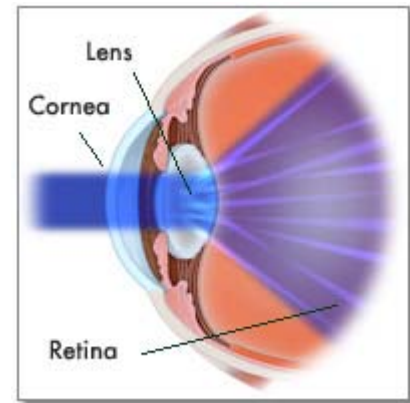


# CORNEA

Cornea is the clear outer surface of the eye and is often referred to as watch glass. The cornea permits light to enter the eye & focus on the retina. When its clarity is compromised by infection or other diseases light transmission is reduced and may result in blindness also.



## Cornea Transplant or Keratoplasty

Diseased corneas can now be replaced successfully by transplanting a human donor cornea to the diseased eye. Replacing the unhealthy cornea with a healthy cornea is the only way of restoring vision. CORNEAL TRANSPLANTATION is one of the most successful organ transplant surgeries.

Corneas for transplant come from individuals who have donated their eyes for use after death.

Cornea clinic is an integral part of Rushabh Eye Hospital & Laser Center . About 2.5 million people in India suffer from Corneal Blindness. Hence early diagnosis, prompt management and treatment of this problem is absolutely mandatory. Rushabh Eye Hospital & Laser Center has the most advanced diagnostic treatment facilities to handle all corneal disorders.



## Facilities available at Cornea Clinic include

- ❖ Phototherapeutic Keratectomy (PTK) with Excimer Laser
- ❖ Corneal Transplant or keratoplasty.
- ❖ Complete Micro Biological workup including staining and culture for Corneal infection.
- ❖ Detailed Anterior Segment & Corneal Imaging facilities.
- ❖ Corneal collagen cross-linking riboflavin C3R

## Keratoconus

**Keratoconus** is a bilateral progressive disorder of unknown cause that typically starts during adolescence. It is usually an inherited corneal disorder which means that approximately 50% of family members may have it.

Cornea is the clear outer surface of the eye that permits light to enter the eye & focus on the retina. The cornea consists of finely arranged layers (lamellae) of connective tissue called collagen that make up to 90% of its substance. The chemical bonds (cross links) in between these layers get weaker in keratoconus leading to progressive thinning and stretching of the cornea. Normal pressure within the eye causes the cornea to bulge forward into an irregular cone shape.

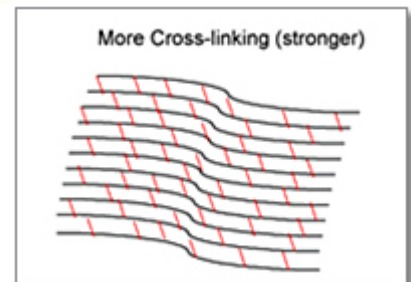
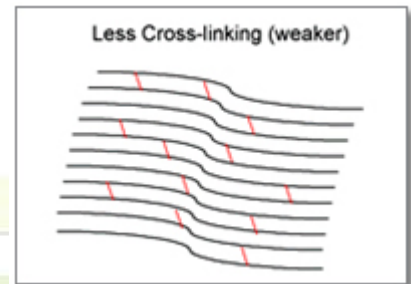
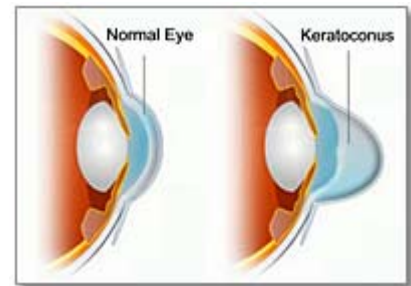
In early stages of keratoconus, Rigid gas permeable contact lenses can be tried. But in progressive cases, corneal collagen cross-linking is the treatment of choice.

### CORNEAL COLLAGEN CROSSLINKING WITH RIBOFLAVIN (C3-R)

A new non surgical, non invasive treatment, based on collagen cross linking with Ultraviolet A (UVA, 365nm) and riboflavin (Vitamin B 2), a photosensitizing agent is now available. This changes the intrinsic biomechanical properties of the cornea, increasing its mechanical strength. This increase in corneal strength has shown to arrest the progression of keratoconus.

The treatment is performed in operation theatre under complete sterile conditions. Usually one eye is treated in one sitting. The treatment is performed using anesthetic eye drops. The surface of the eye (cornea) is treated with application of Riboflavin eye drops for 30 minutes. The eye is then exposed to UVA light for 30 minutes. Hence, the treatment takes about an hour per eye. After the treatment, antibiotic eye drops are applied; a bandage contact lens may be applied, which will be removed during the follow up visit.

However one need to understand that Collagen cross-linking treatment is not a cure for keratoconus, rather, it aims to slow the progression of the condition. However following the cross-linking treatment it makes the patient more comfortable to wear contact lens. The main aim of this treatment is to arrest progression of keratoconus, and thereby prevent further deterioration in vision and the need for corneal transplantation.



## Corneal Transplant

Diseased corneas can now be replaced successfully by transplanting a human donor cornea to the diseased eye. Replacing the unhealthy cornea with a healthy cornea is the only way of restoring vision. CORNEAL TRANSPLANTATION is one of the most successful organ transplant surgeries.

Corneas for transplant come from individuals who have donated their eyes for use after death who is free from transmissible diseases like HIV, Hepatitis and Syphilis. The donor cornea is itself screened for any pathology and then stored in a nutritive medium temporarily till use.

The donor cornea is secured on the patient's eye with fine thin sutures made of nylon; about 8 to 16 sutures are put. These sutures can be removed later on after a period of 3 to 6 months. The corneal transplant procedure can be combined with cataract surgery and lens implantation when it is called "triple procedure".

The success rate of a corneal transplantation procedure is over 90% in majority of cases. However the patient needs to come for regular follow-up after surgery for early management of complications if they arise. The most common cause of failure of corneal transplant procedure results from graft rejection which can be successfully managed if recognized early.

