This Technique Offers Faster Visual Recovery and Lower Rejection Rate.

By Patricia B. Sierra, MD

The cornea is the transparent, protective outer layer of the eye, and a transplant is the standard means of treatment in patients whose corneas are cloudy from aging, prior complex surgeries or various diseases.

The new procedure, which is known as Descemet's Membrane Endothelial Keratoplasty (DMEK), is the latest innovation in minimally invasive corneal transplantation. It involves transplanting a delicate sheet of corneal cells (1/100 mm thick) in order to replace a damaged cell layer in the cornea known as the endothelial cells.

Patient’s original cornea is left mostly intact

The procedure involves removing only the damaged layer of the cornea and replacing it with a thin layer of cells from a donor. The graft is then injected into the eye through a small incision, then opened followed by the placement of an air bubble to promote adhesion of the graft to the patient’s cornea.

With DMEK, the patient’s original cornea is left mostly intact, so it’s not immediately apparent that he’s had a transplant. It may also be possible for the patient to attain 100 per cent vision (20/20 visual acuity) within a few weeks or months of surgery. Because the amount of donor tissue is extremely thin, there is a very low rejection risk and decreased need for long term anti-rejection therapy.

In summary, the benefits of DMEK are primarily related to a faster visual recovery, better final postoperative visual acuity and decreased risk of graft rejection.

Figure 1. Endothelial corneal transplant graft in a scroll inside the patient’s eye. The graft will then be opened and an air bubble injected behind the graft to promote adherence to the cornea.

Figure 2. Postoperative day one, graft is attached and the air bubble promotes adherence of the graft to the patient’s cornea.

Figure 3. Cornea is usually clear just 2-6 weeks following procedure.
The Future of Glaucoma Medical Treatment and Delivery
by Jacob Brubaker, MD

Glaucoma is a disease that has been called a slow, silent thief of vision. For many years, unfortunately, advances in its treatment have also been slow and oftentimes silent. This is fortunately beginning to change. There has been a recent rise in research and treatment options for glaucoma. Many of these agents and treatments are on the verge of receiving FDA approval. Drs. Lewis and Brubaker have been working with many of these studies to advance glaucoma care and delivery.

We have recently finished enrollment of two glaucoma studies. The first is a novel glaucoma medication produced by Aerie Pharmaceuticals that represents a whole new class of drops. It has been over 20 years since a truly new class of glaucoma medications has been introduced to the market. This agent is a Rho-Kinase inhibitor. It acts by remodeling the trabecular meshwork on the filtered drain of the eye. By remodeling the drain we hope to see increased flow from the eye and decreased eye pressure. Since it acts at a new area of the drainage system, it should be synergistic with the other glaucoma drops. As such we are about to embark on a whole new trial that combines this agent with a common glaucoma drop, Latanoprost. The hope is that this combination agent will offer increased pressure lowering in a convenient single dropper. In addition to these two options, there are several other drop agents that are currently in clinical trials. If all goes well then some of these agents may be available as early as 2016.

The other clinical trial for which we recently completed enrollment is the Hydrus Microstent. This is a device that bypasses the trabecular meshwork and provides enhanced drainage of the eye, similar to a cardiac stent. This device is placed at the time of cataract surgery and is very minimally invasive. Early results from this device have been promising. In many cases, patients have been able to obtain better pressure control with minimal glaucoma drop requirements. Additionally, it has proved to be very safe. We are still continuing to monitor the patients that have received this device. Submission to the FDA for approval should take place in 2016 or 2017.

In addition to novel drugs and devices, we are working on new delivery methods for existing glaucoma medications. We are currently enrolling patients for the Artemis study. This study is investigating the placement of a sustained release medication similar to Lumigan. It is designed to last 4-6 months, after which the medication is reapplied. The proposed advantages include decreased side effects and improved compliance and convenience. As part of the trial it is being compared to topical eye drops, but the hope is that in the future, drops will no longer be necessary, as least for milder types of glaucoma.

Glaucoma has traditionally been a challenging disease to treat. With the advances that are in development, it is an exciting time to see how this is rapidly changing. We are starting to have increased options that decrease medication burden and provide safe alternatives to treat the potentially devastating disease.

**NOT ALL EYE MEDICATIONS ARE DROPS**

For over a hundred years, eye drops have been used to deliver medications for ocular disease. It seems easy enough. Gentle pull down the lower lid, apply the eye drop, and then release the lid. Simple? Yes. Unfortunately, study after study shows that patients do not or cannot use eye drops as directed. It may be due to difficulty placing the medication on the eye due to arthritis or a tremor. Perhaps, it’s fear of putting anything on their eye. Perhaps the problem is simply forgetting to take a medication for a condition that has no symptoms. Perhaps, it is all of the above. The fact is adherence to chronic ocular medication is very poor and seldom better than 50% of the time. Unfortunately, this is also true for the treatment of high blood pressure, cholesterol and most other asymptomatic diseases.

