



# Glaucoma? Make sure you see it coming.

*Glaucoma is one of the most common conditions affecting the eye. Worldwide it is the second-biggest cause of blindness after cataracts. A conservative estimate of the prevalence of glaucoma in Africa is that it occurs in 4% of people older than 40. In South Africa glaucoma affects up to 5.3% of people in this age group. The proportion of blindness that can be attributed to glaucoma in South Africa is 23%. In this issue of CMScript we look at the benefits you are entitled to for the treatment of glaucoma.*

## What is glaucoma?

Glaucoma is an eye disease that causes damage to the optical nerve which may result in progressive loss of vision and ultimately lead to blindness.

There is a clear fluid, known as the aqueous humor, which fills the front chamber of the human eye. In a healthy eye, small amounts of the fluid are released to control the fluid pressure within the eye, known as intraocular pressure. If flow of the aqueous humor slows down or is blocked, pressure will build up in the eye resulting in optic nerve damage. The optic nerve is the nerve that connects the eye to the brain.

## What is covered by prescribed minimum benefits (PMBs)?

The good news is that of the four types of glaucoma, three are curable.

More good news is that glaucoma is a PMB condition, which means that all medical schemes are required by law to pay for its diagnosis, treatment, and care in full, regardless of the type that affects you. Treatment includes medical and surgical management, laser surgery, and iridectomy (surgical removal of an iris).

Confirm which tests are covered by your medical scheme, and how many per year, before you go for diagnostic tests. This is important because your scheme is allowed to limit the number and types of tests that it will cover in a calendar year. If your doctor does deem it necessary for you to have these tests which your scheme does not normally fund, s/he should write a clinical motivation to your scheme and your scheme must then pay for the tests.

Medical management involves treatment with medicines that the doctor may prescribe. Most people with curable glaucoma can be treated successfully with eye drops and medicines that lower eye pressure.

The medicines most commonly used to treat glaucoma are prescribed in the Chronic Diseases List (CDL) algorithm as follows:

|   |
|---|
| Medicines that decrease the amount of fluid produced by the eye   |
| <ul style="list-style-type: none"> <li>• Beta-blockers</li> <li>• Adrenergic agonists</li> <li>• Carbonic anhydrase inhibitors</li> </ul> |
| Medicines that increase the amount of fluid that drains out of the eye  |
| <ul style="list-style-type: none"> <li>• Adrenergic agonists</li> <li>• Prostaglandin analogs</li> </ul>                                  |

According to the CDL algorithm for the treatment of open-angle (or chronic) glaucoma, your doctor should prescribe Beta-blocker eye drops first. If these do not work or work poorly, s/he may prescribe other first-line agents such as adrenergic agonists, carbonic anhydrase inhibitors, or prostaglandin analogs. If you respond poorly despite using the medicines correctly, the doctor may increase the dosage, change to another class of medicines, or use a combination of different eye drops. If you still do not respond, the doctor may add another class of medication using the scheme's list of medicines, or recommend surgery.

Your scheme must make provision beyond the drugs listed on its CDL in cases where the medication on the CDL does not work for you or harms you.

In the case of an angle-closure (or acute) glaucoma and congenital glaucoma, surgery is the treatment of choice.

Treatment for secondary glaucoma will depend on the cause of the problem.

Care involves consultations with the treating doctor, prescribed medications, and routine eye examinations.

## What are the types of glaucoma?

1. Open-angle (chronic) glaucoma is the most common type of glaucoma and although its cause is unknown it does tend to run in families and is most common in people of African descent. It is characterised by an increase in eye pressure that occurs slowly over time. The pressure pushes on the optic nerve which slowly damages your vision.

2. Angle-closure (acute) glaucoma occurs when the exit of the aqueous humor fluid is suddenly blocked. This causes a quick, severe, and painful rise in pressure on the eye. This type of glaucoma is considered to be a medical emergency. Blindness can occur in a few days if the condition is not treated. If one eye is affected, the risk of an attack in the second eye is high. Your eye specialist (ophthalmologist) will probably prescribe treatment to prevent the other eye from being affected. Common medicines that may trigger the condition are:

- some eye drops used to dilate (enlarge) the pupil;
- tricyclic antidepressants; and
- some medicines that treat allergies or stomach ulcers.

