**Instructions for use**

Remove this section.

Add your letterhead to the first page of the consent form.

Change as needed for your patient population or practice.

Keep each section together on the same page: move it as needed.

Change font size for large print.

Version 11/14/16

**Corneal Transplant Surgery**

A corneal transplant is a type of eye surgery to replace your damaged cornea with a cornea from a human donor.

The cornea is the clear, outer layer of your eye. It helps focus light and is needed to see. There are 3 main layers in the cornea. Here is more to know about how each layer helps and what can go wrong:

* **Outer (or epithelial) layer.** This layer needs to be smooth for good vision. This layer is damaged if you have a scratched cornea (corneal abrasion).
* **Middle (or stromal) layer.** This layer makes up most of the thickness (about 90%) of your cornea. Damage to the cornea or corneal swelling that lasts a long time can cause scarring in this layer. You may have been born with problems in your cornea (hereditary problems). These problems can later cause cloudy or distorted vision.
* **Inner (or endothelial) layer.** This layer has thousands of pump cells pushing fluid out of the cornea, helping to keep it clear. Cells in this layer can be damaged by age, injury, inflammation (when the layer becomes red, swollen, and hot), other eye surgery, or a disorder such as Fuchs’ corneal dystrophy. These and other problems can cause poor vision if the cornea gets swollen and cloudy. You may need a corneal transplant if taking medicine does not help enough.

**There are 3 main types of corneal transplants**

**1. PK (Penetrating Keratoplasty).** The ophthalmologist (eye surgeon) removes the whole cornea and replaces it with a full-thickness donor cornea. This means that all 3 layers of your cornea are replaced.

**Advantages** of PK full-thickness corneal transplant surgery include:

* PK has been used for many years and has a high success rate (about 90%). This means that 9 out of 10 patients will have better vision after the transplant.
* PK takes care of problems in all layers of the cornea.
* Rejection rates for PK are fairly low (about 15%, or less than 2 patients out of 10). Rejection is when the patient’s body fights the transplant. Rejection can cause temporary or permanent damage to the corneal transplant. Usually, eye drops can stop rejection.
* Ophthalmologists often can do PK surgery at the same time as cataract or glaucoma surgery. This means that patients with those other eye problems might need just one surgery.

**Disadvantages** of PK corneal transplant surgery include:

* PK surgery may take longer than other types of corneal transplants.
* The ophthalmologist may use about 16 to 24 stitches to hold the new cornea in place. There can be problems with the stitches. For instance, if the stitches break or loosen, you could get an infection or rejection.
* More than other forms of corneal transplant, PK surgery could possibly increase astigmatism (vision problems caused when the cornea has an irregular shape). This astigmatism may be so severe that eyeglasses won’t your vision does not improve when wearing eyeglasses. You may need contact lenses or more surgery to improve vision problems caused by astigmatism.
* The corneal transplant wound will always be somewhat weak. Trauma (getting poked by a finger in the eye, for example)) may open up (rupture) the wound. This can cause severe eye damage.
* It can take 6 to 12 months or even longer for your vision to fully recover. Your ophthalmologist might wait for your vision to recover before giving you a prescription for new glasses or contact lenses.

**2. DSEK (Descemet’s Stripping Endothelial Keratoplasty).** This is a newer type of corneal transplant surgery. In DSEK, the ophthalmologist removes only your inner (endothelial) layer. This layer is replaced with a thin disc of donor endothelial cells plus a thin layer of corneal stromal tissue. This tissue is kept in place with an air bubble right after surgery. Later, the air bubble goes away. Stitches are not used.

**Advantages** of DSEK include:

* DSEK surgery often takes less time than PK surgery.
* The ophthalmologist only needs to make a small opening in your eye.
* The wound tends to heal faster and is less likely to rupture from trauma, compared to PK. However, trauma can still open the wound.
* Your vision is likely to improve more quickly than after a PK because you keep most of your own cornea.
* There is less risk of astigmatism with DSEK compared with PK.
* Most ophthalmologists feel there is a lower risk of rejection from DSEK compared to PK.

**Disadvantages** of DSEK include:

* DSEK does not remove large amounts of corneal scarring.
* The tiny DSEK tissue may not stay in place. If it moves, the ophthalmologist may need to add more air inside your eye to reattach the tissue. Or you might need PK or more DSEK surgery.
* Most ophthalmologists ask patients to lay flat on their backs as much as possible for 1 to 2 days after surgery.
* This surgery is fairly new. There are no long-term studies about how well patients do many years after DSEK.
* Your final vision may not be as clear with a DSEK compared with PK if the outer or middle layers of the cornea scar or have an irregular shape.

**3. DMEK (Descemet’s Membrane Endothelial Keratoplasty).** This corneal transplant surgery is even newer than DSEK. It is like DSEK in many ways. But in DMEK, the ophthalmologist inserts an even thinner disc of tissue. This layer has only endothelial cells on a thin membrane. There are no stromal cells.

**Advantages** of DMEK, compared to DSEK, include:

* The DMEK surgical opening is often even smaller than with DSEK.
* Your vision may return somewhat faster than with DSEK.
* You might see somewhat better after this surgery than with DSEK.
* There may be less rejection than with DSEK.

**Disadvantages** of DMEK include:

* DMEK can be a more difficult surgery than DSEK. The ophthalmologist should be trained, skilled, and have experience with DMEK.
* Because the donor tissue is so thin, there is a greater risk that the tissue will detach (break away) from your own cornea with DMEK. This could happen within days or weeks after surgery. You may need more surgery to reposition the donor tissue.
* As with DSEK, DMEK does not remove large amounts of corneal scarring.
* Most ophthalmologists ask patients to lay flat on their backs as much as possible for 4 to 5 days after surgery (longer than with DSEK).
* This surgery is so new that there are no long-term studies about how well patients do years after having DMEK.
* You may have fewer pump cells after surgery compared with DSEK or PK.

**As with all surgery, there are risks (problems that can happen) with PK, DSEK, and DMEK corneal transplant surgery.**

* Common risks can include hemorrhage (bleeding) in the eye, infection, temporary or permanent blurry vision from swelling of the retina in the back of the eye, retinal detachment (the inner retinal lining pulls away from the wall of the eye), glaucoma (high pressure in the eye), rejection of the graft or donor tissue, chronic inflammation, double vision, droopy eyelid, loss of corneal clarity, poor vision, total loss of vision, or loss of the eye.
* A rare but serious risk is getting an infectious disease (such as Hepatitis, AIDS, or syphilis) from the donor tissue. This is not likely to happen since donor tissue is tested for these diseases before being approved for use as a corneal transplant.
* There can be problems from anesthesia used during surgery. These problems include perforation (hole) in the eyeball, damage to the optic nerve, droopy eyelid, damage to blood vessels in the retina, breathing problems, and hypotension (low blood pressure). Very rarely, patients lose all useful vision.

**Consent**. By signing below, you consent (agree) that:

* You read this informed consent form, or someone read it to you.
* You understand the information in this informed consent form.
* The ophthalmologist or staff offered you a copy of this informed consent form.
* You accept that there may be other risks or complications not listed in this form.
* You may need other procedures or treatments during or after this surgery.
* You know there are no guarantees or promises as to the success of this surgery.
* The ophthalmologist or staff answered all your questions about corneal transplant surgery.

I consent to have \_\_\_\_\_\_\_\_\_\_\_\_\_ (state “PK,” “DSEK,” or “DMEK”) corneal transplant surgery on my \_\_\_\_\_\_\_\_\_ (state “right” or “left” eye).

Patient (or person authorized to sign for patient) Date