FOUNDATION FIGHTING BLINDNESS

LEGACY

A Publication for Supporters of the Foundation Fighting Blindness

FALL 2018

He Was Commanded to Surrender

By Alan M. Spiro, FFB Legacy Society

Alan Spiro speaking at FFB event.

In 1982, armed with an A.B. from Kenyon, a Ph.D. from Princeton, and a J.D. from Harvard Law School, I was excited to start my career as a lawyer.

But 10 years later, I learned that Ivy League degrees do not inoculate one against life-changing diseases — in my case, retinitis pigmentosa (RP).

The diagnosis of RP arrived in the form of a typed letter in 1993: "In time, you are likely to become 'legally blind.' Unfortunately, there is no proven therapy." The doctor had added the quotation marks around "legally blind" by pen, probably hoping to soften the impact. It didn't work.

The good news was that I still had substantial vision, and was able to continue practicing law for a good long time — perhaps due in part to the benefit of the FFB-funded work of the late Dr. Eliot Berson, Director of the Berman-Gund Laboratory for the Study of Retinal Degenerations at Massachusetts Eye & Ear. Dr. Berson's research revealed that vitamin A and DHA might slow vision loss for people with RP, so I began taking the regimen. In the early 2000s, as RP began taking its toll, I became increasingly involved with the FFB, attending Days of Science, Visions Conferences, hanging onto every new and hopeful research advancement.

In 2007, when I couldn't drive to the end of my own street, I had driven at night for the last time. In December 2010, I tried my last case, a two-week trade secrets trial, but I knew in the first 5 minutes that it would be my last. We won, but the experience was traumatic. Soon I had to stop even taking depositions. In 2011, driving during the day, which had become *de minimis*, ended. In April 2012, I was registered as legally blind. Though I'd already stopped driving, I received an official letter from the Commonwealth of Massachusetts that read: "You are commanded to

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INSIDE

SCIENCE UPDATE

FFB Provides Four Career Development Awards to Up-and-Coming Clinical Researchers

Mandeep Singh, MD, PhD

"The first time I examined a person's retina as a junior resident, something clicked. All the things I found interesting came together — surgery, patient care, genetics, regenerative medicine, and cell biology," says Mandeep Singh, MD, PhD, assistant professor in ophthalmology, Wilmer Eye Institute, Johns Hopkins Medicine. "I knew retina was what I wanted to focus on for my career."

Dr. Singh is one of four new recipients of career development awards (CDAs) from the Foundation Fighting Blindness. Each recipient will receive a total of $375,000 over five years to help build an independent research program in addition to their clinical practices. FFB currently funds 12 CDAs for up-and-coming clinicians to advance their experience and expertise in research for retinal degenerative diseases. Since its inception, FFB has given CDAs to more than 100 clinical investigators.

"For me, retinal degenerative disease is the most exciting field in all of medicine, because it is a hotbed of innovation in stem cells, gene therapy, and a host of other new treatment concepts," says Dr. Singh. "FFB has been a huge force in driving this innovation."

Dr. Singh's CDA is for investigating transplantation of cones derived from embryonic stem cells for vision restoration. Cones are the photoreceptors that provide central and color vision, and the ability to read, drive, and recognize faces. Dr. Singh will be using mouse models to address cone photoreceptor transplantation challenges such as functional integration with the host retina and survival of newly introduced cells.

"I see patients every week who would greatly benefit from photoreceptor transplantation. If we successfully develop the technology to regenerate damaged photoreceptors, we will be able to protect or restore vision in so many people," says Dr. Singh. "There are numerous challenges, but with the support of FFB and my expert collaborators, I believe we will make progress."

Other new CDA recipients include:

Shyamanga Borooah, MBBS, PhD, Shiley Eye Center, University of California, is testing CRISPR/Cas9 gene-editing (gene-correction) in human cells and animal models of autosomal dominant diseases affecting retinal pigment epithelial (RPE) cells. The conditions include: Late-onset retinal dystrophy, Sorsby fundus dystrophy, and Malattia Leventinese/Doyne honeycomb retinal dystrophy.

Rachel Huckfeldt, MD, PhD, Massachusetts Eye & Ear, Harvard, is investigating cystoid macular edema (CME), a common, vision-robbing complication of retinitis pigmentosa and other inherited retinal diseases. Dr. Huckfeldt will be working to better understand what causes the potentially harmful collection of fluid associated with CME, as well as better ways to treat it.

Nieraj Jain, MD, Emory Eye Center, is investigating a retinal dystrophy associated with chronic use of the interstitial cystitis drug pentosan polysulfate sodium (PPS). The retinal abnormalities in patients who use the drug are similar to those of people with age-related macular degeneration (AMD) and other retinal conditions known as pattern dystrophies. Using PPS, Dr. Jain plans to develop a mouse model that can be used to better understand, and test treatments for, AMD and pattern dystrophies.

