

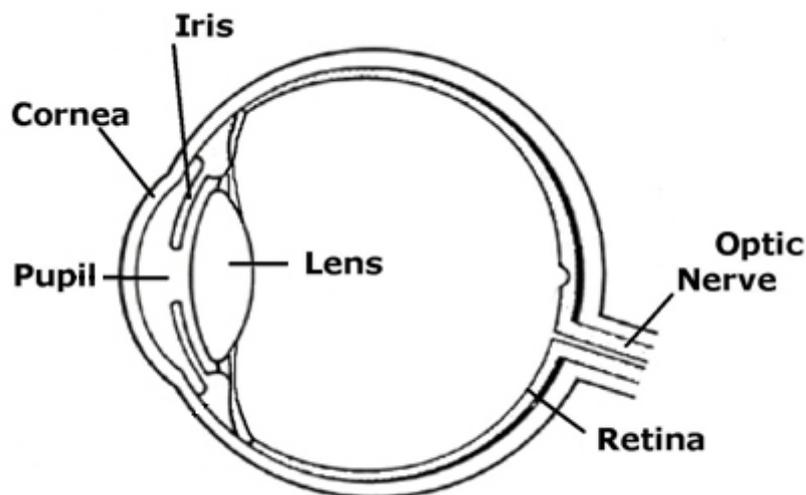


Corneal Transplant Deep Anterior Lamellar Keratoplasty (DALK) & Penetrating Keratoplasty (PK)

There are various indications and types of cornea transplant surgery. This leaflet has been designed to answer the questions most frequently asked by patients suitable for the above type of corneal transplant (DALK or PK). It will hopefully enable you, the patient, to be more informed about what the surgery and aftercare entails. It is not possible in an information leaflet like this to cover all aspects of corneal transplant surgery. Your consultant Mr Amit Patel or a member of his team will be pleased to answer any additional questions you may have.

Where and what is the cornea?

The cornea is the curved window at the front of the eye. It is in front of the iris (the coloured part of the eye) and the pupil (the round black hole in the centre of the iris). In the normal eye, the cornea is clear. Light is able to enter the eye through the cornea, pass through the lens and focus on the retina at the back of the eye. If the cornea is hazy the path of light to the retina is interrupted, and sight may be distorted or patchy.



The cornea has three main layers. An outer layer (epithelium), middle layer (stroma) and inner layer (endothelium).

Various conditions may affect all or some of these layers. In some conditions, the middle layer is predominantly affected e.g. bacterial infection, herpes keratitis, keratoconus, stromal dystrophies etc.

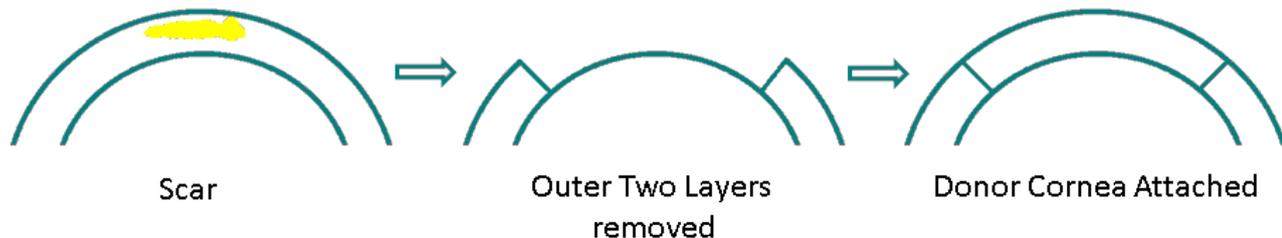
Why do I need a corneal transplant?

A DALK or PK may be performed to:

- improve your sight and/or
- prevent perforation of the eye and/or
- remove an infection affecting the cornea

DALK is a modern technique that is performed in such cases to replace only the outer two layers with the outer two layers of a donor cornea.

PK is the conventional technique whereby all layers of the cornea are removed and replaced. In certain cases you may have to have a PK e.g. if there is significant scarring of the inner layer or if the inner layer splits during a DALK procedure.



What are the advantages of a DALK over PK?

- Lower risk of intraocular (inside the eye) problems such as infection or bleeding
- Lower risk of rejection
- The corneal wound after DALK is stronger than that after a PK. This means that stitches can be removed sooner.

What are the disadvantages of a DALK over PK?

DALK recipients have a slightly lower chance of achieving excellent vision than recipients of full-thickness transplants.

What does a corneal transplant operation involve?

A portion of your unhealthy cornea is removed and replaced with a portion of healthy cornea from a donor eye. It is then secured in place with stitches.

These stitches often need to be adjusted or removed for the first one to two years after the operation.

The stitches will affect the shape of the cornea and the way that the eye focuses. It may be necessary to adjust the stitches after the operation to reduce visual distortion. Individual stitches may be removed from three months after the operation, but complete stitch removal is not performed until at least one year after the procedure. This will be done in the outpatient department.

Where does the transplant come from?

The donor cornea is removed from the eye of a deceased person who has given consent before death to the medical use of his or her eyes. The medical history of the donor is checked to exclude diseases of the nervous system. A blood sample is taken from all donors to exclude blood borne infection. The donor cornea is thoroughly examined for bacteria and fungi. As a result of these tests the risk of infection is minimal, but can never be completely eliminated. Because of this tiny risk, you will not be able to be a blood or organ donor following a transplant.

