



because sight is precious



Is an affiliated clinic and provides teaching facilities to



UNIVERSITY OF NICOSIA Medical School

You have an appointment for:

Visual field test OCT			
Day:	, Date:	time:	
Supervising Dr:			

Visual field test

Because visual field tests take some time to complete and require the attention of a technician, they are often not given as part of a comprehensive eye exam unless there is a suspicion of glaucoma or optic nerve disease.

In our clinic we use the Humphrey Field Analyzer. It looks much like a large concave bowl. With one eye covered with a patch, you focus your vision on a central spot while small white lights of varying brightness flash at various points around the bowl. When you see



a flashing light, you press a button. The test records which lights you see and which you do not, and in this way it creates a map of your visual field.

Performing a visual field test can be challenging at first. Keeping your focus on the central spot can be quite difficult. The machine indicates when your focus has shifted, and the operator will remind you to focus on the central point.

Another challenging aspect of the field test can be the amount of time during which you do not see anything to respond to. The flashing lights not only move around; they also vary in intensity. The test seeks to find the brightness threshold below which you cannot see at various points around your visual field, so there will be several periods of time during the test where you will not see anything at all.

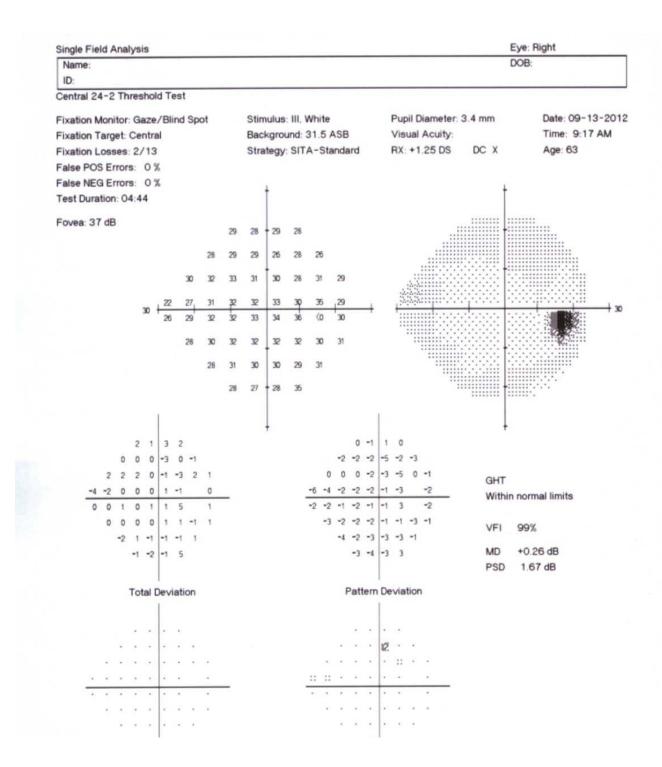
For those with significant visual field loss, this aspect of the test can be frustrating. If you have lost vision in areas of your visual field, you will not see anything to respond to when lights flash in those areas.

There is also a learning curve involved with field tests. As you do more and more of them you will most likely become more comfortable with the process.

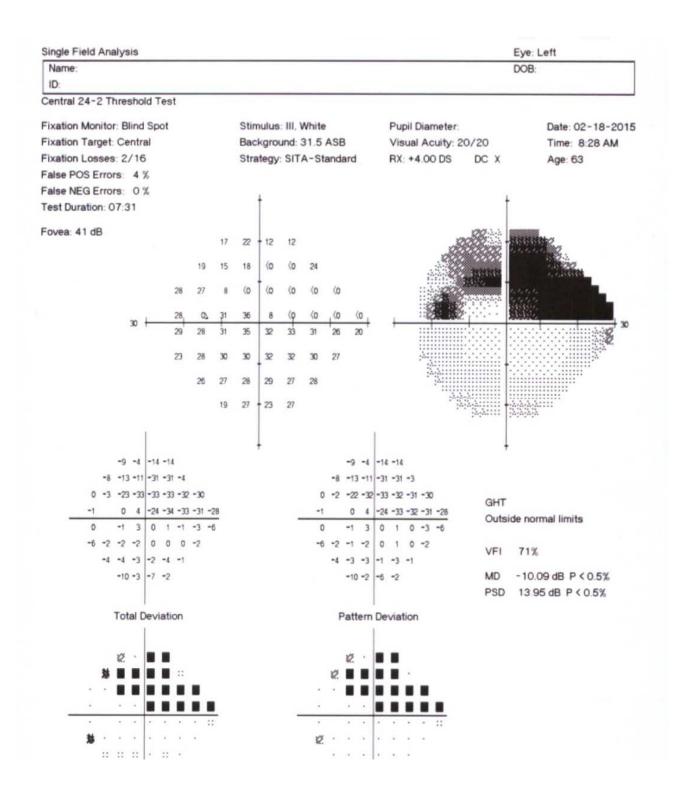
Perimetry Tips

- Don't start the test until you are comfortably seated, positioned at a comfortable height with your head resting comfortably in the headrest. A minor discomfort at the beginning can intensify into a distraction that takes your attention away from the test.
- The room should be dark. Lighting will affect your ability to see the targets; discuss lighting conditions with the technician.
- Remember, you are not trying to pass a test, nor can you fail. Do not try to beat the system by pressing the button when you're not sure if you saw something. Remember that the system is designed to present stimuli you can't see—that's how it determines your threshold vision. Accumulating "false positives" by clicking when you are unsure if you have seen a light can result in an inaccurate assessment of the amount and severity of visual field loss.
- If there are distractions in the room, inform the technician.
- Try to avoid taking the test when you are sleepy or fatigued.
- Blink normally throughout the test.
- If you feel you need to stop and take a break, do so.
 Holding down the response button will pause the test, or you can ask the technician to pause the test.

