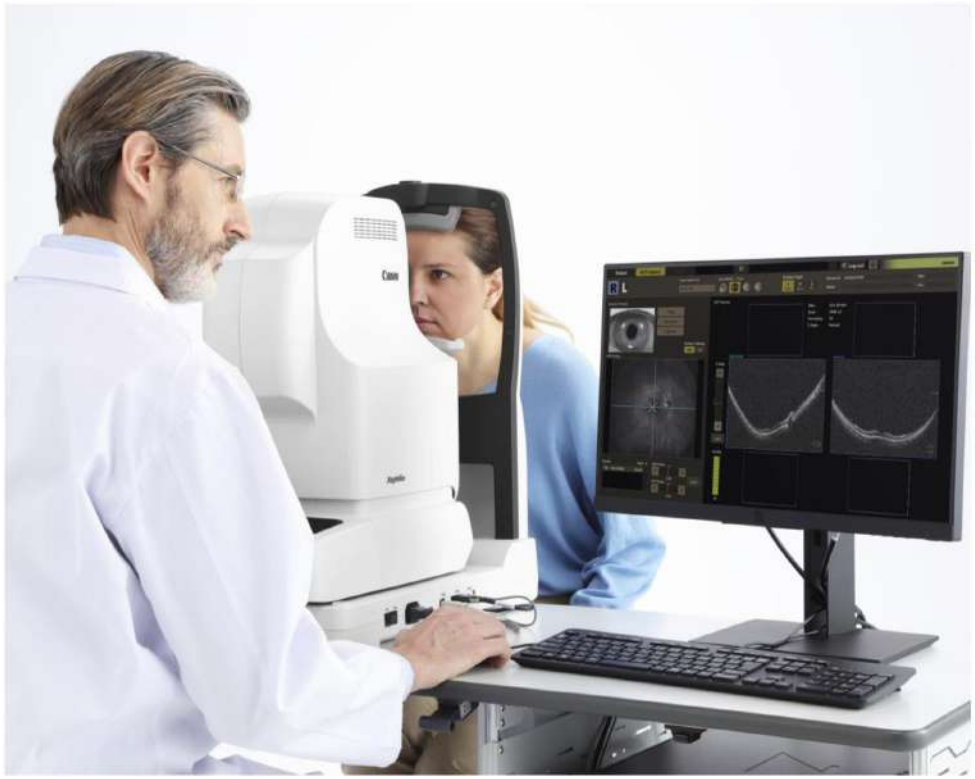
# Xephilio OCT-S1

## Swept Source OCT

- Longer wavelenght (1060 nm)
- Single shot wide scans : 23 mm wide
- Depth of imaging: 5.3 mm
- High Scanning speed 100000 a-scans/s
- SLO
- OCTA
- Intelligent Denoise



# Xephilio OCT-S1

## Swept Source OCT

Smart head design allows for excellent patient interaction

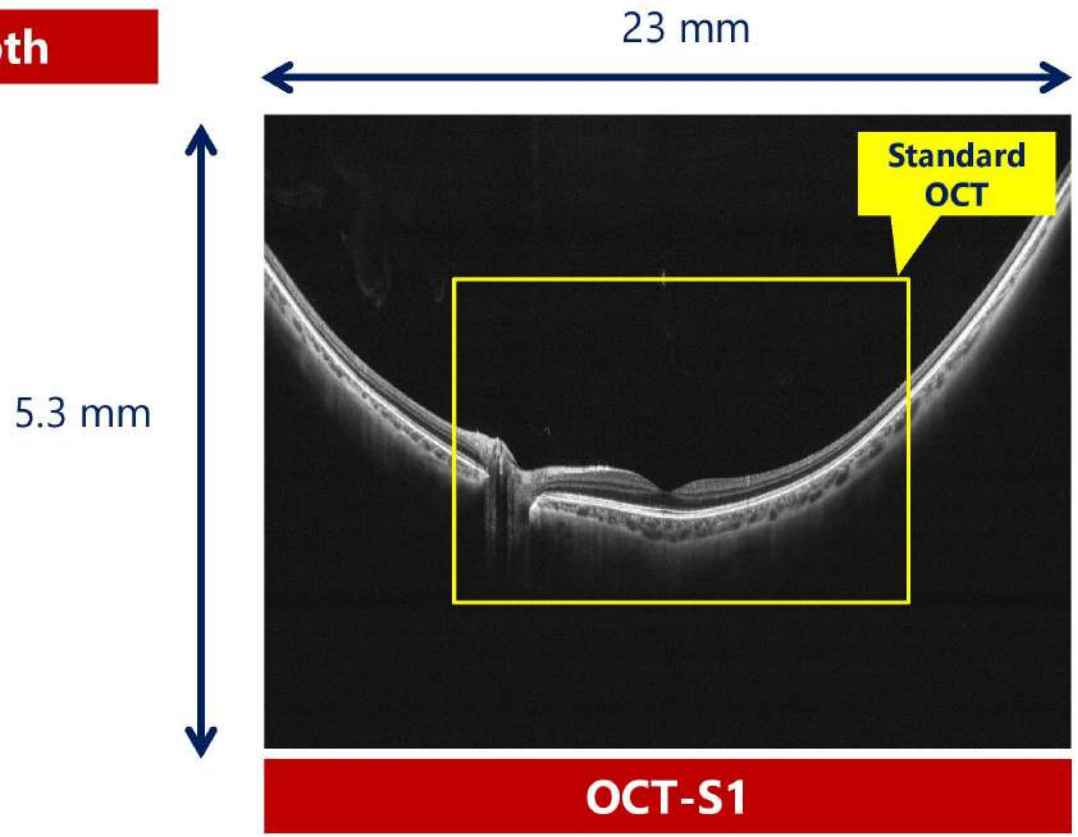
Easy, quick operation and pin-point accuracy by joystick

- Auto alignment
- SLO auto focus
- OCT auto focus
- Auto C-Gate
- Retinal tracking

