinal vasculature.

"I have had patients in whom I suspected choroidal neovascularization, but where traditional OCT was not very diagnostic. The AngioVue Imaging System allowed me to visualize choroidal neovascularization definitively, which gave me the information I needed to treat those patients earlier."

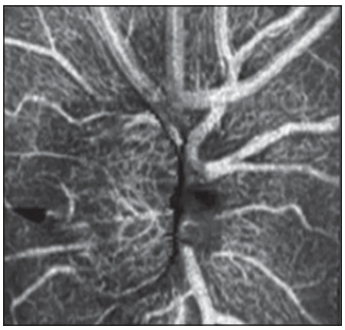
-David Boyer, MD. Retina-Vitreous Associates Medical Group

Optic Nerve Applications

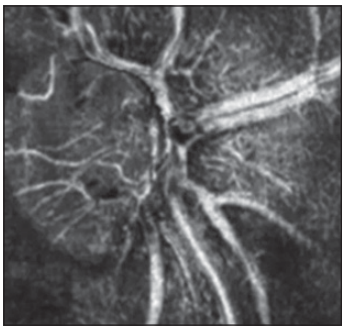
Visualize optic nerve vascular changes in known glaucoma patients.



Normal Optic Disc



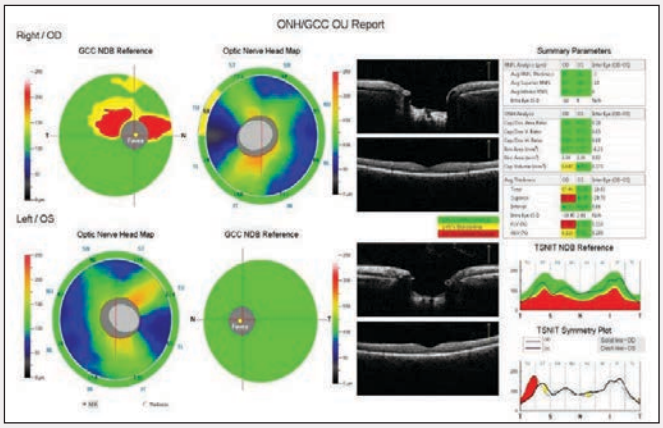
Moderate Glaucoma



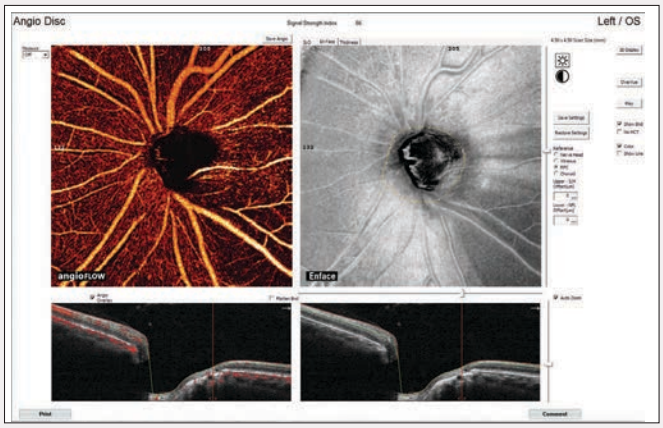
Severe Glaucoma

Images courtesy of Michel Puech, MD, Paris, France

Analyze anatomical structure and vascular structure with comprehensive reporting.