For eye disease, there has long been a need for a better means of delivering medications. The time is rapidly approaching when administration of the drops will be completed by so-called “delivery systems.” These are placed inside the eye and are manufactured to deliver the correct dose for 6-12 months. This allows for lower doses, fewer side effects, and better control of the disease. Our office has been involved in this research over the last 5 years. The clinical trials have succeeded and new studies are starting. We hope to see FDA approval for a long-term drug delivery system in the next 2 years. It will be a goal worth achieving.
A NEW NAME AND A NEW LOOK

When our practice, Grutzmacher, Lewis & Sierra welcomed Dr. Jacob Brubaker as a full partner this year, we decided it was time for a change, so we made the decision to simplify our practice name to Sacramento Eye Consultants. Our front desk has been answering the phone with this name for some time, we are debuting our new logo and the new look in this newsletter.

You can expect the same quality eye care that you have come to expect at Grutzmacher, Lewis & Sierra. If fact, with the addition of Dr. Jacob Brubaker you will also receive the benefits of his professional expertise.

As our practice grows we hope that you will know that in the field of eye health care Sacramento Eye Consultants provides, as always, the best eye care available.

“LEADERS IN OPHTHALMOLOGY”

Dr. Richard Lewis is traveling to Cuba in October as a member of a delegation called “Leaders in Ophthalmology” which is comprised of presidents and past presidents of AAO (American Academy of Ophthalmology) and ASCRS (American Society of Cataract and Refractive Surgery). They will be meeting with Cuban ophthalmic doctors with the goal of strengthening education and training ties between the two countries. Dr. Lewis is the immediate past president of ASCRS.

NEWS FROM OUR PRACTICE

We Welcome Our New Staff

Valerie has worked in Ophthalmology for 15 years. Born and raised in San Jose, she moved to Stockton six years ago. She loves outdoor activities like riding bikes and playing softball, and enjoys spending time with her family.

Brandi was born and raised in Sacramento and has a small family here. Although she's customer service oriented, she says she's a real homebody, who enjoys taking her son to the park, loves to dance, and takes Zumba.

Christina is a Certified Ophthalmic Assistant and has worked in the field for four years. Born in Chicago, Christina moved here with her family when she was seven, graduated from McClatchy High School and attended Sac City College. She's very family oriented and loves hanging out with her children.

As we welcome our new staff, we also say goodbye to Kiersten who was on our staff for two years. We're thrilled that she has been accepted into the Masters program in Bio Medical Imaging at the University of San Francisco. Congratulations, Kiersten.

Donate Your Old Glasses

Our office is supporting the Lion’s Club by collecting used glasses. Once donated the glasses will be cleaned, sorted by prescription and then packaged. Most of the recycled glasses are distributed to people in need in developing countries where they will have the greatest impact.

If you have glasses that you no longer need, think about bringing them to your next appointment. We are looking for any prescription glasses, readers, sunglasses, or even just plastic or metal frames. Your old glasses can help give the gift of sight and help change someone's life.

We Need Your Help

It has become necessary for our office to establish a 24-hour cancellation policy.

Appointments are in high demand so please help us accommodate all of our patients by notifying us at least 24 hours prior to your appointment if a cancellation is necessary.

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New Dry Eye Treatment

One of the more exciting studies we have competed in this office involves a new treatment for dry eye.

Sponsored by a San Francisco start-up, Oculeve, the device stimulates natural tears from the lacrimal gland of the eye to alleviate the symptoms of dry eye. It is a paradigm switch for the management of this complicated disease. Additional studies are underway with the hope of FDA approval in 2016. Recently, this exciting technology developed by Oculeve was purchased by Allergan, which should speed up the approval process and patient availability.
SHINGLES: FACTS YOU SHOULD KNOW

This article was taken from a talk Dr. Grutzmacher gave to the Sacramento Valley Optometric Society in May.

Most of us know that shingles (herpes zoster, HZ) is pretty common and can be serious. Many, however, are not aware they can significantly reduce their risk of developing this. Did you know your risk of getting shingles is 1 in 3 in your lifetime! There are a million new cases yearly in the USA. Shingles commonly involves the face and eyes, so let's discuss some of these facts and common misconceptions:

Misconception #1: Healthy people are not at risk for shingles. False, HZ develops in healthy adults. Over 90% of HZ occurs in healthy adults (not immune compromised), most commonly over the age of 50.

Misconception #2: We catch shingles from someone else. No, it comes from the same chicken pox virus (varicella zoster virus, VZV = HZ) we got during childhood and have carried our entire lives. Our immunity wanes over the decades and the same virus activates along a dermatome (cutaneous nerve innervation) causing the painful outbreak. Shingles are most commonly on the trunk; 20% occur on the face and eye.

Misconception #3: Shingles is a disease of the elderly. Wrong, although that depends on your definition of elderly. The highest decade of incidence is the 50's!

Misconception #4: Vaccinations don’t do much. False, the shingles vaccine, Varicella Zoster (VZ Vaccine) has been shown to reduce the incidence by 50%, reduce the severity of disease and post-herpetic neuralgia The FDA and CDC recommend the vaccine for patients over age 60. It is reasonable to consider this at age 50.

Misconception #5: Treatment won’t help much. Also false, early high dose oral antiviral treatment with valacyclovir (Valtrex) or acyclovir (Zovirax) can significantly reduce disease severity, eye disease, duration of illness and post-herpetic neuralgia. Early treatment is crucial.

If you take away one point from this article, I hope it's to get vaccinated if you're over 60! Your risk is 1 in 3. Even if you've had shingles... still get vaccinated.