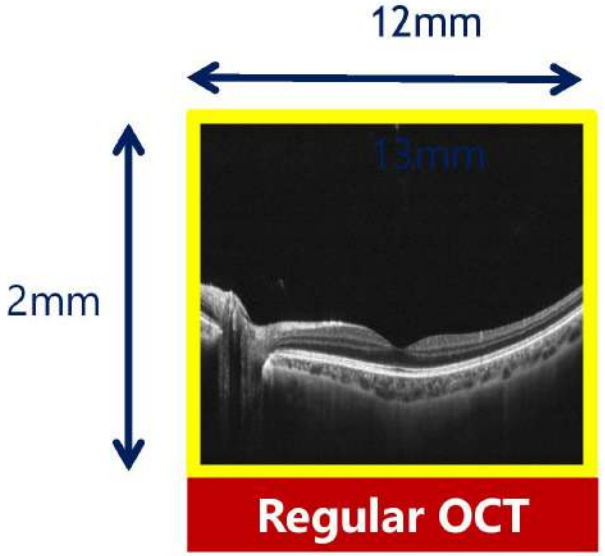
# Wide field and deep OCT / OCTA

**23 mm wide**

**5.3 mm depth**




Comparison with standard OCT

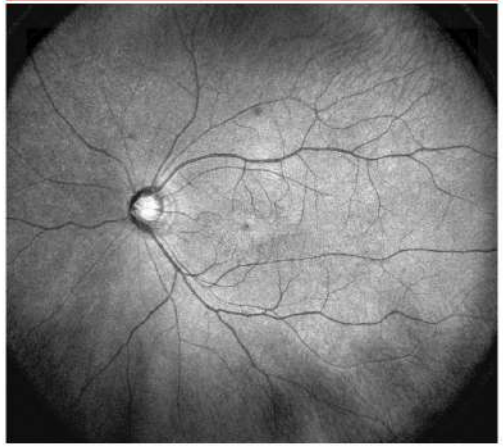


# Single Shot Wide Field OCT

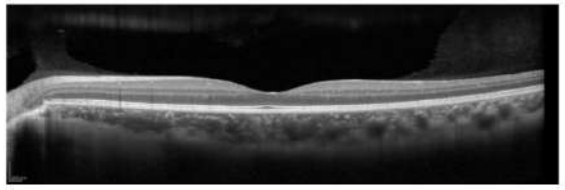
**23 mm wide**

**80 degrees**

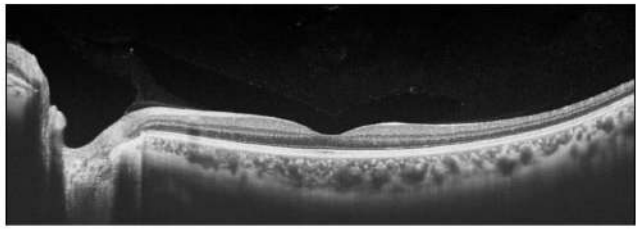
OCT-S1



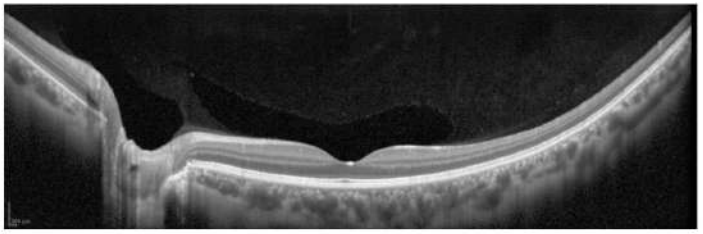
**30** degrees



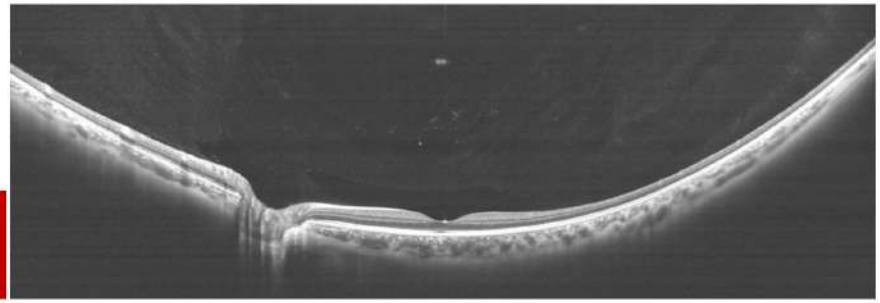
**45** degrees



**50** degrees

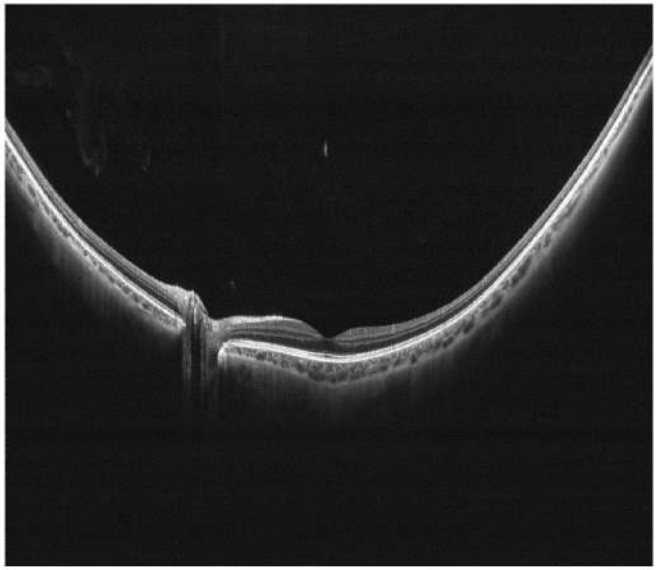


**80** degrees

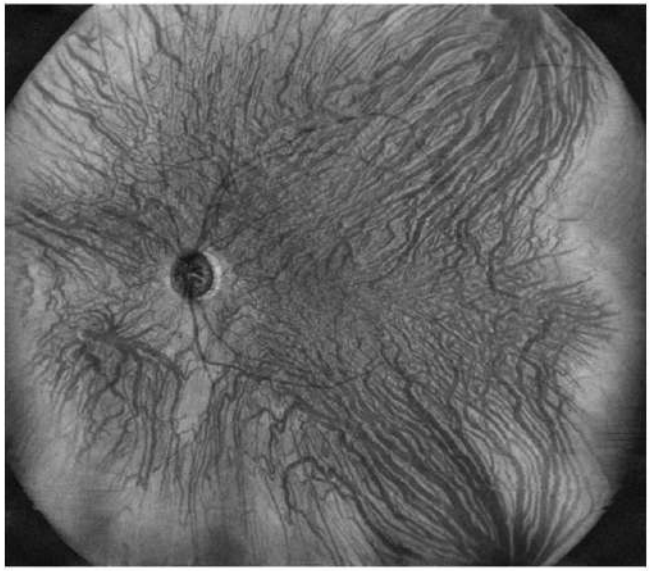


# Single Shot Wide Field OCT & OCTA

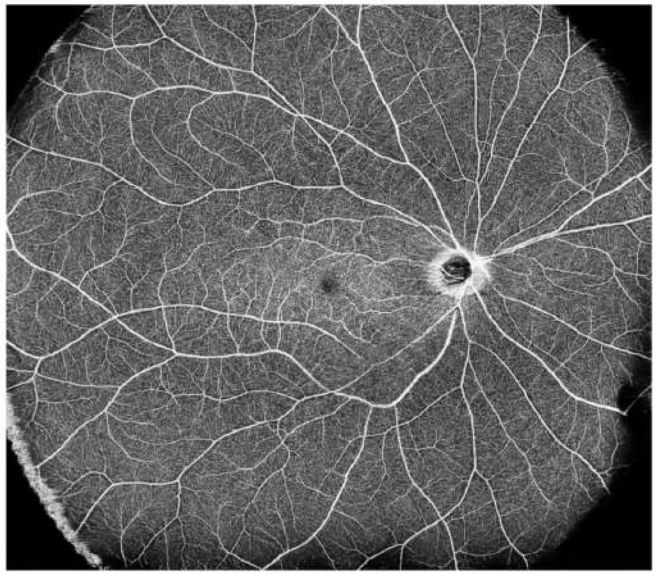
23 mm wide



**23** mm
wide field SS-OCT



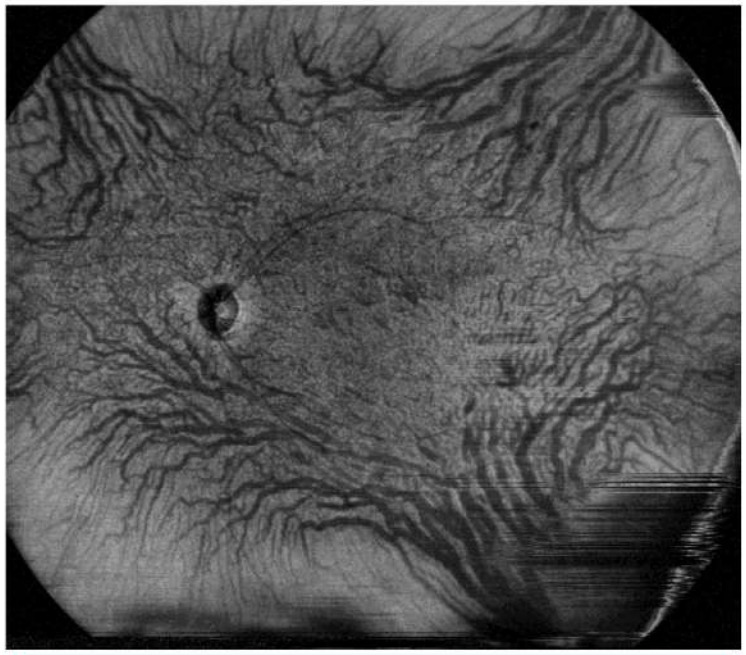
**23 x 20** mm
Wide field EnFace



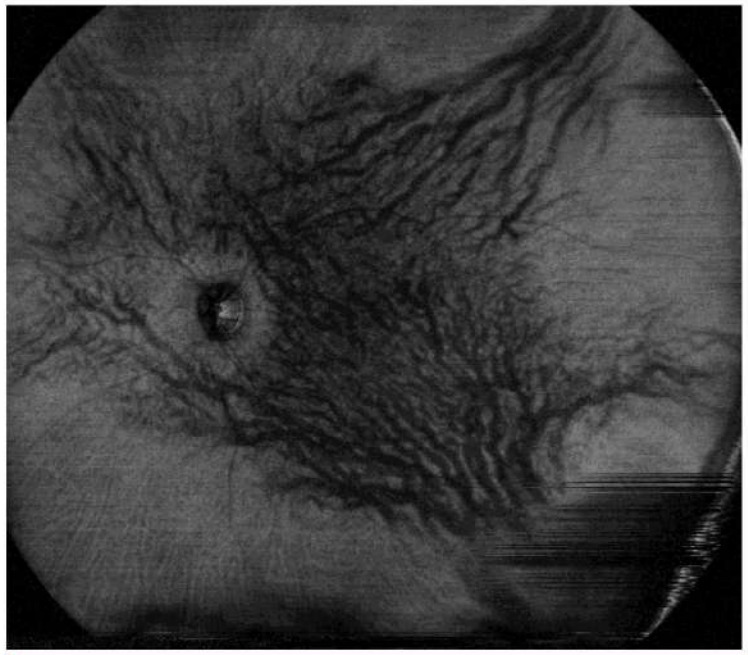
**23 x 20** mm
Wide field OCTA

# Single Shot Wide Field OCT

23 ×20 mm En-Face



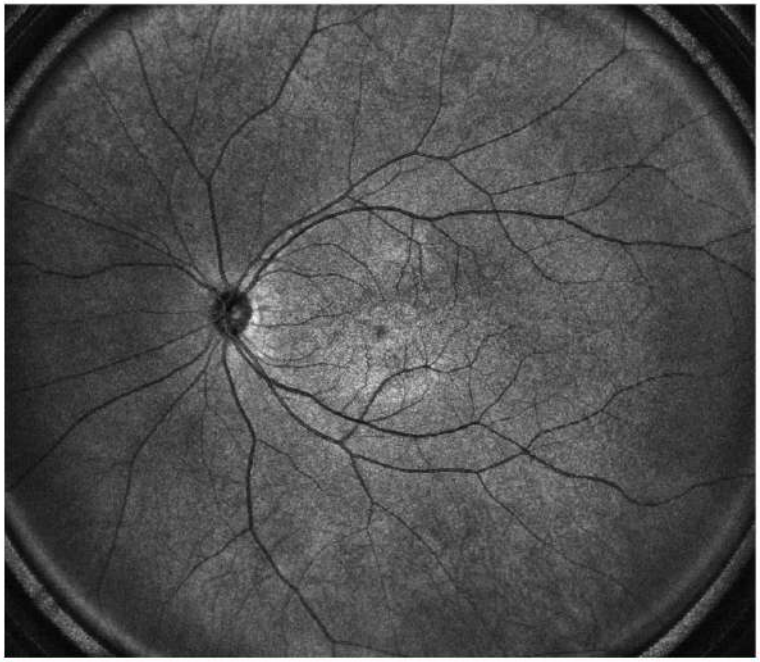
En-face : Sattler



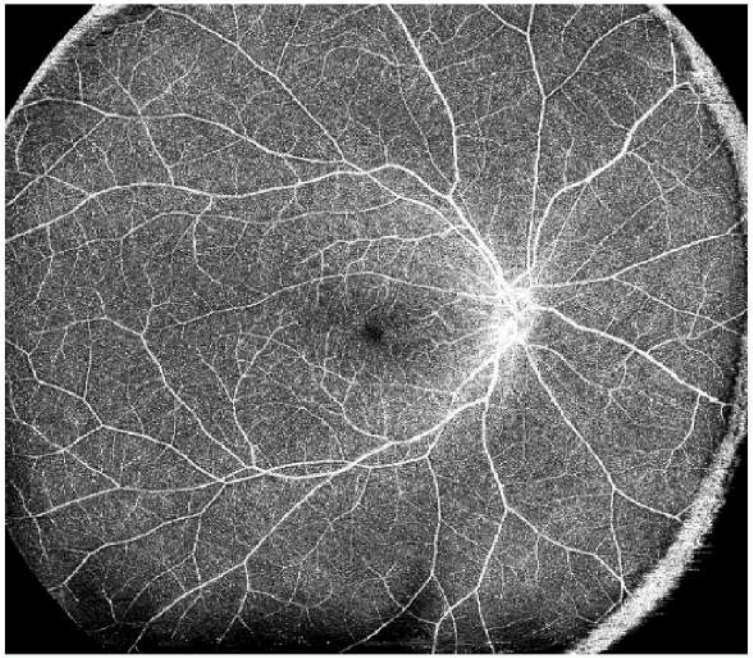
En-face : Haller

# Single Shot Wide Field OCT

23×20 mm OCTA



