

## NEW METHODS OF COMMUNICATION

### How They Will Change Your Practice

I. Howard Fine, MD

The enormous technologic explosion in communications is going to have a dramatic impact on continuing medical education for ophthalmologists and ophthalmic surgeons. Adaptation of video cameras to the operating microscope, which allows a two-dimensional depiction of the surgeon's view of the surgical procedure, has given surgeons-in-training a unique ability to learn the manipulations, mechanics, and techniques of ocular surgery in a user-friendly way. This new technology has resulted in the sharing of videotapes among ophthalmologists, video festivals associated with a variety of meetings, and the adaptation of video into CD-ROM discs. Now, ophthalmologists have the option of viewing videotapes through such modalities as *Video Journal of Ophthalmology* or *Audiovisual Journal of Cataract and Refractive Surgery* in the comfort of their own homes on their own computers. In a similar fashion, we can view proceedings of international meetings that we were unable to attend, and can search key words to find specific slides and presentations in the CD. This ability affords both an initial learning experience and easy review at the convenience of the student or surgeon.

#### NEW MODELS FOR LEARNING

Over the past several years, I have participated in four events that hold promise for expanding learning opportunities for ophthalmic surgeons worldwide. In 1993 and 1996 I traveled to Milan, Italy, to participate in the yearly Videocatarrata directed by Lucio Buratto, MD. While there, I lectured and performed live surgeries that were transmitted to an audience approximately 800 Italian ophthalmologists in an auditorium. In 1998, again as part of Videocatarrata, I performed four surgeries in 1 hour in my own surgery center in Eugene, Oregon, which were broadcast live by satellite to the audience in Milan. The surgeries were followed by a 15-minute didactic lecture using slides to explain key points about the surgery, the technique, and the particular implant used. The participants in Milan and I were connected by telephone, so we had two-way communication. I discussed the surgical procedures as they were taking place, and Dr Buratto, who was communicating directly to me, fielded questions from the audience. This program was rebroadcast by satellite to the United Kingdom, Russia, Greece, Poland, and

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From The Department of Ophthalmology, Oregon Health Sciences University, Portland; and Oregon Eye Associates, Eugene, Oregon

Turkey, thereby dramatically expanding the size of the audience.

Later, I was able to participate in a satellite meeting of the European Society of Cataract and Refractive Surgery that took place in Athens, Greece. Before the meeting, I sent a carefully edited and scripted videotape of my surgical procedure along with slides describing the technique. These were shown to the audience in Athens very early in the morning, Pacific Standard Time. I was linked to the meeting by telephone from my home, and I answered questions from the moderator in Athens, who also fielded questions from the audience. The information was conveyed to the Greek ophthalmologists without my having to lose time from my office or the Greek society having to cover the expense of my travel. Of course, there are definite benefits to be gained from personal interactions between instructors and participant surgeons, but videoconferencing offers an easy alternative when this type of interaction cannot be achieved.

Further illustrating the benefits of this technology, I have conducted grand rounds at the University of Alberta in Edmonton, Canada, by two-way videoconference transmitted over telephone lines. Sitting in a small office at a telecommunications company in Eugene, I was able to see the moderator and audience in Edmonton, and they were able to see me. Slides and videotapes were projected on to a screen for the audience, which I was able to observe as I was teaching. I was able to convey the important points I wished to make, answer questions directly from the moderator, and field questions directly from the audience. This

is the closest I have come to an actual two-way discussion using videoconferencing technology.

One of the newest technologies on the horizon is the Staar Wave phacoemulsification system (Staar Surgical, Monrovia, CA). This system can be linked to a laptop computer, and images can be transmitted anywhere in the world over the Internet. Staar is installing this system in a number of surgery centers around the world. They will publish a schedule on the Staar Network Web site, the Starr Web site, ophthalmologists will be able to see a list of surgeons who are operating that month, pick a convenient time, and view live surgery on their own computers. Staar expects to provide the ability for two-way communication with a 3-second delay between audience members and the surgeon.

#### SUMMARY

There are many benefits to attending meetings, such as close interaction between colleagues from around the world and discussions concerning some of the finer points of technology and technique. These new communications modalities, however, will greatly enhance the ability of ophthalmic surgeons to be closer to the cutting edge of technology and technique, and they will allow for enormous improvements in the quality of eye surgery offered to patients worldwide. I look forward to even more striking technologic breakthroughs that will provide us unimagined capabilities in the near future.

*Address reprint requests to*

I. Howard Fine, MD  
1550 Oak Street  
Suite 5  
Eugene, OR 97401