

# Cornea Newsletter



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The revolutionary procedure brings transplantation into the 21st century.

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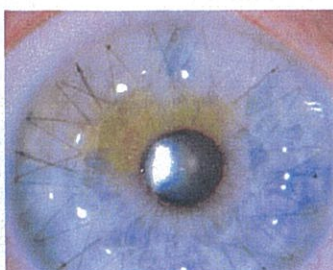
#### Q & A

Candidates for surgery, and what to expect before and after the procedure.

#### advanced corneal transplantation

### Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK)

Corneal transplantation is one of the most frequently performed human transplant procedures performed in the United States annually. Since the inception of the modern day Penetrating Keratoplasty (PKP) in the early 1960's over half a million successful cases have restored vision to men, women, and children of every age.



Until recently the surgical procedure which replaces a disc-shaped segment of an impaired cornea with a similarly shaped piece of a healthy donor cornea has been the standard method of surgical treatment. Historically, PKP was performed by cutting a vertical wound through the full-thickness of the cornea, replacing the damaged cornea, and stitching the wound closed. Unfortunately, the PKP caused a weakened cornea and the sutures also created an irregular curvature of the new refractive corneal surface. This ultimately generated a permanently distorted image.

Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK) is the newest technique in corneal transplantation currently being used. Compared to penetrating keratoplasty, DSAEK has better speed and degree of visual recovery. Vision is usually restored in 1 to 3 months instead of 1 to 2 years. In the procedure Descemet's membrane is removed and replaced with that of a donor. As a result of small incisions, the need for sutures is gone. Therefore, the safety and success of this revolutionary procedure is unprecedented, with over 90% of all transplants restoring the recipient's vision.



*Air-bubble donor tissue in position following successful DSAEK*

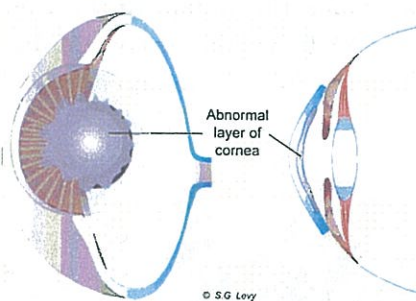




## anatomy and physiology

**Cornea, The Window To The World**

The cornea is the clear tissue that serves as the window to the front of the eye. It is the main focusing element of the specialized cameras we use to visualize our world. The cornea is made of several distinct functional layers, with the innermost layer being the most important modulator of corneal hydration. Just one cell thick, this layer is so fragile that minor trauma or disease can disrupt normal function. Because this cell layer does not regenerate, the resulting swelling is permanent. Vision is then dramatically reduced if the cornea becomes cloudy and scars distort light rays as they attempt to penetrate the cornea. Ultimately, the image the brain perceives is forever altered, unless correction of the corneal can be achieved.



## questions &amp; answers

**What happens at a Pre-operative evaluation?**

You will meet with Dr. Solomon for an examination in the weeks to months prior to the surgery. Dr. Solomon will examine the eye and diagnose the condition. He will then discuss the different treatment options, and the risks and benefits of the various modalities. Should you elect to proceed with surgery and permit Dr. Solomon by signing an informed consent form the surgery date and time will be set. You will be asked to see your primary care physician for a medical evaluation prior to your surgical date. Please bring a list of all your medications with you to the exam.

**What to expect Post-operatively?**

Immediately after the procedure you are expected to remain in the supine position (flat on your back) for one hour, while the donor tissue settles into position. Dr. Solomon will then examine the eye before you are allowed to leave the surgical center. Once assured of appropriate healing, you are expected to remain in a reclined position until your first follow-up visit the next day. You will then return in one week after the operation, and then every month for the next three months. Patients are able to resume most normal activities the next day, wear eye-makeup one week post-operatively, and swimming four weeks after surgery. An antibiotic eye drop is used for one week following surgery, and a mild anti-inflammatory drop is used for 9 to 12 months to help minimize the possibility of rejection. Patients are returned to their referring Ophthalmologist at the earliest convenience, once Dr. Solomon has determined the graft is stable.

**BIOGRAPHY**

Jonathan D. Solomon, M.D. is a board certified Ophthalmologist specializing in Anterior Segment Surgery; including Cataract, Refractive Surgery, and diseases of the Cornea. He graduated with honors from the University of Maryland, received his medical degree from Temple University School of Medicine, and completed his residency at the prestigious Casey Eye Institute of Portland, Oregon where the first Deep Lamellar Corneal Transplants were performed in the United States. As a fellow of the American Academy of Ophthalmology and American Society of Cataract and Refractive Surgery, he serves as an executive board member of the Maryland Society of Eye Physicians and Surgeons. Dr. Solomon continues to remain active in the academic community, as a clinical instructor at The Wilmer Eye Institute at Johns Hopkins University.

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