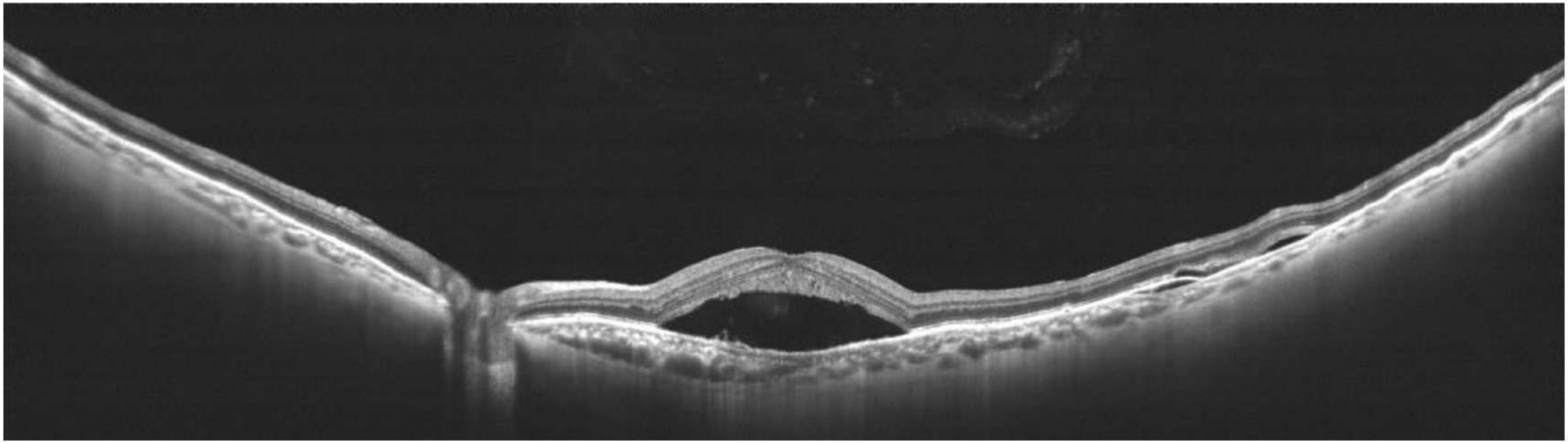
SLO



OCTA

# Depth of Imaging

Detailed visualization of the Vitreous and Choroid in just a single scan



# Depth of Imaging

SS-OCT with 1060 nm can penetrate further into the deeper tissue structures

The short 840 nm wave length of most spectral domain OCTs is scattered by the RPE and absorbed by the pigment melanin in the RPE.

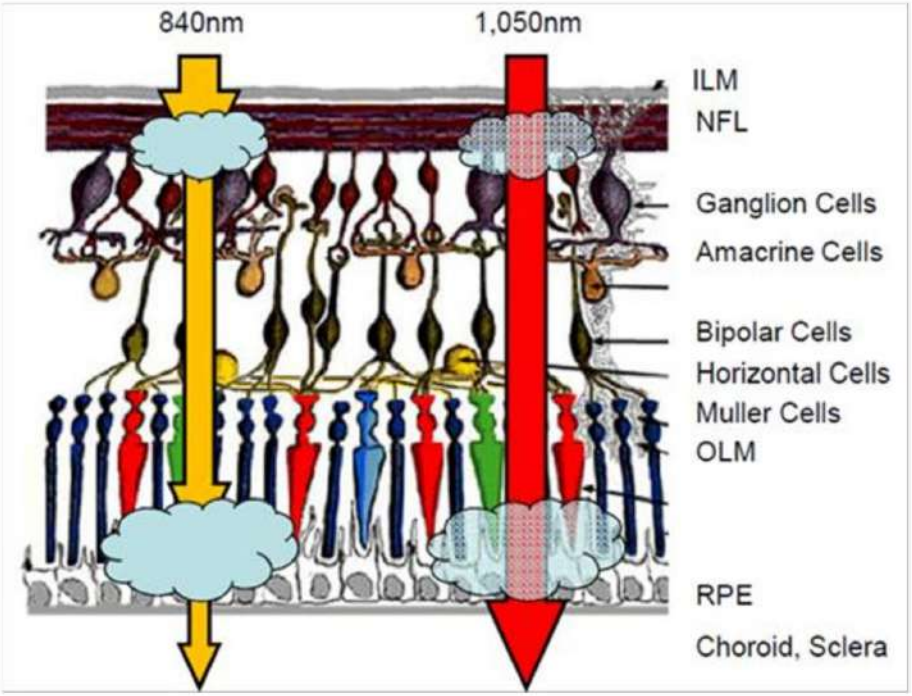
Less light reaching the choroid means less light returning to the detector

Difficult to get high quality images of choroid or sclera with 840nm.

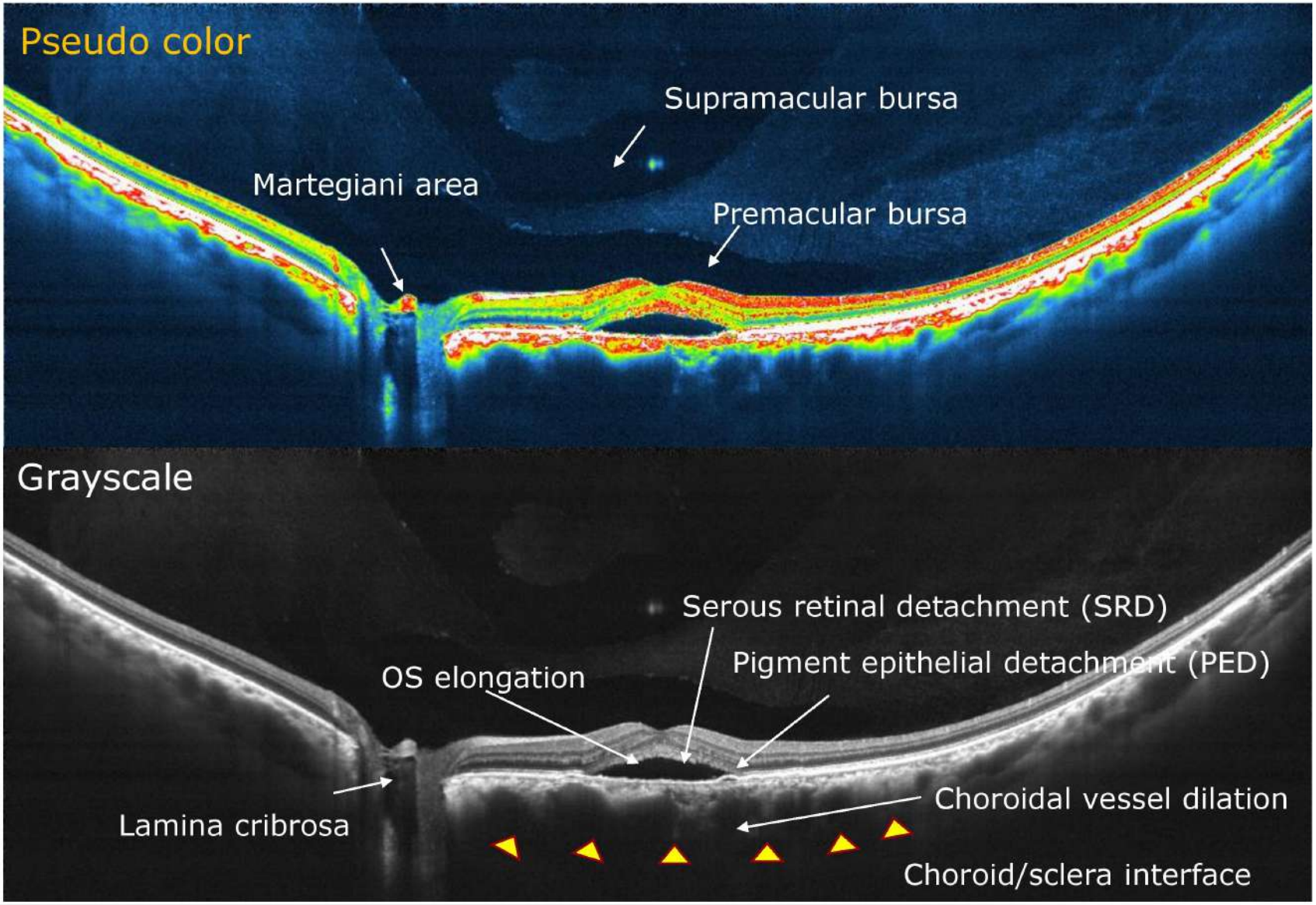
1060 nm can easily pass through the retinal pigment epithelium, and can reach the choroid and even the sclera.

Spectral Domain OCT
λ=840 nm

Canon Swept Source OCT
λ=1,060 nm



# Depth of Imaging

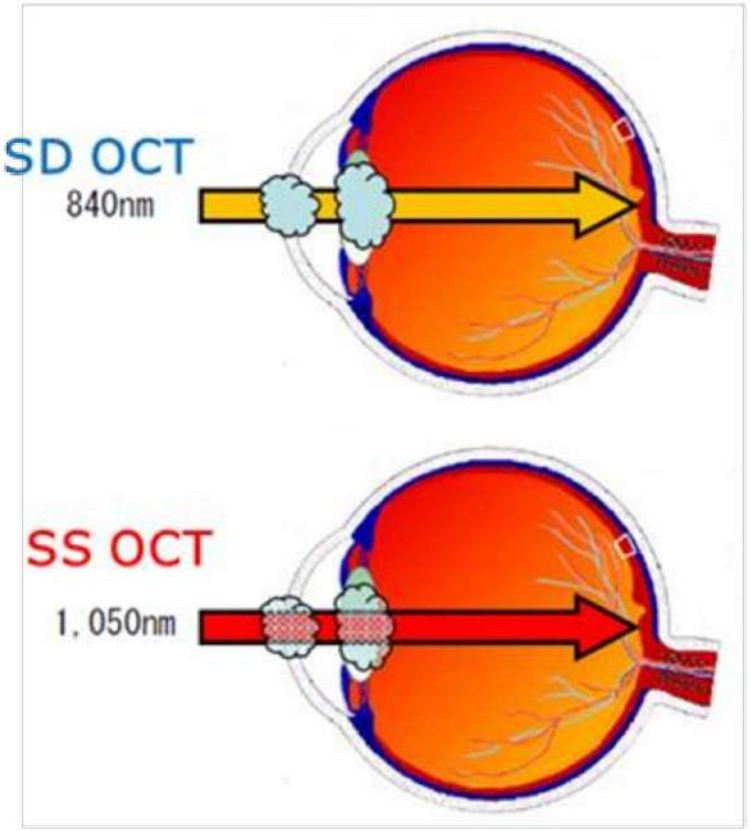


# Longer wavelenght (1060 nm)

Less light scattering by ocular opacities

- Cataracts
- Corneal Opacities
- hemorrhages

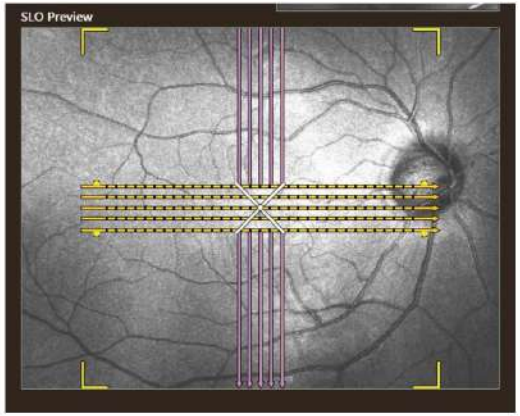
Longer wavelength makes it possible to image the retina even through media opacities



