



RSD – Anterior OCT scans

Anterior Eye OCT scans

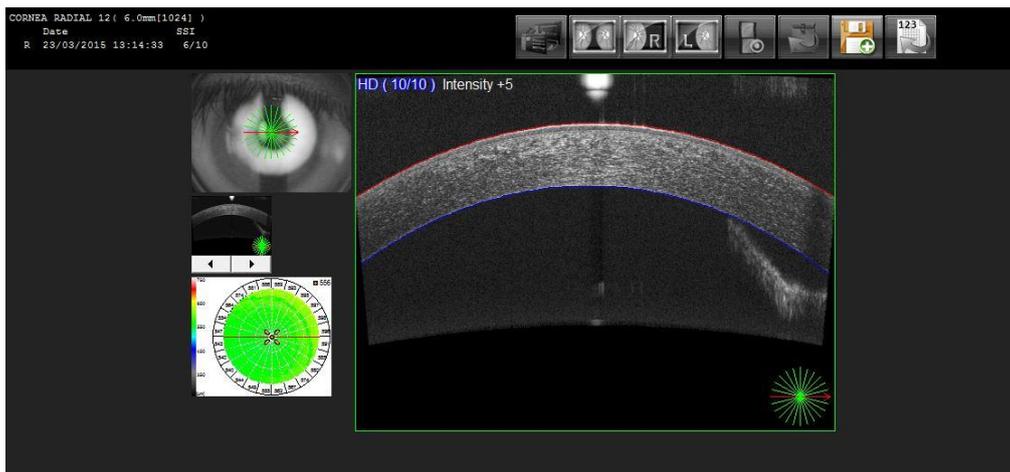
The RSD can produce a number of anterior eye scans by attaching the Anterior Lens Module.

Fig. 1 – Anterior Lens Module and auxiliary Forehead rest



The most useful scans are the corneal radial scan (*Pachymetry – corneal thickness map*) and the ACA line (*Anterior chamber angle measurement*).

Fig. 2 – Corneal Radial scan



The anterior scans are all captured manually, so this requires a reasonably skilled user. Position the RSD so the fixation target is as central on the cornea as possible – Px fixates straight ahead. Ensure you are watching the PC monitor as you push forward towards the eye. Don't move forwards too quickly as you will overshoot your position and get too close to the Px eye. Ensure you press 'Optimise' before capture. Make fine adjustments to the positioning to ensure the scan is approximately in the centre of the scan boxes and ask the Px to blink before you press the joystick button to capture the scan.

Once the scan is saved and viewed, NAVIS – EX should be able to automatically recognise the anterior and posterior corneal surfaces. You can also use the measurement functions. Hovering over the thickness map will give you the thickness in any measured position.

TIP! – The SSI and scan capture data will not be as good as for posterior scans due to having the anterior module attached. If the scan is of poorer quality, try making the environment darker, or increasing the scan intensity.

TIP! – Normally you only need to move the RSD forward approximately 2cm.

TIP! – The main reason for performing a corneal radial is for pachymetry, but you can position the scan anywhere on the corneal to image pathology. You can even use the scans to assess contact lens fitting!

TIP! – Some of the images may contain an artefact of the internal focussing mechanism. This cannot be avoided.

Capturing the anterior chamber angle is a similar process to above, the main difference being you need to position the fixation on the limbus. The Px cannot see the internal fixation anymore, so use the external fixation target or ask the Px to fixate on the RSD casing. Ensure you press 'Optimise' before capture. Make fine adjustments to the positioning to ensure the iris is approximately level with the orange line towards the bottom of the scan box and the angle itself is approximately in the centre of the scan box. Ask the Px to blink before you press the joystick button to capture the scan.

Fig. 3 – ACA Line scan



TIP! – Getting good scans is tricky! Sometimes because of the positioning or the quality of the image, angle measurement mode may not be possible. Always capture at least two scans per eye (Temp. and Nasal) to use as comparison and to increase the chances of a good quality scan.

TIP! – The scan is initially set horizontally, but the scan angle can be altered to enable you to scan anywhere around the limbus.

Angle Measurement mode

After capturing the ACA line scan, you can enter the Angle Measurement mode to calculate the anterior chamber angle. Follow the four steps to create an angle measurement:

Set Scleral spur → Set length → Set point on Iris → Set front line of iris

Fig. 4 – Angle Measurement Mode



TIP! – Setting the position of the scleral spur is a little subjective but does not greatly influence the final measured angle value.

TIP! – The measured angle will be displayed in angle degrees. Practically, all you are really interested in is if the angle is open, closed, or a structure in the way of the angle.

TIP! – If you ever refer for narrow angles, at the hospital the Ophthalmologist will always perform gonioscopy!