

What is a Preserflo MicroShunt?

It is an operation to treat glaucoma.

Glaucoma is an eye condition which causes gradual loss of vision due to damage to the optic nerve at the back of the eye. Reducing the eye pressure slows down or stops further damage to the optic nerve. Normally daily eye drop treatment is effective but sometimes surgery is needed. Inserting a Preserflo MicroShunt is one of the surgical options for reducing eye pressure in glaucoma.

The Preserflo MicroShunt is an 8.5 millimetre long tube that is inserted into the eye to help lower eye pressure in glaucoma and reduce the need for medication. It is made entirely of a synthetic and biocompatible material called poly(styrene-b-isobutylene-b-styrene) or "SIBS". As it is non-metallic, it will not set off airport scanners and is safe if you need to have an MRI or CT scan.

The drainage tube is inserted to allow the fluid in the front of the eye (aqueous humour) to bypass the normal drainage channels and reduce the pressure in the eye.

The stent passes through a small incision in the upper part of the thick white coat of the eye (the sclera). The fluid drains through this and collects under the membrane which covers the sclera (the conjunctiva) before draining into the bloodstream.

How does it work?

The purpose of the Preserflo MicroShunt surgery is not to improve vision, but to maintain existing vision. The results for the Preserflo MicroShunt appear to be comparable to other glaucoma

surgeries such as trabeculectomy. A three-year outcome study reported a 60% reduction in IOP and a significant reduction in the number of eye drops a patient needed.

Risks

This section explains the main risks of surgery, but does not cover every possible side effect. If you are at particular risk of complications at the time of surgery, your glaucoma specialist will explain this to you.

- **Reduced vision:** Immediately after surgery, your vision will be reduced. Most people's vision will gradually return to normal over the next few weeks, although some people may need to change their glasses. A small number of people may feel that their vision is permanently impaired after surgery. This is usually mild but can be severe, especially in patients with very advanced glaucoma. The risk of visual impairment after glaucoma surgery must be weighed against the risk of vision loss from glaucoma.
- **Bleeding in the eye:** There is a risk of bleeding in the eye at the time of surgery. If this happens, it will reduce your vision, but it usually clears up within a week or two. Severe bleeding that causes permanent vision loss can occur with any eye surgery, but is rare.
- **Excessive fluid drainage:** There is also a small risk of excessive fluid drainage, which can make the pressure too low. This usually goes away, but if it does not, further surgery may be needed.

- **Infection in the eye:** severe infection is rare (less than 1 in 1000 cases) but can cause permanent vision loss.
- **Excessive pressure in the eye:** this can happen if the stent does not drain as it should. There are a number of reasons why this can happen, but the most common is that a scar forms over the drainage site. An anti-scarring drug called mitomycin C (MMC) is used during surgery to reduce this risk. If this occurs, further surgery may be required.
- **Drooping eyelid:** A slight drooping of the upper eyelid is common after any eye surgery.
- **Tube exposure:** There is a risk of the Preserflo MicroShunt becoming exposed on the surface of the eye. If this occurs, it is likely that further surgery will be required.
- **Corneal decompensation:** As with many ocular procedures, the Preserflo MicroShunt may in some cases lead to endothelial cell loss over the years. This can cause the cornea to become cloudy and, in rare cases, may require further surgery such as a corneal transplant.

Are there alternatives to surgery?

There are three ways to reduce the pressure inside the eye in the long term:

- Eye drops
- Laser
- Surgery

You may already be using eye drops, but they may not be lowering your eye pressure enough. You may have side effects or find it difficult to use the drops.

In general, surgery is reserved for patients for whom eye drops and laser have not worked or are not suitable.

Before the Operation

You will be asked to attend a pre-operative assessment clinic in our Day Case Unit to discuss your general health and to make sure you have all the information you need about the operation.

Patients who are taking a tablet to thin the blood such as warfarin, clopidogrel or aspirin are given special instructions before the operation, so it is important that you bring all your tablets with you in their original boxes.

The Day of the Operation

You will be asked to arrive at our Day Case Unit at either 8am for morning operations or 12.45pm for afternoon operations. You will be in our Unit for about 4-5 hours.

The operation is usually carried out under local anaesthetic (subtenon) with sedation and usually takes 30-45 minutes.

After the operation

You will need to rest at home after the operation. It is important that transport is arranged and that you have a relative or carer with you overnight. You will need to have your eye checked within a few days after the operation, and the time of this appointment will be discussed with you on the day of the operation. Further appointments will be needed in the outpatients department.

Two different types of drops will be used in the operated eye - an antibiotic eye drop for 7 days to prevent infection, and a steroid eye drop that will need to be continued for about 2-3 months to treat inflammation and prevent scarring around the drainage tube. Please continue to use these drops until you are advised to stop.

You should stop using your normal glaucoma eye drops in the eye that has been operated on, but continue to use them in the other eye if necessary.

You will also be given a plastic shield to wear over your eye at night for 1 week.

You will need to be reviewed in the Glaucoma Clinic at Heavitree Hospital the day after the operation, and we would recommend arranging transport in advance.

Your vision will be blurred after the operation. This may take a few weeks to settle. The eye may also be sore, watery and gritty for a few days after the operation. A painkilling tablet such as paracetamol should help make the eye comfortable. Please do not take aspirin for pain relief on the day of the operation as this may increase the risk of bleeding in the eye.

Avoid heavy lifting, gardening and active sports for at least two weeks after the operation. Your eye doctor will advise you about driving and answer any other questions you may have.

We hope this leaflet has been helpful. If you have any comments about the leaflet or questions about the operation, please ask our staff.

How to get help following surgery

Normal working hours

Glaucoma Unit on 01392-406045

(Monday – Friday 9am to 5pm)

Or

Call our Eye Triage Team 01392 404955

(Monday – Saturday 9am to 5pm)

Outside of normal eye department working hours

Please call 111 for emergencies and urgent queries only

Useful contacts

Glaucoma UK is a charity which aims to provide help, information and support for people with glaucoma.

Their website ([glaucoma.uk](https://www.glaucoma.uk)) contains information on glaucoma surgery

You can call their helpline on **01233 64 81 70**

Or email helpline@glaucoma.uk

The Trust cannot accept any responsibility for the accuracy of the information given if the leaflet is not used by Royal Devon staff undertaking procedures at the Royal Devon hospitals.

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