

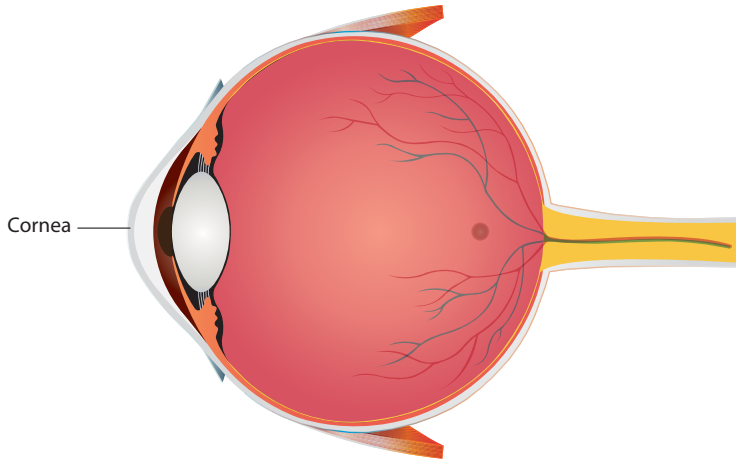
DEPARTMENT OF  
**OPHTHALMOLOGY**

Corneal Transplant



## Where is the cornea?

The cornea is the clear transparent part at the front of the eyeball. The dark iris and pupil can be seen behind the clear cornea. It helps to focus light from outside onto the retina to allow you to see well.



**Cross-section diagram of the eye.**

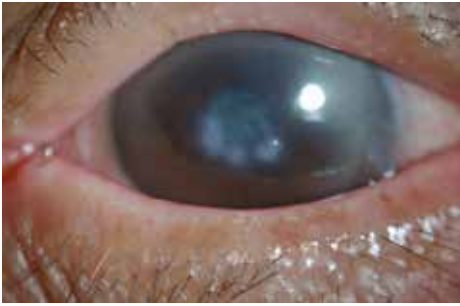
## What is a Corneal Transplant surgery?

A corneal transplant, or called a “keratoplasty”, is a surgery where the diseased cornea is removed (in part or in whole) and replaced with a clear, healthy donor cornea.

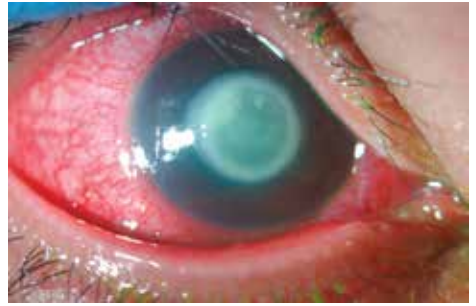
When the cornea is diseased, it may become hazy. That prevents light from focusing properly onto the retina, and hence resulting a poor vision.

## Why may I need a Corneal Transplant?

It is often performed to improve vision in patients with poor vision from corneal opacities, such as corneal scars or corneal swelling. It may also be performed for cases of keratoconus, where the cornea progressively assumes a more conical shape instead of a rounded shape, thereby causing astigmatism and poor vision. Sometimes it may be performed for a non-healing severe corneal infection, or from a severe corneal injury from eye trauma.



**Central corneal scar obstructing vision.**



**Large central corneal infection.**

### **How is the Corneal Transplant surgery performed?**

It is usually performed under general anaesthesia (where you are totally unconscious), or under regional anaesthesia (where an injection is given around the eyeball to numb that area).

The surgeon will remove either the entire thickness of the cornea (Penetrating Keratoplasty; PK), or partial thickness of the cornea, depending on the disease. If only the front portion of the cornea is replaced, it is called Anterior Lamellar Keratoplasty (ALK). If only the back portion of the cornea is replaced, it is called Descemet Stripping Automated Endothelial Keratoplasty (DSAEK). In PK and ALK, the donor cornea is held onto the patient's remaining cornea by sutures (stitches), whereas in DSAEK, no sutures are required.

### **What are the risks of Corneal Transplant?**

As with all surgeries, there are risks involved.

*During the surgery*, anaesthesia risks include stroke, heart attack, or even death. This risk is higher in general anaesthesia than in regional anaesthesia. However, depending on your general health, these risks are usually low. The anaesthetist will advise you again before the surgery.

