

# J. E. “Jay” McDonald II, MD

Dr. McDonald shares his experience as a phaco pioneer and describes how he is trying to improve the ergonomics of cataract surgery.

## How did your experience in the US Air Force influence how you practice ophthalmology?

I gained confidence in my surgical technique during my tenure as the chief of ophthalmology at Barksdale Air Force Base in Shreveport, Louisiana. For 2 years, I operated on a steady stream of patients while free of the pressures of working in a private practice. I removed a lot of cataracts and, believe it or not, performed a lot of facial and ocular plastic surgery. I am glad I had the chance to perform many different kinds of surgery, and I believe that these skills allowed me to offer a wide range of services when I began private practice. The Air Force also taught me some basic organizational skills that I still use today to keep my practice running efficiently.



## How have cataract and refractive surgery changed since you were a resident?

Phacoemulsification did not exist in the late 1960s; we were still performing intracapsular extractions when I finished my residency. I accepted new technologies early, however, and I was one of the first in my community to adopt phacoemulsification, implant IOLs, and perform keratorefractive surgery. I must have tried almost every iteration of microkeratome, phaco machine, and excimer laser ever invented. The opportunities and challenges provided by new technologies helped me hone my surgical skills and refine my clinical judgment as I encountered new ophthalmic horizons.

## How did your interest in evolving ophthalmic technology lead to your involvement with the World Eye Foundation?

Hampton Roy, MD, one of the most creative minds in ophthalmology, was aware of my curiosity about intermediate technologies and my desire to reach out to surgeons in other countries. Together, we cofounded the World Eye Foundation. Under the auspices of this organization, I educated doctors in several different countries about phaco technology and IOLs. One of my most memorable experiences was visiting China in 1981. There, I helped restart residency programs (the Cultural Revolution had ended just a

few years previously) and introduced Chinese physicians to indirect ophthalmoscopy and IOLs. After working in China, I taught phacoemulsification in the Philippines, brought the first photocoagulator to Bolivia, and obtained a grant to support the manufacture of low-cost IOLs in India. My goal

was to teach local physicians how to use state-of-the-art technology and to help them apply their new skills to the delivery of eye care.

## Which IOL technologies do you think show the most promise for correcting presbyopia?

As anyone who is familiar with my research knows, I favor monofocal and accommodating IOLs over multifocal lenses. Of the technologies in development, I am most interested in the fluid-

based Power Vision IOL and the Calhoun Light-Adjustable Lens. I like the idea of dual-optic IOLs, but current studies show that these lenses provide approximately the same accommodation as the more simply designed Crystalens.

## What technology do you think will change cataract surgery the most in the next 10 years?

I predict that we will soon have an alternative to surgical microscopes. Thirty years of hunching over a surgical microscope has taken such a toll on my neck and back that I now use physical therapy and other activities to alleviate the pain. When I surveyed 25 ophthalmologists in 1997, I found that 33% had experienced an event in their back, neck, arm, or hand that changed how they performed surgery.

My desire to find a more ergonomic approach to cataract surgery motivated me to evaluate the TrueVision 3D system. This technology allows surgeons to view a 3D image of the surgical field on a high-resolution video screen. I am really excited about this technology, and I look forward to a time when it or similar devices eliminate our need for surgical microscopes. As digital imaging technology improves, we will soon reach a level of resolution and processing that will equal and exceed purely optical observation. ■

*Dr. McDonald is a consultant to TrueVision Systems, Inc.*