



Trabeculectomy (glaucoma drainage) surgery

You may have been told by your doctor, or by me, that you require an operation to control the pressure within your eye. This operation is called a trabeculectomy (trab-ec-u-lec-tomy). A trabeculectomy operation is recommended for patients whose glaucoma continues to progress despite using eye drops and/or having had laser treatment. The goal of trabeculectomy surgery is to help lower and control your eye pressure. This eye pressure is known as intra-ocular pressure (IOP). If your intra-ocular pressure remains high, then further irreversible loss of vision from glaucoma may occur. This operation will not improve your vision or cure glaucoma, but aims to prevent or slow down further visual loss from glaucoma damage.

What is a trabeculectomy?

A trabeculectomy is an operation to create an alternative drainage channel, to help aqueous fluid (natural fluid of the eye) drain from your eye. This operation creates a bypass for the blocked natural drain (trabecular meshwork) of your eye. Your eye pressure is reduced because fluid can now drain with relative ease through the newly created drainage channel.

How is a trabeculectomy operation performed?

During this operation a tiny opening is made in the white of your eye (sclera), underneath the top eyelid, to form a new drainage channel. This allows the eye fluid to drain through the opening into a reservoir called a bleb and then to be absorbed by the body. The bleb is underneath the conjunctiva (thin transparent layer covering the sclera) on the surface of your eye, underneath the top eyelid. Trabeculectomy surgery can be carried out under either a local anaesthetic or a general anaesthetic which will be discussed with you prior to your admission to hospital.

How successful is trabeculectomy surgery at lowering intra-ocular pressure?

Audits and studies on the success of trabeculectomy surgery show it is dependant upon many variable factors. Factors that can reduce the success of trabeculectomy surgery are:

- ◆ Young age
- ◆ Race

- ◆ Uveitis (inflammation within the eye)
- ◆ Previous eye surgery
- ◆ Previous severe eye injury
- ◆ Rubeotic glaucoma where there are abnormal blood vessels on the iris
- ◆ Natural healing process
- ◆ Diabetes

Where the success of Trabeculectomy surgery is based upon a patient's intra-ocular pressure (IOP) being less than 21mmHg a year after surgery. The national average is that 66% of patients achieve this. (The National Survey of Trabeculectomy. 1999; (Edmunds et al). At the Manchester Royal Eye Hospital, we have a success rate of 76%. (Re-audit of Trabeculectomy. 2007; K. Mercieca, et al).

Are there any risks associated with trabeculectomy surgery?

As with any surgery, there is the potential for complications or problems to arise. Complications can occur during surgery, shortly after surgery or many months after surgery.

Complications that can occur:

- The most serious problem that can occur is bleeding inside the eye. This can lead to loss of vision and even blindness but occurs in less than 1 in 1000 patients.
- An infection inside the eye can be very serious and also cause loss of vision or blindness. This also happens in less than 1 in 1000 patients.
- After the operation the eye pressure may be too high or too low. This may require additional treatment or adjustments in the out patient clinic or sometimes further surgery.
- Inflammation inside the eye can occur.
- Swelling in the retina can affect your vision but this can usually be treated.
- Some patients are aware of the drainage bleb under their upper eyelid or that there is slight drooping of the eyelid but this usually settles down.
- As your eye settles down and heals you may need a change of glasses, to get your best vision. About 10% of patients' notice that their vision is reduced by one line on the eye chart a year after the operation, as cataract formation may be increased by trabeculectomy surgery.

The use of antimetabolites (anti-scarring drugs)

The main reason trabeculectomy surgery can fail is that the newly created drainage site can scar and heal up. The previous mentioned risk factors can predispose to this. Antimetabolites are medications that prevent scar tissue forming. If the doctor is concerned that excess scarring may occur

then the use of these medications can limit this process and enhance the success rate of the operation. The most commonly used antimetabolites are 5 Fluorouracil (5FU) and Mitomycin C (MMC). These can be used at the time of surgery. Additionally, 5FU can be used in the out patients clinic and given by the doctor as an injection around the drainage bleb.

Before your operation

You should continue any eye drops and tablets for your glaucoma as prescribed, until the time of your surgery, unless directed otherwise specifically. If you take any blood thinning medicines e.g. warfarin please discuss this with me in clinic. On your admission please bring with you an up to date list of your current medications and a brief summary of your medical history, available from your GP if you are unsure. Any investigations e.g. blood tests or ecg will also be undertaken as appropriate. If you are due to have a general anaesthetic or sedation you will receive instructions from the hospital about starving prior to the operation, though this will usually be for 6 hours beforehand.

