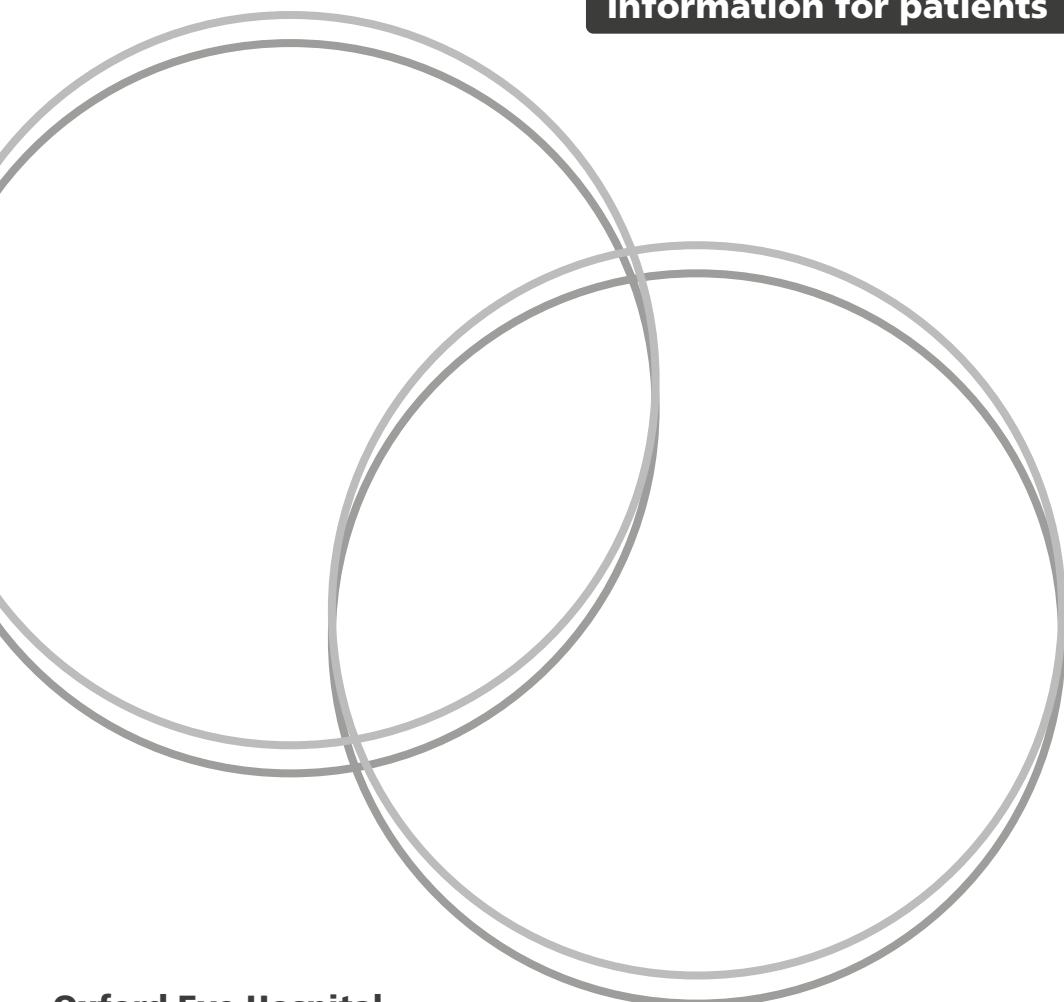


Glaucoma filtration surgery (Preserflo Microshunt)

Information for patients



This leaflet gives you information that will help you decide whether to have glaucoma surgery. You might want to discuss it with a partner, relative or carer. Before you have the operation, you will be asked to sign a consent form and so it is important that you understand the information in this leaflet before you decide to have surgery. If you have any questions, you may wish to write them down so that you can ask one of the hospital staff.

Why have I been offered glaucoma surgery (Preserflo Microshunt)?

Glaucoma is usually treated successfully with laser or eye drops to lower the pressure in the eye. However, if these are not effective, not tolerated (causing you side effects) and/or your glaucoma is getting worse, then surgery is usually required to lower/control the eye pressure (known as the intraocular pressure).

Therefore, the aim of the operation is to lower/control your eye pressure to reduce your risk of visual loss due to glaucoma. It will NOT improve your vision or reverse the damage which has already been caused by glaucoma.

What is a Preserflo Microshunt?

Preserflo Microshunt is a surgical operation which lowers the eye (or intraocular) pressure (IOP) to help preserve a person's level of vision. Any vision lost to glaucoma cannot be restored.