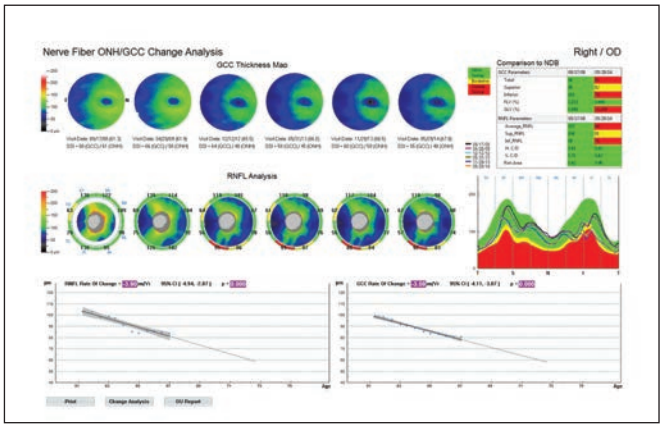


ONH/GCC OU Report with Exclusive FLV% and GLV% Metrics

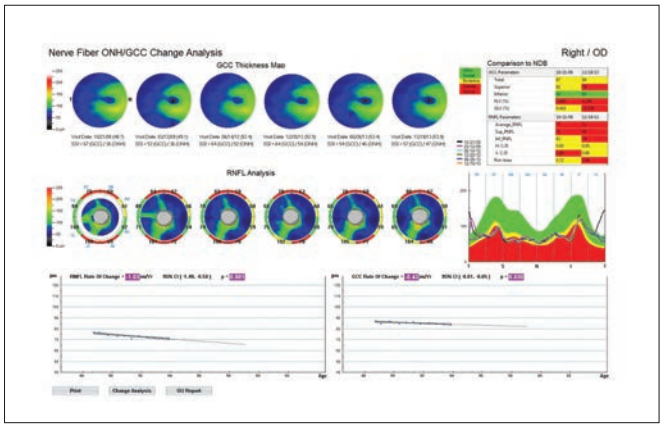


AngioDisc Report

Personalize treatment with trend analysis reports displaying estimated rates of change.



Rapidly Progressing Patient

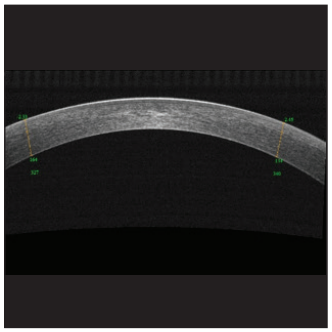


Slowly Progressing Patient

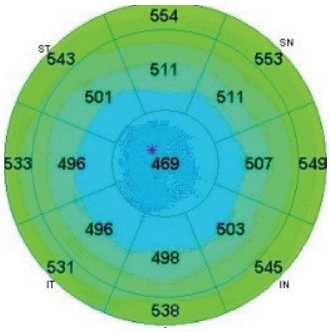
Images courtesy of Linda Zangwill, San Diego, California

Anterior Segment Applications: Cornea Advance

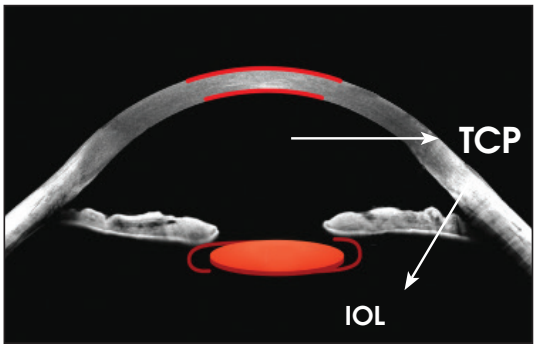
Visualize anterior segment structures to gain new information that aids in pre-surgical planning and post-operative assessment.