# Longer Wave lenght (1060 nm)

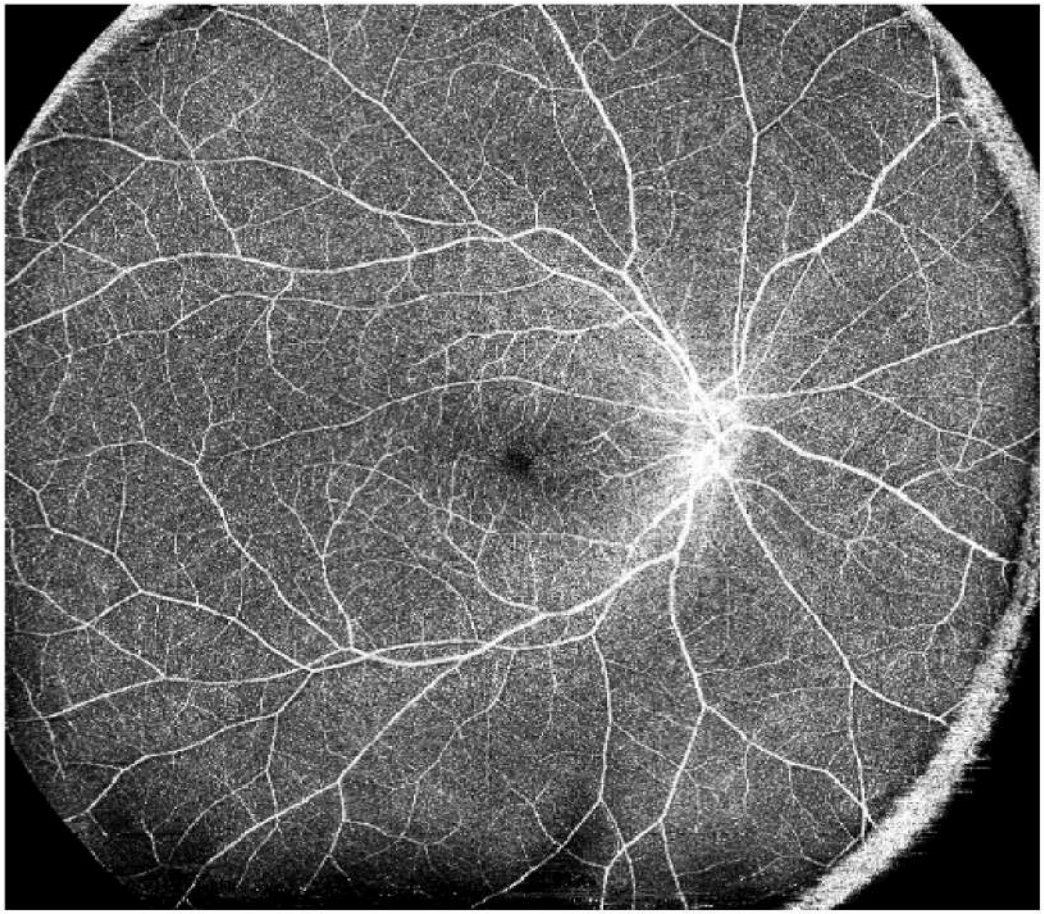
The IR scans during are invisible for the patient

- Not distracting
- Less eye movements
- More efficient examinations



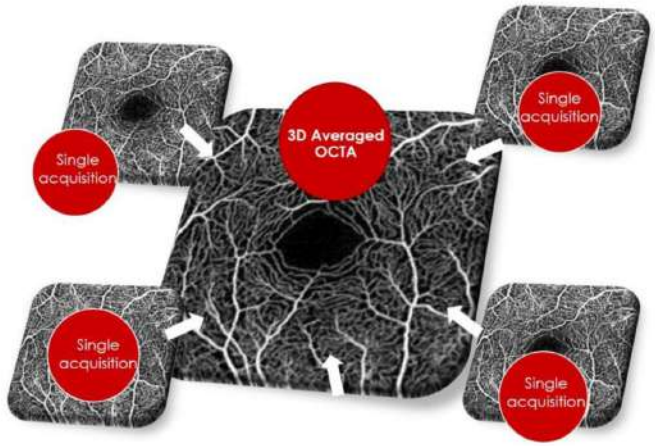
# Single Shot Wide Field OCT Angiography

- OCTA up to 23mm wide
- Wide field imaging with just one scan
- Visualize Non –Perfusion areas over a very large surface
- Useful in diagnosing diabetic retinopathy and Retinal Vein Occlusion.
- Single high density OCTA scan shot can even visualize the capillaries



# Enhancing OCTA Image quality

## Flow Fusion



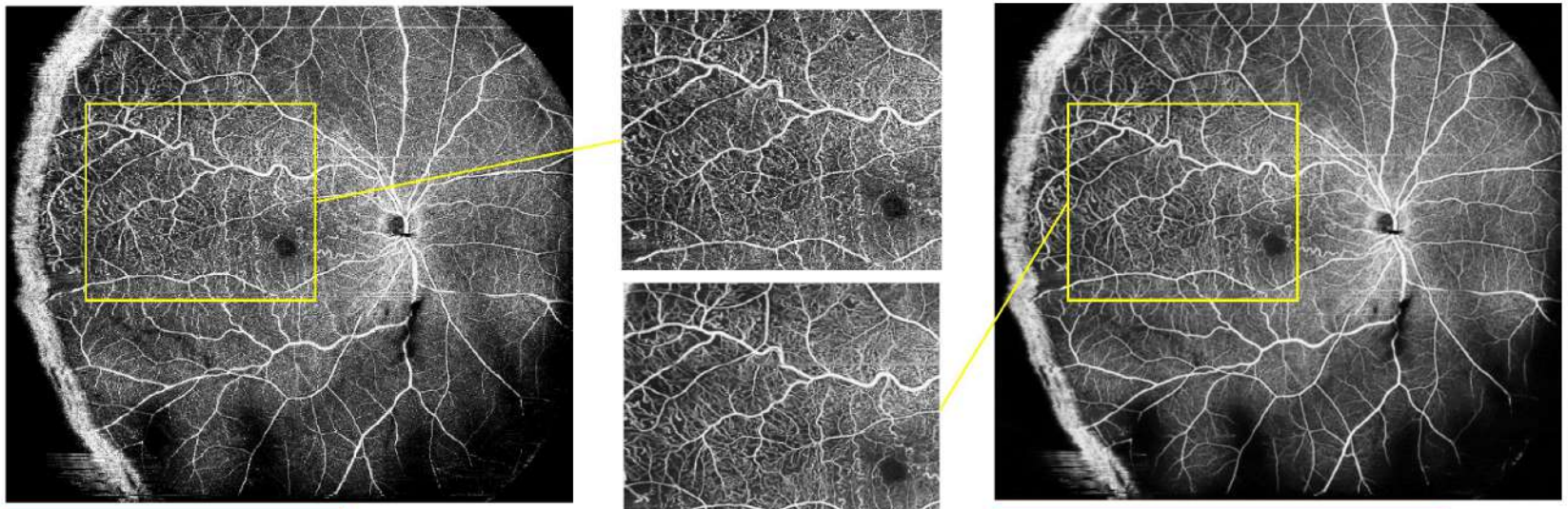

- 3D Averaging of multiple (up to 10) consecutive OCTA scans
- Greatly improves image quality
- Can even eliminate motion artefacts.
- Use multiple short examinations for more patient comfort

## Intelligent Denoise

- image quality comparable with flow fusion images
- Intelligent Denoise only requires create a single OCTA scan as input
- Using Deep Learning technology
- Very quick