A senior specialist eye surgeon with expertise in glaucoma will carry out the operation or may supervise a doctor in training.

The operation involves opening the skin of the eye (conjunctiva) under the upper lid to expose the wall of the eye (sclera).

A chemical called mitomycin C is normally applied before the tube is inserted into the eye to prevent your body scarring the entrance to the Preserflo microshunt. The skin of the eye (conjunctiva) is then replaced over the Preserflo microshunt in its original position and secured with sutures (stitches) which are often removed in clinic if they are not buried in the conjunctiva. The whole operation site is covered by the upper eyelid.

The surgery works by draining fluid from within the eye known as aqueous humour, through the Preserflo microshunt under the conjunctiva into a reservoir or bleb. It is important to remember that the aqueous humour is fluid within the eye and is not related to the tears which cause the eye to water.

By draining aqueous humour in a controlled manner out of the eye, the Preserflo microshunt operation not only lowers the IOP but reduces fluctuation in the IOP.

Preparing for surgery

Prior to surgery you should **continue all your drops and tablets as normal** even on the morning of the operation. Blood thinning medications (such as Aspirin, Clopidogrel, Wafarin) **MAYBE** be discontinued prior to surgery, **but only do this if advised by the hospital**, depending on the medical risk to you of stopping these treatments. This will normally be discussed with you at the time you are listed for surgery and again at a pre-operation assessment.

You will be called for a pre-operation assessment to document your medical history, any medications you are taking and your fitness for the type of anaesthetic you will receive for the operation.

Arrange for someone to take you home after surgery. If you live alone and are having sedation or general anaesthetic then also arrange for someone to be with you at home for the night of the surgery in case you feel unwell.

If it is not possible for someone to be with you at home then please let the pre-operation assessment team know and we can arrange for you to stay overnight.

The surgery

Preserflo microshunt surgery typically takes around 60 minutes. Prior to starting the operation, the team will re-confirm your details such as your name, hospital number, date of birth, surgery and eye which we are operating on. The eye will then be cleaned with sterilising solution and then a sterile sheet will be placed over you to keep the site sterile for the duration of surgery. The surgery will be performed as described above and then a shield and pad will be placed over the eye. For some patients (those who are at risk of developing low pressure after surgery), a stent is inserted into the Preserflo microshunt. If after the surgery your pressure is too high, the stent can be removed either in clinic or in the operating theatre under local anaesthetic (with drops only).

Anaesthesia

Preserflo microshunt surgery is either performed under:

- 1. Local anesthesia (LA)** – whereby a numbing medication (anaesthetic) is injected around the eye. The injection may cause mild discomfort and/or a pressure sensation as it is delivered, and this will quickly disappear. The injection anaesthetizes (numbs) the eye, preventing pain and excessive eye movements during the operation.
- 2. Local anaesthesia with sedation (LAS)** – whereby you are given medication through the vein to make you “sleepy” but you will still be conscious and aware of your surroundings. The LA will then be given around the eye to anaesthetise it.
- 3. General anaesthesia (GA)** – where you are asleep for the duration of the surgery.

Which type of anesthesia is decided upon will depend on a number of factors including your age, other medical conditions you may have and any risk of complications. This will be discussed with you at the time of adding you to the waiting list for surgery.

If the operation is performed under LA or LAS you may hear the surgeon talking to the scrub nurse or other members of the surgical team which is quite normal and nothing to be concerned about.

Mitomycin C

During the surgery, the drug Mitomycin C is applied to the surface of the eye for a few minutes and then washed away. Mitomycin C is a drug that was originally used to treat cancer and is used for glaucoma surgery to reduce scarring. Scarring is the main cause of the Preserflo microshunt either reducing or stopping functioning and the use of MMC reduces this risk.

Following surgery – post-operation

Following the operation, patients are usually examined by a member of the glaucoma team on the same day and are then discharged home. Sometimes, patients are seen the following day in clinic instead at the discretion of the surgeon.

We can provide overnight accommodation for patients who:

- have travelled from afar OR
- have had sedation or a general anaesthesia AND live alone with no one to be at home with them first the first night.

The eye is normally padded and a plastic shield is placed over the eye after surgery. The next day the eye pad and shield should be removed and the skin around the eye should be cleaned with cool boiled water and a clean flannel or cotton wool pad. The eye pad can be disposed of, but the shield **MUST** be worn over the eye at night for 2 weeks. If you have poor or no sight in your other eye, then we may take the pad off before you go home.

