

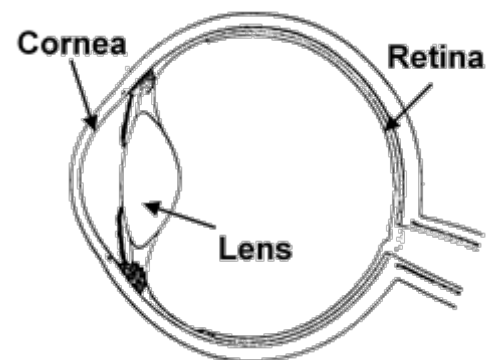


Corneal graft surgery (keratoplasty)

This leaflet outlines the function of the cornea and corneal graft surgery. If you have any questions or concerns please speak to your eye specialist.

What is the cornea?

The cornea is the window at the front of the eye. In a normal eye, the cornea is clear. Light is able to enter the eye through the clear cornea, pass through the clear lens to focus on the retina at the back of the eye. When the cornea is deformed or damaged from injury or disease light cannot pass freely to the retina. The picture that the retina passes to the brain is not clear and sight is reduced.



What is a corneal graft (keratoplasty)?

The chief function of the cornea is to help focus and transmit light. When this is interfered with by irregularity, scarring or water-logging, and cannot be helped by any other treatment (eye drops, drugs, spectacles or contact lenses), a corneal graft may be performed in order to:

- Improve your sight.
- Alleviate your pain.
- Repair a perforation (if your cornea has ruptured).

In a corneal graft operation, part of your cornea is removed and replaced with a similar piece of cornea from a donor eye. The types of corneal graft surgery are:

- Penetrating keratoplasty: the full thickness of the cornea is replaced;
- Deep lamellar keratoplasty: the anterior (front) 90% of the cornea is replaced;

- DSEK endothelial keratoplasty: the posterior (back) endothelial layer is replaced, with the rest of the cornea untouched.
- DMEK endothelial keratoplasty: a modification of DSEK with an even thinner layer transplanted, suitable for some patients.

Corneal donation

The donor cornea is taken from an eye that has been removed from a person who has died. Many people donate parts of their body, including their corneas in order to help others after their death. The individual or their family consent to the use of the eyes for medical purposes after their death e.g. by carrying a donor card.

It is usually necessary to wait for some time until a cornea in the correct condition is available. This may mean waiting for someone to die for 'material' to become available.

Corneas are not taken from donors known to have infectious conditions. All donors are screened for AIDS or Hepatitis viruses before their corneas are used. The cornea is treated with antibiotic solution before being used for your operation. Unfortunately, not all conditions can be detected, and it is not possible to guarantee that the donor cornea is free from infection. The risk of CJD (brain disease) from corneal grafting is unknown. Mr Leyland uses donor corneas from the NHS Blood and Transplant Service, which has rigorous procedures to ensure the best quality and safest corneal tissue.

What are the complications of surgery?

Serious complications may occur following graft surgery (see the separate leaflet called 'Risks of corneal graft surgery'). Keratoplasty is a major eye operation and like all operations may be accompanied by complications including haemorrhage (bleeding in the eye) and damage to other parts of the eye. The period after the operation can be complicated by infection, rejection, glaucoma, cataract and retinal detachment, as well as other, less common complications.

The post-operative care of a corneal graft is critical to achieving the desired outcome of a clear graft with good vision.

Therefore, it is essential that you keep your follow-up appointments, and seek prompt medical help should you develop sudden or severe symptoms.

Aftercare

Eyedrops: Eye drops are very important after the operation in preventing infection, inflammation and other complications. We may ask you to put in eye drops for 12 months or more after the operation.

Rejection of the corneal graft

Donor corneal grafts may be rejected by your body if your body recognises the foreign tissue and your immune system then tries to damage it. This is not an 'all or nothing' condition, and provided it is diagnosed early enough it can usually be successfully treated.

Please seek prompt medical advice if you experience: a decrease in sight; redness of the eye; or pain.

Rejection can occur at **any** time after a corneal graft, even years later, after your discharge from the hospital's care. Rejections occur more often in the first year after the operation following a change of treatment, after removal of stitches, or as a result of eye infection or injury.

Failure to obtain the correct treatment early can result in permanent loss of sight and the need for a repeat operation, which carries a higher risk of failure than the first.

What are the chances of my graft being successful?

The success rate is good (e.g. approximately 90%, 9 out of 10 corneas grafted for keratoconus (a condition where the cornea thins and bulges out of shape) are still clear 10 years after surgery) but will vary depending on why you needed a corneal graft and your general health.

Further information

- NHS Website www.nhs.uk
- www.nhs.uk/tests-and-treatments/cornea-transplant/
- www.rnib.org.uk/your-eyes/eye-conditions-az/corneal-transplant/

Contacting us

If you have a minor eye problem, please seek advice from your GP, optician or pharmacist. If urgent, please attend Eye Casualty or call 111.

Eye Casualty (Reading):	Mon-Fri 8.30am to 5pm; Sat & Sun & bank holidays 9am-12.30pm; Closed Christmas Day and New Year's Day.
Eye Casualty: Prince Charles Eye Unit (Windsor):	Mon-Fri 8.30am to 5pm; Sat 8.30am-12.30pm; Closed Sun & bank holidays.
Dorrell Ward (Reading):	0118 322 7172 (24 hours a day)
Eye Day Unit (Reading):	0118 322 7123 (Mon-Fri 7am to 6pm)

Outside of Eye Casualty hours, you should telephone your GP's out of hours' service, ring NHS 111 or if you have serious concerns, visit your nearest Emergency Department (A&E).

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

M Leyland, RBFT Ophthalmology, November 2025.
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