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Focus on Education – Inspiration - Vision

My Second Corneal Transplant.

By Bob Bellizzi

On Wednesday January 16, 2008, I had a Corneal Transplant. To be precise, they replaced a single cell thickness layer at the back of my right eye's cornea. The Cornea is the 'window' of the eye, the clear front part that you can see your pupil and iris through.

Unlike traditional Penetrating Keratoplastys (PK) which is the medical name for a type of corneal transplant where they remove and replace the entire 'window', I had just the one layer of cells that was causing trouble (Corneal Dystrophy or swelling of the cornea) replaced with those from a donor's eye. The operation is called a Descemet's Stripping Automated Endokeratoplasty or DSAEK.

I won't go into the technicalities nor will I bore you with the details of what I know except to tell you about the huge and almost immediate difference that these truly miraculous operations make for people like me as opposed to the long, tedious and sometimes frustratingly slow recovery from a traditional PK.

As I said, in a PK, they remove your entire cornea, replace it with a donor 'button' and stitch it in

place. There are many shortcomings to the PK but for almost 100 years it was the only game in town. It compromises the structural integrity of the eyeball. The stitches are about the only thing holding the button in place; the eye heals very slowly since there is very little blood supply to that part of the eye. The holes where the stitches pierce the eye are potential sites for infection to enter.

Multiple vision, blurriness and other optical effects occur from the stitching causing wrinkles in the button, and other deformities in the optical alignment.

Enter the DSAEK

About a decade ago some very bright and forward thinking surgeons predicated that if they could just replace fewer layers of the cornea say, the one causing the problem and possibly another thin one behind it that they would be closer to fixing our problem instead of trading one set of problems for a completely new set caused by the PK. They experimented with this for about 3 years and came up with a slightly different operation than the DSAEK. It was called DLEK. Just leave it at that. The experimental process was

improved to a DSEK and then the DSAEK. It has been in use for about 7 years but not widespread. Currently only about 18% of Ophthalmologists practice these operations. They are extremely difficult and require tremendous skill. How good are you at fileting tissue into single cell thick steaks? That's only part of the job.

What it did for me

I had the operation on 1/16/2008. After an hour and a half on the table and 4 hours in recovery I was sent home in a prone position to help keep the graft in place. My eye was taped and had a guard on it to protect it. After removing the tape and putting my medication drops in, I was allowed to eat a light supper and then spend the night lying on my back. Sounds easy but at no time was I allowed to roll over so we made arrangements to wake me up or prevent that occurring.

Day One: The next morning I thought I saw light through the guard. I got up and took the guard off and YES, there was light coming through. I was to spend my day half at normal things with no lifting or bending but at least one half of my time again flat on

my back to help adhere the graft. I had to wear either the guard or eyeglasses at all times to protect the eye.

About 11 AM I noticed I could see the wall clock and partial see some black on the white face.

Things got even better as Day One progressed. We had a 1:40 PM post op scheduled in San Francisco with a Second Opinion Consult for my middle son David at 2:10 PM. By the time we started up to SF I could see the road, the autos out for several hundred feet, people, signs, etc. Not clearly but definitely. This was far better than my Right eye DSAEK in March 2007.

Day Two: Got up and went to start coffee. Put 3 different drops into eye, screamed three times. Didn't need to take Diamox, IOP 11 is lower than normal. This is my usual response post op. Spent the morning (attempting futilely) to clean up my office. Gave it up at 11 am to lay down for 1 hour to preserve the bubble.

At noon I decided to start this diary for you-all. I'm typing on the computer using MS Word with 12 pitch and 100% size of the sheet. It's a little fuzzy but if I look through the absolute bottom of my progressive lenses it's a little better. It's just not a comfortable position. HINT Get your keyboard height down almost on your knees and your monitor down there too and you won't have to crick your neck. Good typing posture used to be for the typewriter base to be at 26 inches from the floor and this

works well for a computer when you are wearing corrective lenses.

Today I did look at 50 studio pictures on line that we had taken of the family a week ago because it was time for another round of photos. They were easy for me to see reasonably well this mid morning so I'm encouraged about my recovery.

