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Focus on Education – Inspiration - Vision

How I Came to Have Two Different Transplants

By Deloris Axelrod

I had been nearsighted (myopic) from childhood and had worn glasses to correct that. At the time of my transplants, my vision still tested at 20/40 and 20/30 corrected with glasses.

I did not experience declining visual acuity as Fuchs' progressed. I did not have the classic "morning foggy" vision commonly described. I never had blisters and scarring on the outer layer of my corneas.

Over time I gradually lost the ability to identify correctly letters and numbers at any distance. Though I had always been light sensitive, my discomfort in bright lights and fluorescent lighting became marked.

Driving, especially at night and in rain or snow, became stressful as I squinted to clarify what were now points of light centered among starbursts and haloes.

My glasses never seemed adequate to correct the blurriness and haloes. An optometrist freshly through her training checked my prescription and told me, "There is nothing wrong with these glasses, but your corneas are swollen. I don't know what that means, but I do know that corneas aren't supposed to swell. You need to see an M.D."

Since I have a family history of glaucoma and macular degeneration, my internist referred me to a glaucoma specialist. This ophthalmologist found and diagnosed the Fuchs' Endothelial Corneal Dystrophy. He explained it thoroughly and told me that I needed close observation as my corneas were merely slightly thickened, and my cell count below normal but not yet alarming. He suggested that he see me at least every eight months and preferably every six months. I was to call if things worsened.

After a few years my corneal thickness went above 6.50 microns. The endothelial cell count continued to drop. I underwent about four hours of testing that revealed corneal thickness, serious deficits in cell distribution, corneal edema and all the symptoms that spelled transplant.

The testing completed, the ophthalmologist conferred with me to tell me that glasses could no longer help me. He personally telephoned a very busy local transplant surgeon and within three days I was being evaluated for the transplant. It all sounded so easy. There was only a brief mention of the partial or "endothelium only" method, and that was discounted as being too new and less effective.

A few months went by as I doctor-shopped, finally settling on a highly recommended ophthalmologist who does specialize in transplant surgery. His credentials are impeccable, area ophthalmologists refer

complicated cases to him and his practice includes five surgical ophthalmologists plus two optometrists who specialize in post-surgery contact lenses and glasses, and an optical shop on the premises. One doctor gives Botox treatments in addition to treating eye disease. There is always a fully qualified eye surgeon on call if I need to be seen emergently. The fact that this practice is five minutes from my home was an added bonus.

After another extensive round of testing, the surgeon confirmed that the clinical and anatomical results left no doubt that I needed transplants as soon as I could schedule them. He mentioned the “new” technique but said that I was not a candidate for it, and he had no confidence in it so had not learned to do it.

Soon I had the traditional transplant, or “PK” which stands for the medical term “penetrating keratoplasty.” Though the left eye had better acuity, I chose to do it first because I thought the results would be stupendous. I knew that I could rely on the right eye, though slightly less strong, while the first transplant healed.

Shortly after that, I found The Corneal Dystrophy Foundation and Fuchs’ Friends. As problems mounted with the PK eye, and I mined the information these groups offer, I determined that I would have a DSAEK in the right eye.

The comparison below is a record of my experience with the two types of corneal transplant. Every person’s experience is unique, and yours most likely will be different.

DSAEK vs PK, A Comparison of Experience

DSAEK (Replaces Endothelium Only) 12/2007	PK (Replaces All Cornea Layers) 7/2006
Drops in eyes, IV sedative, awake. Only diseased layer (endothelium) removed and replaced.	General anesthesia; 8mm circle of all layers of cornea removed and replaced.
5 mm incision in white (sclera) of eye at 12:00 position outside iris (colored muscle that controls pupil contraction and expansion) Stitches optional, may be up to 4 Air bubble inserted behind donor tissue holds graft in place until it adheres, usually overnight. No stitches in eye.	Nylon sutures in cross-stitch plus additional “anchor” stitches surround entire transplant.
24 hours post-surgery Uncorrected 20/70 vision. Some light sensitivity. Eye appears as usual.	24-hours post-surgery Severe light sensitivity. Very limited vision. Feeling of foreign object lodged in eye. Eyelid swollen and reddened from stretching.
One week post-op Uncorrected vision at 20/30 No surgically introduced astigmatism. Still need dark glasses outdoors.	One week post-op Light sensitivity continues. Vision limited to very wavy big “E” atop chart. Astigmatism created by surgery measures 12 diopters.
One month post-op Uncorrected vision holding at 20/30. Small fluid bubble between graft and remaining corneal tissue causing slight redness and foreign body sensation. Pred-Forte 4 times daily, Acular (an anti-inflammatory) twice daily. Return to Dr. Price in four days to have two cataract surgery stitches removed. After removal, problems were solved.	One month post-op No vision improvement. Eyelid seems permanently slightly reddened and puffy. Foreign body sensation gone. Dark glasses outdoors only.
Three months post-op Uncorrected vision now at 20/25 unaided. No further problems or irritations as fluid bubble has now resolved itself. Another stitch or two from the pre-surgery cataract procedure remains causing very mild astigmatism.	Three months post-op Surgeon adjusts some sutures in an effort to smooth and flatten corneal surface. Rigid gas permeable contact lens prescribed to further reduce astigmatism. Astigmatism reduced to 6 diopters. Unaided vision remains a very blurry big “E” at top of eye chart. Pred-Forte reduced to one maintenance drop daily.
Not yet reached six months. Uncorrected vision has stabilized at 20/35. Eye looks and feels as though it never had surgery. Continuing Pred-Forte twice daily until further notice. All remaining sutures to be removed next month.	Six months post-op Eyelid remains slightly plump and a little pinker than other eyelid. Vision fluctuates and contact lens after several changes sometimes slips out of focus or simply does not provide good vision because eye is still in flux.
	One year post-op. Unaided vision continues to be minimal and blurred. Pinhole vision somewhat better but not useable. Must wear contact lens for any meaningful vision, and must wear magnification “readers” to read. Astigmatism now less than 2 diopters. Developed itching, scratchy, red eye that is diagnosed as

DSAEK (Replaces Endothelium Only) 12/2007	PK (Replaces All Cornea Layers) 7/2006
	<p>“severe dry eye.” Treatment consists of a regimen of artificial tears, increasing household and bedroom ambient humidity and application of prescription Restasis twice daily.</p>
	<p>Fourteen months post-op In workup for DSAEK in second eye, a routine checkup of the PK revealed an intraocular pressure of 33. Dr. Price administered Alphagan drop for pressure to be followed up locally. Local follow-up four days later revealed an IOP of 38. Alphagan was prescribed and Pred-Forte discontinued entirely. One day later PK eye was treated for Alphagan allergic reaction. Lumigan once daily was added to medications.</p>
	<p>Eighteen months post-op Unaided vision not improved. Contact lens has become very irritating. Prescribed a Rose K lens to counteract incompatible axial curvature between donor cornea and architecture of my eye. Vision has stabilized and rigid contact lens always provides clear 20/25 vision. Still need dark glasses when outdoors.</p>