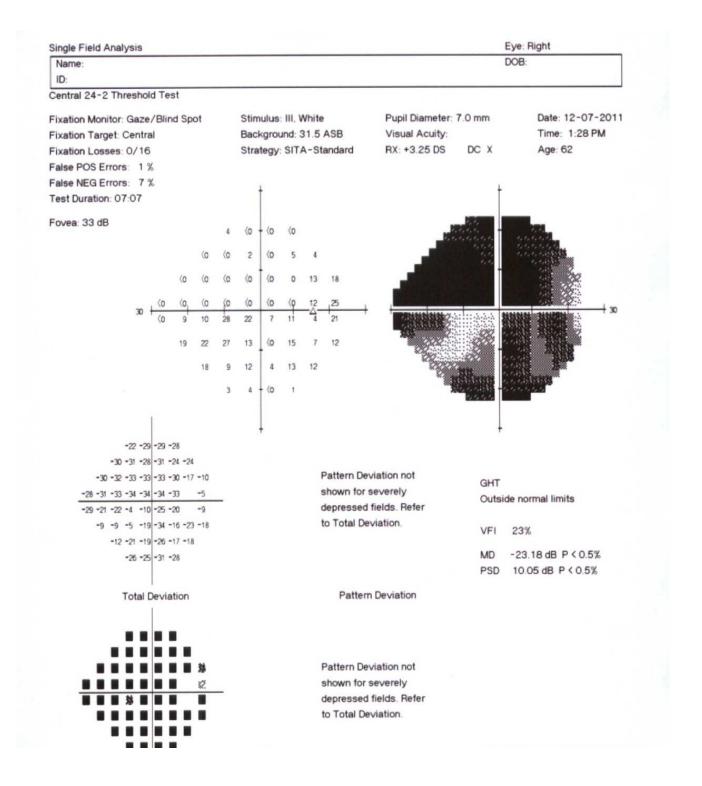
Field test results



Visual field map showing a normal visual field



Visual field map showing moderate visual field damage



Visual field map showing advanced visual field damage.

After your Perimetry Exam

Your doctor will show and explain to you the results. These results will be used in planning your treatment, but also evaluate where your visual field is weakest, information that can be valuable to you in modifying your daily needs.

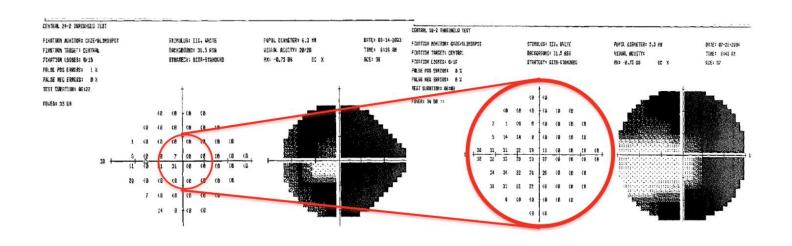
The printout of your visual field test shows both graphically and numerically the extent of any glaucomatous deficit you may have. The sensitivity of each point in the visual field is measured on a scale of 0–30 decibel units.

These sensitivity measurements are graphically represented with darker areas indicating loss of sensitivity: the darker the shading, the more vision has been lost.

Central Vision Testing

Glaucoma is often so strongly associated with peripheral vision loss that central vision loss due to glaucoma can be overlooked. Paracentral scotomas—blind spots adjacent to the macula or central region—are in fact one of the identifiable patterns of visual field loss associated with glaucoma. That is why in many cases your doctor will ask you to perform a central field of 10 degrees (10-2) in addition to the peripheral (24-2)

Visual field defects approaching the central 10 degrees of fixation are optimally observed using the 10-2 strategy because of the increased number of points (68 points) evaluated in this critical area of visual function. The 10-2 strategy may also identify new central defects, that would otherwise go undetected with the 24-2 strategy.



HVF 24-2 and 10-2 of the right eye of a patient with advanced glaucoma. The 10-2 strategy tests a greater number of locations in the central 10°, increasing its ability to detect subtle changes in this area.

Optical coherence topography (OCT)

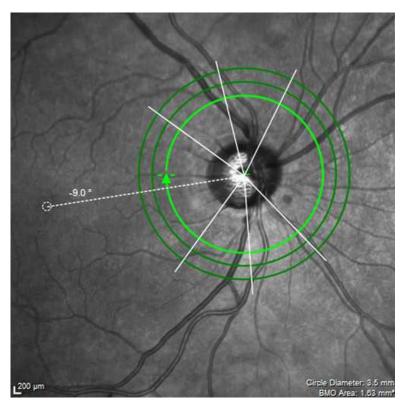
OCT produces a quantifiable measurement of the optic nerve and also allows better assessment of progression, especially in early stages of the disease.

