Cellular and microvascular assessments for clinical studies and trials

rtx1-e™
Retinal camera

imagine eyes®

Fighting blindness with advanced retinal imaging

*Images: Courtesy of Quinze-Vingt National Eye Hospital, Paris, France*
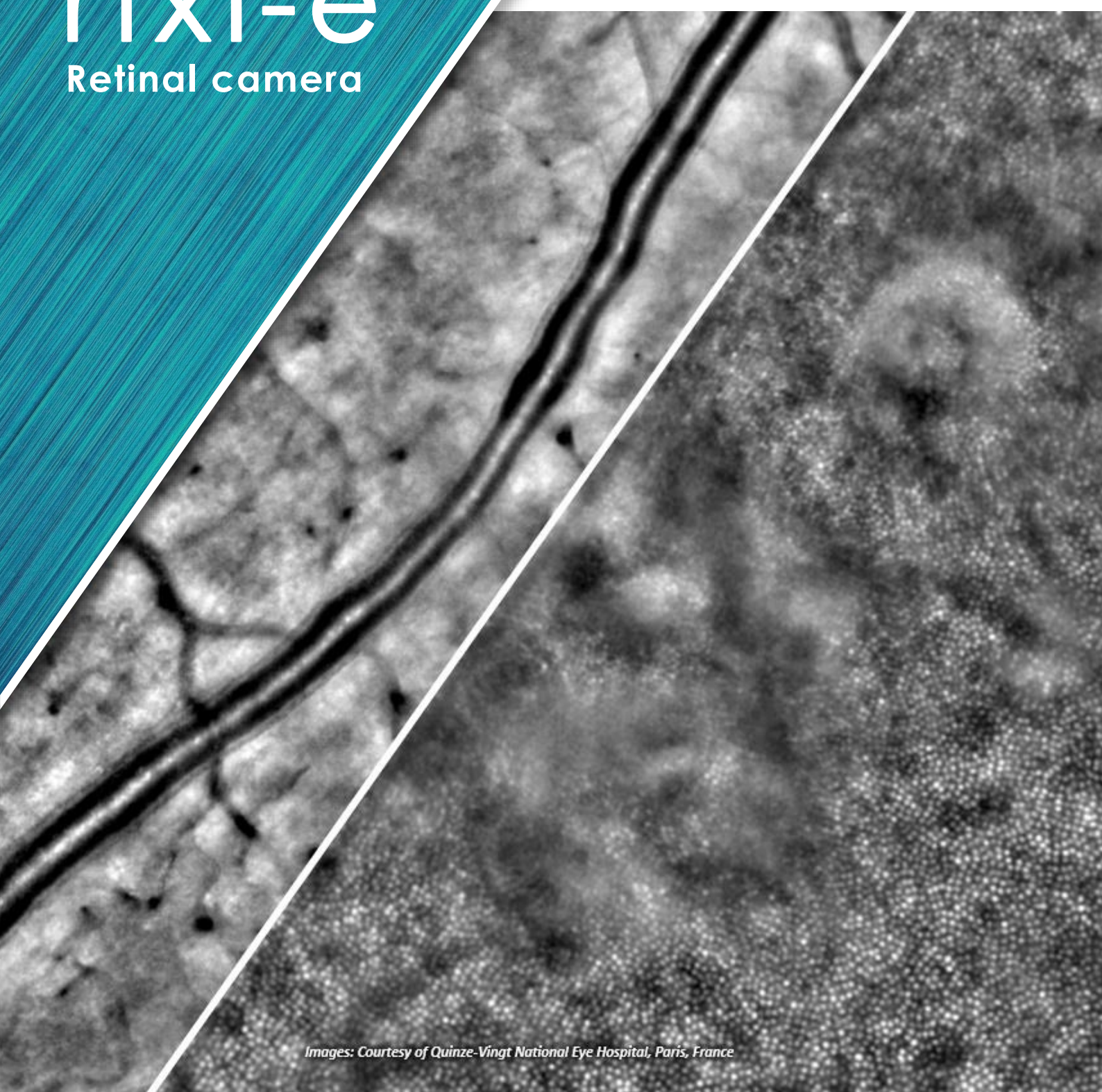
rtx1-e

Track disease at the microscopic scale in the retina

Imaging at the cellular level

When using the rtx1 Retinal Camera, you examine the retina at a scale where individual cells are visible. Thanks to Adaptive Optics (AO) technology, it reveals parafoveal cone photoreceptors as well as other microscopic retinal structures that cannot be seen with conventional imaging techniques.

