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EyeWorld Interview
Long-time teacher, inventor recounts innovation in the face of opposition

by EyeWorld Staff

Physician details how he helped introduce phaco to thousands of surgeons, patients

I. Howard Fine, M.D., a substantial contributor to the field of ophthalmology, is a clinical professor of ophthalmology at Oregon Health Sciences University in Portland and founding partner in Oregon Eye Associates in Eugene. He serves on the editorial boards of many revered national and international ophthalmology publications including Clincal and Surgical Ophthalmology, Cataract and Refractive Surgery Today, Ophthalomology Management, Ocular Surgery News, EyeWorld, EuroTimes, and

I. Howard Fine, M.D., clinical professor, Casey Eye Institute, Oregon Health & Science University, Portland, Ore., is widely lauded in ophthalmology for his many innovations, including nearly 40 instruments and 20 surgical techniques. Dr. Fine was an early proponent of phacoemulsification and has taught phacoemulsification courses around the world. He also has co-authored more than 15 books, published hundreds of scientific papers, contributed to numerous scientific studies, and served on a variety of scientific advisory boards. His work has led to various awards and an opportunity to meet President George W. Bush in 2001 to discuss the Patient Bill of Rights. Dr. Fine recently spoke with EyeWorld about his accidental entry into ophthalmology, the early days of cataract surgery and the opposition he faced, refractive surgery trends, and advice for up-and-coming ophthalmologists.

Dr. Fine and other faculty members teaching phacoemulsification in Paris in 1992.

Colleagues from all over the world visit Dr. Fine at his surgery center in Eugene, Oregon, to observe his surgical technique.

EyeWorld (EW): How did you get interested in ophthalmology?

I. Howard Fine, M.D.: I started out as an engineer. Then I worked as a laboratory scientist in biochemistry and went to medical school thinking I would do research. I enjoyed clinical medicine but wasn't sure what I wanted to do, so during my junior year, I took a different specialist to lunch every week and asked each one what he liked and didn't like about his field. It was always someone I knew, usually one of my teachers. To be thorough, one week I asked an ophthalmologist even though I had no interest in ophthalmology.

Dr. Fine, visiting professor at the San Diego Naval Medical Center, on board the U.S.S. John C. Stennis, out at sea, with Commander David

When I first came to Oregon, patients were hospitalized five days to a week after cataract surgery. I was doing surgery with a microscope and 10-0 nylon sutures compared with 5-0 chromic catgut, used by others. The nylon sutures are elastic, so as the wound swells, the elastic stretches without a change in tension on the tissue. As the swelling resolves, the elastic relaxes, so the wound apposition stays constant. With chromic catgut or silk sutures you frequently got chessewiring of the suture with swelling and loosening of the suture with resolution of swelling. I was very confident with my wounds and comfortable having my patients mobilized quickly.

After I'd been here four or five years I moved my patients from the operating table to a wheelchair immediately following cataract surgery. The nurses almost fainted the first time I did that. The patients were walking around the day of surgery. Many of them asked, "Why can't I just go home?" At that time, I appealed to the hospital and said, "You don't have bed space; my patients are walking around the day of surgery."

I made a deal with the hospital—it would admit the patients to a holding area and they would charge $45 for the holding area, three bottles of eye drops, a roll of tape, five patches, and charge a facility fee for every 15 minutes they were in the OR.

It was unbelievably inexpensive surgery for patients at that time. It was probably five more years before ophthalmologists in Portland, Ore., started to do outpatient surgery. But that was the type of environment we had to deal with in the hospital. We also had to vie with other specialists for operating time, equipment, and personnel, so I look at our ability to function within free-standing ambulatory surgery centers as one of the major changes since I began my career.

EW: How were you able to create so many techniques and instruments with all of the barriers you mentioned?

Dr. Fine: That all became possible once I was in my own surgery center. I've also enjoyed a wonderful partnership with members of the ophthalmic industry. What we've done has been of benefit to patients, and made life easier for surgeons.

EW: Have you made it a point to challenge what you're doing and come up with different innovations?

Dr. Fine: Absolutely. I'm irritated by inefficiencies and redundancies. The Army doesn't hire efficiency experts. When it wants to know the right way to do a job, it gives that job to the laziest soldier and watches him work. The laziest soldier will always find the easy way. In the war against cataracts, I've often thought of myself as the lazy soldier.

Because of my engineering background, I tend to analyze things in terms of mechanical forces. What are the forces I'm trying to overcome to do the thing I want to do, and what forces can I mobilize to help achieve my goal with respect to intraocular maneuvers. Very frequently, people who haven't had an engineering background are more constrained by tradition and conventional thinking.

EW: What has been the most fulfilling part of your career?

Dr. Fine: Innovation of surgical procedures and instruments has given

refractive procedures to avoid amblyopia and to allow them to develop binocularity.

EW: What advice would you give to younger ophthalmologists?

Dr. Fine: Continue to be a physician, not just a surgeon or a technician. Relate to your patients and let them know you're concerned about them. I've been in practice here for 36 years. I recently saw two patients on whom I did corneal transplants 35 years ago. I'm still seeing them and their families. It's lovely to be able to provide therapy for an important sensory modality and have ongoing relationships with these people. At the time of her recent exam in my office, a 51 year-old grandmother told me she was 15 years old when I first examined her!

In the early 1970's, I operated on an elderly lady from the Oregon coast who suffered from cataracts. I performed cataract surgery on her son 20 years later. Last year, I operated on two of her great-grandchildren, both in their early teens, with congenital cataracts. That is four generations in the same family cared for by the same physician.

Ophthalmologists should remember why they went to medical school: to take care of patients. They should do the best they can to develop the skills and knowledge to be innovators or early adaptors with new technology and techniques. My experience as an innovator and early adaptor has made my career a great adventure.

Get involved in teaching. It will keep you young, help you continue to learn, and make you a better surgeon. I made a commitment more than 20 years ago to spend 30% of my time teaching. In the early 1980s I was teaching transition to phacoemulsification courses, and realized that if I taught three courses a year each attended by 33 doctors, each of whom performed only 100 cataract surgeries a year, I'd be helping 10,000 patients in that year alone—more than I'd ever help in my own OR. That recognition fueled my commitment to teaching.

I have traveled and taught extensively and have made wonderful friends all over the world. Today I continue to teach at all levels—college undergraduates, medical students, residents, fellows and practitioners—and I love it.

Ophthalmology has been blessed over the past 20 years with explosive technology that has dramatically expanded what we have to offer our patients. That expanding technology continues today into the foreseeable future. My advice for young ophthalmologists is to carefully evaluate all new technology and techniques, without being reckless. Overcome the anxiety of facing a learning curve by asking yourself how the new technology and techniques could be beneficial to your patients and fit into your practice. Your patients will not be the only ones to benefit. Your professional growth and satisfaction will enormously enhance your enjoyment of your own career.

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