Optical coherence topography (OCT) test actually obtains a topographical map of the optic nerve, using non-invasive light waves to take cross-section pictures of the retina. An OCT test measures the thickness of the nerve fiber layer, which is the portion of the optic nerve most vulnerable to

eye pressure elevation.

An OCT test is taken at the patient's initial exam and then every six to twelve months thereafter.

Thinning of the optic nerve indicates that it is being damaged by elevated intraocular



pressure. When OCT test results show that the optic nerve is thinning, this is a symptom of glaucoma. So, it is something that we can use to identify the presence or absence of disease. It is probably the most useful information of any single parameter as to whether or not glaucoma is present.

In addition to glaucoma, OCT is useful in diagnosing other eye conditions such as diabetic retinopathy and agerelated macular degeneration.

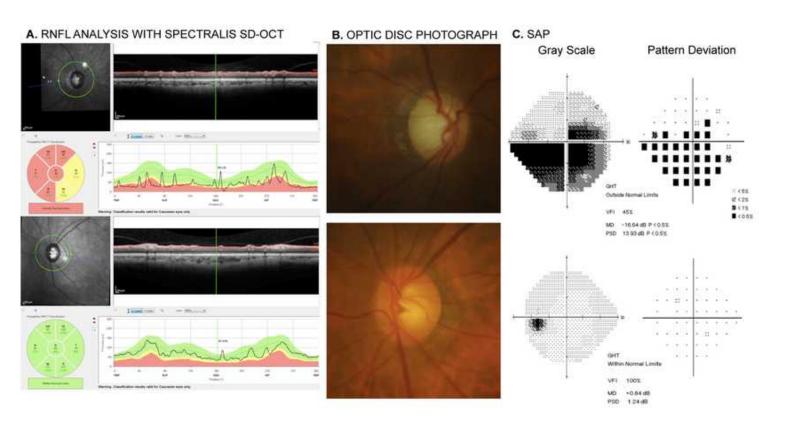
Your clinician needs to make sure that the quality of the scan and analysis is adequate before accepting the OCT results. A poorquality scan can give you bad or incorrect information. All the images will be processed very carrefully both by the technician performing thew OCT, as well as you clinician who can assess the quality and process the results.



In order to have the maximum benefit of this exam, the equipment has to be optimal. In our clinic we use Spectralis OCT which is a diagnostic imaging platform which combines scanning laser fundus imaging with high-resolution OCT. This is cutting edge technology which is paramount to accurate results, hense correct decision making in glaucoma.

Basic interpretation of your OCT

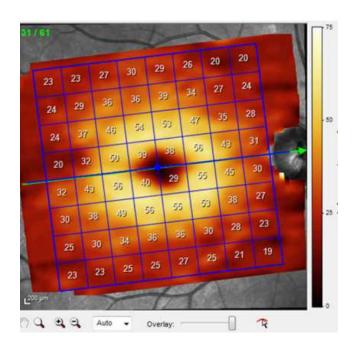
There are two siginificant charts to see in order to comprehend your OCT test. The first is the nerve fiber layer thickness chart (RNFL). Schematically, the healthy thickness appears green and the thin areas appear red.

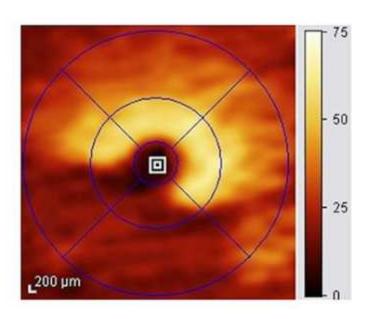


In the picture above you can clearly see the correlation with the optic disc photograph as well as the visual field loss in a patient with advanced glaucoma at the top pictures and a healthy indivisual at the bottom pictures.

The second very important chart is the ganglion cell layer thickness chart, the ganglion cells die very early in glaucoma and is important to identify loss or thinning of the layer.

If you look at the pictures below, you will see to your left the notrmal ganglion cell layer which looks like a bright yellow ring or donut. In the images on the right there is a piece missing, indicating thinning of the layer which is focal and characteristic of glaucomatous damage.





Prevention is better than cure

Glaucoma is a condition you will live with for the rest of your life. There is no absolute cure so that you can one day say, "I no longer have glaucoma", but there is very good treatment available that will control your glaucoma and prevent visual loss.

The secret of good glaucoma management is prevention of visual field loss. The only way to achieve this is to detect changes in the optic nerve and visual fields early enough and adjust the treatment to control or reverse them.

These test provide the necessary information to do just that. You should not be anxious about performing these tests. Your doctor asks for these tests to prevent your deterioration not because he or she think that your are a severe case of glaucoma.

If you have any further concerns about your tests please do not hesitate to ask your doctor or one of our specialist nurses.



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