How should my eye feel or look like after the surgery?

After the operation, the eyelid on the operated eye may be droopy for the first 1-2 months. The eye will be "red" and possibly "bloodshot" for the first 4 weeks then this will settle. This is quite normal.

Your eye might feel itchy, sticky and mildly sore for 3-4 weeks after the surgery due to the surgery itself and partly due to the stitches. This is normal. If you have soreness/discomfort, we suggest that you take a pain reliever such as paracetamol every 4-6 hours (but not aspirin or ibuprofen as this can cause bleeding).

Please don't rub your eye.

Your vision may be blurred after the surgery for the first few weeks and then start to improve. It may take up to 3 months for your vision to stabilise and sometimes a change of glasses prescription is required. However, a glasses test is not recommended until after 3 months following the surgery.

Eye drops after the surgery

After the surgery, **acetazolamide tablets** (if you have been prescribed these) and **all glaucoma drops to the OPERATED EYE ONLY should be stopped**. If you are using glaucoma drops for your other eye, these **MUST** be continued as normal.

Eye drops to the operated eye should start on the following morning after the operation. It is likely that you will be given 2 or 3 different drops. Each drop comes in individual vials – please either use **ONE VIAL per day (Chloramphenicol and atropine) or UNTIL it runs out (Dexamethasone). It is important to leave a minimum of 5 minutes gap between any drops.**

You will be prescribed:

- **Antibiotic drop (Chloramphenicol preservative free):** this is given four times a day and is to reduce your risk of infection. You will usually need to use this for 3-4 weeks.
- **Steroid drop (Dexamethasone preservative free):** this is to reduce inflammation and therefore the risk of scarring which can lead to failure of the surgery. The drops need to be instilled for the majority of patients every 2 hours (during the day only) usually for the first month and then the drops are slowly reduced over 2 months at the surgeons discretion. You must **NOT** stop the steroid drops suddenly as your operation may fail. If you run out of drops, you must obtain more from your GP.
- **Pupil dilating drop (usually Atropine):** This drop is sometimes prescribed for patients who **MAY** develop complications if the IOP goes too low. The drop makes the pupil big and can protect the eye against low pressure. The drop is prescribed to be used twice a day and is used for the first 2-3 weeks (sometimes longer). The drop will make your pupil look bigger compared to the other eye and will blur your vision. However, once it is stopped the pupil and vision will return to normal, usually within 10-12 days.

Post-operative clinic visits

It is likely you will be seen the week following surgery and then anytime between two to six weeks later. However, you may need to be seen more frequently if the eye pressure is too high or too low.

During your follow-up clinic visits, if the pressure is too high, you may need a stent suture removed in clinic or to take eye drops.

If on follow-up, the eye appears inflamed, then we may give you an injection around the eye of a combination of steroid and anaesthetic sometimes combined with 5-Fluororacil (a drug to reduce scarring which can develop if the eye is inflamed). The injection is administered in clinic after instillation of anaesthetic to numb the eye. Following the injection, you may experience a mild pressure sensation and/or stinging for a few hours. Occasionally, it can make your eye feel sore and gritty.

Activity after surgery

It is important to avoid strenuous activity during the early period after surgery including swimming, tennis, jogging and contact sports. Watching TV, reading and using a computer will not harm the eye. Avoid activities involving bowing your head down and activities such as yoga that require head down posturing.

If the eye pressure is very low then your surgeon may ask you to avoid all activities that involve any exertion.

Avoid wearing make-up for the first four weeks.

When can I go back to work?

The amount of time needed off work will depend on a number of factors such as the type of job you do, the vision in your other eye and the IOP in the operated eye.

In general, if you work in an office environment you would need 2 weeks off work if you don't experience any problems after surgery. However, if your job involves heavy manual work or working in a dusty/outdoor environment you are likely to require one month or sometimes more off. This can be discussed with your consultant.

Contact lens use after surgery

If contact lens wear is essential, then this may not be the correct operation for your eye as not everyone can continue to wear contact lenses after surgery due to the risk of the lens rubbing on the bleb and causing an infection.

If contact lens wear is essential, then other alternatives to Preserflo microshunt should be discussed with your consultant.

Flying after surgery

Although it is safe to fly after surgery, you will need close follow-up for the first few months, so it is recommended to avoid travel in the first 3 months after surgery.

When is the eye back to normal?