100 µm

100 µm
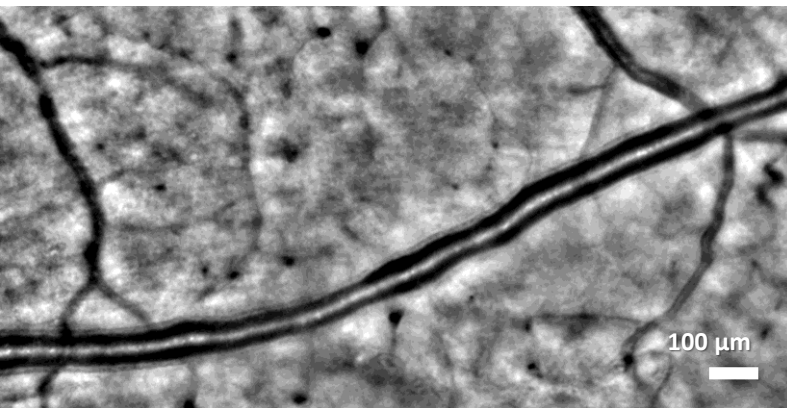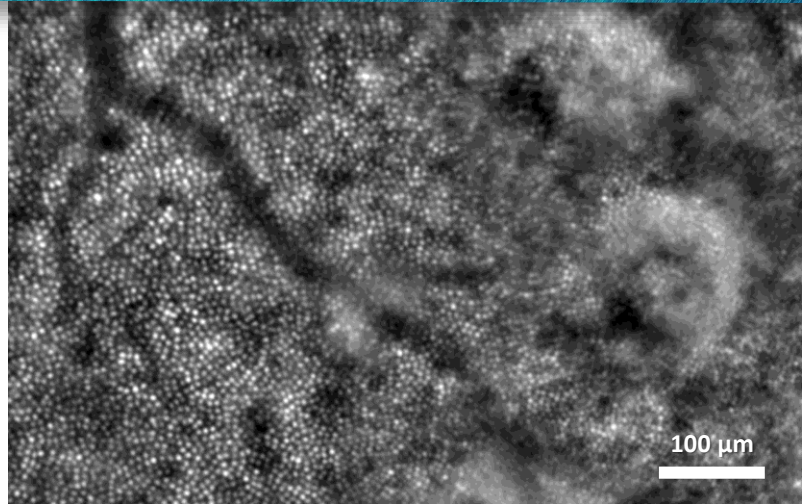
Microvascular imaging

The rtx1 enables visualizing the microscopic walls of retinal arterioles non-invasively. Focal narrowing, perivascular sheathing, micro-hemorrhages and micro-aneurisms are also visible without using contrast agents.

Retinal pigment epithelium imaging

The **TFI add-on module**, available as an upgrade, extends the imaging capability of rtx1 for investigating retinal anatomy, pathology, and therapy. Using transscleral illumination, rtx1-TFI enables visualizations of otherwise invisible microscopic detail in the retinal pigment epithelium, as well as pigment redistribution in retinal degeneration.