On the day of the operation

- You should have a responsible adult to come in with you, as an escort
- You may come in using public transport, but you must go home in a car or taxi
- Please ensure you follow the starving instructions given to you at the pre-operative assessment.
- Take all your medication as normal unless instructed otherwise
- Wear loose comfortable and clean clothing. Leave all jewellery at home, do not wear makeup and take a shower to reduce the risk of infection.

You will be admitted to the ward on the day of the operation and discharged home the same day. In most cases, the operation is performed under a general anaesthetic and you will have had a pre-operative assessment prior to the surgery.

The anaesthetic will not be administered until the surgeon is satisfied with the quality of the donor tissue and its preparation. There is therefore a small chance that your operation may not go ahead if there is any concern regarding the donor tissue. A routine corneal graft operation usually takes about 60-90 minutes.

Post-operative care

After surgery, the operated eye will be covered with a protective plastic eye shield. As the anaesthetic wears off, some discomfort may be felt in and around the operated eye. If you feel any pain, please do not hesitate to ask a nurse for pain relief. Pain is seldom severe and tends to settle down quite quickly. The nurse will teach you how to instil the drops to enable you to start the treatment on the following day.

The drops are important for the following reasons:

- To reduce inflammation and risk of rejection (steroid drops)
- To prevent infection (antibiotic drops)

Drops may be prescribed between four to eight times a day for a period of one month after the operation.

The frequency will then be reduced over time and anti-rejection drops may be stopped at 6 months or carried on indefinitely in some cases. It is essential that eye drops are instilled exactly as instructed. **This is very important to help prevent infection and rejection.** Please note that vision following a corneal graft may be blurred and the eye may be light-sensitive, particularly whilst using the drops.

When will I need to attend hospital?

You will need to be seen within a few days of surgery and regularly thereafter (approximately six visits in the first year). Your surgeon will inform you of the time and location of your visit. We generally recommend that you take two weeks off work but please discuss your individual circumstances with your surgeon.

Are there any complications following a corneal transplant?

Serious complications following graft surgery are uncommon. However it is a major eye operation and like all operations may be accompanied by complications. These include but are not limited to:

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- infection
 - rejection
 - glaucoma
 - cataract formation (if you have not had cataract surgery previously)

There is a small risk of total sight loss in the operated eye if complicated by a serious infection or bleed.

It is essential that you keep your follow-up appointments.

Rejection

The risk of rejection or infection of your transplant is low. Rejection results from your immune system recognising the transplant as being “foreign”.

Remember RSVP. If you experience any:

- Redness
- Sensitivity to light
- Vision disturbance
- Pain

Contact us between 8.30am - 5.00pm

Eye clinic Solihull: 0121 424 5063

Eye clinic Heartlands: 0121 424 1536

Eye clinic Good Hope: 0121 424 9608

After 5pm and at weekends, please Contact: 0121 507 6780

After 7pm Monday to Friday and after 6pm Saturday/Sunday: 0121 554 3801

**Eye Emergency Department
Birmingham & Midland Eye Centre
City Hospital
Western Road
Birmingham
B18 7QH**

It is imperative that you are seen within 24 hours of symptoms developing. Failure to obtain the correct treatment early can result in permanent loss of sight and the need for a repeat transplant, which carries a higher risk of failure than the first.

Post-Operative Information

- Following your surgery, you will have a shield and on your operated eye
- On the following day, remove the shield and discard tape. Wash the shield and wear it at night for 7 days. You can secure this with Micropore, Transpore or Sellotape
- The eyelids may be a little sticky. You may clean them gently with some gauze and cooled boiled water
- Apply the drops as directed after cleaning the eyelids

What to Expect

- It is normal for your eye to be red, sore and light sensitive for a few weeks after surgery, and this should gradually improve. You may take your normal painkillers (e.g. paracetamol)
- Your vision will be blurry but should gradually improve. Due to the stitches and healing process, the vision will not completely clear and you will require glasses and/or contact lenses once the eye has settled
- Your eyelids may be a little swollen for several weeks after surgery
- There may be clear, watery discharge for several days after surgery

Points to remember:

Do

- Instil the drops as directed
- Wear the eye shield at night for 7 days after surgery
- Keep your post-operative appointment

Don't

- Rub your eye
- Wear any eye makeup for 2 weeks
- Swim, use a Jacuzzi or sauna for 2 weeks
- Expose your eye to chemicals, dust or debris

Further Information

For further information, visit the:

1. NHS Choices Website at <https://www.nhs.uk/conditions/cornea-transplant/what-happens/>
2. RNIB Website at <http://www.rnib.org.uk/eye-health-eye-conditions-z-eye-conditions/corneal-transplantation>
3. Organ Donation Website at <https://www.organdonation.nhs.uk/about-donation/what-can-i-donate/cornea/>

To find out more about conditions relating to the eyes you can contact NHS Direct, Telephone 0845 4647 or visit them on the Internet at <http://www.nhsdirect.nhs.uk>

You may want to visit our Health Information Centres located at the Main Entrance at Birmingham Heartlands Hospital, Tel: 0121 424 2280, or at the Treatment Centre at Good Hope Hospital Tel: 0121 424 9946 or Email: healthinfo.centre@heartofengland.nhs.uk

Accessibility

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