

Airplane Accident Sparks Remarkable Career in Ophthalmology Craig McKeown, M.D.

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It was a midair plane collision over Holland in the 1970s that first focused Craig McKeown's attention on the field of ophthalmology. Then a flight surgeon serving in the military, McKeown was part of the aircraft accident investigation team. Though investigators determined the crash was unavoidable, they concluded that it was vision related.

The accident wasn't caused by an eye disorder, says McKeown, but rather visual phenomena that occur when two airplanes are on a collision course. The small cross sectional image size of the light aircraft and the jet fighter as well as the lack of relative motion in two aircraft on a collision course, created a situation where the pilots did not have time to see the oncoming plane and prevent the collision.

The visual issues responsible for this accident sparked McKeown's interest in ophthalmology and a lifelong career. Based on lessons learned from the accident, a pilot training program was developed in an effort to identify the factors leading to the collision and hopefully, reduce the likelihood of future midair collisions.

Following his military tour in Europe, McKeown returned to the States, completing his residency at Walter Reed Army Medical Center where he was further influenced by Marshall Parks, M.D., an internationally renowned pediatric ophthalmologist at the Children's Hospital National Medical Center in Washington, D.C. After completing a one-year fellowship in pediatric ophthalmology and strabismus at Children's Hospital National Medical Center and an additional fellowship year focused on ophthalmic genetics with Dr. Irene Maumenee at the Wilmer Ophthalmologic Institute of the Johns Hopkins School of Medicine, McKeown solidified his interest in working with children with eye disorders as well as adults with strabismus.

Today, the retired U.S. Air Force colonel is associate professor of clinical ophthalmology at Bascom Palmer. He joined the Institute in 2001, having previously held academic appointments at Harvard University and Tufts University medical schools where he served as director of the Pediatric Ophthalmology and Strabismus

Service at the Massachusetts Eye and Ear Infirmary and the New England Eye Center, respectively. He's been the recipient of numerous academic and military awards/honors.

While McKeown sees patients ranging from one week of age to adults with double vision over 90 years old, children are a major focus of his practice. Frequently, these children have significant problems that may require surgery. His young patients have a broad spectrum of pediatric eye conditions, including amblyopia, strabismus, cataracts, glaucoma, congenital malformations, metabolic and other genetic disorders. "There is tremendous work to be done," he points out.

Working with young children is a challenge in itself. Liking kids, McKeown says, is key. "They sense if you like them." He notes that because testing is largely subjective, gaining a child's trust is essential. Without the child's cooperation, gathering accurate data is difficult. "You have to make it interesting and fun. And you have to keep things constantly moving. There's definitely a skill to it."

In fact, recognizing the vastly different approaches to children and adults, McKeown tries to schedule the two groups on different days. His adult patients generally are seeking treatment for strabismus, a visual defect in which the eyes are misaligned and point in different directions. Though common among children, strabismus also is present in the adult population, either as a condition that began in childhood or acquired during adult life.

In adults, strabismus may produce double vision, eye strain, discomfort in reading and headaches. Though serious, McKeown says Bascom Palmer's treatment for the condition is typically very effective.

Combining his skills with scientific advances like an increasing ability to understand genetic diseases at the biomedical level, means better treatment early and a brighter outlook for McKeown's young patients. Early diagnosis of eye disorders is critical, he says, noting that since the mid 1980s, there has been a remarkable improvement in the ability of pediatricians to identify and refer patients with eye disorders. "It is important that these kids be seen by someone with an interest and training in pediatric ophthalmology."

McKeown calls Bascom Palmer a 'court of last resort' for patients with severe ophthalmic conditions. Unusual disorders are typically referred to Bascom Palmer specialists like him by a child's local pediatric ophthalmologist.

Currently McKeown is involved in clinical trials investigating the effectiveness of new treatments for amblyopia, a common condition in which the visual function of one eye is underdeveloped, while vision for the other eye is typically normal. He continues to be involved in clinically focused research on complex strabismus disorders and visual development.

Over the years, McKeown has witnessed the advent of a number of treatment advances, like adjustable sutures, which enable surgeons to fine tune the surgery and increase the success rate; and the use of Botox to treat strabismus and facial spasms. Though typically reserved for adults since cooperation is essential, these treatment innovations are helping to improve outcomes and decrease time in the operating room for today's patients. Further advances are allowing surgeons to repair muscles damaged during other surgical procedures, and to preserve blood flow to the eye during surgery which reduces damage to muscles in patients with complex strabismus.

McKeown and his wife, Barbara, have one son, age 21. When he's not seeing patients, McKeown enjoys spending time with their son, a student at the University of Miami and kite boarding instructor on Key Biscayne.

For the challenges and complexities that are central to his practice, McKeown describes the rewards in simple terms. "Taking the most challenging problems and making them better is what I find most rewarding. That, and working with children who have an amazingly optimistic view on life."

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