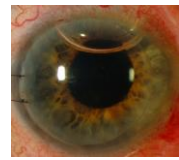


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Cornea Transplants

The Cornea is like the windshield of a car. It is the clear round dome covering the iris and the pupil, protecting the internal structures from damage. The cornea plays an important role in vision by helping to focus light as it enters the eye.

Why do you need a cornea transplant?

Cornea transplant surgery removes a scarred, irregular, weak, or swollen cornea and replaces it with a new donor tissue. A transplant may be necessary if vision cannot be corrected with glasses or contact lenses, or if pain from corneal swelling cannot be managed by medical treatment. Common cornea problems requiring cornea transplantation include:

- Keratoconus, a progressive distortion of the cornea shape leading to irregular astigmatism.
- Corneal swelling or clouding from Fuchs dystrophy (a hereditary abnormality of cells on the back layer of the cornea) or post-surgical endothelial cell loss (after cataract or glaucoma surgery).
- Corneal scarring from trauma or infection (chemical injury, trauma with a sharp object, contact lens-related ulcers, herpes simplex virus).
- Rejection or failure after previous cornea transplant.

The donor tissue is obtained from an eye bank. Human donor tissue is procured through donation and screened thoroughly before deemed acceptable for transplantation. Corneas have no blood vessels and blood typing/donor matching is not required. Due to the generosity of donors, there is no wait time for tissue.

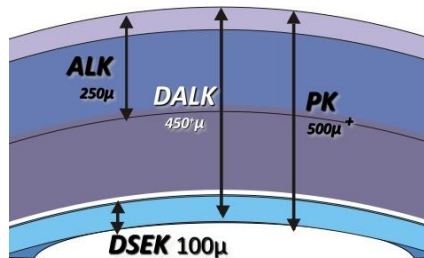
Types of cornea transplantation

There are several different types of cornea transplant surgeries. Depending on each patient's unique circumstances, the doctor will assess and discuss the best surgical approach.

Anterior Lamellar Keratoplasty (ALK) replaces a scar/irregularity in the front of the cornea, with a partial thickness tissue, assuming the posterior cornea is normal. The tissue is sutured in place.

Deep Anterior Lamellar Keratoplasty (DALK) removes the entire anterior cornea up to the very thin Descemet's membrane. It is a newer technique that maintains the posterior corneal integrity, minimizing endothelial rejection.

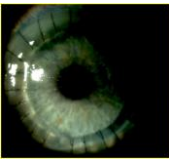
Penetrating Keratoplasty (PKP) is a full-thickness transplant, performed when the abnormality extends through all layers. The new cornea is sutured in place.



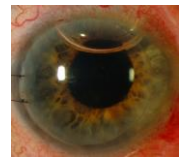
Vision recovery can take up to 9-12 months in these three types of sutured transplants.

Membrane Endothelial Keratoplasty (DMEK) removes the abnormal back layer (membrane and abnormal endothelial cells) and replaces it with a thin layer of donor tissue (partial thickness). During the surgery, an air or gas bubble is placed to help the graft "stick" while patient lays on their back, face up, for 3-5 days after surgery. This procedure uses a smaller incision, results in a stronger stable cornea, has no stitches in the transplant, and has a faster recovery time compared to a full-thickness transplant. Vision recovery takes an average of 6 months for DSEK and 3-4 months for DMEK.

Descemet's Stripping Endothelial Keratoplasty (DSEK); Descemet's



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What to expect

The surgery is an outpatient surgery. Eye drops help healing and prevent the risk of rejection and infection. Vision recovery can take several months. Specific post-op instructions will be given to you at the time of surgical counseling and after surgery. Detailed risks, benefits and alternatives will be discussed thoroughly with each patient.