After your operation

Immediately after your operation, your eye will be covered by a protective plastic shield. Eye drops are not usually required in your operated eye until the day after surgery. Any eye drops that you use in your other eye must be continued as normal. The morning after your operation the protective eye shield will be removed. Your eye will be cleaned and examined and eye drops commenced. The eye drops you will need to use in your operated eye will be **different** from the drops that you used prior to your operation. Drops will need to be used for approximately 3 months after your operation. Each time you attend the out patient clinic any changes to your eye drops will be discussed with you. If you are running out of the drops you must obtain a repeat prescription for them from your own general practitioner (GP).

Post operative visits

The success of trabeculectomy surgery depends upon the rate and extent of the conjunctival healing process. Your intra-ocular pressure can fluctuate widely in the first few weeks after surgery. During the first few weeks you will need to attend the out patients clinic frequently for close monitoring. Initially, on a weekly basis though occasionally more frequently. There are many adjustments that may need to be made, during your clinic visits, to maximise the success of your surgery. Such as, changes to eye drop medications, adjustments to or removal of stitches and possibly having anti-scarring injections. It is very important that you attend all your clinic appointments and use your eye drops as prescribed.

Activities after trabeculectomy surgery

Following surgery you are able to read and watch television as normal as these activities will not harm your eye. It is however, important to avoid strenuous activity during the first few weeks after surgery. The following table is a general guide but may be altered depending upon how each individual's eye recovers.

Activity	Avoid for
Hair washing	No need to avoid but back wash advised to avoid getting shampoo into eye. May be easier to have someone else wash your hair for you.
Showering and bathing	No need to avoid but don't allow soapy / dirty water to go into eye.
Sleeping	Try to sleep on your unoperated side. Tape the plastic eye shield provided over your eye every night for 2 weeks to avoid inadvertently rubbing your eye whilst asleep.
Walking	No restrictions
Wearing glasses	No restrictions. Avoid buying new glasses for 2-3 months after surgery as your glasses prescription can change during this time as your eye heals.
Wearing sunglasses	Wear for comfort if your eye feels sensitive to light and wear sunglasses in bright sunlight with UV protection.
Wearing contact lenses	Can not be worn due to the bleb*
Driving	This is dependant on your vision in both eyes and you will be advised at clinic.
Flying	No restrictions
Going away on holiday	Discuss with your doctor/nurse as it is very important to attend your follow up appointments.
Wearing eye make up	1 month then use new make up. Never share eye make up with someone else.
Household chores e.g. cleaning, ironing, hoovering	1 – 2 weeks but this depends upon your intra-ocular pressure
Sexual activity	1 -2 weeks
Gym workout	3 months
Playing sports e.g. football, tennis, golf, squash, rugby	3 months
Running / jogging	3 months
Swimming	Avoid until all your stitches have been removed, approximately 3 months then after that wear goggles.

It is most important that you do not bump, rub or press on your eye after surgery.

(* In the long term some patients are able to wear a contact lens after discussion of the risks)

Returning to work

The length of time you will need off work depends upon a number of factors. Such as the nature of your job, your vision and the intra-ocular pressure in your operated eye. Most people need 1 – 2 weeks off after surgery. If your job involves heavy manual work or you work in a particularly dusty/dirty environment you may require longer off. This can be discussed at any clinic visit. You may need to make your employer aware of your need to attend for frequent follow up appointments after surgery. A self certifying sick note is required for the first 7 days of absence and is available from your employer or GP, not from the hospital. After the first 7 days a medical sick note is required and is available from your GP or hospital doctor.

Contact information

The information in this leaflet is intended as a guide only, as each patients experience will be different. If you require any further information or are concerned about your eye following surgery, please contact my secretary at the Alexandra hospital, the telephone number is 0161 495 6815.

If you are unable to speak to my secretary, please ring my secretary at the Eye Hospital who can contact me. The telephone number is 0161 276 6949. The nurses on the Private Patient Unit may also be able to advise you 0161 276 5600. If you are unable to contact my secretaries or me at the Eye Hospital and are concerned then the Emergency Eye centre on 0161 276 5597 is open everyday between 8.00 am and 9.00 pm they can contact me directly.

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