Cornea Line Scan with Caliper Tool

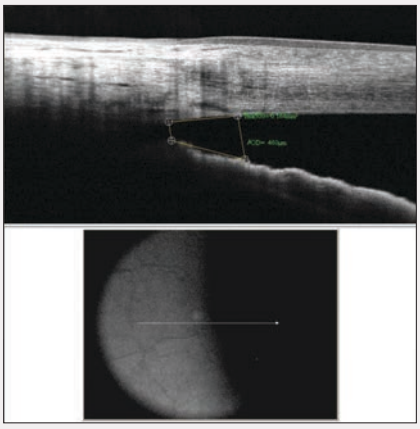


9mm Pachymetry Map

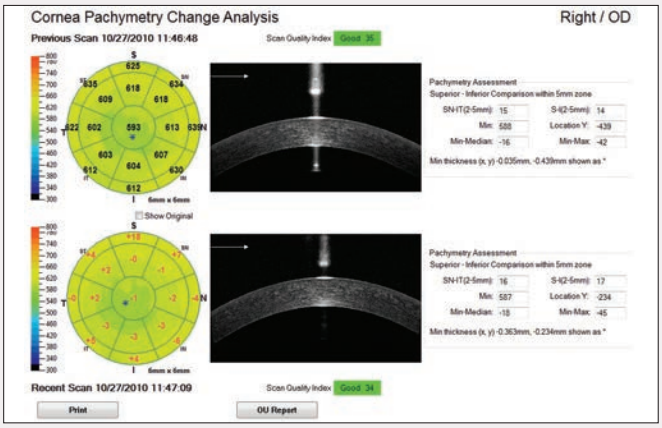


Total Cornea Power for Post-LVC IOL Power Calculation

Analyze corneal angles and thickness quantitatively to increase diagnostic confidence.

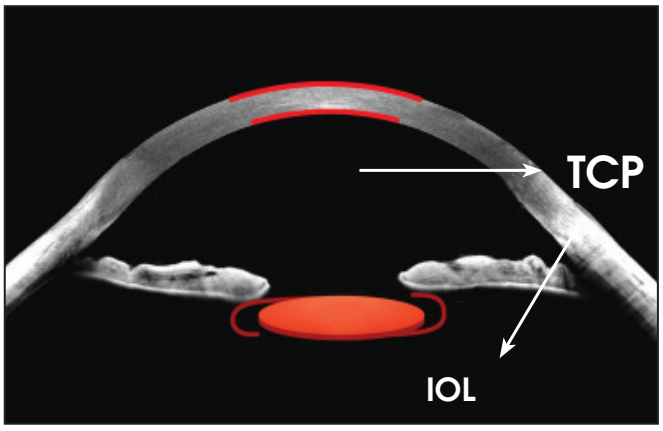


Cornea Angles with Measurement Tools



Pachymetry Change Analysis

Personalize IOL power calculation for post-refractive surgery patients.



Total Cornea Power® (TCP)

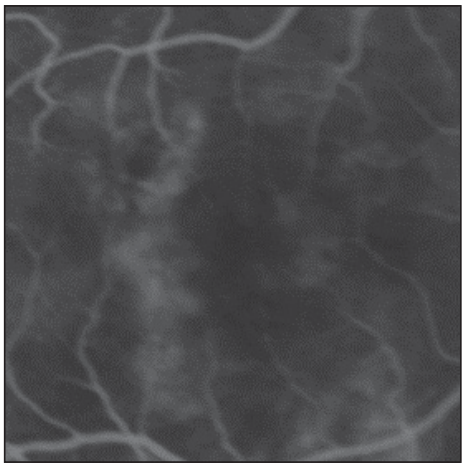
Provides direct quantification of the corneal power by measuring both the front and back surfaces of the cornea.

Scan acquisition takes less than two seconds and reduces reliance on historical data.

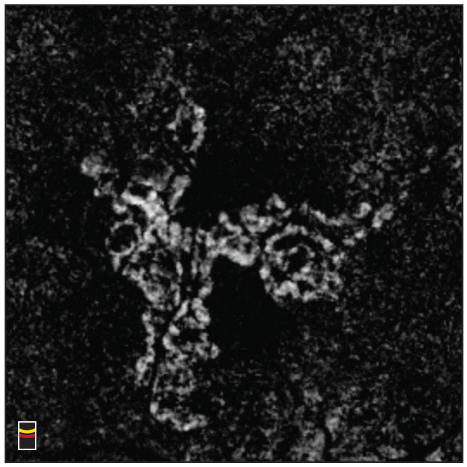
Case Studies

Choroidal Neovascularization

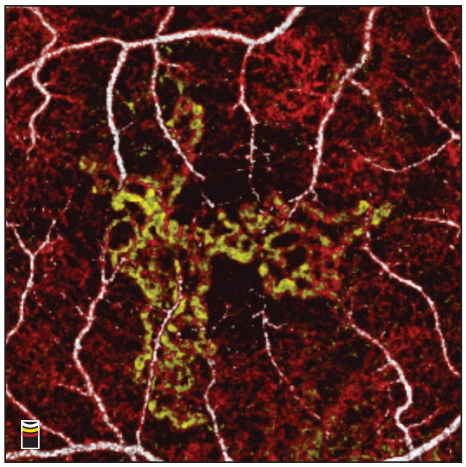
CNV as visualized with FA and OCTA. Abnormal vasculature is seen in the Outer Retinal Zone of the OCT angiogram.



