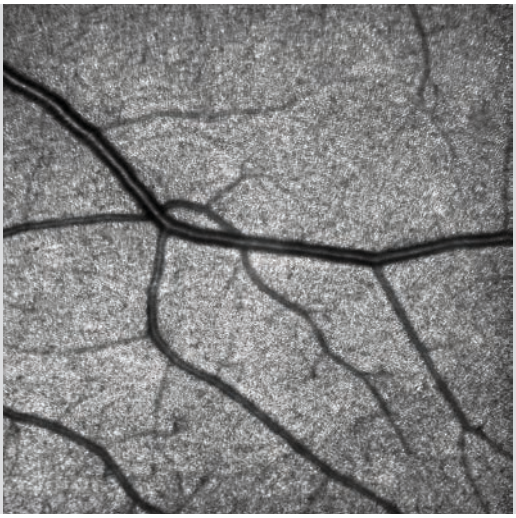
SPECTRALIS®

High Magnification Module



The **High Magnification Module (HMM)** is designed to visualize significantly more microstructural detail of the ocular fundus than is possible with a standard SPECTRALIS lens. Far from being a simple digital zoom, the HMM capitalizes on the exceptional SPECTRALIS technology by sampling with particularly high density.

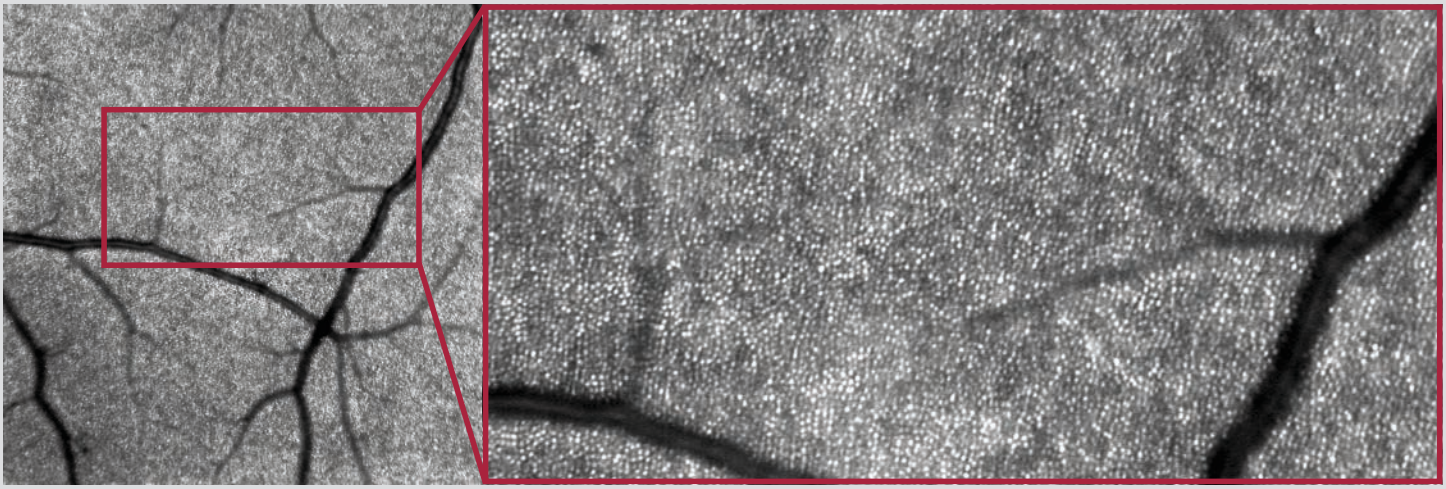
The detail seen in HMM images may provide novel insights into the pathogenesis and progression of retinal diseases, adding further possibilities to refine surgical and treatment regimens.

"It's promising to be able to obtain infrared fundus images with such a degree of magnification using our regular SPECTRALIS device. It seems like we are seeing down to the photoreceptor level. We have just started using the High Magnification Module as part of our multimodal imaging approach and we are looking forward to exploring its full clinical value.

Prof. Dr. Giovanni Staurenghi,
Professor of Ophthalmology at the University of Milan, Italy

