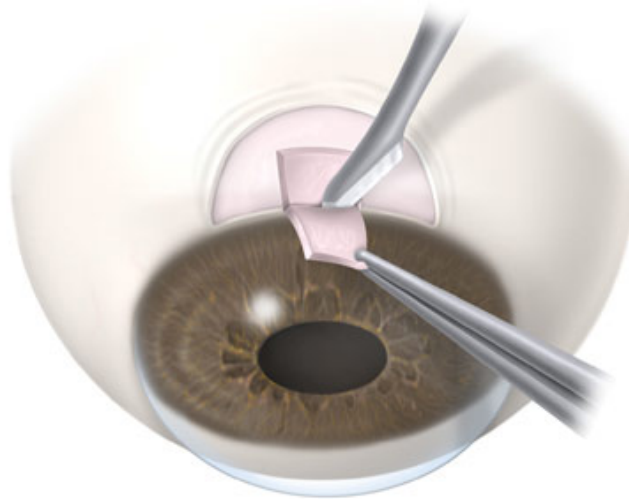




Patient Information Leaflet – Glaucoma Procedures

Trabeculectomy



What is glaucoma?

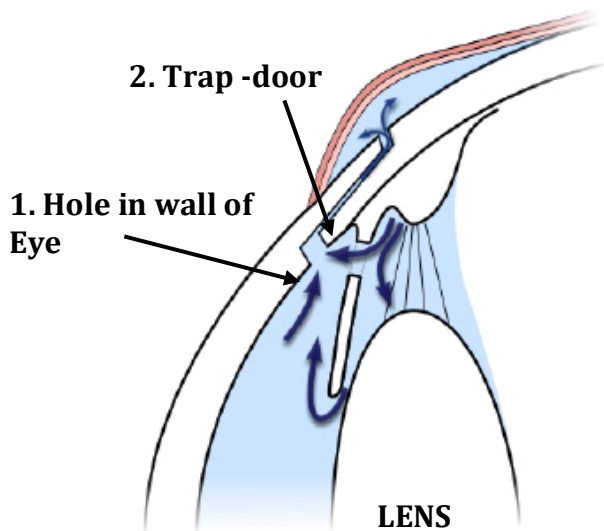
Glaucoma is a term used to describe a group of eye diseases in which there is damage to the optic nerve. The optic nerve acts like an electric cable with over a million wires. It is responsible for carrying images from the eye to the brain. In the early stages of glaucoma there may be no symptoms, however, as the optic nerve becomes more damaged visual loss can occur. Most people with glaucoma have high pressure within one or both eyes. The pressure inside the eye is known as the intraocular pressure and depends on fluid within the eye called aqueous humour.

Although there is no cure for glaucoma, treatments can lower the intraocular pressure and slow down or prevent visual loss. There are two main ways that pressure in the eye can be reduced. For most people with glaucoma, eye drops are able to reduce the pressure, however some people need surgery.

What is a trabeculectomy?

A trabeculectomy is an operation to help people with glaucoma. The aim of a trabeculectomy is to reduce the pressure inside the eye, pressure that is causing damage to the optic nerve. If the pressure is reduced then further damage to the optic nerve may be prevented. **A trabeculectomy will not restore vision that is already lost from glaucoma.**

During a trabeculectomy operation, a small hole is made in the wall of the eye (the sclera). If the hole were left completely open the pressure in the eye would be too low so the hole is covered with a thin trap door. Fluid from inside the eye (aqueous humour) is then able to drain through the trap door and out under the white outer coat of the eye (the conjunctiva).