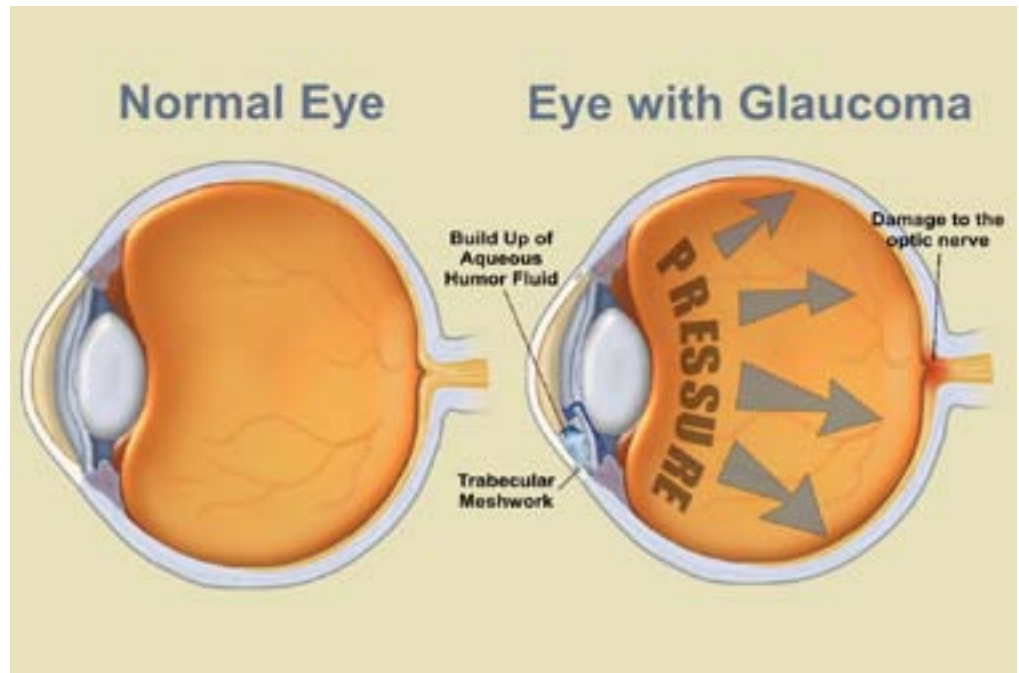
3. Secondary glaucoma is any form of glaucoma where there is an identifiable cause of increased eye pressure caused by any of the following:

- medicines such as corticosteroids (which are used to regulate inflammation);
- eye diseases such as uveitis (inflammation of the middle layer of the eye);
- systemic diseases like diabetes mellitus; or
- trauma or injury to the eye.

4. Congenital glaucoma is seen in babies. It often runs in families and is caused by abnormal development of the eye.

## What are the signs & symptoms?

In open-angle (chronic) glaucoma, the eyes may appear normal when you look in the mirror and to family and friends. Pain is usually absent and visual field loss (side vision loss) is not a symptom until late in the course of the disease.



*In a healthy eye (left), small amounts of a special liquid are released to help maintain the shape of the eye, but in an eye with glaucoma (right) the flow of the liquid is hindered which causes pressure to build in the eye and damages the optic nerve.*

Image sourced from Health News & Views (<http://healthvigil.blogspot.com/2012/10/eye-disease-glaucoma-symptoms.html>)

In angle-closure (acute) glaucoma signs and symptoms include rapid onset of severe eye pain, headache, nausea and vomiting, and hazy or blurred vision.

Congenital glaucoma signs include severe photophobia (light sensitivity), blepharospasms (twitching of the eyelid), and lacrimation (secretion of tears).

