

Patient information from BMJ

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Glaucoma (open angle)

If you have glaucoma the main nerve behind your eye is damaged by too much pressure within the eye. This causes poor eyesight. There's no cure for glaucoma but there are treatments that can slow down the damage or even stop it completely.

We've brought together the best and most up-to-date research about glaucoma to see what treatments work. You can use our information to talk to your doctor and decide which treatments are best for you.

Glaucoma can start suddenly or it can happen over a long time. If your eyes quickly become painful and red, your vision gets blurred, or you notice halos (rings) around lights, see a doctor right away. You need urgent treatment.

What is glaucoma?

Your eyeballs are filled with fluid. This fluid is constantly passing in and out of the eyeballs, bringing nutrients to the eye. But if the fluid doesn't leave the eye as easily as it enters, pressure can build up inside the eye.

This pressure can press on the nerve at the back of your eye. Over time this can damage the nerve and affect your eyesight. It's also possible to get glaucoma even when the pressure in your eyes is normal. This may happen if your nerves are very sensitive to pressure.

There are several types of glaucoma, including one called angle-closure glaucoma. The one we deal with here is called **open-angle glaucoma**, which is the most common.

The main difference between these two types is that open-angle glaucoma tends to happen gradually, while angle-closure glaucoma tends to come on more suddenly. The symptoms of the two types of conditions differ, as do the treatments.

Angle-closure glaucoma is a medical emergency. You should always seek urgent medical attention if you have any sudden changes to your sight.

What are the symptoms?

The first symptoms you may have are small blind spots at the edge of your vision. Without treatment these spots get slowly bigger until you can only see things directly in front of you.

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Some people with severe glaucoma find it hard to see if they move from a light room to a darker one. Or they find it difficult to judge the height of steps and curbs. This can cause trips and falls.

Glaucoma affects your eyesight very gradually. Many people don't notice it at first. You can get glaucoma in one or both of your eyes. It doesn't cause pain.

What treatments work?

The aim of treatment for glaucoma is to reduce the pressure in the eye. This can be done using several types of treatment, including eye drops, laser treatment, and surgery. The type of treatment your doctor suggests may depend on how severely your sight has been affected.

Preventing glaucoma

The best thing you can do to protect your sight - whether you have glaucoma or not - is to have your eyes tested regularly. Some people are more at risk than others of getting glaucoma. These include:

- people with a first-degree relative with glaucoma
- people of African-Caribbean origin, and
- people with eye problems caused by diabetes.

If any of these apply to you, you should take special care to have regular eye tests.

Eye drops

The first treatment most people are likely to be offered is eye drops.

Some people have medical conditions that mean they can't use eye drops. These people will usually be offered one of the other available treatments right away.

Eye drops for glaucoma can reduce the pressure inside your eyes and stop your sight getting worse.

There are several types of eye drops for glaucoma, including some containing drugs called beta blockers, and others containing drugs called prostaglandin analogues. You may need to try several types before you find one that works for you. Or you may need to use two types at the same time.

Eye drops can cause side effects in some people. For example, some people get a burning or stinging feeling in their eyes. Beta-blockers can cause low blood pressure or a slow heartbeat. You can help reduce side effects by pressing gently on your tear duct for a minute or two after you put your drops in. This stops too much of the medicine getting into your bloodstream. Your tear duct is at the inside corner of each eye, nearest your nose.

If you get side effects, see your doctor.

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Laser treatment

If eye drops don't work well enough, you may need to have laser treatment.

Your doctor numbs your eye with a drop of local anaesthetic, then puts a special lens against your eye. The laser goes through the lens to the tissue that drains fluid from your eye, allowing the fluid to drain away more effectively. This can help to reduce the pressure inside your eye.

Surgery

If other treatments don't work, or if your vision is getting worse rapidly, your doctor may suggest surgery. An operation to lower the pressure in your eye is called a trabeculectomy. It takes about an hour. It can be done under local anaesthetic (to numb your eye) or general anaesthetic (which makes you sleep). You'll probably go home the same day.

Surgery seems to work just as well as laser treatment or eye drops. But it has side effects. For example, you have an increased risk of cataracts. Cataracts turn your vision cloudy, but they can be treated with surgery.

It's also possible to get a blind spot in the middle of your vision after surgery for glaucoma. This is rare, and it is more likely to happen to people with severe glaucoma.

What will happen to me?

Glaucoma is a long-term disease. You'll need treatments and regular check-ups for the rest of your life. Without treatment, glaucoma would slowly make your eyesight worse. Over many years, you could even lose your sight. But treatments can help stop the damage. Most people with glaucoma don't go blind.

The better your eyesight is to start with, the easier it is to protect it. It's also important that you remember to use your eye drops.

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