# Intelligent Denoise

## OCTA Deep Learning Noise Reduction

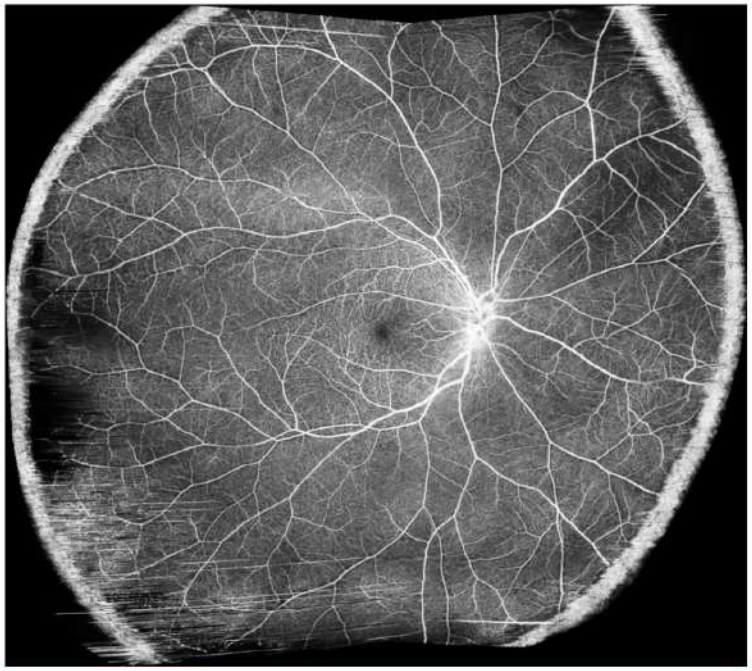


Single Scan

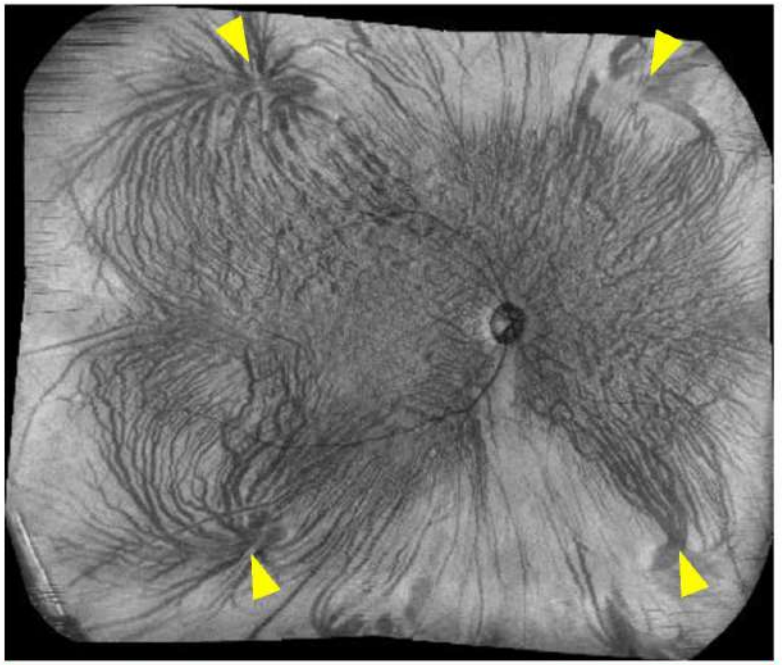
Intelligent denoise

# Mosaic

## For wide OCTA and En-Face



Wide OCTA



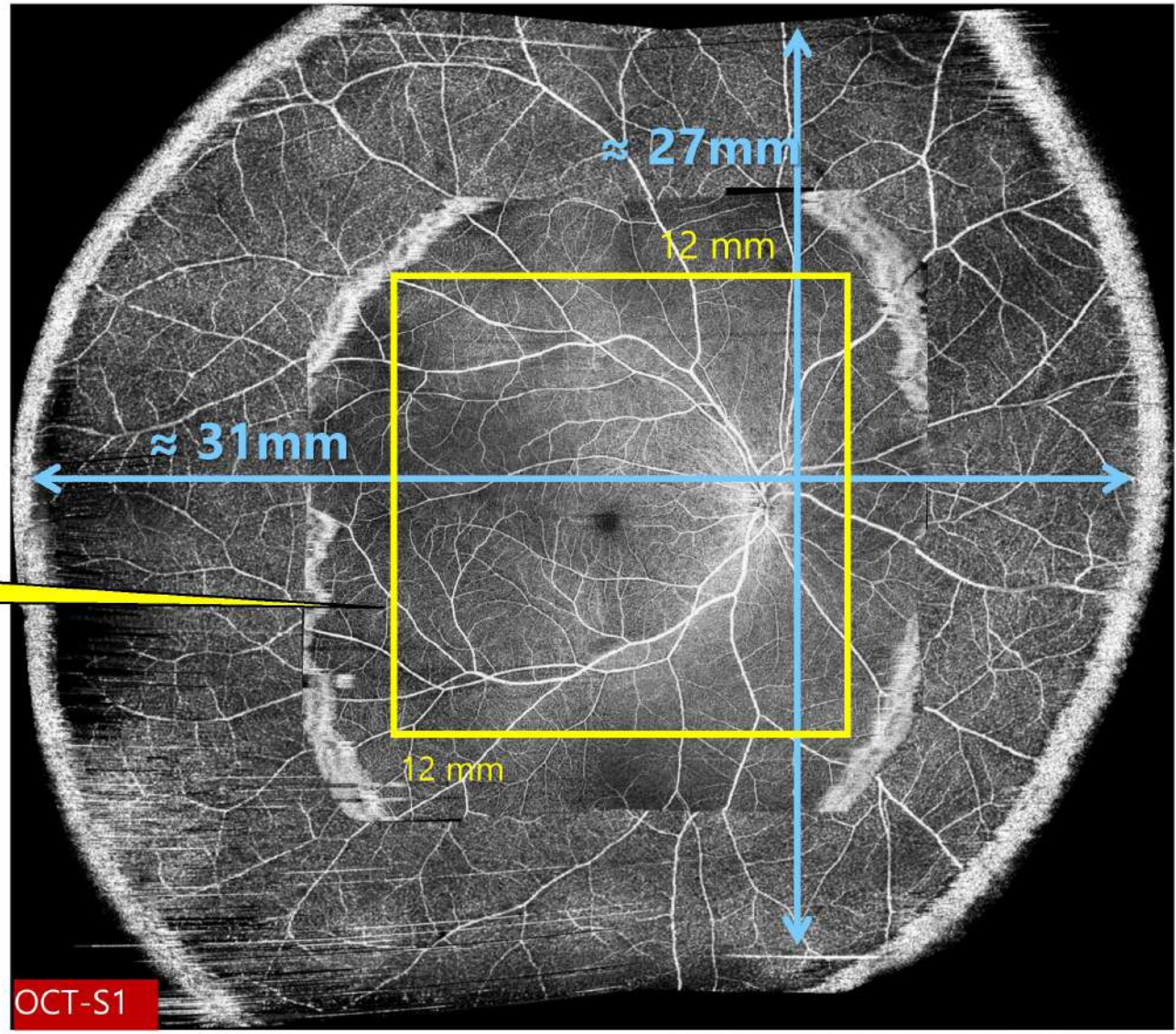
Wide En-Face

Choroidal Vortex Veins can be observed

# Mosaic Wide Field OCTA

OCT-S1 mosaic

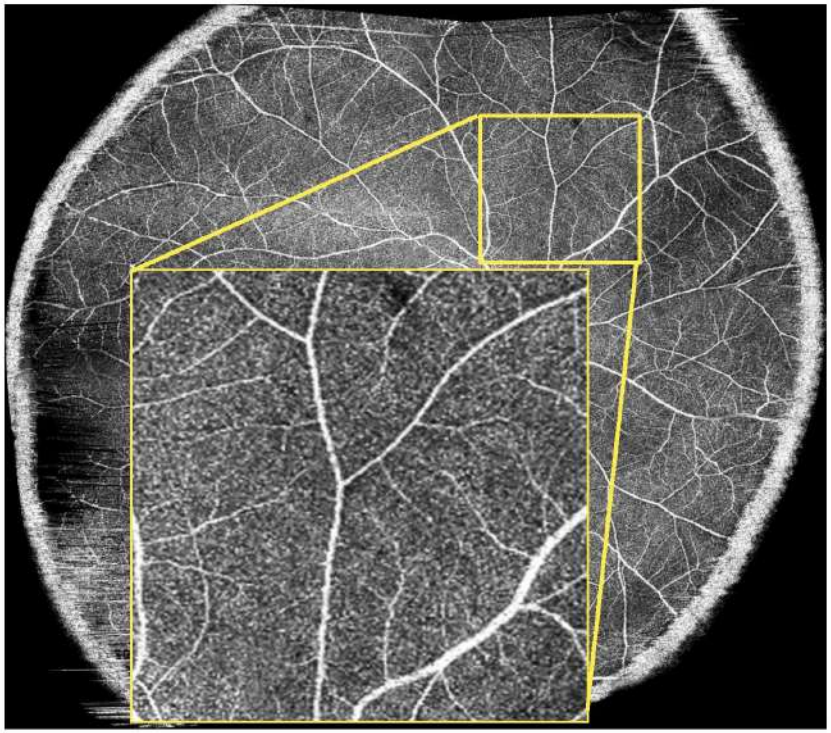
Comparison with standard OCT



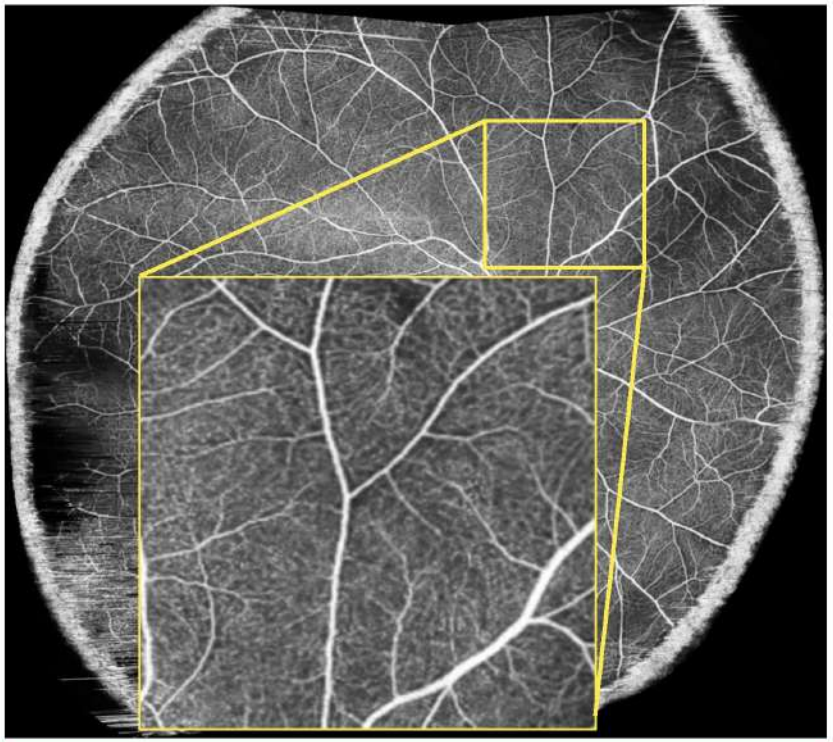

