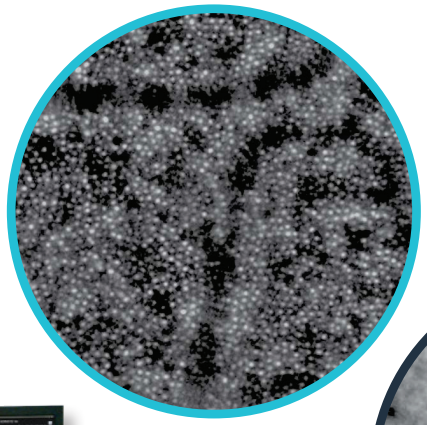
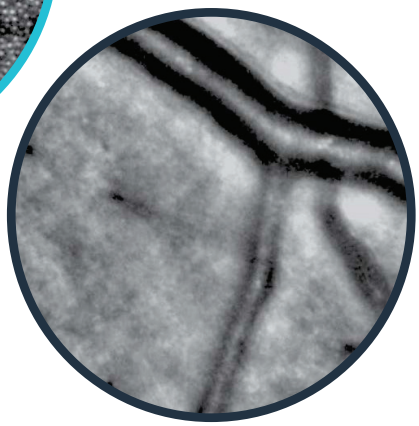
rtx1-E | Adaptive Optics Retinal Camera

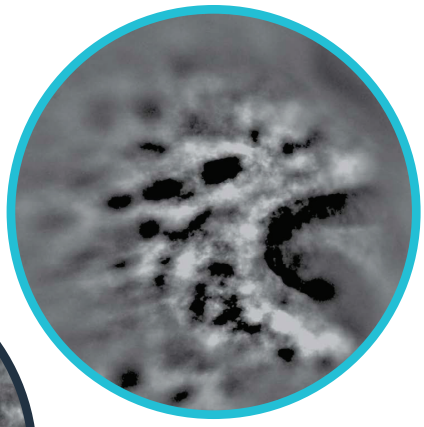


Cone Mosaic

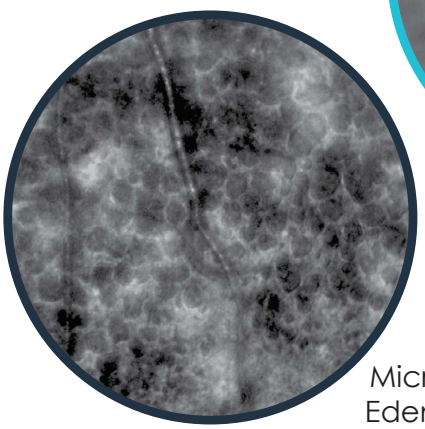
Arteriolar Walls



Retinal imaging at a microscopic level



Lamina Cribrosa



Microcystic Edema

imagine eyes

rtx1-e | Adaptive Optics Retinal Camera

Introducing the World's First Clinical Retinal Imaging Microscope

The rtx1-e™ enables visualisation of the living retina at a microscopic scale. While the optical resolution of every other retinal imaging technique is limited to 15-20 µm, the rtx1-e's exceptional resolving power allows to examine details of a few microns in size.

Images acquired with the rtx1-e reveal previously invisible retinal structures, which are highly relevant to multiple pathological conditions.

Previously unseen retinal structures, now visible with the rtx1

The rtx1-e enables examinations of the following microscopic structures:

- Extrafoveolar cone photoreceptors
- Arteriolar structure: lumen and wall
- Thin borders of macular lesions
- Pores of the lamina cribrosa
- Microaneurisms & microscopic hemorrhages
- Microcystic edema

imagine eyes®

Adaptive Optics Imaging Made Simple

Imagine Eyes has designed the rtx1-e in close collaboration with clinicians. This joint effort has resulted in the most easy-to-use adaptive optics instrument ever built.

The device is quickly aligned with the patient's eye thanks to high-quality positioning mechanics and live visualisation of the eye's pupil. The patient's comfort is guaranteed by a fast imaging process under low-power infra-red illumination. Image acquisition, recording and review are easily operated through clinician-friendly software applications.

Software Applications for the rtx1-e

AOimage™ provides an easy interface to acquire and manage the most detailed views of the retina, while operating the adaptive optics correction system in a fully automated way.

AOdetect mosaic™ enables analysing the cone photoreceptor cell mosaic with a selection of quantitative metrics.

i2k retina® (optional) is the perfect tool for stitching multiple rtx1 images together.

Technical Specifications

Imaging	**Imaging Type**	En face near-infrared reflectance imaging
	Detection Type	Low-noise CCD camera
	Imaging Field of View$_2$	4° x 4°
	Camera pixel pitch on the fundus$_2$	1.1 µm
	Optical resolving power on the fundus$_{2,3}$	250 line pairs per millimetre (lppmm)
System	**Adaptive Optics Control**	Fully automated, resistant to blinking & movement
	Focusing Range	1600 µm
	Minimal Pupil Diameter	≥ 4 mm
	Fixation Stimulation Range	H ±14.5° / V ±10°
	Refractive Error Compensation	-12 to +6 D

2 Some specifications are dependent on ocular biometry, pupil diameter, optical defects, ocular media transparency as well as other factors.
3 System can image line pairs of 2 µm in line width.

OIA008 11/16