

Ophthalmology department

# Corneal transplants

## Information for patients, relatives and carers

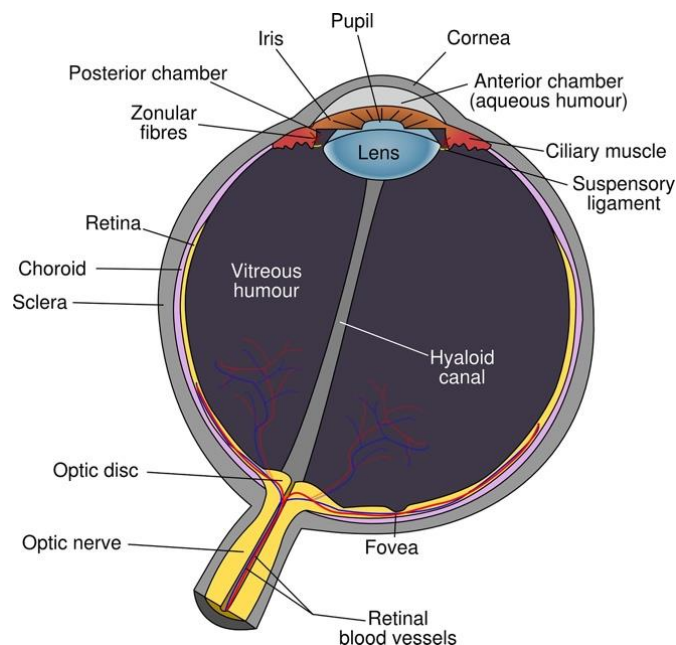
### Introduction

This leaflet has been designed to give you information about **Corneal transplants** and answer some of the questions that you or those who care for you may have. It is not meant to replace the discussion between you and your medical team but aims to help you understand more about what is discussed. If you have any questions about the information below, please contact us.

A corneal transplant is also called a corneal graft or keratoplasty. This is an operation to replace all or part of the cornea which is the clear window at the front of the eye with a healthy cornea from a donor.

### Why you need a corneal transplant

The cornea acts as a clear window at the front of the eye and helps focus rays of light onto the retina (the light-sensitive tissue at the back of the eye).



There are many diseases that can lead to a loss of the cornea's transparency or alter its shape. A corneal transplant may be offered to try to improve your vision.

A corneal transplant may also be carried out in emergencies such as severe infections or trauma for example, where there is a hole in the front of the eye.

---

## Where the donor tissue come from

The new cornea comes from a donor who has given permission for their corneas to be used after they have passed away. The tissue is thoroughly tested for diseases and infections to ensure it is healthy to use.

## How a corneal transplant is performed

Corneal transplants previously used to involve replacing the full thickness of the cornea, but with modern advances, it is now possible to only transplant part of the cornea. The aim of treatment is to replace only the damaged section of cornea in patients for whom this is appropriate.

## Full-thickness transplants

This is called a **penetrating keratoplasty (PK)** and is for patients where a partial-thickness transplant would not be appropriate.

This operation involves a circular piece of the damaged cornea being removed and replaced with a circular piece of the donor cornea tissue.

The donor tissue is held in place by a series of small stitches for at least a year. The operation is usually carried out under general anaesthetic and most patients go home the same day.

You will return home with a protective pad to cover the eye and be asked to return the following day for review, then one week and then every month to begin with. We will give you drops to use every one or two hours initially, the frequency will reduce gradually over time. It is very important you do not stop using the steroid drops, they are for long term use.

## Partial-thickness transplants

This is an operation to transplant either the front or back portions of the cornea. This operation is not suitable for everyone, but it can offer a faster recovery and lower risk of some complications.

## Transplanting the front portion

### Deep anterior lamellar keratoplasty (DALK)

This procedure is performed on patients where the disease process affects only the front portion of the cornea, e.g. keratoconus or corneal scarring affecting the top layers of the cornea.

This is similar to a full-thickness transplant, the difference is the back layer of your own cornea is left intact. There is a chance that during the procedure the transplant may need to be converted into a full-thickness transplant.

The procedure is usually performed under general anaesthetic and the graft is held in place with a series of small stitches. The post-operative treatment and follow up is the same as the full-thickness transplant.

The benefit of this procedure is a lower risk of rejection compared with a full thickness transplant, because the back layer of your original cornea remains. However, your vision may be marginally less due to the junction between the two layers.