* The lengths are approximately

# Mosaic

## Mosaic wide field OCTA + Intelligent Denoise



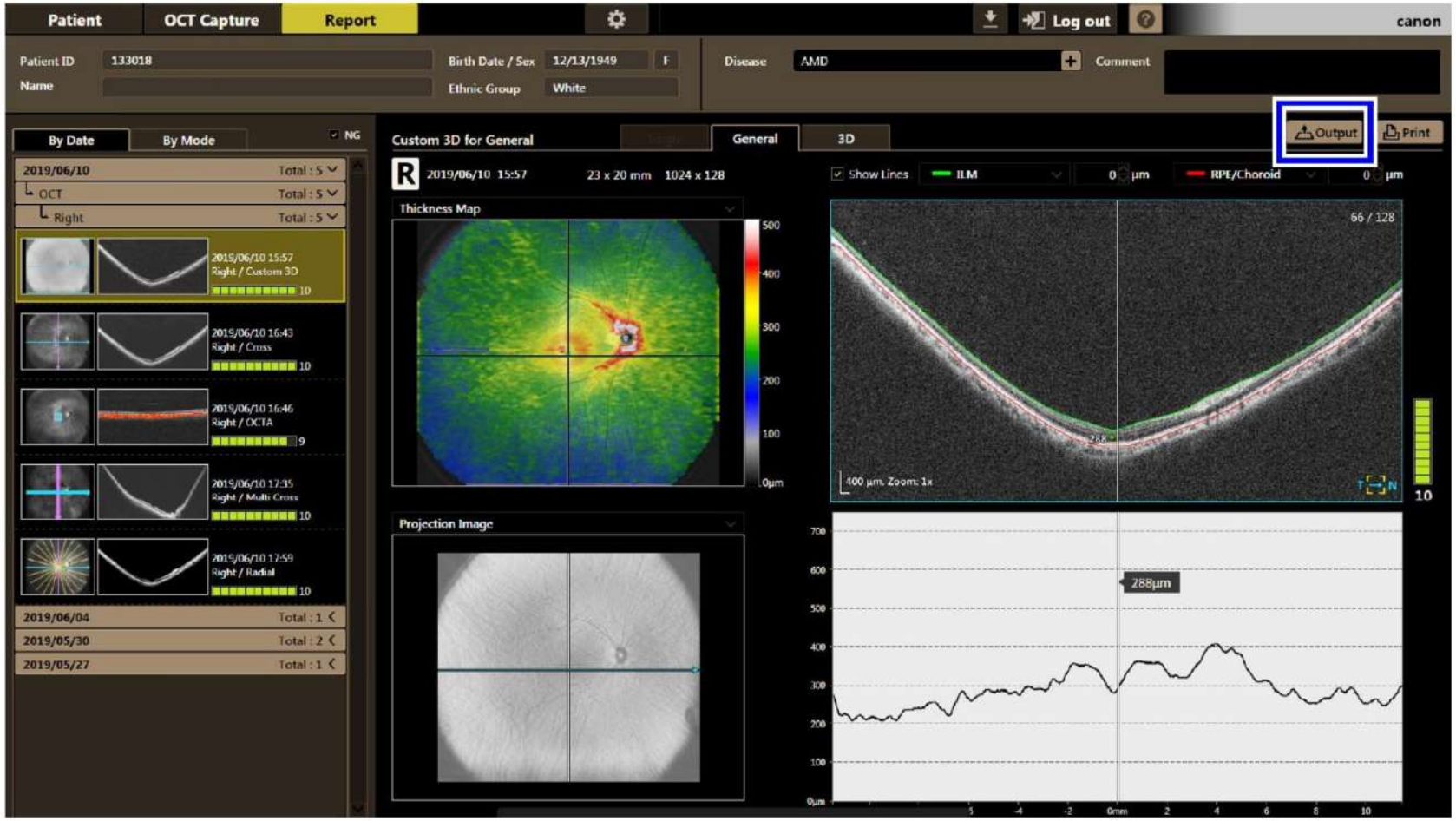
Single Scan



Intelligent denoise

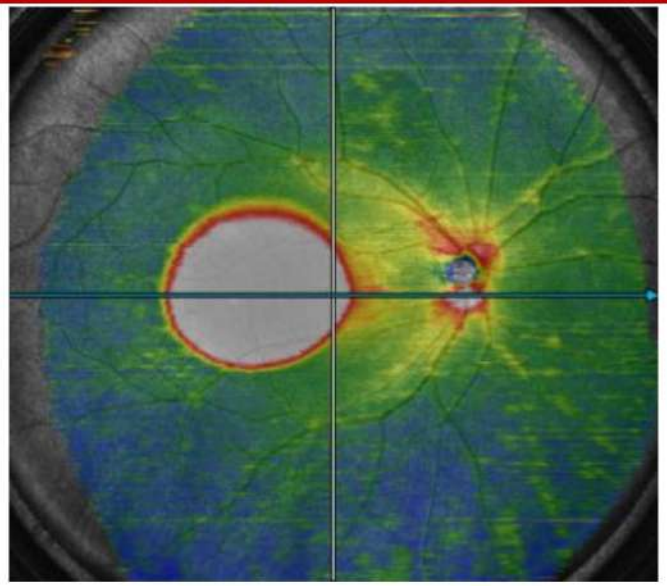
# Report

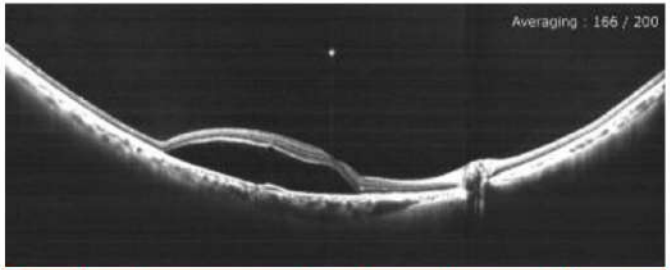
Retinal thickness



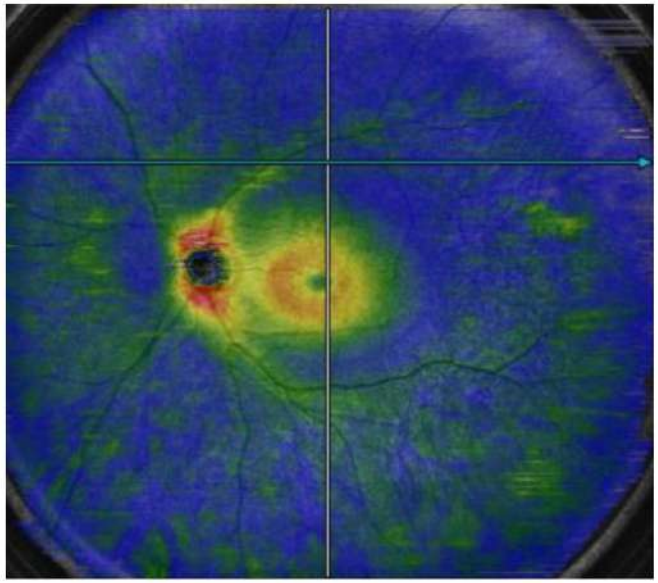
# Software highlights

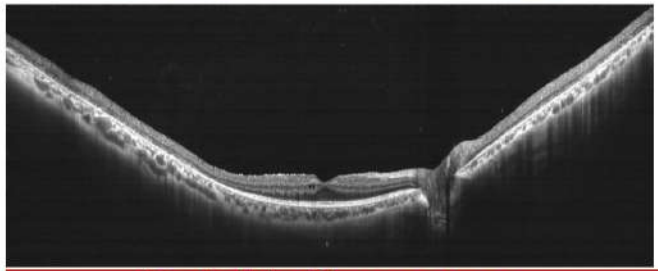
## 80 degree angle color map showing retinal thickness