Fluorescein Angiography



AngioVue: Outer Retinal Zone

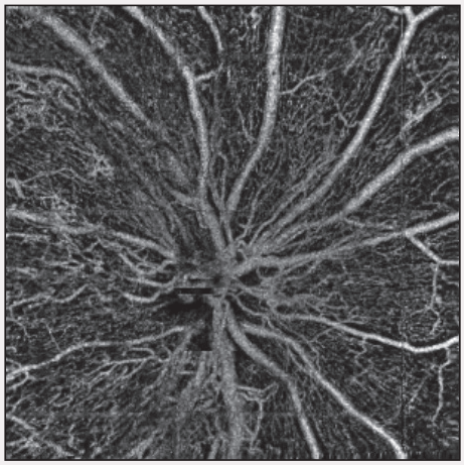


AngioVue: Superficial Capillary Plexus (white), Outer Retinal Zone (yellow), Choriocapillaris (red)

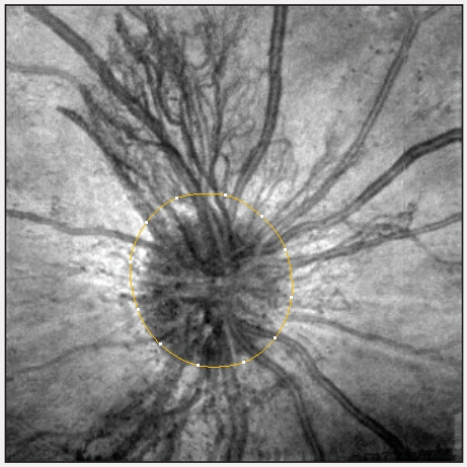
Images courtesy of Pravin Dugel, MD, Phoenix, Arizona

Proliferative Diabetic Retinopathy

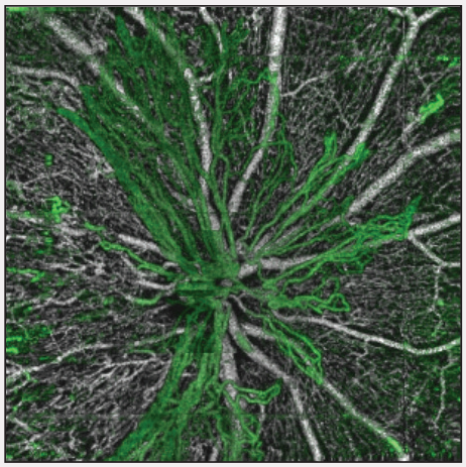
Proliferative diabetic retinopathy with retinal neovascularization visualized in the vitreous-retina.



AngioVue: Optic Disc



Structural En Face OCT: Vitreous-Retina

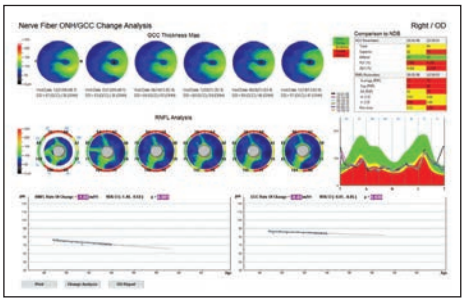


AngioVue: Vitreous-Retina with Color Overlay

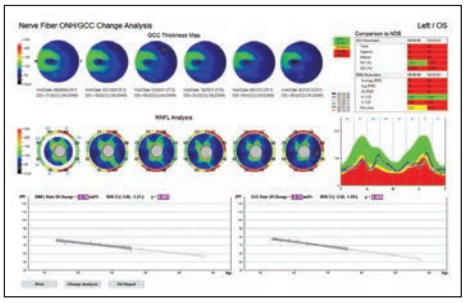
Images courtesy of Bruno Lumbroso, MD, Rome, Italy.

