Reducing Your Enhancement Rates

This expert's proposed surgical framework will have you improving your outcomes in no time.

BY KARL G. STONECIPHER, MD

We refractive surgeons all strive for the same goal: great outcomes. Yes, we also want quick postoperative recovery and high safety, but the bottom line for any patient is seeing as well or better than he or she did with glasses or contact lenses. Here are some tips to help you achieve that objective.

USE A CHECKLIST

The late Charles Casebeer, MD, recommended treating surgery like flying an airplane. Before flight, every pilot walks around the plane and goes through a checklist. Before pilots take off, they go through a checklist. Before they land, they go through a checklist. Take the same approach to refractive surgery, and you will become a better surgeon and reduce your enhancement rates.

Fortunately, if we miss the mark, we will have the opportunity to correct that error with an enhancement. We may jokingly call it a "mulligan" or a "do-over," but our patients view it as a failure of the procedure. Just ask them. They will make comments to other patients and their friends like, "It didn't work for me"; "Mine took two or three tries before they got it right"; or "I am not sure why, but in everyone else, it took only one try, but with mine, they had to come back for a touch-up." These remarks usually are not what prospective patients want to hear.

MAKE ACCURATE MEASUREMENTS

Let us start at the beginning. What goes into the computer is what comes out of the computer. Invest in an accurate way to measure visual acuity (Figure 1). If you cannot measure 20/10, then you will never achieve 20/10 visual outcomes.

Figure 1. Modern refractive surgery requires an investment in the equipment to measure vision.

Never underestimate the refraction. As I always tell my staff, the refraction is the gold standard for outcomes. We only use two lanes to refract patients; those lanes are calibrated both for the eye charts and the lighting. I only operate on refractions from two individuals. By doing these steps, I eliminate issues of variability such as vertex distance and calibration errors. You cannot develop a useful nomogram without good data from the start. I will discuss nomograms later.

PICK DIAGNOSTIC TOOLS YOU NEED

Six months do not pass without someone's showing me a new diagnostic tool to improve my outcomes. Unfortunately, they all come with a price. You need

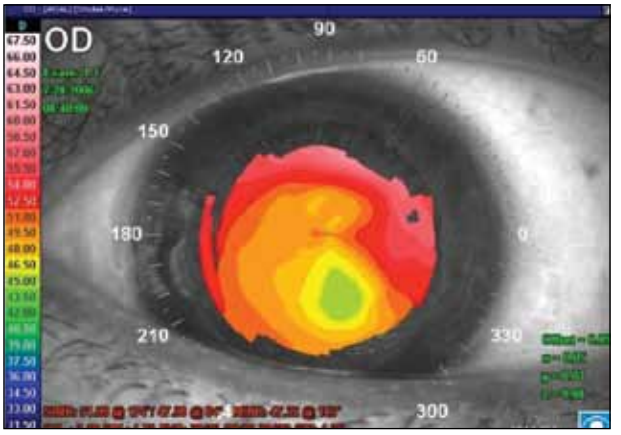

Figure 2. Marked irregular astigmatism in a corneal transplant patient.

Figure 3. The newest controversy centers on whether the femtosecond laser improves the outcome of cataract surgery.

basic tools. Just like with computers, however, you will continue to upgrade those tools, and the cost must work within your budget. You do not have to be able to afford all of the new toys to achieve excellent outcomes. The most important thing to know about diagnostics is that you need the basics to discover on whom you should not operate (Figure 2).

BE CONSISTENT IN YOUR SURGICAL TECHNIQUE

Both young and established surgeons constantly refine their techniques, but each of us must be consistent in our surgical acumen. An established physician learns to change one thing at a time, especially in refractive surgery. The environment (temperature and humidity), the procedural time, and surgical technique all influence outcomes.

Develop a basic skill. As you visit colleagues, read about new techniques, or hear someone talk about a new surgical application, remember when you get home to change only one thing at a time. That is the only way you will know what worked or did not with regard to your outcomes.

My final comment on technique pertains to when you hear someone discuss something that he or she does better than you. Perhaps one specialist's enhancement rate is 1%, and yours is 5%. Do not be negative and comment, "That cannot be possible." Instead, visit the surgeon, and find out what he or she is doing better than you are.

EVALUATE YOUR TECHNOLOGY

Do any golfers still use wooden drivers? I doubt it. Technology improves over time, especially if it depends on computer software and hardware. Even so, you do not have to change your lasers every year. I myself use the rule of threes: every 3 years, I look at my laser technology, my diagnostic technology, and my basic equipment and tools, and I decide what I need to upgrade (Figure 3).

MEASURE YOUR OUTCOMES

Outcomes only improve if you measure them. Find software for this purpose that you trust, and use it. Find an individual who is committed to the task (if it is not you yourself), because again, what goes into the computer is what comes out of the computer. I have had the opportunity to work with software developers like Guy Kezirian, MD, and Jack Holladay, MD. Whatever product you choose, learn the software, find out what it can do, and then collect the data.

Start with three data points. The first is a good refraction. I still perform both manifest and cycloplegic refractions on every patient (again, I do that in two rooms with only two people refracting). Data point number two is surgical data. I record temperature, humidity, my target, and what I want to accomplish. I look at all the variables I can control, and they are what go in the surgical record. Technique, temperature, and humidity can all vary among surgeons, even in the same OR. Data point three is the postoperative visit. I use the 3-month visit, because my personal data have shown me that the result at 3 months is what it will be at 3 years.

A FRAMEWORK FROM WHICH TO START

If you follow this framework, what can you accomplish? Recently, using a software program, I looked at my enhancement rates from 4,029 surgeries and considered the factors that influence those rates (Figure 4). Surprisingly, the top four factors were (1) the opaque

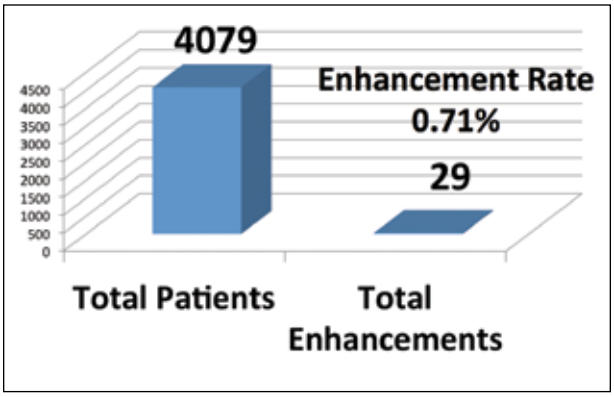

Figure 4. My colleagues and I recently looked at our outcomes for a large series and evaluated the factors that influence our outcomes.

bubble layer, (2) dry eye disease, (3) allergy, and (4) patients' fixation.

Even though I wait for the bubbles to disappear or I milk the bubbles out of the treatment zone, the opaque bubble layer exerted the greatest influence in a series of more than 4,000 surgeries. Dry eyes and allergy are treatable, and since this study, my office colleagues and I have become even more aggressive about the preoperative diagnosis and treatment of these problems in our patients. We surgeons have poor control over patients' cooperation and fixation, but we can attempt to reduce their anxiety with pharmacological aids (preoperative alprazolam [Xanax; Pfizer Inc.]) or by showing patients what to expect during surgery. (Please see my website www.laserdefinedvision.com.)

CONCLUSION

Start somewhere simple in your practice, and begin the process. You will never get better if you do not look at the issues. Until you achieve an outcome that is superior or equal to what the patient sees with glasses or contact lenses, you have room for improvement. ■

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