Central serous chorioretinopathy

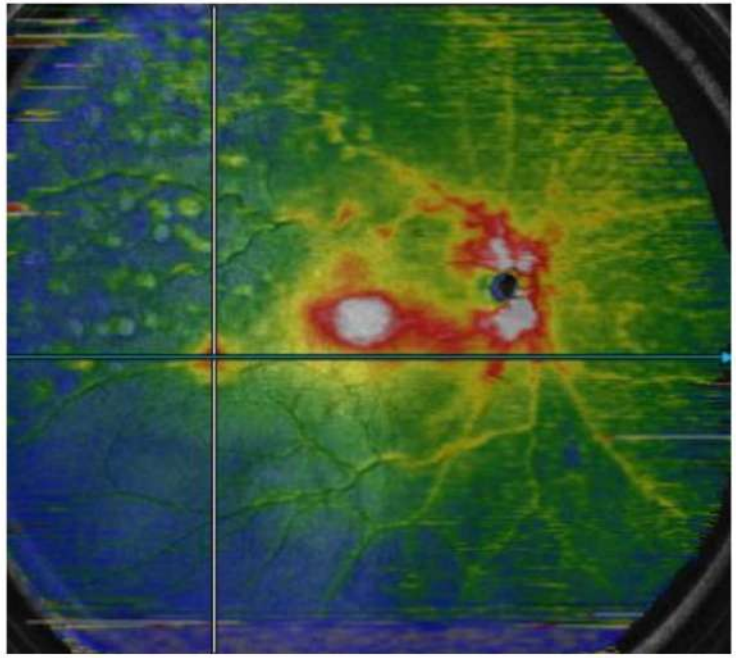


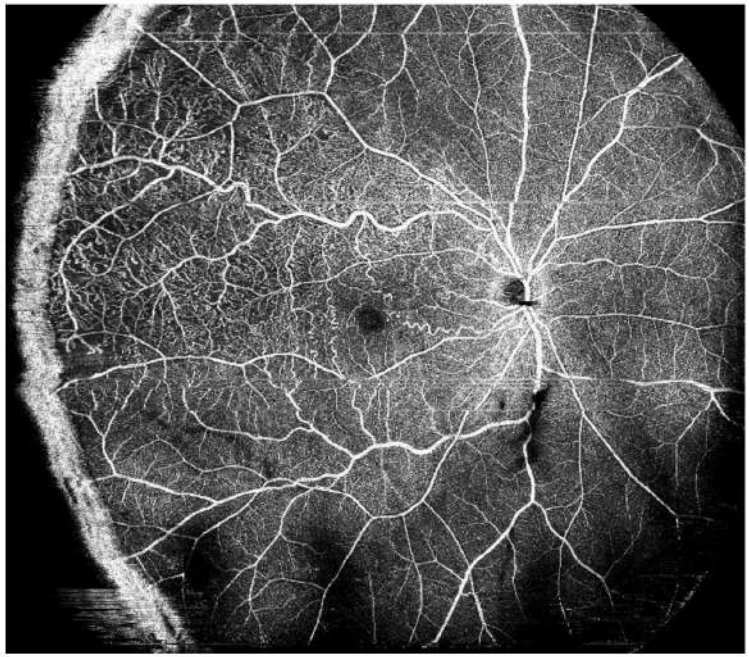


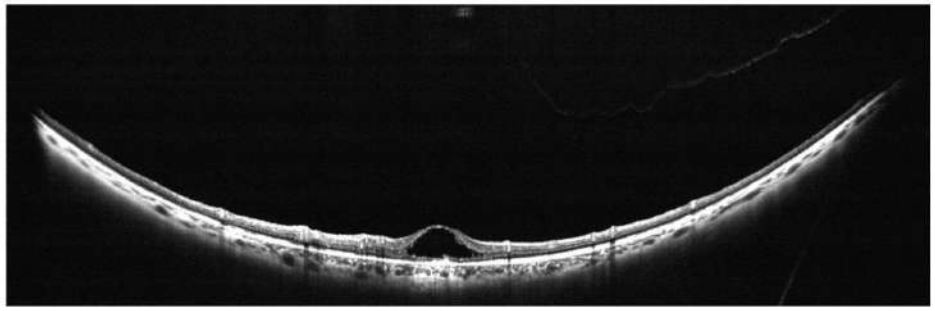
Retinitis Pigmentosa

# Clinical image

Branch retinal vein occlusion

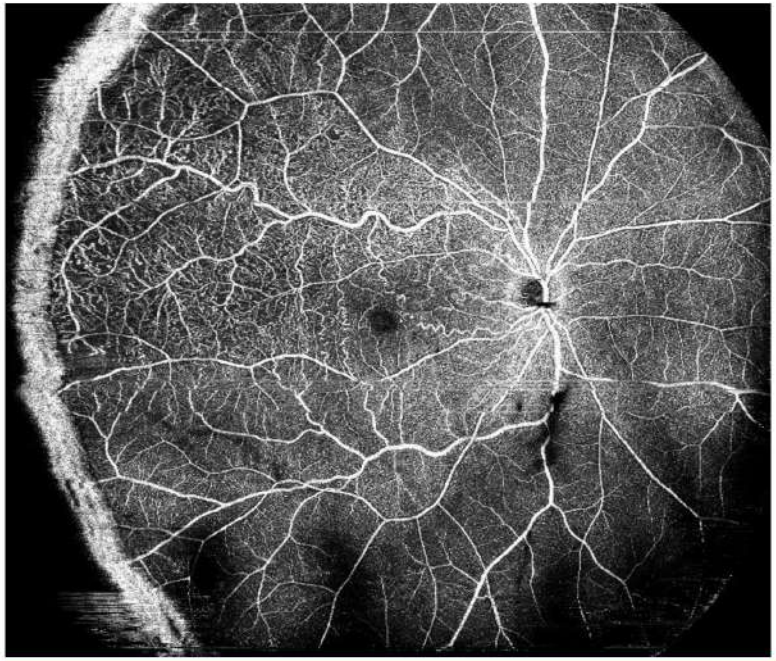




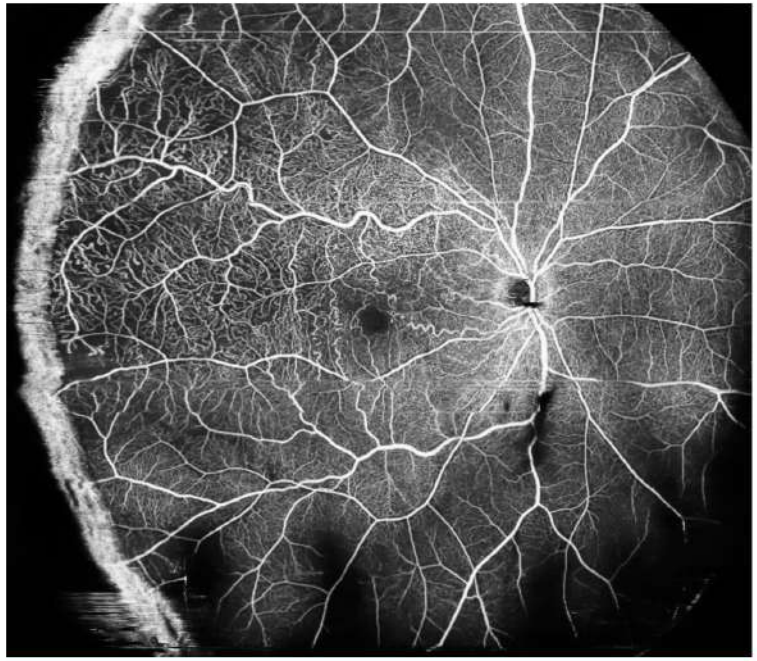


# Clinical image

## Branch retinal vein occlusion (BRVO)



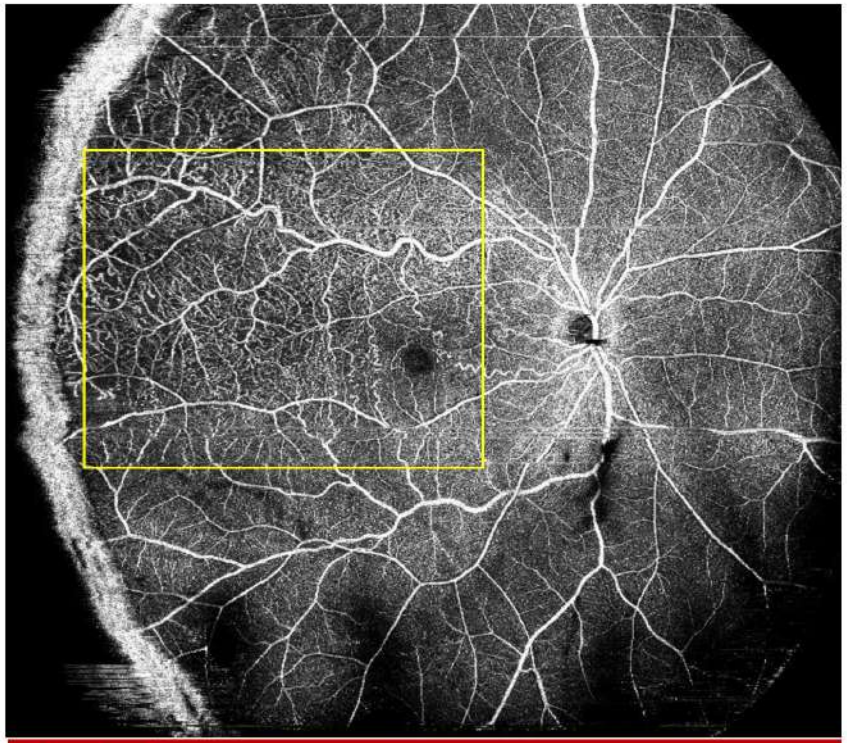
Single Scan



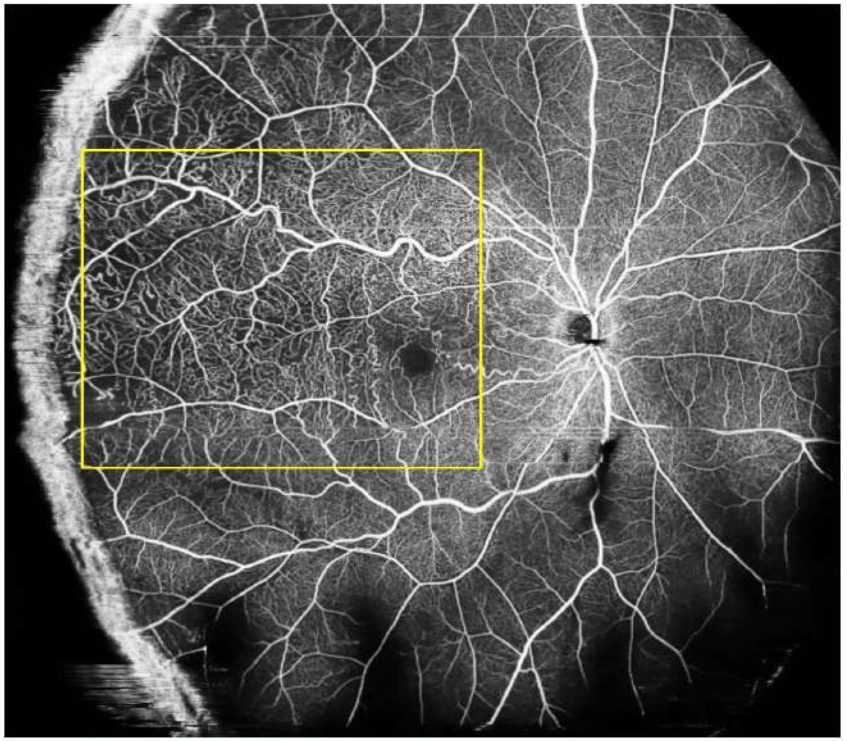
Intelligent denoise

# Clinical image

## Branch retinal vein occlusion (BRVO)



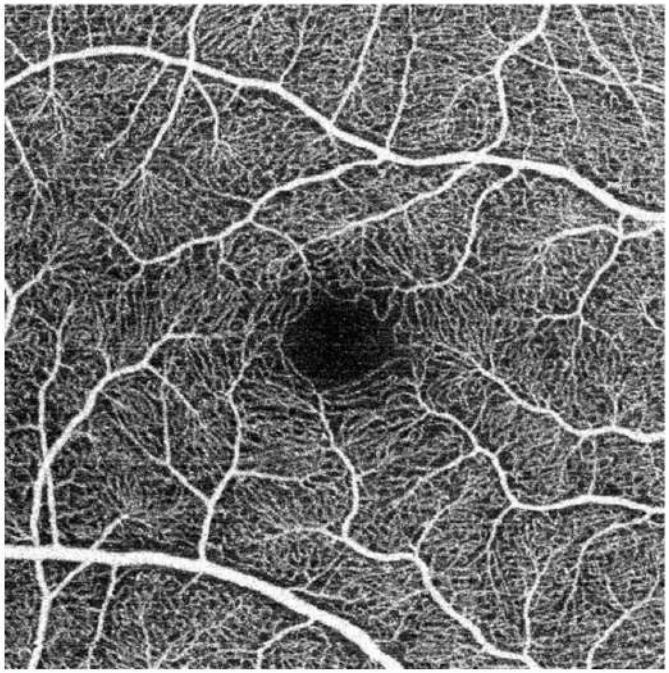
Single Scan



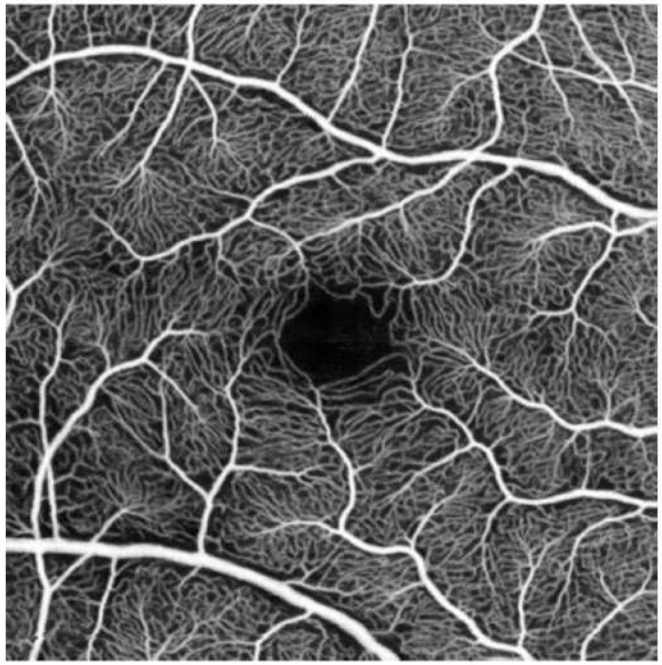
Intelligent denoise

# Flow Fusion and Intelligent Denoise

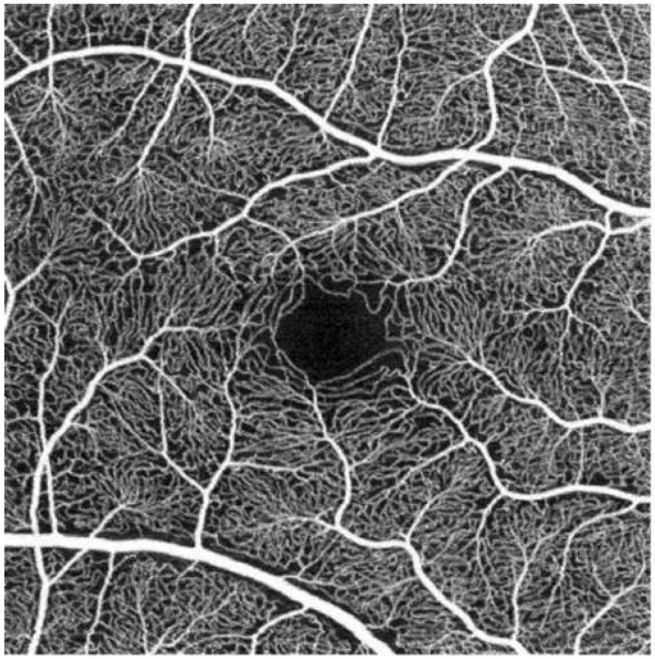
