



Dr Geoffrey Ryan

Trabeculectomy & Preserflo



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What is a trabeculectomy?

A trabeculectomy is a glaucoma operation aimed at lowering the pressure within the eye. A new passageway is created to divert fluid from the front chamber of the eye. The goal of surgery is to slow down the progression of visual loss. It does not restore or improve vision already lost.

What is the Preserflo device?

The Preserflo device is a micro-shunt made of a synthetic polymer. It is permanently implanted in the eye. It diverts fluid from the front chamber of the eye to under the conjunctiva. This results in a lower pressure within the eye.

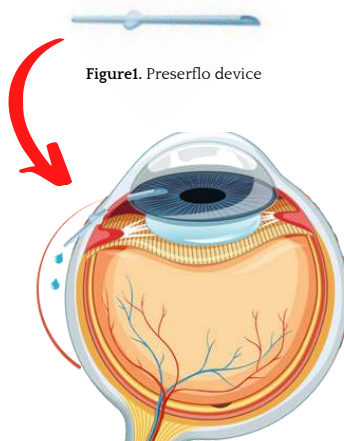


Figure 2. The superficial tissue overlying the white of the eye is called the conjunctiva. This layer is reflected back to expose the sclera (white tissue). The Preserflo is implanted through the scleral tissue into the front chamber of the eye. Fluid is slowly diverted from the front chamber of the eye. The conjunctiva is then placed over the device. A water tight closure of the conjunctiva is then achieved to ensure no communication between the inside of the eye and outside environment. The fluid accumulates under the conjunctiva and then is drained away via blood vessels and lymphatics.

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Prior to surgery

Fasting instructions

Do not have anything to eat or drink for 6 hours prior to your operation. This ensures it is safe to give sedating medicine during your operation.

Medication

You should continue your regular medications before and on the day of surgery. Despite the instructions regarding fasting, you are still permitted to take your regular medication with a small sip of water. Please notify Dr Ryan of any blood thinning medication you are on. He can then instruct you regarding whether or not to continue this. Diabetic medication including tablets and insulin will need to be adjusted and you will be advised accordingly.

On the day of surgery

Your operation will take place at the South Bank Day Hospital located in South Brisbane (140 Melbourne St). It is expected that you will spend 3-4 hours at the hospital whilst the anaesthetist and nursing staff perform pre and post-operative safety checks. The operation is performed under local anaesthetic and sedation (where the eye is numbed and you receive heavy sedation).

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After the operation

All glaucoma procedures require close follow up and monitoring of eye pressure. You should cease all glaucoma drops in the operated eye after the procedure. The pressure in the eye at your post-operative reviews will dictate what steps need to be taken.

- **If the pressure is at the target level:**

You will be seen once a week for the first four weeks to monitor the surgical site. The pressure in the eye and the amount of inflammation will be documented. If everything is stable, the length between reviews can then be increased.

- **If the pressure is too low:**

A common cause of low pressure is a leak of aqueous (fluid within the eye) to the outside of the eye through the conjunctival wound. In some cases this will heal and resolve on its own. If it fails to resolve then you may require a trip back to theatre for further stitches.

- **If the pressure is too high:**

This is a sign of insufficient fluid flowing through the Preserflo device or the eye healing too quickly (scar tissue formation) and restricting the flow of fluid. If this occurs, then the first step is to return to the operating theatre and identify why there is insufficient flow. The solution may include moving the device, replacing the device or breaking any scar tissue that has formed.

It is normal to require adjustments after the operation which may include removal of stitches, injecting steroid medication or altering your eye drop regime.

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Caring for your eye after surgery

Which drops and how often do I use them after surgery?

Chloramphenicol 0.5% eye drop four times a day for two weeks.

Dexamethasone (Maxidex®) eye drops every two hours initially and this will reduce as per Dr Ryan's advice.

How do I protect my eye?

Avoid rubbing or touching your eye. This is extremely important in the first two weeks after the operation. An eyeshield is provided for you to wear for two weeks when sleeping (there is a risk of unintentionally rubbing your eye when asleep).

When can I exercise?

In the first week don't do any strenuous activities like sprinting or martial arts, and don't lift any weights heavier than 5kg. A light walk around the neighbourhood or on a treadmill is an acceptable form of exercise in the first week. You may then resume normal activities after this period of time.

When can I drive?

Most patients can drive 3-4 days following surgery. Your ability to drive will depend on your recovery and the vision in your other eye. Dr Ryan can advise you when it is safe to resume driving.

When can I swim?

Do not swim for two weeks after surgery.

When can I return to work?

Returning to work depends on your occupation and can be discussed with Dr Ryan (most patients can resume office duties 1-2 days following surgery).

What is your advice about cleaning around my eye?

You are advised to be careful when washing: do not directly splash water into your face in the shower or immerse your head in the bath for one week after surgery, but a clean face cloth can safely be used. It is also advised to avoid make-up around the eye for two weeks.

Should I continue my glaucoma drops in the operated eye?

It is advised to stop all glaucoma drops to the operated eye unless Dr Ryan advises otherwise.

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Short-term risks of a trabeculectomy

Infection/ Endophthalmitis

An infection inside the eye requires urgent review and injections of antibiotics. It carries a significant risk to vision and is considered an eye emergency.

Vision loss

Complete loss of vision is extremely rare. Occasionally after the operation your vision may not be as sharp as before the surgery. This is often due to a change in glasses prescription.

Eyelid drops/ Ptosis

In a small number of patients the eyelid position might change after the operation. If there is a significant lowering of the eyelid then it may require another operation to correct.

Conjunctival leak

An early leak of fluid is often due to delayed healing of a wound. Further stitches may be required to help aid closure.

Mitomycin C medication side effects

The anti-scarring agent used can cause ocular surface irritation and dry eyes. In rare circumstances it can cause permanent damage to the ocular surface stem cells.

Hypotony (low IOP)

If the pressure drops too low then this may lead to a choroidal haemorrhage (large bleed under the retina) or a choroidal detachment (swelling of the layer under the retina). This can significantly compromise the vision.

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Long-term risks of a trabeculectomy

Infection

There is a lifetime risk of infection due to the presence of a drainage bleb (the surgical site of the trabeculectomy). For this reason all patients post trabeculectomy should have an urgent review if their eye becomes red and/or painful.

Discomfort/ pain (bleb dysesthesia)

In some instances the drainage bleb becomes large and extends below the eyelid. This can disrupt the tear film and create a feeling of discomfort. It occurs in 10% of patients and is often treatable with artificial tear drops. Occasionally the pain is more severe and requires surgery to make the drainage bleb smaller.

Cataract

The rate of patients requiring cataract surgery is greater in those who have undergone trabeculectomy surgery compared to those who have not.

Change in glasses prescription

Majority of patients require a small change in glasses prescription following trabeculectomy surgery. It is advisable to wait three months until having your glasses changed.

Exposure of the Preserflo device

Majority of cases will require removal of the device if repeated episodes of exposure are deemed likely. There is a high risk of infection if left untreated.

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