Laboratory and assembly of SOCT Copernicus

Every device is carefully assembled and thoroughly re-checked in order to make sure that the received product is of the highest quality. At Optopol we understand the importance of expanding new possibilities in ophthalmologic diagnosis. That is why a team of qualified professionals constantly work to develop new technologies that will increase the possibilities of our already advanced devices, like the SOCT Copernicus.

Available product functions:
- Glaucoma analysis module:
  - ONH data
  - DDLS
  - RNFL analysis
    - automatic disc and cup detection
    - disc, cup, rim area
    - cup/disc area ratio
    - disc, cup, rim volume
    - cup/disc volume ratio
    - mean and max cup depth
    - disc, cup diameter
  - Retina Analysis Module
    - IS/OS-RPE thickness map
  - 3D module

SOCT Copernicus Glaucoma Module

A Powerful Predictor of Change
- Validated by Ophthalmologists to predict structural change
- Optic disc analysis outperforms expert interpretation
- Large normative database
- Asymmetrical analysis
- Network ready
- DICOM connectivity.

The SOCT Copernicus Glaucoma Module is an essential tool for the detection and management of Glaucoma. Essentially, the tool allows detection on pupillary defect and tracks progression with time. The essential components of the Glaucoma Module are:
1. Disk Damage Likelihood Scale (DDLS): The DDLS is a new way to analyze the optic nerve. Instead of a cup/disc (c/d) ratio, a rim/disc (r/d) ratio and the nerve size is measured. This methodology is superior than any other reporting measure for two reasons:
   a. DDLS eliminates the effects of disc size, which is so variable in people.
   b. DDLS measure provides more weightage to the rim, which is the actual part that is damaged in Glaucoma.
2. Asymmetry analysis: Asymmetry analysis correctly identifies patients with glaucomatous field loss and shows abnormalities in many patients considered at high risk for glaucoma who still have normal fields. Asymmetry analysis is also able to identify objectively the extent of glaucomatous damage and detects changes before subjective field loss occurs.
3. Symmetrical progressions analysis: Glaucoma module allows complete and detailed progression analysis of the RNFL thickness, comparison to the normal population, DDLS scale and difference from baseline plots to highlight progression and/or comparison of disc scans at various stages of time.

* Please contact your local distributor for further details.
Anterior Segment Module

The anterior segment module allows cornea and anterior imaging with a resolution of 3 microns.

3D and Fovea

The new advanced 3D module allows visualization of the 3D reconstruction. Peeling facilitates localization and review of the pathology for detailed analysis.

SOCT Copernicus

Technical Data

- **Technology**: Spectral domain OCT
- **Measurement mode**: Single B-scan, 3D mode, Asterisk, Animation scan, Circle, user defined scan parameters
- **Fixation**: Internal and external fixations
- **Light source wavelength**: 840 nm, 50 nm half bandwidth
- **Axial resolution**: 6 µm
- **Transversal resolution**: 12 - 18 µm
- **Axial scanning window**: 2 mm
- **Examination speed**: 25'000 A-scans per second
- **Maximum number of A-scans per B-scans**: 10'500
- **Minimum pupil diameter for measurement**: 3 mm
- **Display**:
  - Single B-scan with colour mask
  - 3D retina imaging (zooming, rotating, sectioning, surface reconstruction)
  - Circular Disc Scan
  - Retina thickness analysis module
  - Topographic map of retina thickness
  - RNFL thickness analysis
  - ONH DATA
  - Creating AVI animations of retina cross-sections
  - RNFL topographic maps
  - RNFL thickness graph for nerve head neighbouring area
  - RPE analysis module
  - RPE deformation maps
- **Printout**: User customized, predefinable styles
- **Power supply**: 230V 50 Hz/115V 60 Hz
- **All head movements motorized (using electrical actuators) and controlled from the computer screen**
- **Direct fundus preview during scanning**
- **Image enhancement module**
SOCT Copernicus Image

Central Serous Chorioretinopathy
SOCT-Copernicus image reveals significant amount of fluid collected under the central area of retina. The sensory part of retina is not fully damaged but elevated by the pool of fluid.

Optic Nerve Head Drusen
Drusen deformation graph reveals deformation beyond normative data (marked by green).

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Optic Nerve Head Drusen
Optic Nerve Head Drusen can be easily imaged using SOCT Copernicus.

Macular hole
SOCT Copernicus macular hole image shows abnormal opening in neurosensory retina. Intraretinal cystoid changes are also clearly visible on the image.

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Tractions
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Epiretinal membrane with lamellar macula hole
Image of Epiretinal Membrane (ERM) depicting highly reflective membrane anterior to the retina with macular pucker. ERM has also resulted into the formation of a lamellar macular hole.

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Pigment Epithelial Detachment
Small amount of fluid under neurosensory retina is clearly visible on the SOCT Copernicus tomographic image.

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Wet AMD
Age Related macular Degeneration can be easily diagnosed thanks to sharp images obtained using SOCT Copernicus.

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Macular edema with drusen and traction
Image of macular edema taken using SOCT Copernicus clearly shows intraretinal cystic areas and large drusen.

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BRVO (Branch retinal vein occlusion)
SOCT Copernicus image shows damages to retina caused by blocked retinal veins.

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