Other risks include bleeding, damage to the lens or other intraocular structures, or high pressure in the eye. There is a very small risk of massive bleeding in the eye during the surgery, and this massive bleeding may result in permanent blindness. However, such occurrences are very rare.

*After the surgery, you may experience side effects of the anaesthesia such as nausea, vomiting and giddiness.*

We also watch out for issues such as wound leakage, high pressure in the eye (glaucoma), infection, inflammation and retinal detachment.

As with all transplant surgeries, there is a risk of rejection of the corneal graft by your own body. Patients with rejection may present with eye redness, pain and decreased vision. Rejection can occur few weeks after the surgery, or even many years later. Hence, you will need to be on long term eye drops to prevent rejection.

PK and ALK requires sutures, and sutures induce astigmatism. In astigmatism, the cornea is not perfectly round, and your vision will appear slanted, blur, or double vision. Your surgeon may have to remove sutures months after the surgery to improve your vision. You may also be fitted with contact lenses or glasses after the surgery to improve your vision.



In DSAEK, there is a possibility that the corneal donor graft may not stick well onto the patient's recipient cornea. In such cases, you may be required to return to the operating theatre to reattach the graft.

## **How do I take care of my eye after the surgery?**

### **Immediately after the surgery:**

#### **Positioning**

If DSAEK was performed, you will be asked to lie flat on your back for about a day. You will be given specific instructions upon discharge. Avoid pressure on the eye.

### **Care after Surgery**

- Start instilling eye drops at the time instructed (usually about 3 hours after surgery).
- Keep plastic eye shield on when sleeping as instructed by your surgeon.
- Mild pain may be relieved by analgesics prescribed.

### **For the first 6 weeks:**

- Plastic eye shield or protective sunglasses can be worn interchangeably if outdoors.
- Clean the operated eye twice a day (morning and night) with sterile/clean cotton balls - slightly wet with sterile saline or cool boiled water, and do not allow water to enter the eye.

### **Medications:**

- Eye drops and all medications to be taken as prescribed.
- Most other oral medications can be continued upon returning home.
- However, please note that aspirin, anticoagulants and other antiplatelets can be continued only after consulting your surgeon.

## Is there anything I must avoid?

### For the first 6 weeks:

- Avoid rubbing the eye. Avoid any pressure on it.
- You can go outdoors but you are advised to be careful and to avoid crowded or dusty areas.
- Do not engage in strenuous activities (eg. jogging, gym, ball games).
- Avoid carrying children who may accidentally poke your eye; do wear protective eye shield when tending to children.
- Avoid bending down to pick up things; if necessary to do so, do it with a straight back and be careful of not knocking the head when standing up.
- Avoid carrying heavy objects.
- Do not cough or sneeze too hard.
- Avoid soap/water entering the eye. If it does get in, wash it out by instilling the eye drops prescribed. (You may wash your hair by tilting your head slightly backwards.)
- Do not swim.
- Refrain from driving or riding a bike, subject to your doctor's advice.
- Do not put on eye make-up.

## What activities can I do?

### Right after surgery:

- Reading and watching television in moderation.
- There is no dietary restriction.
- Take plenty of fruits and vegetables to avoid constipation.
- Light exercise like walking is allowed 6 weeks after the surgery. Strenuous exercise (eg. jogging, tai-chi, swimming or badminton) is only allowed after being advised by your surgeon.

### What can I expect after the surgery?

Your corneal specialist will review you more frequently in the first 6 weeks after the surgery, depending on your progress.

Eye drops will gradually be tailed to a lower frequency over the first few months.

There may be removal of sutures in some cases.

### WHAT TO DO IN AN EMERGENCY?

Please call us at Tel: 8126 3632 during office hours if you experience the following:

- **Pain that is not relieved by any medication**
- **Severe swelling/redness** of the eye
- **Excessive discharge** from the eye
- **Flashes/Floaters**
- **Sudden loss of vision**

Office hours:

- Monday – Friday: 8am – 5pm
- Saturday: 8am – 12noon

\*Closed on Sundays and Public Holidays.

After office hours, you are advised to seek treatment at the Emergency Department (A&E), Basement 1, Tan Tock Seng Hospital.



**Clinic Appointments and Eye Screening**

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