Optic Nerve Disease Progression

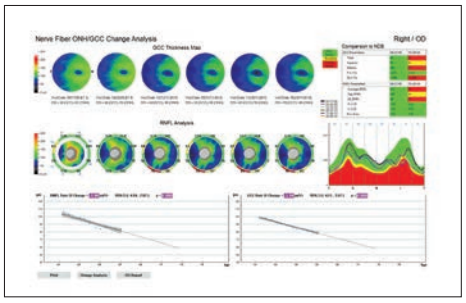
Trend analysis software estimates the annual rate of change based on all prior visits and may be used to predict the future rate of change. Correlation of the estimated rate of change with the patient's age and other unique characteristics aids in clinical decision making.



Slow Progression



Moderate Progression

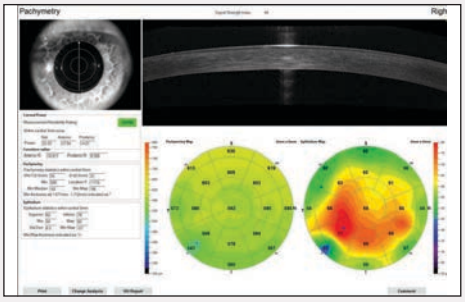


Rapid Progression

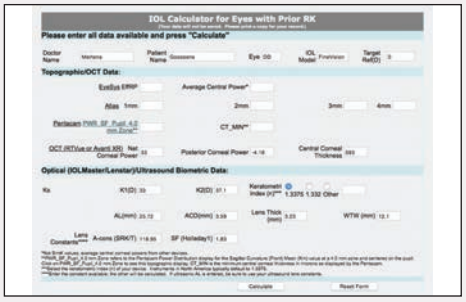
Case studies courtesy of Linda Zangwill, PhD, San Diego, California

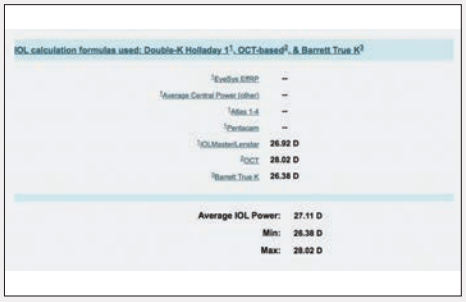
Post-Refractive Surgery IOL Power Calculation

Total Cornea Power measurements may be entered into the ASCRS IOL calculator to generate a recommended lens power for post-refractive surgery patients.



TCP Report:
51 Year-Old Male Post-RK





TCP data increases the robustness of the IOL calculation.

Case study courtesy of Erik Mertens, MD, ,Antwerp, Belgium

AngioVue Technology

SSADA: Split-Spectrum Amplitude Decorrelation Angiography

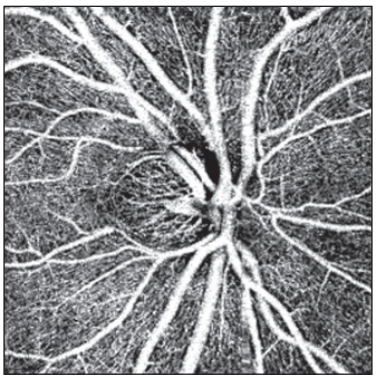
OCTA relies on the acquisition of sequential OCT B-scans at a single cross-section of the retina and a comparison of the scans against one another. The differences between scans indicate the presence of blood flow.

SSADA is a proprietary algorithm that shortens the scan time needed to acquire the sequential B-scans while producing unparalleled OCTA image quality by optimizing the signal to noise ratio (SNR).