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Apellis Launches Phase 3 Clinical Trial Program for Advanced Dry AMD Treatment

The biopharmaceutical company Apellis has treated the first patient in its Phase 3 clinical trial program for APL-2, a compound designed to slow the progression of advanced dry age-related macular degeneration (AMD) also known as geographic atrophy (GA).

The Phase 3 program consists of two clinical trials: DERBY and OAKS. Each will enroll 600 patients. Trial participants will receive intravitreal injections of APL-2, or a sham procedure (placebo), monthly or every other month. The injections are made into the vitreous, the soft gel in the middle of the eye.

In the Phase 2 clinical trial, monthly injections of APL-2 slowed the growth of GA lesions by 29 percent. GA lesions are the regions in the retina where loss of cells occurs. Cell loss correlates with vision loss.

Vision Improvements Reported in ProQR's Clinical Trial for LCA10 Treatment

ProQR, a biotech company in the Netherlands, has reported vision improvements for patients in a Phase 1/2 clinical trial for QR-110, a therapy for people with Leber congenital amaurosis 10 (LCA10), which is caused by the p.Cys998X mutation in the CEP290 gene. The mutation is estimated to affect about 2,000 people in the Western world.

The company reported that 60 percent of subjects in the trial demonstrated improvements in visual acuity and their ability to navigate a mobility course. The treatment was also safe for patients.

As a result of the encouraging interim results, ProQR has concluded the Phase 1/2 trial and plans to move the treatment into a Phase 2/3 clinical trial. Ten people were treated in the Phase 1/2 study.

Results from the interim analysis were presented on September 5, 2018, at the Retinal Degeneration 2018 meeting in Killarney, Ireland, by principal investigator Artur Cideciyan, PhD, research professor of ophthalmology at the Scheie Eye Institute, University of Pennsylvania.

The Foundation Fighting Blindness has entered into a partnership with ProQR to develop a retinal therapy for people with Usher syndrome type 2A (USH2A) caused by mutations in exon 13 of the USH2A gene. FFB will be investing up to $7.5 million in milestone-based funding to advance the treatment, known as QR-421a.

Are You or Someone You Know Over 70½ Years Old?

A provision in tax law allows anyone over 70½ years of age to make donations to qualified charities directly from their traditional individual retirement account (IRA), tax-free! The law also applies to your required minimum distribution (RMD). The Foundation Fighting Blindness is one such qualified charity. For more information, consult your tax advisor or the Foundation's Director of Legacy Giving, John R. Corneille, at 1-877-254-6308, extension 1 or JCorneille@FightBlindness.org.

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surrender your driver's license." It was like a punch to the gut. It felt like my independence was lost.

But in June 2012, I chaired the first Boston Dining in the Dark dinner for the FFB, and in the fall I was elected a National Trustee. In 2013, I again chaired the dinner, this time coupled with the day-long Symposium on Retinal Innovations.

The involvement with FFB was a life-saver. Learning about all the FFB-funded research helped restore my spirits in some dark times, even as life continued to change. In 2014, I had to retire from the practice of law.

But the interest in vision research kindled by FFB had become a passion, and in January 2015, I co-founded ExSight Ventures, a venture capital firm devoted exclusively to vision and ophthalmology. Still, there was and is no substitute for FFB's philanthropic role in funding the research that has led to the explosion of discoveries, clinical trials, innovations and treatments we are witnessing today.

In 2016, I made a substantial commitment to the Gund Challenge. And the Foundation is included in my will. The FFB has given me so much: the inspiration of Gordon and Lulie Gund; the hope engendered by the scientists I've met and their accelerating achievements; and the commitment to a cause that means so much to me and to so many friends. To make a bequest to FFB is to bequeath a legacy of discovery and hope.

Need More Information?

We are here to help, and we welcome your calls and emails if you have questions.

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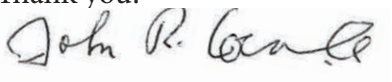
The information in this document does not constitute legal or financial advice. You should discuss all of your estate planning questions with your own advisors before taking any actions.

Help Us Build Our Legacy Society

Have you already included the Foundation Fighting Blindness in your will, trust, by beneficiary designation, charitable gift annuity, or some other aspect of your estate plan? If so and even if you have told me in the past, please contact me so I can be sure you are properly included as a member of our Legacy Society. The Legacy Society is an elite group of very special, committed people who have informed us that they have included the Foundation as part of their lasting legacy.

E-mail me at JCorneille@FightBlindness.org or call me at (877) 254-6308, ext. 1.

Thank you!



John R. Corneille
Director of Legacy Giving

Wills and Revocable Living Trusts Are Easy and Flexible Ways to Leave a Gift to the Foundation Fighting Blindness

Please share this suggested language with your attorney:

I give, devise, and bequeath the sum of $ _____ or _____ percent of my estate or specific asset to the Foundation Fighting Blindness, Inc., Tax ID # 23-7135845. The Foundation Fighting Blindness is a charitable organization located in Columbia, Maryland.

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