At 3:30 PM, called it quits to lie on my back for an hour or two. Woke at almost 5:30 PM but felt I needed that rest. I tend to be almost manic during the first couple of days post op. We spent a quiet evening. Monica brought me 5 Science Fiction books from our wonderful Almaden Branch Library and I had no trouble reading from the first one for two hours before our PBS's Friday Night Mystery night came on.

Of course, all drops were taken pretty much on time. I only screamed on the red-tipped dilating drops once!

Day Three: Left alone for the morning; Monica's at yet another nonprofit financing function. We do a lot of this. A leisurely breakfast, resume drops and now back on the computer to get this update. I have two pairs of glasses; one is traditional and has both lenses to correct me to 20/40. I use them on the computer mostly because I don't have to remember how to use them (another story). The second pair are progressives with slightly more accurate corrective lenses to the same correction.

But this morning! I can hardly see any difference between the two

eyes! Prior to the operation, the right eye had a lot of trouble because of all of the cell loss and gutatae in the central 30% of my sight line. That made the picture fuzzy and really cut the contrast. Today the contrast is almost identical.

If I remove the glasses the only difference I see is a little fuzziness in the operated (right) eye.

Day Four: I still have about one half of a black eye. The eye is also a little bloodshot but has been gradually clearing up. The lower eyelid is tender. Both eyes are almost the same as far as my perceived acuity with glasses. The worst problems are really the milky goop that forms at the eyelid/eye interface from the Prednisolone steroid drops and the zesty zing of pain the dilating drop gives the whole area. I'm used to the milky goop and in two days I'll be able to stop the dilating drops.

I continue to wear the eye guard at night and try to always have the guard or eyeglasses on. I even showered today with glasses instead of the guard! Steamy but since I'm allowed to use tap water on the eye it was a perfect time to get enough moisture to carefully bathe the edges of the lids and this helped. I also started using Refresh morning and evening in the operated eye to reduce the irritation.

I have absolutely no trouble reading a SciFi pocket book with normal print as long as I use my glasses, which seem to be a reasonably good prescription for me. On the Left eye (previous)

DSAEK in March of 2007; I really had no usable vision for four weeks. At that time they did a corrective surgery to detach the graft from the eyelid and still it took about two weeks more to have vision. It also required a new prescription.

Day Five: How quickly we forget. I got up this morning and just took for granted the good vision I had. I almost automatically instilled eye drops and when I instilled the dilating drop, the sharp, zesty pain in the eye reminded me that I was less than a week post operative on that eye. I made some thank yous for grace and blessings and got on with the day.

I have a lot of computer work today to prepare some brochures for a 'Sales Congress' in only three days. I also have to read the daily digests of all the people with Fuchs' Corneal Dystrophy on our support and information board, respond to a lot of the inquiries, give out some hope and cheer and probably kick some in the backside for having a 'Woe is me' attitude instead of grabbing their problem by the throat and turning it around. So the rather new eye will get a workout today. Must remember to maintain a high blink rate.

Several hours later I got an opportunity to have a massage a few miles away and, for the first time in five days I left the house and **Drove** a couple of miles through traffic to the shop. The eye worked just as it should, giving about the same vision as the left eye. I consider myself legal to drive since the left eye is

20/40 and the right eye is up there with the left. No problems occur in either direction. To be safe, I take my eye shield with me and put it on before getting on the table. Reduce any possible of something in the all too recently operated on eye. No problems.

As I leave, it's pouring rain, cold, even chill; about the low 40s Fahrenheit. As I drive home I'm astounded to see snow on the foothills east of San Jose way down to about 1000 feet and the same on the more green Santa Cruz Mountains. The demarcation between snow and earth, grass or trees is sharp and clear to me. Depth perception is excellent also. I can't begin to tell you how vibrant the colors are for that eye!

I return home uneventfully and remember I skipped lunch so I wolf some down and go back to work at 2:30 PM till now (6 PM). I'll knock off for an hour or two and then return for some more work. No rest for the wicked.

Day Six: Things don't improve is such great leaps but I notice that the resolution of objects and print are sharper and more clear. We are into more of a fine-tuning mode.

Day Seven: Again, things continue to improve. My energy is back and I work longer hours. I HAVE to; I'm getting ready for the Sales Congress, which is in 3 days. I continue to follow my normal schedule but also faithfully (mostly) put my eye drops in on schedule. Thankfully, the drops that really hurt no longer are required after this

morning. No more whimpering or screaming a couple times per day.