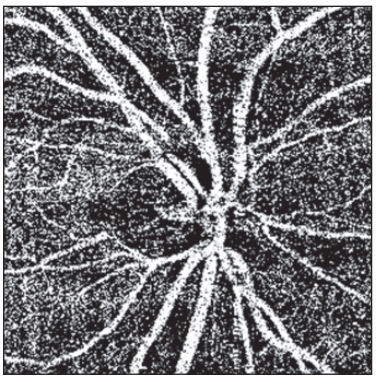
This unique technology **elevates image quality** by optimizing signal-to-noise ratio while **minimizing scan acquisition time**.

SSADA was developed by David Huang, MD, PhD at Oregon Health Sciences.

With SSADA



Without SSADA

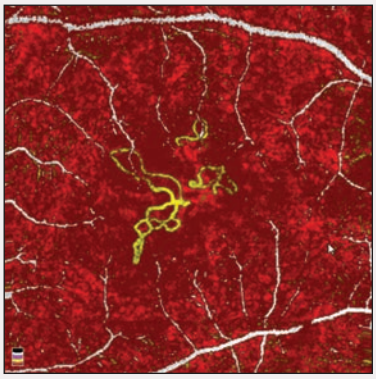


SSADA images display less noise and a more detailed microvascular network.

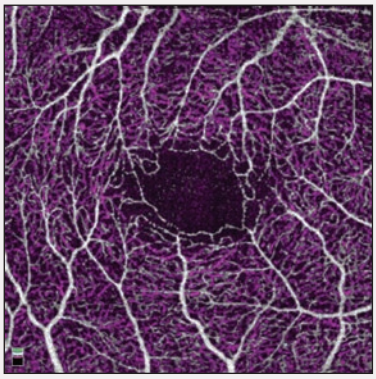
En Face Visualization

En face technology separates the retina into distinct structural layers for assessment of microvascular changes.

En face colorization uses a standard color scheme for rapid identification of the different retinal layers. The en face layer indicator icon provides a reference to the retinal layers displayed.



Red: Choriocapillaris
Yellow: Outer Retina



White: Superficial Capillary Plexus
Purple: Deep Capillary Plexus

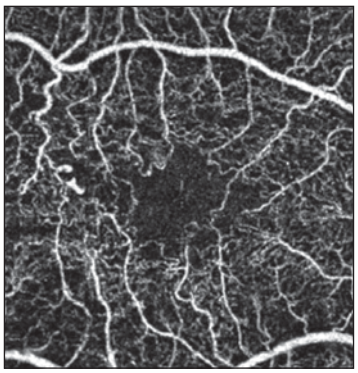
DualTrac™ Motion Correction Technology

DualTrac provides enhanced flow visualization and ultra-precise motion correction by combining real-time tracking, which corrects for patient motion and blinks, and post-processing Motion Correction Technology (MCT) to further reduce residual motion and enhance image quality.

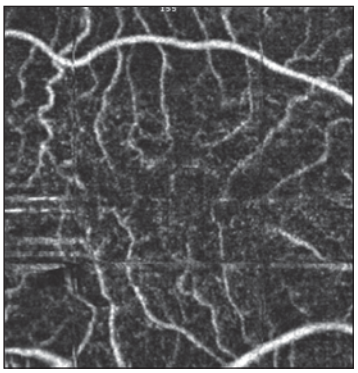
DualTrac Technology:

- Improves patient comfort by allowing blinks and fixation drifts during acquisition
- Increases the number of patients that can be successfully scanned compared to independent use of live tracking
- Enhances visualization of vascular structures

