



## Corneal Transplants

### New Windows for Sight

Ophthalmologists (Eye M.D.s) perform more than 40,000 corneal transplants each year in the United States. Of all transplant surgery done today — including heart, lung and kidney — corneal transplants are the most common and most successful.

### What Is the Cornea?

The cornea is the clear front window of the eye that covers the colored iris and the round pupil. Light is focused while passing through the cornea so we can see.

### How Can an Unhealthy Cornea Affect Vision?

If the cornea is injured, it may become swollen or scarred, and its smoothness and clarity may be lost. Scars, swelling or an irregular shape can cause the cornea to scatter or distort light, resulting in glare or blurred vision.

A corneal transplant is needed if:

- Vision cannot be corrected satisfactorily with eyeglasses or contact lenses
- Painful swelling cannot be relieved by medications or special contact lenses.

### What Conditions May Cause the Need for a Corneal Transplant?

- Corneal failure after other eye surgery, such as cataract surgery.
- Keratoconus, a steep curving of the cornea.
- Hereditary corneal failure, such as Fuchs dystrophy.
- Scarring after infections, especially with herpes virus.
- Rejection after a first corneal transplant.
- Scarring after injury.

### What Happens If You Decide to Have a Corneal Transplant?

#### Before Surgery

Once you and your ophthalmologist decide you need a corneal transplant, your name is put on the list at the local eye bank. Usually the wait for a donor cornea is not very long.

Before a cornea is released for transplant, the eye bank tests the human donor for the viruses that cause hepatitis and AIDS. The cornea is carefully checked for clarity.

Your ophthalmologist may request that you have a physical examination and other special tests by your primary care physician. If you usually take medications, ask your doctor if you should continue using them. You will also be given a prescription for an antibiotic eye drop which you should use four times a day in the surgical eye starting two days before surgery.

## **The Day of Surgery**

Surgery is often done on an outpatient basis. You will be asked to skip breakfast. Once you arrive for surgery, you will be given eyedrops and perhaps a sedative to help you relax.

Either local or general anesthesia is used, depending on your age, medical condition and eye disease. You will not see the surgery while it is happening or feel any eye pain because of the anesthetic your doctor gives you.

## **The Operation**

The eyelids are gently opened. Your ophthalmologist will view your eye through a microscope and measure your eye for the corneal transplant. The diseased or injured cornea is carefully removed from the eye. Any necessary additional work within the eye, such as removal of a cataract, is completed. Then the clear donor cornea is sewn into place. The surgery itself takes about one hour.

When the operation is over, your doctor will usually place a shield over your eye.

## **After Surgery**

You will go home after a short stay in the recovery area. You should plan to have someone drive you home. An examination at the doctor's office will be scheduled for the following day.

You will need to:

- Use the eyedrops as prescribed, and bring them with you to each clinic visit.
- Be careful not to rub or press on your eye.
- Use over-the-counter pain medicine, if necessary.
- Continue normal daily activities but avoid strenuous exercise for 3 months.
- Wear eyeglasses or an eye shield for protection, as advised by your doctor.
- Ask your doctor when you can begin driving.
- Call your doctor if you have any questions about your home-care instructions.

To administer your eye drops, first wash your hands. Then lie down or tilt your head back, and hold the bottle above your eye while bracing your hand against your cheek. Gently pull down your lower eyelid with the opposite hand without putting pressure on your eyeball. Instill one drop while looking away to avoid blinking, and wait one to two minutes between drops to prevent washing one out with the other.

Your ophthalmologist will decide when to remove the stitches, depending upon the health of your eye and rate of healing. Usually, it will be one year before all the stitches are removed.

## **What Complications Can Occur?**

Corneal transplants are rejected around 10 percent of the time. The rejected cornea becomes cloudy and vision deteriorates.

Most rejections, if treated promptly, can be stopped. Warning signs of rejection are:

- Persistent discomfort
- Light sensitivity
- Redness
- Change in vision

Any of these symptoms should be reported to your ophthalmologist immediately. The best way to avoid rejection is to use your medication eye drops as prescribed.

Other possible complications include:

- Infection
- Bleeding
- Swelling or detachment of the retina
- Glaucoma

All of these complications can be treated. A corneal transplant can be repeated, usually with good results, but the overall rejection rates for repeated transplants are higher than for the first transplant.

Irregular curvature of the transplanted cornea (astigmatism) may slow the return of vision, and will probably result in the need for a contact lens after surgery to achieve the best possible vision. Some patients may achieve good vision after surgery with glasses. Vision may continue to improve up to a year after surgery.

Even if the surgery is successful, other existing eye conditions, such as macular degeneration, glaucoma or diabetic retinopathy, may limit vision after surgery. Even with such problems, a corneal transplant may still be worthwhile.

A successful corneal transplant requires care and attention by you and your ophthalmologist for at least a year after surgery, during which there will be many visits to your ophthalmologist, a need for frequent medication eye drops, and slow visual recovery. You should be prepared to commit to this before undergoing corneal transplant surgery. However, when the unhealthy cornea is deeply scarred or swollen, a corneal transplant may be the only option for improved vision.

Corneal transplant surgery would not be possible without the thousands of generous donors and their families who have donated corneal tissue so that others may see.

If you have any questions or concerns, contact your ophthalmologist at:

BRIGHTBILL/ERICSON EYE ASSOCIATES



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