Day Eight: I think I've got the hang of this new eye. While I had written much of this before today, I've restructured it into a better format and have it almost ready to print. I've also been handling heavy correspondence on line for several days. I take a mid afternoon break so Monica doesn't call the eye police down on me!

Day Nine: And here we are at the Sales Congress.

Conclusions:

The Partial Transplants are a tremendous leap forward for those who have Corneal Dystrophy and other issues caused by one layer of the cornea. They reduce the recovery time and improve the quality of sight while maintaining the structural integrity of the eye and Mimi zing the potential for infection.

There have been several thousand of these operations done over approximately 7 years since they came out of the experimental stage. I personally know over 100 recipients, many who have had both eyes operated on because the recovery was so dramatic.

I had my left eye operated on in March 2007 and I am now 'cured' of corneal dystrophy! This had taken away pain and much inconvenience in my life. Research indicates that my eye should continue to improve over the next two years!

Please pass this on to anyone you may know that has sight issues. It may help them.

Day Twelve: I'm sure changes are occurring in my eye but they seem to have slowed down. I think the incremental difference per day is less as the healing and adjusting progresses. To play it safe and obey Doctor's orders I will continue to use eyeglasses all day and to tape the eye-shield over the 'new' cornea each night.

My eye is much less sensitive to glare and bright sun than it was a week ago. I occasionally experiment by removing the eyeglasses and typing a few lines while watching the monitor screen.

Day Sixteen: We arrived at UCSF exactly on time for my 2-week DSAEK checkup. Here are the results:

IOP (eye pressure) was 17
Corneal Thickness:
Main Cornea ~540 Microns
DSAEK Graft ~100 Microns
Uncorrected Acuity 20/30
BCV(Best Corrected Vision)
20/25 + 3 which puts me very close to 20/20!

Dr. Hwang mentioned that he was quite satisfied with the results and that he expected this level of improvement at about one year normally but that I'm not normal!

I knew that the results were better than the Left eye DSAEK in March of 2007. It's so wonderful how my vision is improving both qualitatively and quantitatively. The contrast is greater, blacks are more dense and focus is very sharp. This eye

was once my dominant eye and, after the L Eye's DSAEK last year it was then subordinate. It is starting to assert itself again.

Dr. Hwang was quite pleased and insisted in doing a 'strictly for fun' acuity exam. He mentioned that I was going to be first in line when UCSF finally sends its application to Case Western to become a center for the Fuchs' Endothelial Corneal Dystrophy NIH study.

Day Forty! Tomorrow is a big day, the six weeks checkup. I'm pretty consistent about putting drops in the 'new' eye 3 time per day and 2 times in the older transplanted eye. I find my eyeglasses are more hindrance than help; the prescription lens in this eye we're watching is from last year and corrected me to 20/40.

I intend to continue wearing something to protect the transplants. I will ask for a new prescription for both eyes since even my newer glasses aren't working – too strong for the first time in years. My computer monitor is set for 1480 by 900 pixels, the highest the monitor can handle and I can still read everything from 18 inches and large font from 5 feet for the first time in years. I'll have more details tomorrow.

Day Forty-One The six weeks checkup. Dr. Hwang is almost as pleased as I am. This 'new' eye was 20/40 Best Corrected Vision (BCV) prior to the DSAEK and is now 20/25 uncorrected. The Cornea is super clear and at a 'normal eye' thickness, 550 Microns. The remaining original

cornea is 470 Microns & the donor graft is only 80 Microns. IOP is a in the low/normal range of 15. Dr. Hwang had a refraction done on both eyes and wrote an eyeglass prescription.

While my previous transplant is only 20/40 uncorrected I am happy with it because 20/40 was BCV prior to the operation in March 2007. I am in awe of the state of transplant medicine and the skill of the surgeon.

Day Ninety: :(Right Eye), & Day 365 (Left Eye) The three month's checkup on the latest transplant and one year on the older transplant. Dr. Hwang took the usual numerous measurements and did an acuity test. Amazing! Both eyes tested 20/25 corrected. What a wonderful sight his smile is.

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