

OPHTHALMOLOGY 360°



WHY DO WE HESITATE TO ADOPT NEW TECHNOLOGY?

New tools allow us to achieve new heights.

BY KENNETH A. BECKMAN, MD



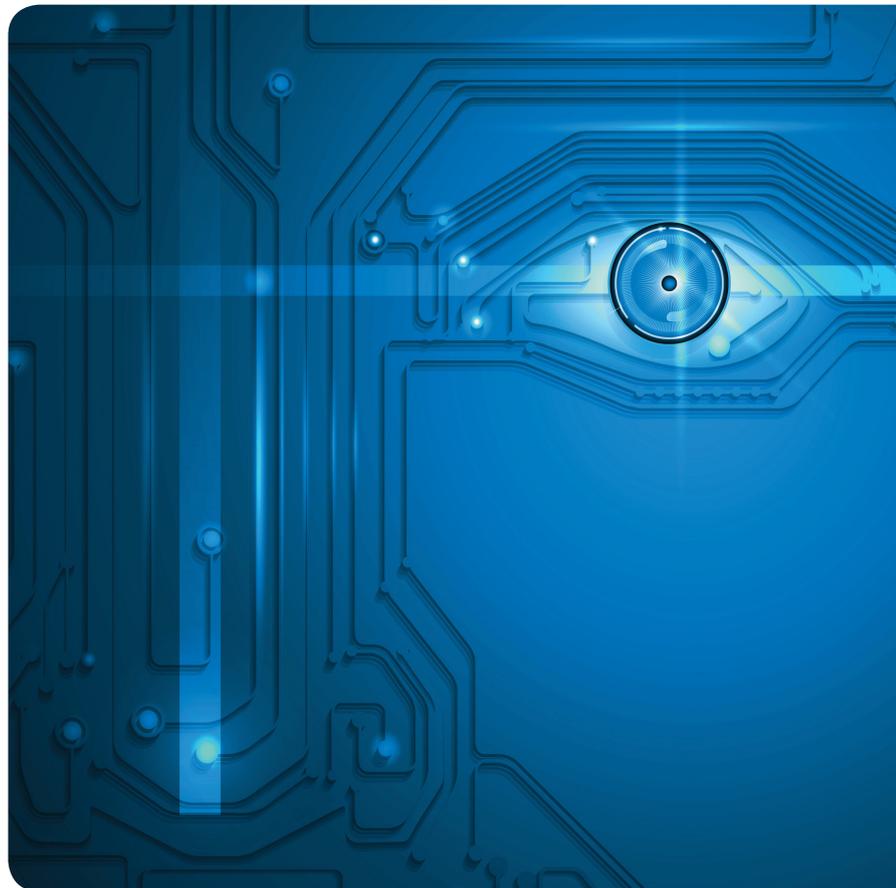
We have all been bombarded with the hype over various new devices on the market. We are even reminded in the trade journals and by speakers on the podium that if we do not adapt, we will fall behind. Yet, for some reason, many ophthalmologists do not readily adopt the latest innovations.

Surgeons seem to have a prevailing feeling of complacency, as if to say, "I am already proficient and do not need innovation." Personally, I find this sentiment troubling. Although I do not feel the need to reinvent the wheel, I am always looking for a better wheel. I have tried numerous new devices recently that have enhanced my ability to treat patients, and I would like to share my experiences here.

SIMPLE AND POWERFUL

One of the simplest devices that impressed me was the adenovirus detector (AdenoPlus; Rapid Pathogen Screening [RPS]). This device allows for the rapid detection of adenovirus in our conjunctivitis patients.

When I first became interested in this test, a colleague of mine asked why we need it. "I know how to treat conjunctivitis," he said. Since that time, I cannot count how many patients I have had referred to me for nonresolving infections. These patients who



had adenoviral conjunctivitis initially were treated with an antibiotic drop. When that did not help their condition, they were treated with another drug; steroids may have also been added. Finally, after a brutal 3 weeks of treatments, multiple office visits, and multiple prescriptions, this self-limiting disease resolved on its own. Had these patients received the correct diagnosis on day one, they could have been informed of the natural course of the disease, and they would not have had to waste money on unneeded drugs and become subject to the risks associated with multiple medications that had no impact on the condition. They could have avoided multiple office visits (more time and money spent) and spared countless other patients in the office from exposure to this highly contagious disease.

