

A successful PKP for keratoconus 1 month post-op.



Cornea Transplantation



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Cornea Transplantation

The cornea—the small, round, and transparent, dome-shaped surface of your eye—is in the front part of the human eye. This tissue functions primarily as a focusing lens, is an essential component of sharp, clear vision. It accounts for a large part of your eye's focusing power. Any condition that distorts the cornea or damages its transparency can reduce vision, sometimes severely. One treatment option may be a cornea transplant (Keratoplasty).

Today, cornea transplantation is one of the most frequently performed and most successful organ transplantation techniques worldwide.

Some of the conditions that may require cornea transplantation include:

- Cornea thinning or perforation
- Cornea scarring (especially in the visual axis)
- Clouding of the cornea eg. cornea dystrophies
- Swelling (oedema) of the cornea
- Corneal ulcers (severe)

Rarely, cornea transplantation may be done for **cosmesis**, to improve the appearance of a white or opaque unhealthy cornea.



Keratoconus – an eye condition that sometimes progresses to severe cornea deformity and scarring, requiring cornea transplantation.

In the most common type of cornea transplant, called **Penetrating KERATOPLASTY (PKP)**, the surgeon cuts through the entire thickness of the original cornea to remove a small button-sized disc. Trephine, an instrument that acts like a cookie cutter, makes this precise circular cut. The healthy donor cornea, cut to fit, is placed in the opening. The surgeon then uses an ultra-fine thread to stitch the new cornea into place. The stitches are removed at a later visit, usually after a period of 6 months or more. The entire surgery takes about an hour, depending on the individual's condition.

With some types of cornea problems, partial-thickness (lamellar) cornea transplants may be used as it reduces some of the disadvantages of a full thickness transplant.

- Deep lamellar transplant: this transplant replaces only the diseased layers of the cornea, either the front (DALK) or the back portion (DSEK or EK). A corresponding cut donor graft replaces the removed portion. These procedures are still being studied and are less commonly performed.
- Superficial lamellar transplant: very uncommonly, eye damage may only involve the outer layers or a small part of the cornea. This can be repaired with a custom-cut donor graft.

Cornea transplants are relatively safe and have been performed for many years. But, like any surgery, cornea transplants carry the risk of complications.

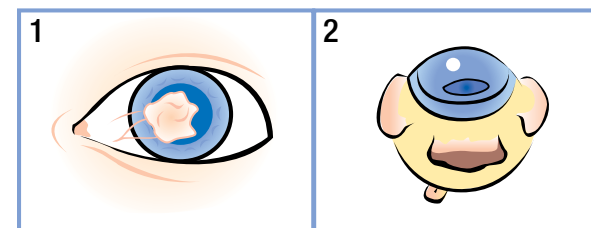
Though rare, serious complications can occur, including:

- Infection
- Wound problems
- Irregular astigmatism or scarring of the front part of the cornea
- Severe bleeding – especially during surgery
- Swelling in the front or back (retina) of the eye
- Glaucoma – abnormally high pressure inside the eyeball, which can lead to visual loss if left untreated
- Cornea graft rejection or failure – these may occur at any time after surgery.

Prompt treatment is essential. Without treatment, complications can lead to the need to replace the transplanted cornea, or very rarely, permanent loss of vision.

Currently in Malaysia there is still a severe shortage of locally donated eyes for cornea transplantation. It is hoped that by raising awareness of this sight-giving procedure, more local donors will come forward to give this gift of sight.

The Cornea Transplant Procedure



1. Diseased or injured cornea
2. Cornea area to be removed
3. The cornea is carefully removed from the donor's eye
4. The clear donor cornea is sewn into place.

