Five-time cornea transplant recipient David Huse has had more than his fair share of experience in the doctor’s exam chair over the years. His troubles date to the 1980’s when he joined the faculty at Purdue University and was prescribed “special contacts”. He recalls, “No one ever mentioned the term keratoconus until I was referred to Dr. Price in 1987 due to excessive tearing and eye pain for my first penetrating keratoplasty (PK) cornea transplant, which is surprisingly still working well.”

It was the early days in Dr. Price’s research, just around the time he started the Cornea Research Foundation. David recounts his experience: “Dr. Price said I would be placed on the waiting list for a cornea and it should take 4 -6 weeks, much different than today. I remember waking up in recovery for the first time without an eye patch on and I could read the alarm clock without glasses—it was truly amazing. My other eye stabilized for a few years and finally in 1995 I received a second full-thickness PK. Regrettably, that eye has gone on to have 3 other transplants—one DSEK and two DMEK transplants for a total of 5 over the last nearly 30 years.”

David explained that because of the many sutures used in full-thickness transplants, severe astigmatism has been a lifelong battle requiring a strong glasses prescription. This is one of the benefits of the newer DSEK and DMEK transplants the Foundation has been tracking where, with only a small incision, the single suture doesn’t create astigmatism as with PKs. David shared, “recently, Dr. Price was finally able to remove all of the sutures and the astigmatism went away! Now I read better without glasses.”

As a veterinarian, David teaches small animal surgery and anatomy at the College of Veterinary Medicine at Purdue University in Lafayette, Indiana and is a valued member of the Cornea Research Foundation of America Board of Directors where he shines in both academic understanding and by sharing his patient perspective with other board members. “I just love teaching—when the grafts were failing it was challenging because I couldn’t see the slides in class well. My depth perception was off and it was difficult to see the structures I was trying to describe to my students.”

David’s commitment to vision research is inspiring, as he describes that “research is why I see. I owe it all to research.” He clarifies, “having been at Purdue in academics, I know the volume and output of most researchers so when I look at the output of Dr. Price’s research that is directly applicable to today’s vision problems it’s astonishing. I don’t think that the average person can understand and appreciate how truly incredible that output is and it’s because he is strategic in choosing to create high-impact studies and is committed to sharing those findings with other doctors through many publications each year.”

“Having experienced the old way and now the newer ways of transplantation has given me a unique view,” he continued. “In addition to 5 cornea transplants, this year marks the 5th anniversary of a life-saving kidney transplant. If I can share one thought with others, it’s the importance of being an organ and tissue donor and supporting medical advances through research. I give back each year through contributions. While I do not play golf personally and choose to volunteer at the CRFA Golf Outing, my kidney donor, a co-worker does, so I sponsor a golf foursome for her to play. It’s my way of thanking her for her sacrifice and the incredible gifts I’ve received. I’ve also committed to join the new “Visionary Society” since I have pledged to make a planned gift to support CRFA’s vision research initiatives and would encourage others to do the same.”
Our Vision: That All Who Look May See

Happenings...

• Our 10-year analysis of DSEK patient follow-up found that cell loss was comparable in surviving clear grafts for both DSEK and PK after 10 years. We are currently gathering our 5-year DMEK outcomes and will share those results soon. Learn more on the Publications page at Cornea.org.

• The Cornea Classic Golf Outing was held on May 24th and was a raging success raising more than $50,000 for vision research! Visit us on Facebook to see a video highlight of the day. Thanks to all of our sponsors, committee and players who made the 19th annual outing a wonderful fund raiser!

• Coming and Going... We are pleased to share that a new fellow has arrived as we bid adieu to Dr. Seth Fox who heads back to Erie, PA after a year-long fellowship. Dr. Jonathan Crews joins us from Nebraska and looks forward to learning endothelial keratoplasty and other advanced surgical procedures from the Price Vision Group and Cornea Research Foundation teams.

• Welcome Maneesh Tiwari, a medical student volunteering this summer on an analysis to see if we can determine who may experience graft rejection before it develops.

• We are pleased to announce a new educational video series is in the works to replace our “Sunday for Sight” live event from last year. We changed the format to online learning to reach more of our distant friends. Keep an eye out on Cornea.org in September when we roll out the first video in the series of this exciting new educational program!

• Our participation in industry-sponsored studies has led to the FDA approval of the first prescription eye drop to treat both signs and symptoms of dry eye, one of the most common complaints in eye care affecting 16 million people in the U.S. each year. The medication, called Xiidra™ will be available this fall.