With DualTrac



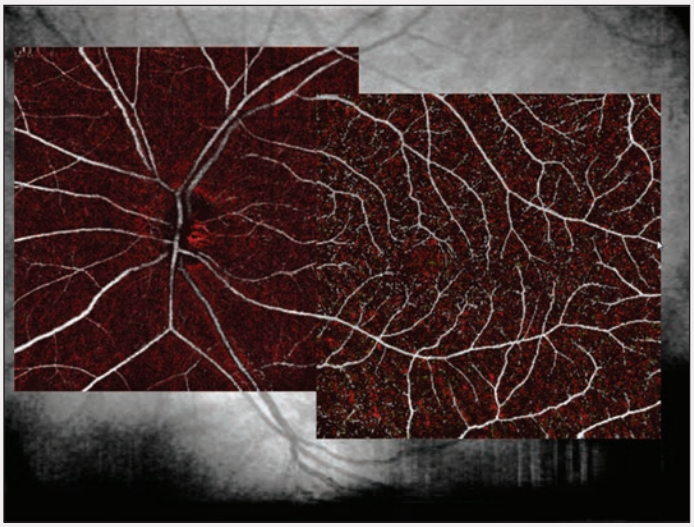
Without DualTrac

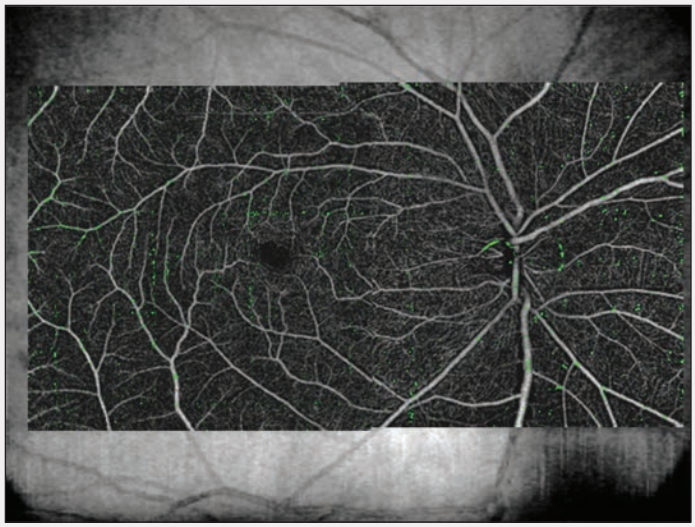


Images courtesy of Adil El Maftouhi, Lyon, France
MCT was developed by MIT and the University of Erlangen.

AngioMontage

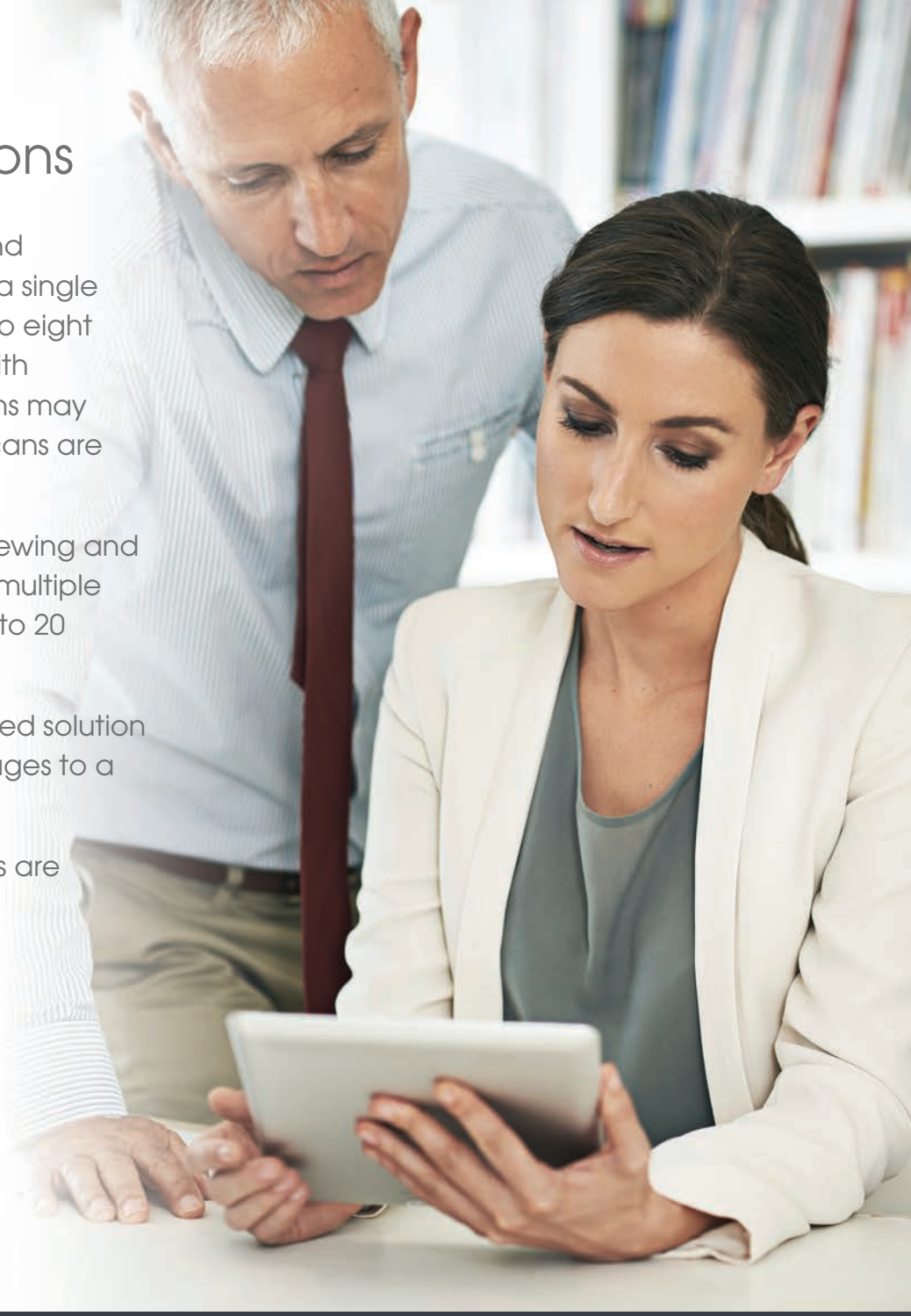
See a wider field of view with AngioMontage™, which allows for automatic stitching of two 6x6 mm images centered on the macula and optic disc for a widefield view of retinal vasculature.





