



Corneal Transplantation and their Risk Factors

William Henry*

Department of Ophthalmology, University of Montreal, Quebec, Canada

ABOUT THE STUDY

Corneal transplantation is a surgical procedure that replaces part of the cornea with corneal tissue from a donor. The cornea is the transparent dome-shaped surface of the eye. This is where the light enters the eye and occupies most of the ability of the eye to see clearly. Corneal transplants can restore vision, reduce pain and improve the appearance of damaged or diseased corneas. Most corneal transplant procedures have been successful. However, corneal transplants carry a small risk of complications such as donor corneal rejection.

Signs and symptoms of corneal rejection

The immune system can accidentally attack the donor's cornea. This is called rejection and may require treatment or another corneal transplant. If a person notices any of the following signs or symptoms of refusal, they should make an urgent appointment with the ophthalmologist. The signs are loss of sight, eye pain, red eyes, and sensitivity to light.

Partial corneal transplantation procedure

In a corneal transplant, all or part of the affected corneal thickness is removed and replaced with healthy donor tissue the corneal surgeon decides how to use it. These are the steps include:

Corneal transplant full-thickness corneal transplant: The surgeon cuts out the entire thickness of the abnormal or diseased cornea and removes a slice of button-sized small corneal tissue. Special equipment is used for this precise circular cut. A cut donor cornea is inserted into the opening. The surgeon then uses stitches to sew a new cornea in place. Stitches can be removed later when visiting an ophthalmologist.

Endothelial corneal transplant: These procedures remove lesioned tissue from the underlying layer of the cornea, including the endothelium and a thin layer of tissue that protects the endothelium from damage and infection (Descemet's membrane). Donor tissue replaces the removed tissue.

There are two types of endothelial corneal transplants. The first type, called Descemet's Detachment Corneal Transplant (DCT), uses donor tissue to replace about one-third of the cornea and Descemet Membrane Endothelial Keratoplasty (DMEK) and uses a much thinner layer of donor tissue. The fabric used in DMEK is very thin and fragile. This method is more sophisticated and widely used than DCT. Anterior Layered Corneal Transplant (ALCT) two different methods remove lesion tissue from the anterior layer of the cornea, including the epithelium and stroma, but leave the posterior layer of the endothelium intact.

The depth of corneal damage determines the type of ALCT procedure. Superficial presheaf corneal transplantation replaces only the presheaf of the cornea, leaving healthy stroma and endothelium intact. If the corneal damage extends deep into the interstitial, a Deep Anterior Layered Transplant (DALK) procedure is used. Then, healthy tissue from the donor is attached (transplanted) and the removed part is replaced. In some cases, patients who are ineligible for corneal transplantation from a donor cornea may receive an artificial cornea corneal prosthesis.

Risk factors

Corneal transplantation causes bleeding, cataract, eye infections, glaucoma (intraocular pressure that can cause vision loss), blindness, scars on the eyes, corneal swelling. One of the most worrisome complications of a corneal transplant is organ corneals rejection. Rejection means that your body's immune system recognizes the donated cornea as a foreign body and tries to fight the transplant. Take eye drops for at least one year after surgery to reduce the risk of rejection. The risk of rejection depends on the surgical technique used and the condition of the eye. Symptoms such as dry eye, corneal blood vessels and eye infections increase the likelihood of rejection. For some eyes, the risk of rejection after a transplant is very high and the surgeon may not recommend surgery.

Correspondence to: William Henry, Department of Ophthalmology, University of Montreal, Quebec, Canada, E-mail: williamhenry@hsr.edu.ca

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