Open Angle Glaucoma

Information and advice for patients

Ophthalmology

What is vision?

The vision of your eye is made up of:

- Central vision – what you see when looking straight ahead
- Peripheral vision – what you can see around you while looking straight ahead
- Colour vision

At first glaucoma only affects peripheral vision.

What is glaucoma?

Your eye produces fluid (aqueous) all of the time, which is drained away through a sieve-like structure (trabecular meshwork) between the front of your eye (cornea) and the coloured part (iris).

If this does not happen efficiently then there will be a build-up of fluid which will cause the pressure inside your eye to rise. This increased pressure will push on the back of your eye causing damage to the area where the optic nerve from the brain joins the eye (optic disc). This area is responsible for your visual field, what you can see at the sides while we are looking straight ahead. If your optic disc is damaged, you will lose your visual field. This is known as glaucoma.

Further damage would cause more severe loss of vision and become noticeable, eventually leading to blindness if the pressure remains high.

What causes open angle glaucoma?

Open angle glaucoma is caused when the angle between the cornea and iris is open for the fluid to get to the trabecular meshwork, but the trabecular meshwork is not functioning properly. Open angle glaucoma is the commonest form of glaucoma in UK.

The following factors will increase your risk of developing open angle glaucoma:

- **Age:** Glaucoma is uncommon in people under 40 years. The risk increases as you get older.
- **Family history:** You are at greater risk if you have a first degree relative who has glaucoma.

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- **Racial origin:** People of Afro-Caribbean origin have a higher risk.
- **Short-sightedness:** A high degree of short-sightedness (myopia) increases the risk of open angle glaucoma.

What is closed angle glaucoma?

Closed angle glaucoma is when the angle between the cornea and iris is closed, so the fluid cannot get access to the trabecular meshwork.

What are the symptoms of open angle glaucoma?

Open angle glaucoma has no symptoms in the early stages, you will only know if you have an examination by your optician. If your optician thinks you may have open angle glaucoma, he/she will arrange a hospital appointment for you through your GP to confirm this.

How is it diagnosed?

The following tests are used to diagnose and monitor open angle glaucoma:

- **Eye pressure measurement** – The routine method of eye pressure measurement at a hospital is Goldmann tonometry. For this, your cornea will be touched gently with a Goldmann tonometer with the help of a blue light and yellow dye eye drops. The opticians outside of hospitals usually use an air puff method which does not involve contact.
- **Gonioscopy** – Is when a contact lens is placed on the front of your eye to look at the drainage angle to check whether it is open.
- **Visual field test** – You will be asked to sit in front of a dome-shaped machine with light spots shining inside the dome. You will need to press a button if you see the light spots. The machine then prints out a map of your visual field.
- **Central corneal thickness measurement** – Measuring the central corneal thickness can allow us to assess the risk of glaucoma damage in the future and also the accuracy of the eye pressure measurement. It is done by a small ultrasound probe gently touching front of your eye (cornea).

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- **Optic disc assessment** – This is performed by the clinicians or the glaucoma practitioners at the glaucoma clinics. It is done using a special lens with the slit-lamp (large microscope) at the hospital. You will experience a bright light shining into your eyes. Other laser imaging devices may also be used to assess and monitor your optic discs. These devices (Heidelberg Retina Tomography HRT or Optical Coherence Tomography OCT) would shine a harmless laser into your eyes to measure an accurate profile of the optic disc and the surrounding retina.

The main aim of treatment is to lower the pressure inside the eye to a safer level to minimise loss of visual field.

How is it treated?

Eye drops

The usual form of treatment is with eye drops. There are different types of eye drops and your doctor will discuss with you the best way to treat your condition.

If the pressure cannot be controlled with medication then laser treatments or even an operation may be necessary.

Laser treatment:

- Argon Laser Trabeculoplasty (ALT)
- Selective Laser Trabeculoplasty (SLT)
- Cyclodiode Laser

If you require laser treatment you will be given further information.

Surgery

Surgery is always performed when all other treatments have been tried. If your doctor decides that surgery may be necessary then he/she will discuss the surgery options with you and give you the appropriate information leaflet explaining the risks so that you can make an informed decision.

The most common operation used is Trabeculectomy; in extremely rare circumstances Drainage Tube Surgery may be needed. Some patients are suitable for micro Istent surgery which involves placing a tiny stent in the

front chamber of the eye to help the flow of aqueous through the trabecular meshwork.

If you require surgery you will be given further information.

What are the benefits of the treatment(s)?

Treatment should lower the pressure in your eye to a safe level and minimise the progression of loss of vision.

What are the side effects and the risks of the treatment(s)?

Eye drops

Risks can include allergy to the drops, irritation of the eyes and certain effects in other areas of your body. These vary with the different medications and more information if given in

Laser treatment

There is a small chance (less than 1 in 100) of bleeding. This clears on its own in almost all the patients.
Raised pressure in your eye following the laser is common (1 in 10), and is easily controlled at the time of the laser with drops.

Surgery

All surgical procedures have risks and these vary depending on the type of procedure to be undertaken. Your consultant will discuss these risks with you before deciding on surgical treatment.

What are the risks of not receiving treatment?

If glaucoma is left untreated, damage can occur to the optic nerve. This results in loss of peripheral vision initially, followed eventually by loss of central vision.

Will I go blind?

If your glaucoma is picked up early enough and carefully treated it is unlikely that you will lose your sight. The 2 most important things you need to do are:

1. Use your eye drops correctly every day and at the time and frequency that you are told by the doctor.

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2. Attend all your appointments at the eye clinic. These appointments are very important to monitor your glaucoma and to see if there has been any progression. If you are unable to attend, you should always telephone to rearrange.

Can I still drive?

It is not your doctor's decision whether you could drive or not. Once you have been diagnosed with glaucoma by your doctor, you need to inform the DVLA.

They may send you for a driving visual field test at your local optician and they will decide whether you are fit to drive.

Contact details

If you have any queries please do not hesitate to contact your consultant's secretary on the phone numbers listed below during the hours of 9:00am – 4:00pm:

Mr I Masood	0121 507 6800
Mr V Sung	0121 507 6855
Mr M Nessim	0121 507 6833

Further information

The International Glaucoma Association
Sightline: 01233 648164
www.iga.org.uk

Royal College of Ophthalmologists
www.rcophth.ac.uk

Royal National Institute for the Blind
Helpline: 0303 123 9999
www.rnib.org.uk

Focus Birmingham
Helpline: 0121 478 5222
www.focusbirmingham.org.uk

Glaucoma Advice Line
(A local contact point for any queries)
0121 507 6814

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For more information about our hospitals and services please see our websites *www.swbh.nhs.uk* and *www.swbhengage.com*, follow us on Twitter *@SWBHnhs* and like us on Facebook *www.facebook.com/SWBHnhs*.

Source of information used in this leaflet

National institute for health and clinical excellence (NICE) CG85, 'Glaucoma – Diagnosis and management of chronic open angle glaucoma and ocular hypertension', April 2009

If you would like to suggest any amendments or improvements to this leaflet please contact the communications department on 0121 507 5495 or email: **swb-tr.swbh-gm-patient-information@nhs.net**

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