Networking Solutions

- NetVue Pro allows viewing and modification of images from a single Optovue OCT system on up to eight review stations. In addition, with NetVue Pro, new patient scans may be captured while existing scans are reviewed.
- NetVue Enterprise enables viewing and modification of images from multiple Optovue OCT systems on up to 20 review stations.
- NetVue Web is a browser-based solution that brings Optovue OCT images to a smart phone, tablet or PC.
- DICOM. All Optovue products are DICOM compatible.



Networking Specifications

Operating System: Windows 7, 8 and 10; 65-bit OS compatible

Processor Speed: 3.0 GHz; Intel Quad Core (desktop); Core 2 (laptop)

Network Bandwidth: 1 Gbps or higher

Computer RAM: 4 GB or higher

Monitor Resolution: 1920 x 1080 at 32-bit color

Product Configurations

- Avanti Widefield OCT is a structural OCT system featuring extensive retina, glaucoma and anterior segment applications.
- AngioVue OCTA Imaging is an addition to the Avanti system to enable OCTA capabilities.
- AngioVue Retina is a configuration designed specifically for retina practices that combines functional OCTA with structural OCT retina scans.
- AngioVue Retina may be upgraded to the comprehensive system that includes glaucoma and anterior segment applications at any time.

	Avanti	AngioVue	AngioVue Retina
AngioRetina		•	•
AngioDisc		•	•
Structural OCT: Retina	•	•	•
Structural OCT: Glaucoma	•	•	
Structural OCT: Anterior Segment	•	•	

Technical Specifications

OCT scanning speed	70,000 A-scans per second
Optical axial resolution	~5 microns (digital pixel sampling = 3 µm)
Optical transverse resolution	~15 microns
OCT axial imaging depth	2 to 3 mm (dependent on scan protocol)
AngioVue imaging volume	304 x 304 B-scans (2 repeat B-scans with 304 lines per B-scan)
Acquisition time per imaging volume	(209K / 70K) ~3 seconds
AngioVue imaging size (retina)	3x3, 6x6, 8x8 mm
AngioVue imaging size (optic disc)	3x3, 4.5x4.5, 6x6 mm

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300-51825 Rev. A