

Alumni Gift Supports Stem Cell Research to Restore Eyesight



Churchill with his son Benny. Benny was born visually impaired due to Optic Nerve Hypoplasia.

As a UC San Diego alumnus, Kevin Churchill, '96, already knew that the university had a reputation for cutting-edge research and advanced medical care. However, it wasn't until his son Benny was born visually impaired that Churchill discovered the remarkable breadth of leading research taking place at his alma mater.

Benny has Optic Nerve Hypoplasia (ONH), a cause of visual impairment in newborns that can also be associated with hormone deficiencies, developmental delay, sleep dysfunction and seizures. ONH is an underdevelopment of the optic nerve (the nerve that carries visual information from the eye to the brain) in one or both eyes. The degree of vision impairment with ONH varies, from near-normal vision to no light perception at all.

Benny's first ophthalmologist told Churchill and his wife Ziki that nothing could be done for their son. Frustrated by this answer, the Churchills turned to the UC San Diego Department of Ophthalmology at the Shiley Eye Center. There they met Dr. David Granet, director of the Anne F. and

Abraham Ratner Children's Eye Center. Granet provided patient care above and beyond the Churchills' expectations, and also talked to them about the potential for scientific research and discoveries to one day help their son, and children like him around the world.

"At UC San Diego, we first ensure that each child gets the best possible personalized care and treatment while each family gets the most up to date information," said Granet. "Then we think about new paradigms and how to do better."

Churchill recalls, “We were so relieved to meet Dr. Granet. We have found him to be nothing short of brilliant with the utmost care and love for children with eye related conditions, all packaged with a great personality.”

Granet introduced the Churchills to UC San Diego’s Dr. Kang Zhang, director of the Institute for Genomic Medicine and professor of ophthalmology and genetics at UC San Diego. Zhang is internationally renowned for his work in genetic and stem cell research. Zhang’s work focuses on understanding the genetics of blindness, specifically, using molecular genetic techniques to identify genes that predispose patients to retinal diseases and developing drug therapies to prevent these diseases. Zhang’s research also involves using stem cells to repair retinal damage, and Zhang is optimistic that stem cells will eventually be developed to regenerate optic nerve tissue for ONH patients.

Inspired by the doctors at the Shiley Eye Center and their progressive work, the Churchills decided to help seed a new research fund—the Optic Nerve Regeneration Fund—with the ultimate goal of helping ONH patients to regain their sight. With sufficient funding, the Optic Nerve Regeneration Fund will enable Zhang and his team to put together an aggressive and ground-breaking research project to develop biotechnology that may one day partially or completely restore vision in ONH patients by using genetic science and stem cells to generate new, usable optic nerve tissue.

“It is an ambitious goal, but one we feel is attainable if we can spread the word and through fundraising get enough support for the research,” said Churchill. While donations have been received from friends and family, additional funding is needed in order for the research to take off.

“My wife and I are just ordinary people who give because we know that research leads to practical, every-day applications that advance our health and way of living,” said Churchill. “In our case, genetic and stem cell research at UC San Diego has the potential to transform our son’s life, and the lives of children like him all over the world. As an alumnus, having UC San Diego lead the way toward that goal is tremendously rewarding.”

Granet added, “The donations and support from families like the Churchills make change possible. They literally can impact the treatment for their own child and others like them. We think of that as another way of empowering families.”



Researchers at the Shiley Eye Center are optimistic that s will eventually be developed to generate new optic nerve restore vision in Optic Nerve Hypoplasia patients, like Ber

In their spare time, Churchill and his wife also do outreach in the local community to educate people about Optic Nerve Hypoplasia and the exciting new research at the Shiley Eye Center. Their son Benny, soon to be three years old, is still under the care of Granet and the family looks forward to seeing what science, research and UC San Diego will accomplish in the future to improve treatments for visual impairment.

To learn more about supporting the Optic Nerve Regeneration Fund and other initiatives at the Shiley Eye Center, please call (858) 534-8017 or visit <http://shileyeye.ucsd.edu/giving>.

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