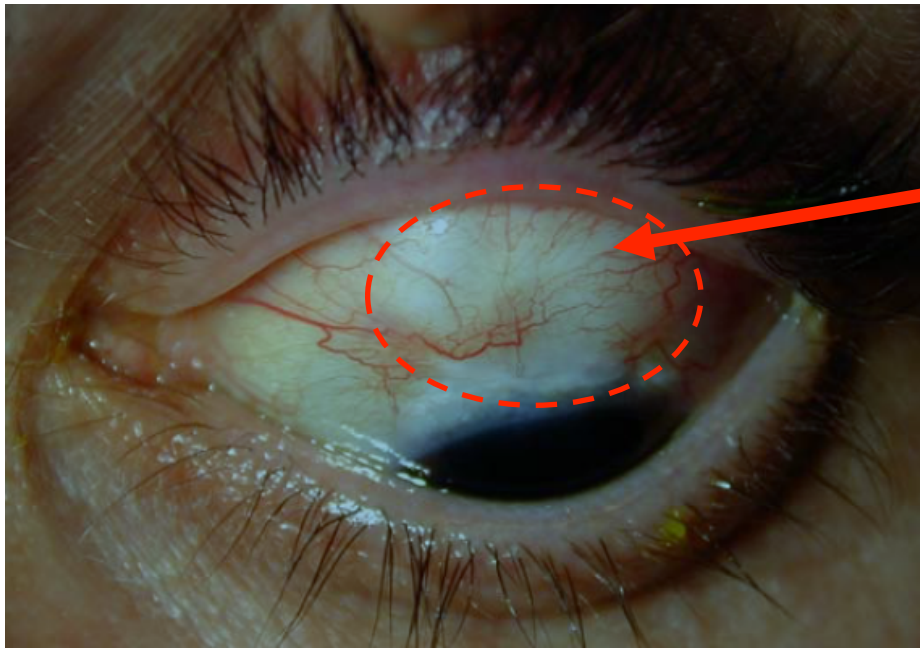
Fluid may cause the conjunctiva to become slightly swollen. This swelling is known as a 'bleb' and is usually hidden just under the eyelid. The fluid that leaves the eye through the trabeculectomy does not leave the eye completely. Watering of the eye is caused by tears, not aqueous humour.

The normal response of the body following an operation (or any trauma) is to form scar tissue and heal. Scarring is a potential problem after trabeculectomy.

If the trap door starts to scar and heal then this may prevent fluid from leaving the eye and the pressure inside the eye may rise again.

In order to prevent scarring we often use one of two 'anti-scarring' medicines at the time of surgery (mitomycin C or 5-Fluorouracil). These medicines have been shown to help us achieve lower pressures when they are used during glaucoma surgery. They are applied to the surface of the eye for 3 to 5 minutes during the operation or given as injections following surgery.

Too low a pressure can also cause problems with vision so the trap door is partially closed with adjustable stitches. The stitches can be easily adjusted after the surgery to gradually lower the pressure inside the eye.



A trabeculectomy bleb

What can I expect during the operation?

The surgery is done as a day case procedure so you are unlikely to need to stay in hospital overnight. Please use your normal glaucoma medication as normal, including on the morning of surgery. Most people are able to be awake during the surgery and a local anaesthetic is all that is needed. This consists of an injection of anaesthetic around the eye. Depending on the circumstances a general anaesthetic is sometimes needed. The operation lasts about 45 minutes to one hour.

What happens after the surgery?

Immediately after the operation a clear plastic shield will be placed over your eye to protect it from accidental knocks. You will be able to go home and should be discharged with two sets of eye drops (a steroid – usually maxidex, and an antibiotic – usually chloramphenicol). You should continue to use any drops you have for the non-operated eye but please stop all previous glaucoma drops in the operated eye. Keep the eye shield on overnight but remove it first thing in the morning. You should begin the new steroid and antibiotic drops the morning after surgery.

The first few weeks after surgery are very important for the success of the operation. Because of this we will need to see you fairly frequently. Plan for a weekly visit for the first 4 weeks after surgery with gradual lengthening between appointments after this. Proper use of the steroid eye drop is essential for the operation to work well.

The steroid drop prevents too much healing (which can lead to the bleb closing). The steroid drop (maxidex) should be used every 2 hours from about 7 am to 11pm for the first week and if directed more frequently. The frequency of the steroid drop will be reduced gradually over about 3 months. Don't stop using this drop until your eye doctor advises you to so you will need a repeat prescription. The antibiotic drop is used 4 times per day for 2 to 3 weeks and can then be stopped. Usually you will also be given a steroid ointment to put in the eye at bedtime. This allows the steroid to work during the night. The ointment can also be used during the day as a lubricant if the eye feels gritty.

You will usually need to return the day after surgery for an examination. For the first few days, and sometimes weeks after surgery, it is normal for the eye to appear red and it may feel prickly, like something is in the eye. This is due to the surgery itself and sometimes stitches on the surface of the eye. It is also normal for the vision to feel a little blurred. The period of discomfort and blurring varies but generally gets better each day after surgery. If you feel the vision is worsening or the eye is becoming more uncomfortable please contact us using the information below.

How often will I need to be seen?