Investigate the retina at the microstructural level

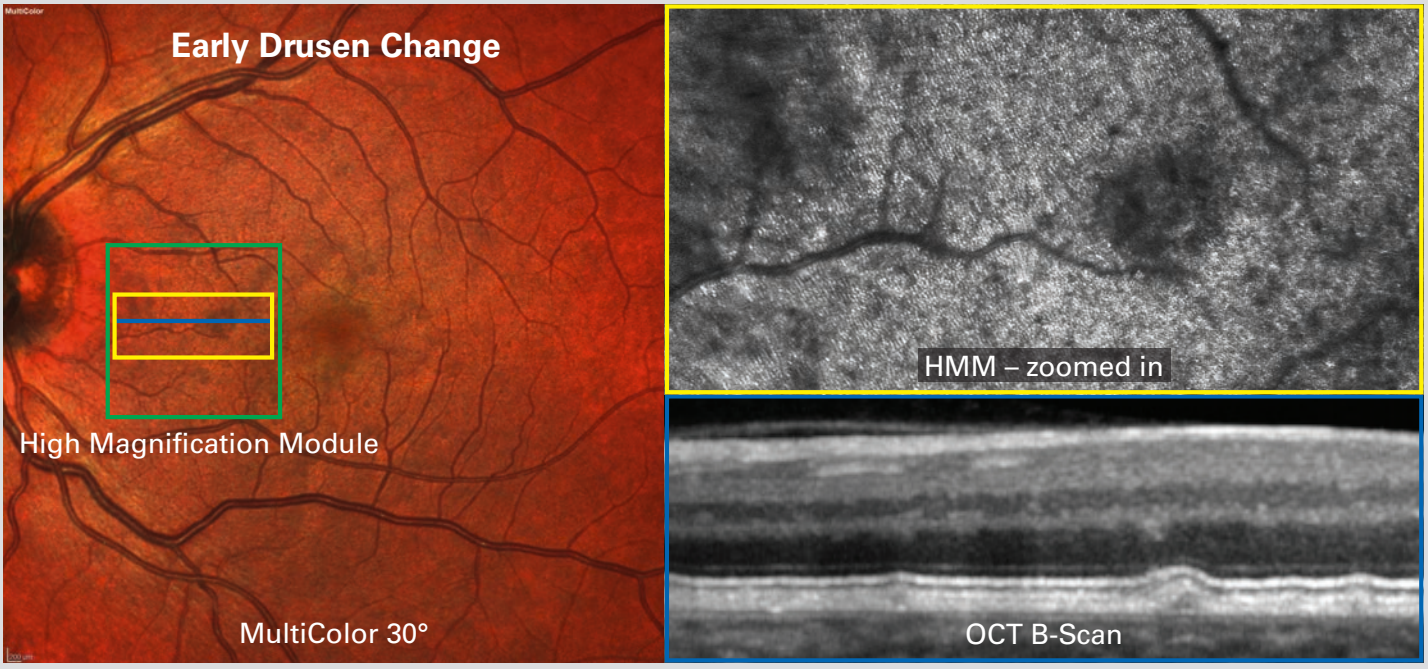
The SPECTRALIS multimodal imaging platform provides the flexibility to identify a region of interest with either the standard 30° field of view, the widefield 55° or the ultra-widefield 102°, and then to magnify it using the HMM to obtain high-resolution 8° x 8° infrared reflectance images. The magnification generates much denser scans of this region, gathering very detailed information of ocular microstructures. The field of view of the HMM allows for closer investigation of the areas of interest while still being large enough to aid navigation and orientation.



HMM image of a healthy female (left), focused at the level of the outer retina. The pattern of numerous bright, round shapes resembles the photoreceptor mosaic (see zoomed-in view on the right).

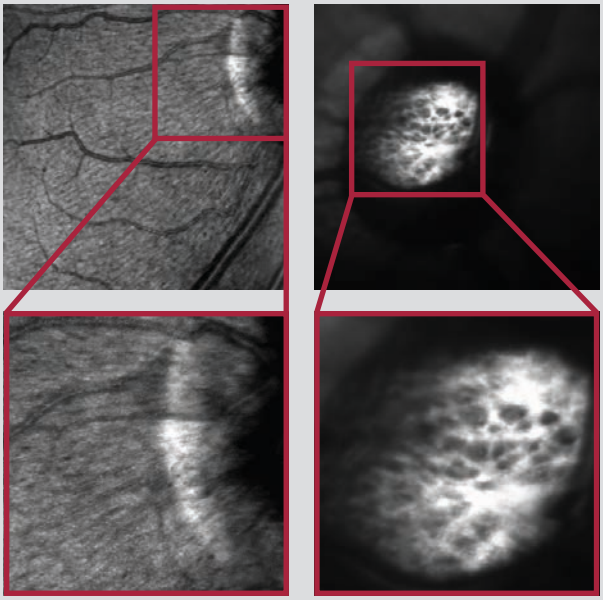
Excellent confocal optics are key

The non-invasive High Magnification Module makes optimal use of the confocal scanning laser ophthalmoscopy (cSLO) technology of SPECTRALIS by combining it with the selectivity of laser light to resolve retinal microstructures with a level of detail typically not available in a traditional clinical setting.



30° MultiColor image with signs of early drusen (left). The green square shows an 8° x 8° area to be investigated with the High Magnification Module (HMM). A zoomed-in view of this area (yellow) and an OCT B-Scan (blue) are shown right.

Potential clinical applications



Early adopters of this new technology are currently combining the HMM with more established imaging modalities to examine patients with ellipsoid zone disruption and outer retinal changes, early drusen and drusen-like deposits in the context of AMD, and pachychoroid disease, as well as for patients with nerve fiber bundle defects and for the assessment of retinal vessel walls. The HMM images reveal details of retinal microstructures that could remain unseen with most imaging modalities.

Availability

The SPECTRALIS High Magnification Module is FDA-cleared and CE-marked. It can be used with both new and existing SPECTRALIS devices that are equipped with the Thunderbolt interface.

HMM images of the ONH showing retinal nerve fiber bundles (left) and what appear to be laminal pores (right).

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