

About Cornea Transplant

What is Corneal Blindness?

Conditions that cause the cornea to no longer be transparent, or may even cause pain. These conditions may require corneal transplant surgery to restore the vision for patients.

External problems: infections, inflammations, accidents (hit by a hard object or splashed with a corrosive liquid) etc., can perforate or leave scars on the cornea.

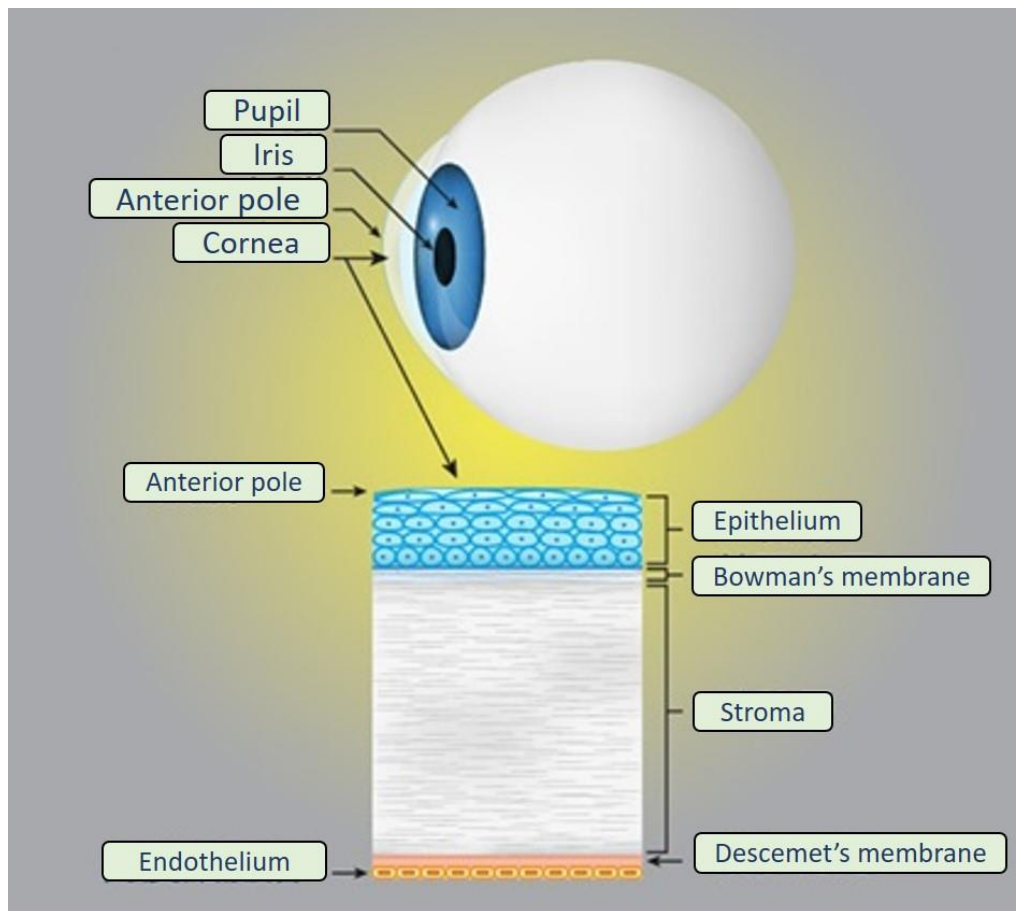
Structural problems: some genetic conditions or frequent eye rubbing may loosen the corneal structures and cause a conical protrusion in the cornea (keratoconus), where light rays cannot be properly focussed.

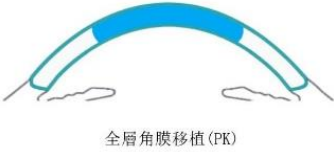
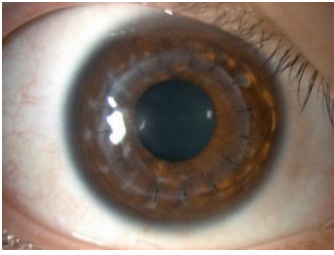
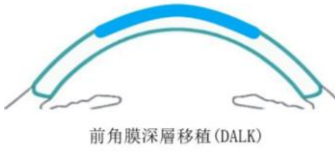
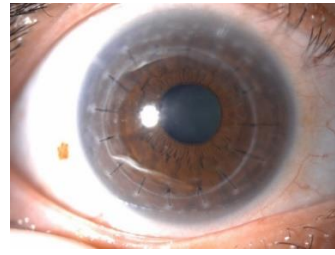
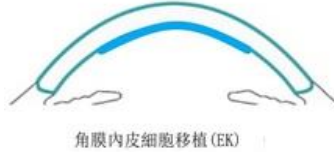

Congenital problems: such as when cornea endothelial cells are lost too quickly and fluid (edema) is trapped in the cornea, or there is abnormal deposition of material in the cornea, causing clouding of the cornea.

Other ophthalmic surgery problems: if the patient has undergone other complex or multiple eye surgeries, too many cornea endothelial cells may be lost and fluid (edema) may be trapped and cannot be pumped out of the cornea.

Types of Cornea Transplant

Cornea is divided into five layers, in order from the outside to the inside as below:



| Types of Cornea Transplant | Penetrating Keratoplasty (PKP) | Deep Anterior Lamellar Keratoplasty (DALK) | Endothelial keratoplasty (EK) |
|----------------------------------|--|--|--|
| |   |   |   |
| Removed tissue | Full-thickness | The diseased front layer | The diseased endothelial layer |
| Wounds and stitches | At least 16 stitches, large wounds | 16 stitches, less invasive than PKP | No stitches on the transplanted cornea |
| Astigmatism after surgery | High in the initial stage and gradually decreases after stitch removal | | About 1-2 dioptres, similar as before surgery |
| Risk of rejection | Small | Very small | Minimal |
| Recovery time | Stitches may be removed after 12 months, and will have residual refractive and astigmatic errors; wound not as strong and need ocular protection | Stitches may be removed after 6-12 months, and will have some residual astigmatism | 70-80% of the eyesight can be restored in 1 month and fully recover in 6 months |