In the majority of cases, it takes 2 to 3 months for the eye to feel completely normal and sometimes longer in more complicated cases. At this point a spectacles test (refraction) is usually required as your glasses prescription may have changed compared to before the operation.

Success of surgery

Preserflo microshunt is a newer glaucoma surgery compared to trabeculectomy which has been performed for many decades. A recent meta-analysis (review of a number of clinical studies) looking at ten studies showed no difference in the success rate between the two procedures. However, trabeculectomy achieved slightly lower pressures on average but preserflo had slightly less progression of visual field loss and complications from low pressure.

A study from the UK found that 18 months after surgery 55% of patients had controlled pressure with no eye drops and this rose to 75% of patients having controlled pressure when including those who had eye drops reintroduced.

Risks of Preserflo microshunt surgery

Every operation carries a risk of complications. 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 permanent loss of sight.

- **Blurred vision/loss of vision**

Your vision is usually more blurred after the operation and may take several weeks to return to normal. Some patients will find that their vision is not quite as sharp after surgery. Your vision will generally stabilise at around 3 months when you should see your optician for a glasses test. It is important to remember that any vision lost due to glaucoma cannot be restored by surgery. Very rarely patients develop blindness from the operation usually due to bleeding or infection of the eye.

- **High or low eye pressure**

Your IOP may be high or low following surgery. If your IOP is high then we may be able to remove a stent suture, if one was placed, or we will prescribe medication.

Removing the stent suture is performed in the outpatient clinic following administering some anaesthetic eye drops. Your eye pressure will then be rechecked. After 3 months, if your IOP is too high then you either need drops again to lower your IOP and/or an operation to try and re-establish flow of aqueous through the microshunt.

Infrequently, your IOP may be too low and you will need to be watched more closely with more frequent visits. If the low IOP is causing a reduction in vision or swelling at the back of the eye then you may need either a small injection of jelly into the eye or another operation to reduce drainage out of the Preserflo microshunt.

- **Bleeding**

There is a very small chance of bleeding inside the eye immediately after surgery (called “suprachoroidal” haemorrhage). This may require further surgery and may ultimately result in loss of sight.

- **Infection**

There is a very small chance of infection inside the eye after surgery. This will require further treatment, and may ultimately result in loss of sight. This operation will make your eye more prone to infection, even in years to come. If your eye becomes painful or red or the vision becomes blurred, you should seek immediate medical help.

- **Cataract**

There is chance that a cataract (clouding of the natural lens) may develop soon or some years after surgery if you have not already had cataract surgery. This may require an operation called cataract surgery which has a very high success rate but can stop the preserflo microshunt working so well.

- **Irritation**

Irritation (grittiness) or discomfort in the eye that may persist.

- **Droopy eyelid**

Your eyelid may become droopy on the side of the operation after surgery. This usually settles down and the eyelid position returns to normal/near normal. Rarely, if the eyelid is still droopy after 3 months, then you may need a small operation to lift the eyelid to match the other eye.

What symptoms should I look out for to seek medical attention?

Certain symptoms could mean that you need prompt treatment and **you should call us IMMEDIATELY** including:

- Excessive pain
- Rapid Loss of vision
- Increasing redness of the eye

Call our specialist emergency telephone triage number:

Tel: **01865 234567 option 1**

Monday to Friday 8.30am–4.30pm

Saturday and Sunday 8.30am–3.30pm (including Bank Holidays)

You will be able to speak to an ophthalmic health professional who will advise you.

If you need advice out of hours, please phone **NHS 111** or your out of hours GP practice.

For queries or concerns that are not emergencies, please contact us:

Tel: **01865234567** option 1 for patients and then option 2 for Eye Surgery.

Please note this line directs you to an answer phone service which is checked and responded to by a Nurse Practitioner three times a day, Monday to Friday, at 8am, 12pm and 4pm. If you call after 4pm your call will be responded to the following working day.

Email for appointment enquiries: [**eye.hospital@ouh.nhs.uk**](mailto:eye.hospital@ouh.nhs.uk)

We hope this information is sufficient to help you decide whether to go ahead with surgery.

Please use the space on the next few pages to write down any further questions to ask the doctor or nurse when you come to the hospital for your appointment. Don't worry about asking questions as our staff will be happy to answer them.

Oxford Eye Hospital – Glaucoma Service

Surgery/laser/assessments are performed by the specialist glaucoma team in the department, which include:

Glaucoma Consultants: Mr Rajen Tailor & Mr Guy Mole

Glaucoma Fellows

Specialist Trainees

Specialist Optometrists with an interest in Glaucoma

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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