

Optical Coherence Tomography (OCT)

OCT is an imaging system designed to acquire high resolution cross- sectional retinal images.

Differentiation of retinal layers at a near- histological level is possible owing to a very high depth resolution and because different tissue structures reflect light with different intensities.

The major clinical application of OCT at present is the qualitative and quantitative analysis of retinal pathologies.

OCT analysis of the retinal nerve fibre layer (RNFL) thickness is of great potential in the diagnosis and monitoring of glaucoma.

A circular scan centred on the optic nerve head (ONH) to measure the thickness of the peripapillary RNFL, analysis of the macular and ONH topography has become the standard for glaucoma diagnostics.

OCT provides real-time, immediate and objective quantitative assessments of RNFL, macular and ONH topography.

SAGS supports the following management of SA glaucoma patients:

- 1) adequate pressure reduction to prevent further glaucoma damage
- 2) detection of further progression using the following tests:
 - a) functional test with HA 24-2 or HA 10-2
 - b) structural test with OCT evaluating ON topography, RNFL and macular thickness.

Both tests need to be done initially at diagnosis and yearly for follow up the rate progression. Other structural assessments like disc photography, HRT or GDx are also recommended.

The South African Glaucoma Society strongly recommends OCT to be used for the initial diagnosis, and the yearly follow- up of a glaucoma patient. In difficult to control patients, OCT may be needed twice yearly.