ANOTHER TEST, ANOTHER CHANGE

Another device that has significantly altered my practice patterns is the InflammDry (RPS). This test detects the presence of matrix metalloproteinase 9, an inflammatory mediator that is often elevated on the ocular surface in patients with dry eye disease (DED). Again, a colleague told me that he knows how to treat DED. Yet, I can think of countless cases in which this test made a significant impact on my decision-making ability.

I frequently receive referrals from other physicians for patients who are not responding to traditional treatment for their severe DED. On many occasions, I have seen these patients after punctal plugs were placed as a primary treatment. Upon doing the InflammDry test, I was able to detect high levels of matrix metalloproteinase 9 on the ocular surface. For those patients, all the plug was doing was conserving tears full of inflammation, in essence bathing the eye in dirty bath water. Because I do not routinely use plugs until the ocular surface inflammation has been controlled, I started the patients on anti-inflammatory drops, and even removed some of their plugs, to allow their condition to improve.

BIGGEST AND BEST ADVANCE

Finally, the device that has given me the largest jolt is the femtosecond laser for cataract surgery. Again, many of my colleagues continue to tell me that they already are very proficient at cataract surgery and do not need an expensive machine to improve on what is already excellent.

As I was operating on a routine cataract patient this past week, this happened: The patient had significant posterior pressure, and when I initiated the capsulotomy, the tear extended radially and headed toward the iris. I then made another cut and started to create a capsulotomy in the opposite direction. As it turned out, this tear radiated to the iris as well, and I was left with a horseshoe anterior capsular flap. I was not able to do a thorough hydrodissection due to the risk of causing the tear to extend posteriorly. Fortunately, I was able to remove the cataract successfully

without extending the tear posteriorly or breaking the posterior capsule. The entire time, I was thinking how great it would be to have a complete 360° capsulotomy, as well as having the nucleus already divided into segments. Either of these advantages would have made my day so much easier.

At this time, I do not understand the thought that the laser does not make the surgery easier. Clearly, having these two components mentioned previously performed before my entering the eye would have changed my surgical experience and decreased the risk of complications. Although I understand the concern regarding the additional cost of laser cataract surgery to the medical system in general and the extra time needed for each case, I believe these barriers are outweighed by the technology's benefits.

Some of today's current thinking reminds me of a time during my residency in the early 1990s. Phacoemulsification was still new, and many of the faculty members were in the process of teaching themselves to perform this challenging procedure. Some surgeons even questioned whether it was worth converting to phacoemulsification, as they were excellent extracapsular surgeons. They hoped to ride out their careers without adopting the technology. As we all know, phacoemulsification has become the standard of care, and those who did not adopt this technology are likely no longer practicing—or at least no longer performing cataract surgery.

CONCLUSION

We as ophthalmologists seem to be a group that is always striving for something better: the next great technology to improve our care for patients. Adapting to change is always difficult, and it is easy to be cynical when someone else comes up with a new idea. Remember, Ben Franklin did not invent electricity. He discovered it. We cannot come up with great ideas without our imaginations, and we need to extend ourselves to continue to achieve new heights. Most of our goals are already possible, but we have not figured out how to reach them yet. Eventually, as with Edison inventing the incandescent light bulb after hundreds of failures, we will run out of bad ideas until we find one that works. If we do not continue to imagine and innovate, we will never be able to reach those new heights. ■

Section Editor Kenneth A. Beckman, MD

- director of corneal services at Comprehensive EyeCare of Central Ohio in Westerville, Ohio
- clinical assistant professor of ophthalmology at The Ohio State University in Columbus, Ohio
- member of CEDARS
- (614) 890-5692; kenbeckman22@aol.com
- financial disclosure: consultant to RPS