Glaucoma Management

What is glaucoma?
Your eyes are filled with a fluid made by the ciliary body (1). This fluid flows through the pupil (2), in front of the lens (3), and then out through a drain called the trabecular meshwork (4). The iris (5) is the coloured part of your eye.
In glaucoma, this drain does not work well and fluid does not leave the eye as it should. Optic nerve damage causes pressure to increase in the eye, which can damage the optic nerve (6). This damage may lead to side vision loss. If not treated, it may also lead to straight ahead vision loss.

Some people may have glaucoma and damage to the optic nerve without increased pressure in the eye.
The 2 major risk factors for glaucoma are increased pressure in the eye and age. You are also at a higher risk for glaucoma if you:

› are 40 years of age or older
› have a close family member that has glaucoma
› are Black

Glaucoma usually affects both eyes. One eye may be affected earlier and more so than the other.

Vision lost to glaucoma cannot be brought back. However, the pressure in the eye can be controlled to prevent further damage in most patients.
What are the types of glaucoma?

Chronic glaucoma
The most common type of glaucoma does not have any symptoms in the early stages. It is hard to detect and is often found during a regular eye test. Medication or laser treatment can often keep the pressure in the eye under control and prevent vision loss.

Acute angle closure glaucoma
This is caused by a blockage, which leads to a sudden rise of the pressure in the eye. The eye gets red and painful, and vision becomes blurry. You may have a severe (very bad) headache with nausea (feeling sick to your stomach) and/or vomiting (throwing up). You may also see halos around lights. If this happens, you must be treated as soon as possible to prevent permanent damage to the eye.
How is glaucoma diagnosed?
Your doctor may use a number of tests to find out if you have glaucoma.

**Tonometry**
This test measures the pressure in your eye. An eye drop is placed on the eye to freeze it. A small plastic instrument is placed on the eye for a short time to measure the pressure.

**Examining the optic nerve**
The doctor will look inside your eye to see if the optic nerve is damaged.

**Optic nerve images**
The doctor may take images (pictures) of your eyes. They can then compare your eyes to these images in the future, to see how they have changed.
Visual field tests
These tests show if you have lost side vision. They measure how well you can see an object when you are not looking directly at it.

- You will be seated in front of a machine called a Perimeter in a dimly lit room. Each eye will be tested separately while the other eye is covered.
- With your chin and forehead supported, you will be asked to look at the centre of a white bowl.
- You will be asked to press a buzzer as soon as you see a small white light in the bowl. This tells the examiner that you have seen the light.

There are 2 types of Perimeter machines:
- **Goldmann Perimeter**: the examiner controls the test by hand and registers the results
- **Automated Perimeter**: a computer controls the test and registers the results
Gonioscopy
A special lens will be placed on your eye. This test lets the doctor see the part of your eye that lets fluid drain.

How is glaucoma treated?
The goal of treatment is to protect the optic nerve from damage by lowering the pressure inside the eye. This is done by slowing how fast fluid forms or by making it easier for fluid to leave the eye. There are 3 types of treatment: medication, laser, and surgery.

Medication
Treatment is usually started with one kind of eye drop. A second or third type of drop may be added later, if needed. Pills may be used as well as eye drops. It is very important to use your eye drops and/or pills as your doctor tells you. Do not skip any doses.
Laser
A laser is a highly focused beam of light. It is aimed at a certain part of the eye to create a small scar or a tiny opening. This will help fluid to drain or move better in the eye.

Laser trabeculoplasty
This treatment is for chronic glaucoma. You will be seated behind a laser machine. The eye being treated will be frozen with drops and a special contact lens will be put on. The treatment takes about 5 to 10 minutes. In many cases, 2 treatments may be needed. The treatments are scheduled 4 to 6 weeks apart. This treatment makes it easier for fluid to drain from the eye.
Laser iridotomy
This will either prevent or treat acute angle closure glaucoma. You will be seated behind a laser machine. The eye being treated will be frozen with drops and a special contact lens will be put on. A tiny opening will be made in the iris with the laser.
This lets fluid move around more freely in the eye. The treatment takes about 5 minutes.

Surgery
Please see the pamphlet After Glaucoma Surgery.

Important points
• Tell any doctor who you see for other health problems that you are being treated for glaucoma. Take your drops and pills with you to show the doctor.
• Encourage your close relatives to visit an eye doctor, as glaucoma can run in a family.
• Always return for followup as often as your eye doctor suggests.
How do I use my eye drops? Follow the eye drops schedule given to you by your nurse or doctor.

• Wash your hands well.
• Shake the bottle well.
• You may sit or lie down. Tilt your head back.
• Open both eyes and look up. With one finger, gently pull your lower lid down.
• With the bottle in your other hand, hold it as close as possible to your eyelid without touching it. Place one drop into the pocket made where your lower lid is pulled down. The drop should not fall onto your cornea, as this will sting. The cornea is the clear tissue covering the entire front of your eye.
• Do not touch your eyelid or eye with the tip of the bottle.

• Close your eye gently and keep it closed for one full minute. With a tissue, remove any extra drops from your cheek.

• Wash your hands well.

• Do not stop using your drops unless your doctor tells you to do so.