100 µm
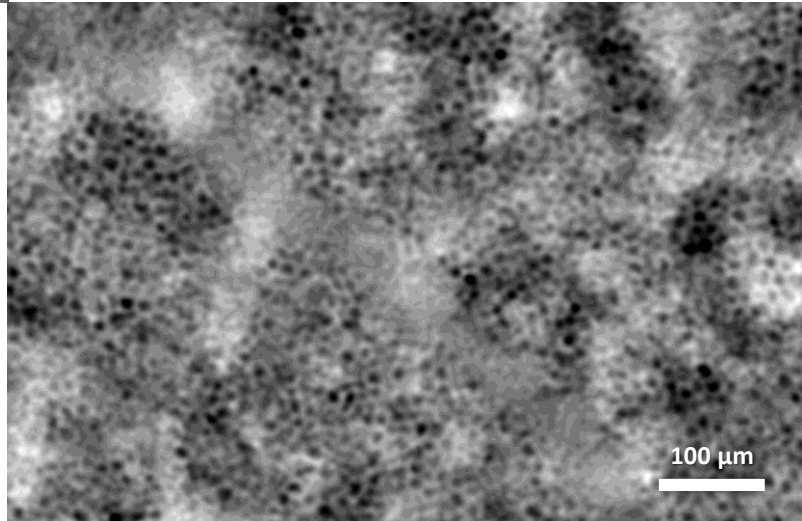
2s **Acquisition time**
No compromise on patient comfort

**250+** **Publications**
Extensively validated technology

Reference device

The rtx1 stands out as the most widely-used AO imaging device throughout the world. Cleared by regulatory authorities in several countries, it has become the reference device for cellular-level retinal assessments in clinical research, and enabled extensive clinical knowledge and findings in a large variety of diseases that impact the retina.

Images : Courtesy of Quinze-Vingts National Eye Hospital, France
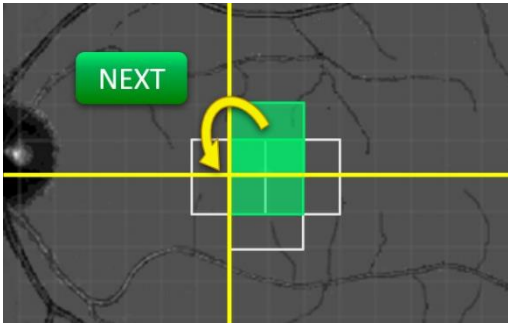
Fast protocol workflows

Designed in collaboration with clinicians, the rtx1 enables comfortable examinations and a high patient throughput. The **Protocols** functionality guides users through every step of virtually any imaging procedure. It enables accelerating and standardizing AO examinations in multicenter studies.
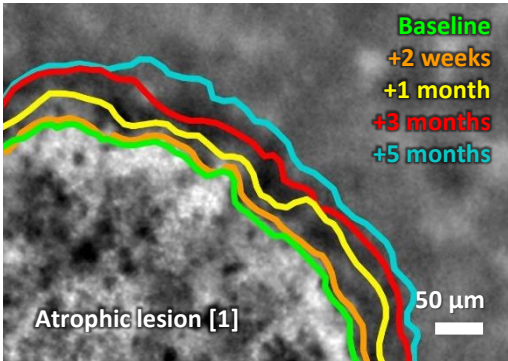
Tracking microscopic progression/regression

By design, the rtx1 delivers images that are free from motion distortion. Building on this advantage, rtx1 software makes it easy to capture multiple regions of interest through different visits, and automatically registers follow-up images. This allows tracking minute changes in groups of cells, vessels, or lesions over time.

Baseline
+2 weeks
+1 month
+3 months
+5 months

Atrophic lesion [1]

50 μm

Cellular & vascular biomarkers

With **AOdetect** application, rtx1 delivers an array of candidate biomarkers for assessing the distribution of parafoveal cone cells, and for rtx1-TFI, RPE cells. It also provides non-invasive analysis of the wall morphology of blood vessels with micrometer precision.
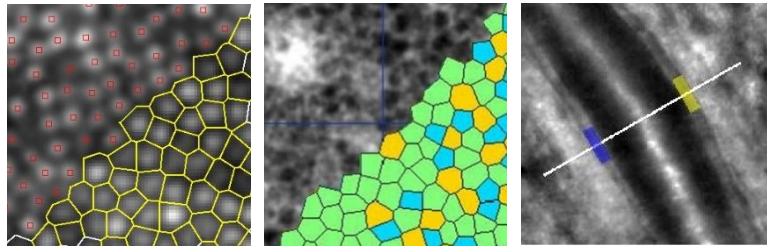
Explore neurovascular coupling