## Diagnostic tests

Glaucoma can be diagnosed with several tests that will more than likely be carried out in the same appointment to ensure that the results are as accurate as possible. You may be given eye drops to dilate (widen) the pupil to allow the doctor or specialist to have a better view inside the eye. The tests below are painless and quite quick.

- A visual acuity test is used to determine the smallest letter a person can read on a standardised chart (Snellen chart).

- An eye pressure test is done to measure the pressure in the eye. It is done using a tonometer.
- An ophthalmoscopy is done to examine the interior of the eye using an ophthalmoscope.
- A visual field test checks for missing areas of vision. In this test you are shown a sequence of light spots and asked which ones you can see. Some dots will appear in the peripheral vision (around the sides of your eyeball), which is where glaucoma begins. If the spots in the peripheral vision cannot be seen, it may indicate that glaucoma has damaged your vision.
- A gonioscopy is used to examine the front outer edge of your eye, between the cornea (the transparent, dome-shaped window covering the front of the eye) and the iris (the coloured part of the eye). This is the area where the fluid should drain out of your eye. The test can help to determine whether this angle is open or blocked.
- An optic nerve assessment is done to assess whether glaucoma has damaged the optic nerve.

## Prevention & care

Adults should have a complete eye exam before the age of 40, or sooner if they have any of the risk factors for glaucoma or other eye problems. You are more likely to get glaucoma if there is a history of open-angle glaucoma in your family.

Symptoms can be managed by following the doctor's instructions and having regular check-ups.

Once you have been diagnosed with glaucoma or any other PMB condition, you must register it with your medical scheme to enable your scheme to pick up the diagnosis on their side. Your doctor will probably need to complete the forms for you, specifying exactly what medication and treatment you need. Your scheme must then provide you with a list of services it will fund in full to diagnose and treat the condition, including consultations with doctors, types of examinations, and the list of approved medication.

Medical schemes may use managed care interventions such as protocols (guidelines describing the optimal sequence of diagnostic testing and treatment) and formularies (lists of medicines that the scheme will fund in full) to help you manage your benefits. Your scheme is obliged by law to provide you with its managed care arrangements when you request them.

## References

COOK, C. 2009. Glaucoma in Africa: size of the problem and possible solutions. *Journal of Glaucoma*. 18(2): 124-128. From: <http://www.ncbi.nlm.nih.gov/pubmed/19225348> (accessed 23 January 2013).

Healthwise [SA]. Glaucoma: treatment overview. United States: Boise. From: <http://www.webmd.com/eye-health/tc/glaucoma-medications> (accessed 21 January 2013).

LABUSCHANGE, MJ. 2010. Glaucoma: what should the general practitioner know? *SA Family Medicine Practice*. 52(6): 493-497. From: <http://www.safpj.co.za/index.php/safpj/article/viewFile/1538/2131> (accessed 21 January 2013).

LAI, JSM & Gangwani, RA. 2012. Medication-induced acute angle closure attack. *Hong King Journal of Medicine*. 18: 139-145. From: [http://www.hkmj.org/article\\_pdfs/hkm1204p139.pdf](http://www.hkmj.org/article_pdfs/hkm1204p139.pdf) (accessed 16 January 2013).

LINDA, J, Vorvick, MD, Franklin, W & Lusby, MD. 2011. Glaucoma. Atlanta: A.D.A.M. Medical Encyclopedia. From: <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002587/> (accessed 15 January 2013).

PARIKH, RS, Parikh, SR, Navin, S, Arun, E & Thomas, R. 2008. *Indian Journal of Ophthalmology*. 56(3): 223-230. From: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2636120/> (accessed 15 January 2013).

Royal National Institute of Blind People [SA]. Acute-angle closure glaucoma. United Kingdom: London. <http://www.patient.co.uk/health/acute-angle-closure-glaucoma> (accessed 16 January 2013).

WALLAND, M. 2012. Advances in the medical treatment of glaucoma. Australia: Melbourne. From: <http://www.glaucoma.org.au/article-nov2005.htm> (accessed 15 January 2013).

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