As the eye pressure can fluctuate during the early period after the operation it is likely that you will need to visit the clinic once a week for the first month. The period between visits will be gradually extended. Sometimes adjustments to the bleb may need to be made. For example, if the pressure in the eye is too high stitches may need to be loosened or removed. Sometimes we may also need to inject further anti-scarring medicines (such as steroids) around the eye. It may take 2 to 3 months for the eye to feel completely normal. At this point you will be able to have a glasses test as the operation may have altered your prescription slightly.

What is the success rate of surgery?

Most people who have trabeculectomy will achieve a low eye pressure without the need for additional glaucoma eye drops; however the success rate depends on a number of risk factors including the type of glaucoma, previous surgery, age and ethnic background. Overall about 80% of patients have a satisfactory pressure without eye drops one year after surgery.

What are the risks of surgery?

As with any operation there are risks associated with trabeculectomy, however the risks are small. The main risks are that the pressure will remain too

high or become too low after the operation, or that infection develops. Pressure too high following surgery usually develops because the bleb has become scarred and stuck down as the eye heals. Sometimes the pressure in the eye can be very good immediately after surgery only to climb again a few weeks or months (or even years) later. Very low pressure, or a sudden drop in pressure, can lead to a bleed inside the eye. This is a rare but very serious complication. If the pressure in your eye is very low your doctor may recommend further surgery. This may consist of returning to the operating theatre to have the trapdoor tightened. Sometimes an adjustment of medication is sufficient. About 4 in 100 people need to return to theatre after surgery because the pressure is too low. The risk of serious bleeding or infection in the eye is rare (estimated at less than 1 in 500).

Long term risks

The long term risks of trabeculectomy are infection, discomfort and cataract.

1. Infection

While the risk of infection after surgery is rare, there is a very small ongoing risk that the drainage bleb might become infected. If a patient who has had a trabeculectomy develops a red eye or episode of conjunctivitis it is important to have the eye examined by an ophthalmologist.

2. Discomfort

In some people the drainage bleb can become large and lumpy. The bleb can extend below the eyelid or cause the eyelid to be raised or droopy. More commonly, a large bleb can interfere with the tear layer in the eye causing a feeling of dry eye. This occurs in about 10% of patients. In most, this discomfort is mild and does not need treatment however lubricating eye drops may be needed. Occasionally the discomfort is more severe and requires surgery to make the drainage bleb smaller.

3. Cataract

In patients who have not had cataract surgery there is a small risk that trabeculectomy may worsen an existing cataract. In one study the likelihood of needing cataract surgery within 3 years of trabeculectomy was 12%. This compares to just 3% in those who were treated with glaucoma medication but who did not have a trabeculectomy.

What are the risks of not having surgery?

If your doctor is discussing trabeculectomy with you then it is likely that you have had some progression of your glaucoma or you have high pressure within your eye. If this is not treated then there is a risk of gradual, irreversible loss of vision.

Activity after surgery

It is important to avoid strenuous activity during the early period after your operation. This includes most sports such as swimming, jogging and contact sports. Watching television, using a computer and reading will not harm the eye and can be continued without worry. If the intraocular pressure is very low your doctor may ask you to refrain from all exertion until the pressure is restored. Please wear the eye shield during sleep for the first week after surgery.

When can I go back to work?

The duration of time off work depends on a number of factors such as the nature of your job and the vision in your other eye. Typically, all being well, someone working in an office environment would require 2 weeks off. If your work requires heavy labour, or work in a dusty environment you will need longer.

I have been listed for a trabeculectomy, what happens next?

Before you have the operation you will need to have a preoperative assessment with one of our eye nurses. The purpose of the pre-assessment is to identify if there are any problems with your general health that we need to consider when you come for the operation. Please bring a list of any medications you are using at home along to your pre-assessment.

Contact information

The information in this leaflet is intended as a guide only as each patient's experience will be different. If you require any further information or are concerned about your eye following surgery, please contact my secretary at Princess Alexandra Eye Pavilion, the telephone number is 0131 536 4160. If you are unable to speak with my secretary please contact the Acute Referral Clinic (ARC) at the Eye Pavilion on 0131 536 3751. The Acute Referral Clinic is open weekdays from 9.00 am to 5.00 pm. At weekends or out of hours please contact your GP, optometrist, or Accident and Emergency at the Royal Infirmary who should contact a member of our on call ophthalmology team for further advice.