



Mr. Pavi Agrawal

CONSULTANT OPHTHALMIC SURGEON

Patient Information Leaflet – Glaucoma Procedures

Glaucoma Filtration Surgery (Tube Surgery)

What is an aqueous shunt or tube?

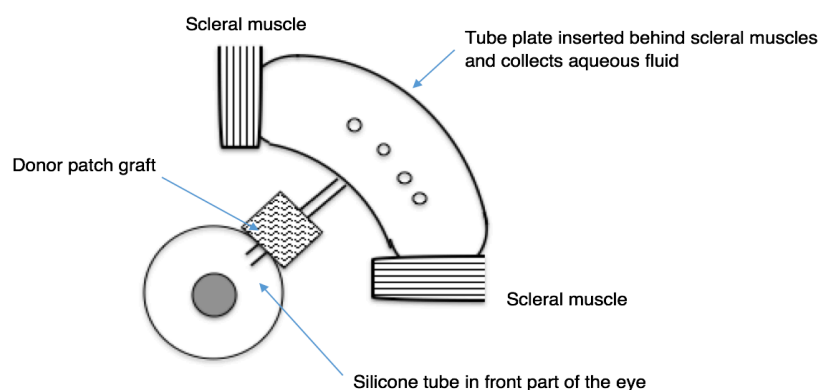
An aqueous shunt or tube is a tiny device that is used to decrease the pressure inside the eyes of people with high eye pressure or uncontrolled glaucoma (see photographs below).

A small tube less than 1mm in diameter is placed into the front of the front part of the eye (anterior chamber) and eye fluid drains out through this tube. The fluid drains into a small plate, which is placed onto the surface of the eye during the operation, this plate helps the fluid to be absorbed by the tissues around the eye.

The device is put onto the eye during an operation that allows excess aqueous humour (fluid inside the eye) to drain. Your surgeon will place a plate towards the back of your eye on the sclera (white of the eye) where it will form the small blister or 'bleb' where the fluid will drain to. You cannot see the bleb as it is too far back behind your eye to see. By draining away the excess fluid inside the eye, the amount of pressure within the eye is reduced. You can't feel the bleb and tube, and you cannot feel the fluid flowing through them.

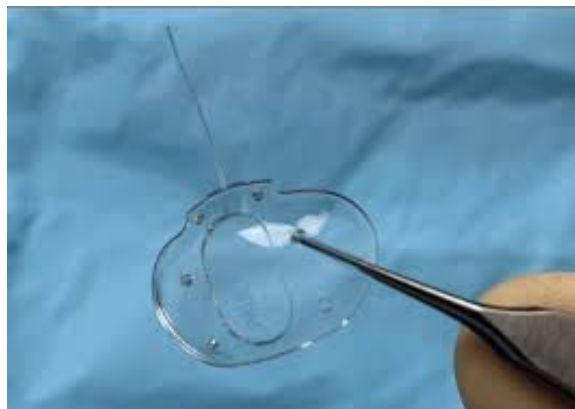
What are the benefits why should I have an aqueous shunt/tube?

The aqueous shunt/tube should reduce the pressure inside your eye, this will help in preserving the sight you still have. It will not restore any sight you may have already lost or improve your sight, but aims to prevent further loss of vision.



What are the risks?

You should be aware that there is a small risk of complications, either during or after the operation. In most cases the complications can be treated and in a small proportion of cases further surgery may be needed. Very rarely some complications can result in loss of sight.



**PAUL 342mm²
Aqueous Shunt**

- Vision: Sight may take several weeks to return to normal. The operation cannot guarantee to stop the loss of vision due to glaucoma.
- Corneal changes: There is a small chance that tube may rub on to the inside of cornea (the clear window at the front of the eye). This could cause the cornea to become cloudy and worsen vision. Rarely in extreme cases this may require a corneal transplant or the tube being repositioned.
- Bleeding: There is a small chance of bleeding inside the eye immediately after surgery which may require further treatment.
- Cataract: The lens may develop clouding (cataract) in the weeks/months after surgery which may require surgery to correct.
- Double vision: There is a small chance that double vision can occur after surgery, however this often improves spontaneously.
- Infection: There is a very small chance of infection inside the eye after surgery which may require further treatment. Severe infection can result in loss of vision in the eye.
- Irritation: Grittiness or discomfort may occur after surgery.
- Eyelid Drooping: The eyelid may become droopy on the side of the operation which may need surgery to correct.
- Tube erosion: With time there is a very small chance that the tube can become exposed through the conjunctiva (clear skin on the white of the eye), which may require further surgery.
- Failure: the tube may not work and another way of controlling your glaucoma may be necessary including the possibility of further glaucoma surgery.

What do I need to do to prepare for the operation?

You will attend the day ward for approximately a whole day so that we can prepare you for and perform the operation, then observe you afterwards. Sometimes you may need to stay overnight.

The operation is normally performed under general anaesthetic (you will be asleep).

This means that you will have to follow special instructions before you come into hospital. The nurses in the pre-assessment clinic will advise you of any special instructions you need to follow. If you decide to have a general anaesthetic you will need to have someone to accompany you home after your operation.

It is important that you use your regular eye medication drops as normal on the morning of your operation, unless your doctor advises otherwise.