Intelligent Denoise delivers comparable image quality as Flow Fusion but with just a single scan



Single scan



Deep Learning

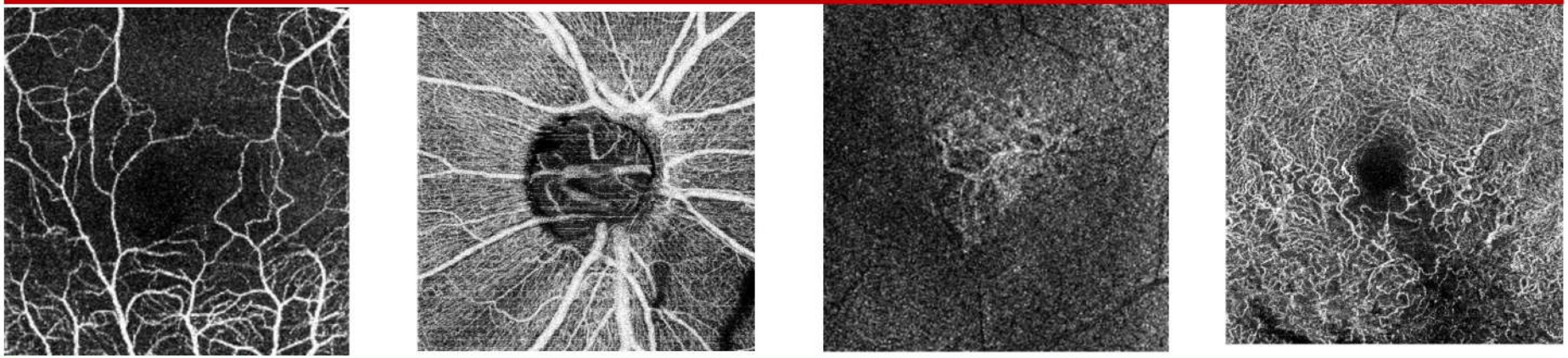


Flow Fusion

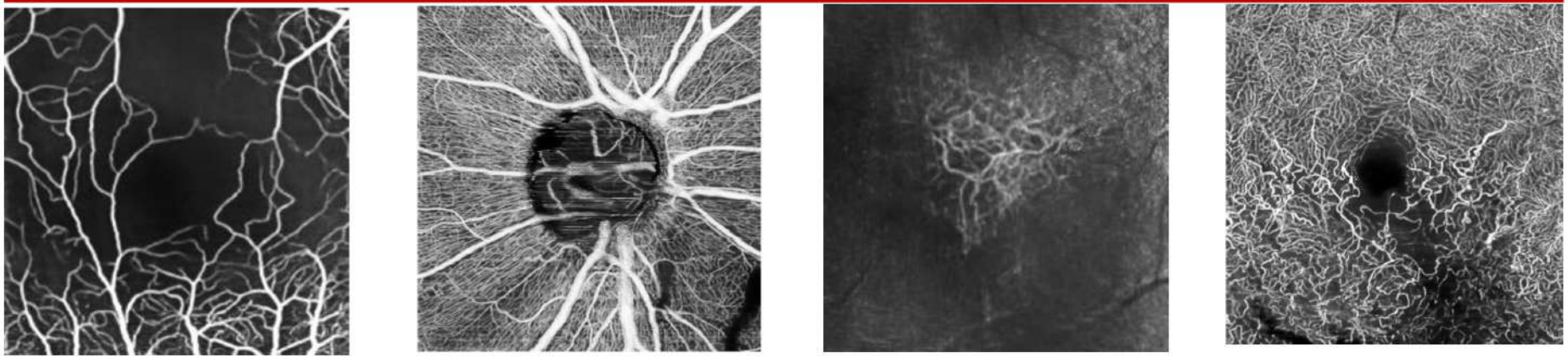
# Intelligent Denoise

## Examples

Single scans

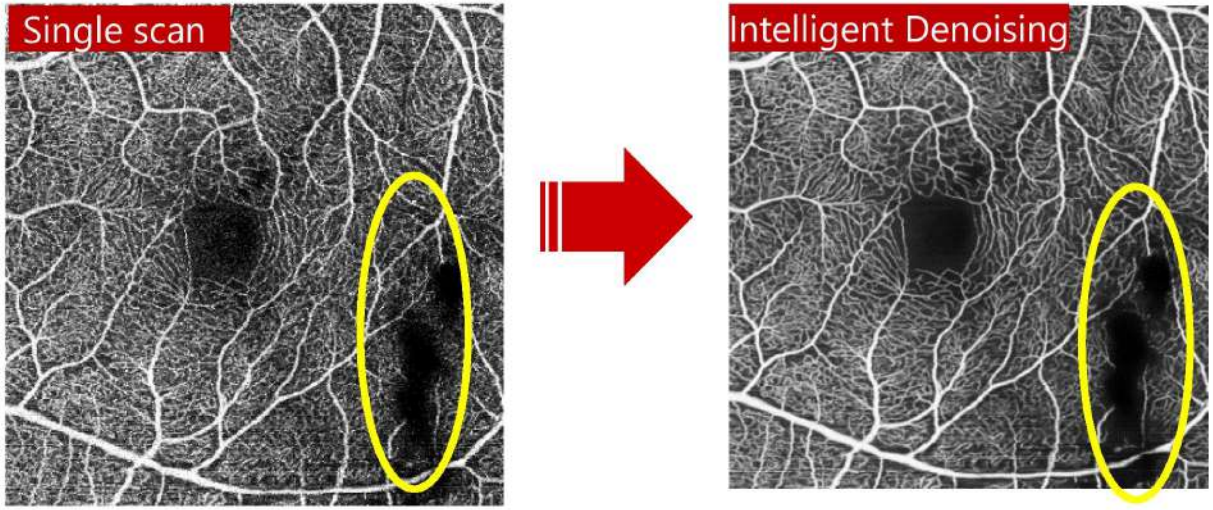


Intelligent Denoising



# The perfect combination

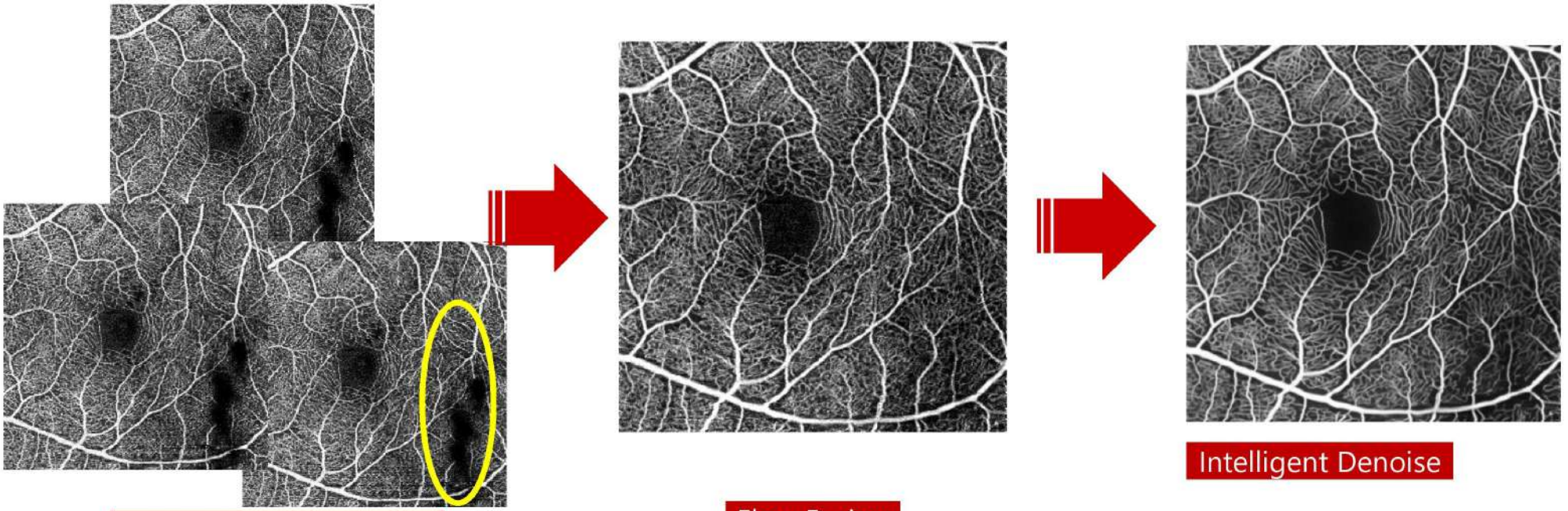
Flow fusion and Intelligent Denoise




Vitreous artefacts (floaters) can interfere with imaging the retina

# The perfect combination

Flow fusion and Intelligent Denoise



Multiple Single scans

Flow Fusion

Intelligent Denoise

Combining Flow Fusion and Intelligent Denoise can overcome motion - and even vitreous artefacts