

Closed 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 closed angle glaucoma?

Closed angle glaucoma is caused when the drainage angle containing the trabecular meshwork is blocked by the iris, stopping the fluid from being drained away. This can cause a sharp increase in the pressure inside the eye, known as Acute Angle Closure.

Closed Angle Glaucoma is when there is further damage to the optic disc and visual field.

The following factors will increase your risk of developing closed 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 Asian origin (Chinese) have a higher risk.
- **Long-sightedness:** A high degree of long-sightedness increases the risk of closed angle glaucoma.

What is open angle glaucoma?

Open angle glaucoma is when the angle between the cornea and iris is open, but the trabecular meshwork is not functioning properly. Open angle glaucoma is the most common form of glaucoma in UK.

What are the symptoms of closed angle glaucoma?

In the early stages of closed angle glaucoma you may not have any symptoms. Some people may have eye ache at times with or without cloudy vision or seeing coloured halo's around light.

In cases of acute angle closure, there is very often severe pain, sensitivity to light, nausea and short-term loss of vision.

How is it diagnosed?

The following tests are used to diagnose and monitor closed 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 the air puff method which does not involve contact.
- **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 future and also the accuracy of the eye pressure measurement. It is done by a small ultrasound probe gently touching front of the eye (cornea).
- **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

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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.

- **Drainage angle assessment (gonioscopy)** – Anaesthetic eye drops are used to numb the surface of the eye and a diagnostic contact lens is used to view the drainage angle. You might need to have an Ultrasound scan (UBM) to assess the drainage angle.

How is it treated?

The main aims of the treatment are to widen the drainage angle and to lower the pressure inside the eye.

Medication

The immediate treatment for closed angle glaucoma is with drugs (known as Carbonic Anhydrase Inhibitors) that are given either through a vein, in tablet form and/or eye drops.

Laser treatment

Laser treatment (peripheral iridotomy) can be done to create a small opening at the peripheral iris to widen the drainage angle. If you need laser treatment you will be given more information about this.

What are the benefits of the treatment(s)?

Treatment should reduce the pressure in the eye to prevent loss of vision in the short and long term.

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

Medication

Please read the information leaflet that comes with your medication for general side effects of each drug.

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 laser treatment is common (1 in 10), and is easily controlled at the time of the laser with drops.

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What are the risks of not receiving treatment?

If glaucoma is left untreated, it can cause damage to your optic nerve. This can result in loss of peripheral vision to begin with, followed eventually by the loss of your central vision.

Are there any alternatives to this treatment?

A cataract operation is an alternative but this is not commonly required. If the angle is still narrow and you have a significant cataract (cloudiness of the lens) you may be offered a cataract operation to help widen the drainage angle, and to prevent future acute pressure rise.

If your doctor decides this is necessary, then he/she will discuss this with you and give you the appropriate leaflet for you to make an informed decision.

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.
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

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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

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), '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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