What happens during the operation?

The tube operation usually takes around two hours.

Your surgeon will insert a small silicone tube (less than 1 mm in diameter) into the front chamber of your eye. It is so small you would need a microscope to see it.

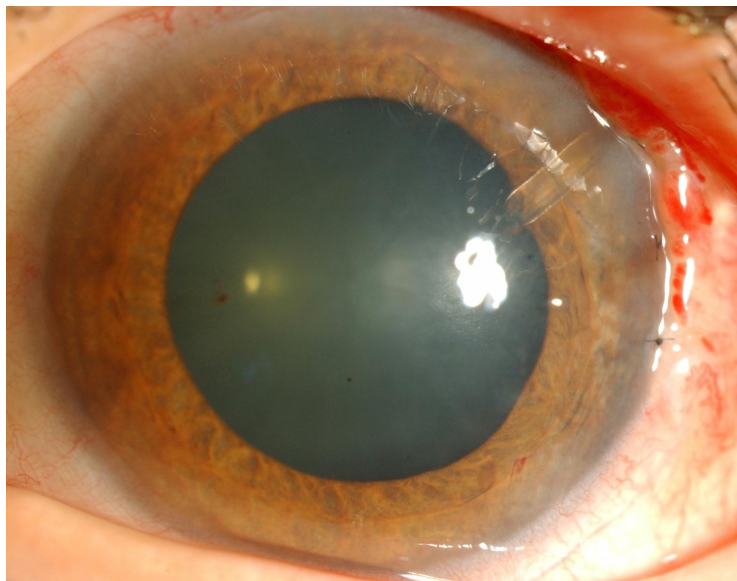
To stop the tube from moving around and becoming exposed through the conjunctiva, your surgeon will stitch a patch made from donor tissue onto the surface of your eye, over the tube. The donor tissue comes tests for infections such as: Hepatitis B and C, Syphilis and HIV.

Sometimes the surgeon may use a suture to stop too much fluid draining during the first few months. In approximately 50% of cases the suture needs to be removed after 3-6 months to lower the eye pressure. This is done in theatre under a local anaesthetic and takes 20 minutes.

Will I feel any pain?

After the operation, it is usual for your eye to be a little red and swollen, and to feel a little uncomfortable. Some patients are aware of the tiny stitches that are used for the operation. These feel like a bit of grit in the eye.

Although uncomfortable, these symptoms are not serious, and will get better over the first few weeks to months.



What happens after the operation?

After the operation, the inside of the eye is normally inflamed (swollen). You will have anti-inflammatory drops to reduce this. You may need to use them as often as every hour to begin with and it is often necessary to use them for several months following the operation

Your doctor or nurse will give you specific instructions about this, as every patient is different. The anti-inflammatory drops most commonly used in the hospital following aqueous shunt/tube is dexamethasone (Maxidex®). Some patients are also given a short course of oral steroids.

You will also have antibiotic drops. These drops are used to prevent infection following the operation, and usually you need to use them four times a day. The antibiotic drop most commonly used in the hospital following an aqueous shunt/tube is called chloramphenicol.

You will also have a plastic shield to wear at night. This is to prevent you accidentally rubbing your eye during the night. You should wear the shield for four weeks following the operation, unless otherwise instructed. You should wash and thoroughly dry the shield before covering your eye each night. You may also wear it during the day if you are concerned.

If you are using glaucoma drops to the untreated eye, please continue to use them unless clearly instructed otherwise.

You will have a patch placed over your eye before we discharge you. A nurse will remove this when you come in for your outpatient appointment the following day. If you have poor vision in the eye not operated on, you will have a clear shield instead of a patch over your operated eye so that you can still see and move around after surgery.

As with any operation, the affected part of the eye will take a little time to settle back to normal. It is normal that some patients find their vision is blurred. This may fluctuate from day to day for some weeks to months. Once the eye has settled, a visit to your optometrist/optician for new glasses will usually improve your sight to very similar, if not the same as it was before the operation. Your doctor will inform you when the right time for a glasses check is – usually around three months after the operation.

What activity can I do after surgery?

You should avoid strenuous activity, bending down and stooping for the first 2-3 weeks. This includes swimming and contact sports. It is permissible to watch television and read, as this will not affect the eye.

You should arrange to have at least 2 weeks off work, however this may vary on the nature of your job and the level of vision in the eye. If your work involves heavy lifting or being in a dusty/dirty environment more time may well be needed.

You should check with your doctor before travelling, as adequate drops will be required.

Will I have postoperative appointments?

You will have an appointment in the outpatient department the following day to make sure the operation has gone smoothly. Typically you will be seen once a week for the first 4 weeks, although you may be seen more should the eye pressure be too high or too low. After the initial month the appointments tend to gradually become less frequent, although this varies between patients.

It is often necessary to have some minor adjustments made after the surgery these could include removal of suture to improve the flow of the fluid from the eye or laser treatment (which is painless) in the outpatient clinic to enhance the function of the tube.

Further Information

Should you need any further information, please contact my secretary.

Mr Pavi Agrawal
Consultant Cataract and Glaucoma Surgeon
BSc(Hons), MB BChir(Cantab), MRCOPhth, FRCOPhth, PgDip CRS(Dist)