• We recently launched The Visionary Society—the Foundation’s new planned giving program. We have learned that many grateful patients have chosen to leave legacy gifts and we want to properly recognize them. If you have or plan to make a provision in your will for the Foundation, please let us know so we can properly acknowledge your generous support.

Gratitude Wall

April 1—June 30, 2016 unrestricted gifts. For a complete annual listing visit Cornea.org.

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How We’re Making an Impact with your Support

Breaking Research News by Marianne O. Price, Ph.D.

We’d like to share with you three exciting new initiatives to normalize irregular corneas, surgically manage glaucoma in a way that may be gentler to the cornea, and postpone presbyopia (delay the need for reading glasses).

1. In healthy eyes, the cornea should have a curved shape, like a basketball. However, as specialists, Price Vision surgeons Dr. Price and Dr. Feng see many patients with irregularly-shaped corneas that produce severely distorted vision. Some are young folks with a condition called keratoconus (Fig. 1), which causes the cornea to bulge. Others are transplant patients who had the front part of their cornea replaced. Irregular astigmatism from these conditions cannot be corrected with glasses or soft contact lenses. Only hard contact lenses can help, but many people cannot tolerate hard lenses. In some cases the distortion can be so severe (Fig. 2) that it is debilitating to a person’s quality of life, safety and livelihood.

To help people who suffer with these conditions, the Foundation has purchased a special imaging device and laser to treat and smooth irregular corneas. The imaging device measures the corneal surface topography (Fig. 3) with incredible precision while the laser precisely centers on the cornea and tracks any eye movements while it smooths the irregularities. We will carefully track the results of these treatments to continuously fine tune and improve patient outcomes and share our findings with other centers.

2. Many cornea transplant patients have glaucoma, which can sometimes develop as a side effect of the steroid medications taken to prevent graft rejection. That means that a relatively high pressure inside their eye damages the nerve that carries visual information to their brain resulting in the permanent loss of peripheral vision. Glaucoma progression can be slowed or stopped with special eye drops but sometimes requires surgery. Unfortunately, our Cornea Transplant Database has shown that the most widely used glaucoma surgeries (trabeculectomies and aqueous shunts) substantially shorten cornea transplant survival to around 5 years. We collected the fluid from inside the eye of patients and sent it to a lab for advanced analysis. We learned that these common glaucoma surgeries, which are designed to increase the flow of fluid out of the eye, cause extensive and detrimental changes to the fluid composition. Therefore we are going to conduct similar detailed analyses with a different surgical approach that slows fluid production instead of increasing fluid outflow. We are hopeful this approach will be better for cornea transplant patients allowing their grafts longer term survival.

3. We are conducting a study with investigational eye drops to see if they can help delay the need for “reading glasses”. As we age, the lens inside the eye has more difficulty adjusting between near and far vision. This is called presbyopia, which literally means “old eyes”. Everyone suffers from lens changes, so we are very excited about the opportunity to evaluate a potential treatment!

We couldn’t make these advances without our many friends that make this research possible. We appreciate your kind support of our vision “That All Who Look May See”!
Ask Your Doctor  By Dr. Francis Price, Jr.

Q: Can I still be a cornea donor upon my death since I have had a cornea transplant?

A: Fortunately in the United States, the eye banking system has evolved to a point where we now have a steady supply of tissue for transplantation. The advancements in storage solutions provide a shelf life of about 10 days for donor cornea tissue, so while we may have short-term shortages, we thankfully do not have a long-term shortage, as is commonly experienced in other parts of the world. Because of our successful eye banking system in the U.S., tissue is sometimes exported to other areas of the world if it cannot be used before expiration in order to meet donor wishes of helping to restore vision.

Artificial corneas are generally a last resort after multiple failed attempts with human donor tissue; they’re often associated with more complications and it is difficult to follow the pressure in the eye.

While a previously transplanted cornea is typically not used for a transplant, it may be indispensable for either research or training. Having donor corneas either to try new techniques on or to train doctors in techniques new to them is very important. We would never have developed the techniques we have for DMEK if we didn’t have donor eyes to see which things worked and didn’t work. Animal eyes can sometimes be used for training and research, but there are no substitutes for human eyes especially with DMEK. If you desire to donate your corneas, be sure to indicate to your family that you wish to be a donor and the eye bank can determine their use. The best thing you can do is to also encourage friends and family to become donors to benefit people like you in the future and support research efforts.

Thank you for your continued interest and support!
All donations to the Foundation are tax-deductible and support our sight-restoring research.