Patient Information Series

Optical Coherence Tomography (OCT)

Midlands Eye Care
COMPREHENSIVE OPHTHALMOLOGY SERVICES
What is an OCT scan?

Optical Coherence Tomography, or ‘OCT’, is a technique that uses laser to obtain very detailed images of the eye. The laser beam is directed at the eye to scan the eye structures, and the laser light that is reflected back from the eye is collected and analysed to construct a detailed image.

The detail that can be seen with an OCT scan is quite extraordinary – almost as much as can been seen if the eye tissues were removed and examined under a microscope. Yet for the patient, an OCT scan can seem much like an ordinary eye examination. The pupil may need to be dilated, otherwise no special preparation of the eye is required. The patient needs to look steadily at a fixation light, the scan itself takes a few minutes, and the results are available immediately. The laser light used by the instrument is low energy and there is no risk of damage to the eye.

There are different types of OCT scans to examine the different parts of the eye. A retinal OCT scan maps the retina, including the very sensitive part in the centre called the macula.

The 2 images at the top are of an OCT scan of the macula (A) and the optic nerve (B). The lower 2 images are specimens of the same part of the eye examined under a microscope.
A **glaucoma OCT scan** measures the thickness of the retinal nerve fibre layer which is thinned in glaucoma. A **corneal OCT scan** measures the thickness of the cornea (transparent front of the eye), and the anterior chamber angle – the part of the eye where the fluid drains out from the eye – than can, if obstructed, lead to glaucoma.

The shaded green area in these OCT scans is the part of the retina that becomes thinned in glaucoma. The retinal nerve fibre layer is the inner (topmost) part of the shaded area.

OCT is a major advance in ophthalmic practice. It provides information that improves the way your eye specialist can diagnose and manage your eye condition, and we are delighted that we can now offer this service at Midlands Eye Care.
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