



Patient Information

## Cornea Transplant Surgery

Clinic 012 333-1111  
Fax 012 333-4848  
Emergency 083 441-2975  
E-mail info@lasik.co.za  
Website www.lasik.co.za

1199 Woodlands Drive  
Queenswood, Pretoria 0186

PO Box 11846  
Queenswood, 0121



### What is a cornea?

The cornea is the clear, transparent 'front window' of the eye through which light enters the eye. Two-thirds of the eye's focusing ability occurs at the cornea. Its shape and clarity is, therefore, critical for normal vision.

The cornea is a multilayered structure, consisting of five separate tissue layers, namely epithelium, Bowman's membrane, stroma, Descemet's membrane and endothelium.

### What is cornea transplant surgery?

The purpose of cornea transplant surgery is to repair poor vision caused by a sick or damaged cornea.

The sick or damaged corneal tissue is replaced with healthy donor tissue. Because it is an expensive, invasive and intense procedure, it is usually the last resort to address corneal pathology.

Various transplant options are available. The type of transplant depends on the scope of the pathology that has to be dealt with.

- A **full-thickness** transplant implies that the entire corneal thickness is replaced.
- When a **lamellar** (partial-thickness) **transplant** is performed, only the affected layer/s of the cornea is/are replaced. There are four options:
  - Superficial anterior lamellar transplant (SALK).

- Deep anterior lamellar transplant (DALK), which may utilize:
  - An automated microkeratome.
  - A femtosecond laser or
  - A so-called 'big bubble' technique.
- Endothelial transplant (DSAEK).
- Combination transplant or so-called Mushroom or Top-Hat keratoplasty.

### The rehabilitation process happens in two phases

**Phase 1:** Restore the eye's **anatomy** by replacing the damaged corneal tissue with healthy donor tissue. Because a normal cornea does not contain blood vessels, the healing process is very slow; it typically requires about twelve months for the donor tissue to integrate into the eye. During this period, sharp vision is not a priority. Sutures are commonly removed in the first year according to a planned and step-wise fashion to optimize the corneal profile.

At approximately twelve to eighteen months the final sutures are removed, should any still remain. The new cornea then requires – on average – a further six months to stabilize.

**Phase 2:** Restore the eye's **vision** with spectacles, a contact lens, corneal laser treatment or the implantation of a custom-made lens.

Phases 1 and 2 collectively last 18 months to two years. The end-result, however, is that vision is restored to a functional level.

Only one eye is operated at a time. If the second eye also requires a transplant, it may only be done once the first eye has healed and vision is of such a level that the eye can function on its own.

Be aware that the body treats any donor tissue as an intruder. There is thus an on-going risk that the body may reject the new cornea. This risk is, however, greatly reduced when the prescribed medication is used according to the instructions of the doctor.

Bearing this in mind, you are obligated to contact the Clinic should you experience any suspicious symptoms.

#### **Before the operation:**

1. As a rule, a general anaesthetic will be applied. You may, therefore, not eat or drink during the ten hours prior to the operation. However, should circumstances require, local anaesthetic may be considered.
2. Depending on the type of transplant, the operation may take between 1½ and 3 hours.
3. At the end of the operation, eye drops are instilled and a “bandage” contact lens is placed on the new cornea. The eye is then covered with a hard shield as well as a soft eye pad.
4. A corneal transplant is routinely done as an outpatient procedure. You will, therefore, be discharged the same day.

5. It is essential to arrange for someone to drive you home and to again drive you to the clinic the next day for your follow-up appointment.
6. It is advisable to arrange with your employer that you will not be at work for approximately two weeks after the operation. (We will supply a validating medical certificate).

#### **After the operation:**

It is very important to adhere to the following guidelines.

1. All the follow-on visits afterwards are of the utmost importance.
2. Do not rub your eye under any circumstances.
3. Sleep with the hard eye shield on your eye for the first week following the operation or until further instruction.
4. Avoid contaminated-, shampoo-, soapy- or swimming pool water near or in the eye for at least a month after the operation.
5. Wear a hat and/or good quality sunglasses outside.
6. Do not lift or carry heavy objects for the first six weeks after the operation.
7. Although it is uncommon, be alert to signs of rejection of the donor tissue. You will be fully briefed on what to be on the lookout for. A rejection can be avoided by keeping strictly to the prescribed medication.

#### **Follow-on appointments:**

- During the first two weeks:
  - ➔ Once or twice a week.
- Weeks three and four:
  - ➔ Once per week, depending on your progress.
- For the subsequent two months:
  - ➔ Once per month.
- From months three to twelve:
  - ➔ Once every three months.

This is a general guideline and may change as required.

The sutures will be removed on a selective basis from as early as the third month after the operation. During the first week or two following the removal of sutures, your vision may fluctuate since the removal of sutures leads to a change in the corneal profile.

After a minimum of twelve months, the final sutures will be removed.

The medication routine will also be adapted to the clinical progress and is usually discontinued between 12 and 18 months.