Flicker stimulation enables micron-precision assessments of neurovascular response of small blood vessels.
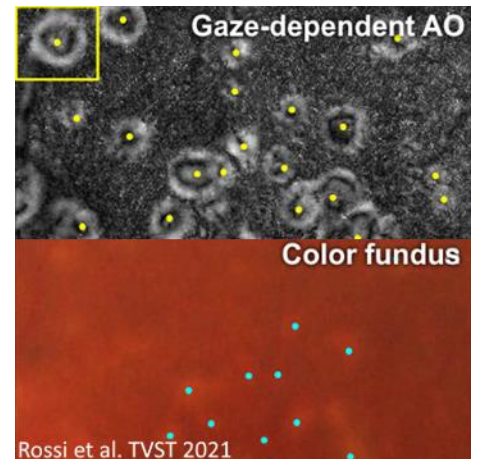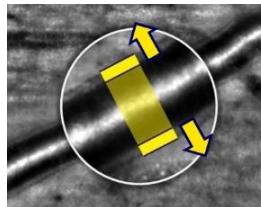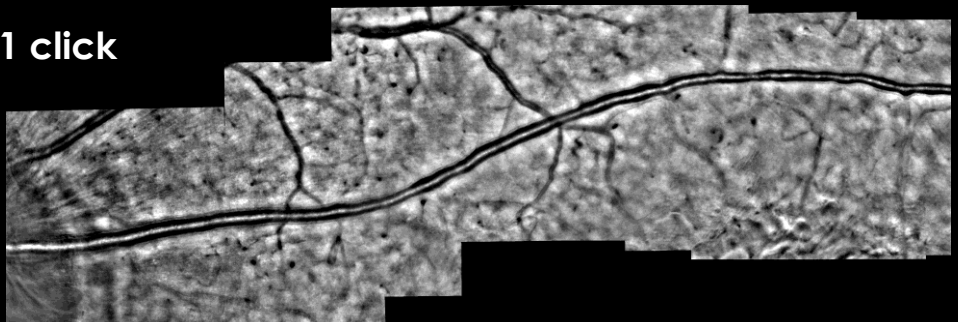
Deeper insight into retinal microstructure

Directional imaging procedures streamlines the investigation of alterations in the reflectance of retinal microscopic structures, such as for visualizing small drusen with enhanced contrast [2].

Gaze-dependent AO

Color fundus

Rossi et al. TVST 2021

Large field AO images in 1 click

Effortlessly assemble high quality montages using first-in-class auto-registration algorithms by DualAlgn®. **i2k™ Retina Pro AO** is made for rtx1 images.

[1] Geographic atrophy case. Courtesy of Quinze-Vingts National Eye Hospital, France. [2] Small drusen case. Gaze-depndent AO method: Rossi et al. TVST 2021.

rtx1-e
Track disease at the microscopic scale in the retina

SPECIFICATIONS	rtx1-e retinal camera
Imaging type	En-face reflectance imaging
Detection type	Low-noise CCD camera
Illumination	Near infrared LED Standard transpupil 850 nm
Exposure time	< 10 ms
Imaging field of view[1]	4° x 4°
Fixation stimulation range	H ± 14.4° / V ± 10°
Camera pixel pitch on the fundus[2]	1.1 µm
Optical resolution on the fundus[1,2]	250 line pairs per millimeter (lppmm)
Adaptive optics control	Fully automated Resistant to blinking and movement
Depth focusing range[1]	1600 µm
Pupil diameter	≥ 4 mm
Refractive error compensation	-12 to +6 D
Total footprint	137 x 53 x 132-162 cm

1. Some specifications are dependent on several factors including but not limited to: ocular biometry, pupil diameter, optical defects, ocular media transparency.
2. The system can image line pairs of 2 µm in line width.

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rtx1 is a certified medical device of class IIa in the European Union.

In the USA, **rtx1** has not received FDA clearance; it is an investigational device that requires Institutional Review Board (IRB) oversight.

rtx1 is an approved medical device in Japan, China and South Korea.

The contents of the brochure may differ from the current status of approval of the product in your country. Contact Imagine Eyes or your local representative for more information. For use by trained healthcare professionals only.

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