---

## Transplanting the back portion

This procedure is performed on patients where the disease affects only the cell layer at the back of the cornea either due to a condition called Fuchs' endothelial dystrophy, or secondary to problems related to previous eye surgery.

The two techniques used at present are:

1. **Descemet's stripping endothelial keratoplasty (DSEK)** - The back layer of the cornea along with some of the supporting tissue is replaced.
2. **Descemet's membrane endothelial keratoplasty (DMEK)** - Only the back layer of the cornea is replaced.

Both procedures can be performed using either local or general anaesthetic.

Unlike the other types of corneal transplant, the graft is held in place by a temporary air bubble rather than a series of stitches. This means you will be asked to lie flat on your back for several hours after the procedure and will be reviewed before being sent home. The visual recovery can be quicker, but the post-operative eye drop treatment and follow-up care is similar to a full-thickness transplant.

## Possible side risks following a transplant

Corneal transplant surgery is often successful, with 80 per cent still functioning after five years. Every operation on the eye carries a very small risk of loss of vision due to the risk of getting an infection afterwards or having a large bleed during the operation itself. The risk of complete vision loss is rare at around one in a 1000.

The following risks are specific to corneal transplants:

**Rejection** - This happens when your own immune system recognises the graft as foreign and attacks it. This rejection can happen at any time but can often be treated effectively with steroid eye drops and sometimes tablets if signs of rejection are picked up early. If you notice any of the following symptoms it is important to attend the eye casualty for review:

- red eye
- sensitivity to light (photophobia)
- eye pain
- reduced vision

**Astigmatism** - Following a transplant the contour of the cornea can be irregular which may cause blurred vision. This can go on for many months and often changes once the stitches are removed. This irregularity can often be corrected with glasses or contact lenses but at times the condition may require further surgery or a laser remodelling procedure.

**Disease recurrence** - Sometimes the original disease (especially viral infections) can recur in the new graft.

On rare occasions some people may develop high pressure inside the eye, cataract, inflammation or graft failure in the operated eye.

---

## After your transplant

Your eye will feel uncomfortable and look bloodshot and swollen but please be assured this will settle over a few weeks. However, we advise you to:

- take the rest of the week off work, especially if you have had a general anaesthetic
- not to rub your eye
- avoid strenuous exercise and heavy lifting during the first few weeks
- stay away from smoky or dusty environments
- avoid contact sports and swimming until you have had a discussion with your surgeon
- bath and shower as normal but don't get water in your eye during the first two weeks
- wear the clear protective shield at night for the first two weeks
- avoid driving until you feel comfortable to do so, even though you may still be legal to drive following transplant surgery as long as your other eye can see a license plate at 20 metres.

## Useful contact telephone numbers for you

If you have questions before your appointment, please contact the pre-assessment nurse on **020 3312 3230/3240** at Western Eye Hospital or **020 3311 0137** at Charing Cross Hospital between 09.00 and 17.00, Monday to Friday.

**If your eye becomes red or painful, or have any other concerns, please contact:**

**Western Eye Hospital emergency department:**

020 3312 3245

**Western Eye Hospital eye clinic:**

020 3312 3236

**Alex Cross ward at the Western Eye Hospital:**

020 3312 3227

**Charing Cross Hospital eye clinic:**

020 3311 1109 or 020 3311 1233

**Charing Cross Hospital – Riverside Daycare unit:**

020 3311 1460

If you have not received a post-surgery appointment, please contact **020 3312 3275 option 2.**

---

## How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on

**020 3313 0088** (Charing Cross, Hammersmith and Queen Charlotte's & Chelsea hospitals), or **020 3312 7777** (St Mary's and Western Eye hospitals). You can also email PALS at [imperial.pals@nhs.net](mailto:imperial.pals@nhs.net) The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street  
London W2 1NY

Email: [ICHC-tr.Complaints@nhs.net](mailto:ICHC-tr.Complaints@nhs.net)

Telephone: **020 3312 1337 / 1349**

## Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:

[imperial.communications@nhs.net](mailto:imperial.communications@nhs.net)

## Wi-fi

Wi-fi is available at our Trust. For more information, visit our website: [www.imperial.nhs.uk](http://www.imperial.nhs.uk)

Department of ophthalmology Published: October 2020 Review date: October 2023 Reference number: 2824 (refreshed) © Imperial College Healthcare NHS Trust
--