Take 5 with a US SMILE Surgeon

A conversation with Nandini Venkateswaran, MD, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston.

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Seeing beyond

Q **Dr. Venkateswaran, how long have you been practicing, and why did you decide to include refractive surgery as part of your specialty?**

A I've been practicing since September 2020, and refractive surgery caught my eye—no pun intended—early in my training. To me, it's one of the most gratifying aspects of clinical practice. As refractive surgeons, we have the opportunity to counsel young, healthy patients who want independence from their eyeglasses or contact lenses and to offer them surgical opportunities that are true investments in their vision.

Q **When did you first learn about small incision lenticule extraction (SMILE), and what were your initial thoughts about this technique?**

A I was first exposed to SMILE® as a resident at the Bascom Palmer Eye Institute where several surgeons were involved in the SMILE clinical trials. My interest was further piqued when I interviewed at the Massachusetts Eye and Ear Infirmary, which is the only site in the region to have a VisuMax® femtosecond laser from ZEISS. I was drawn to this institution and job because I would have the opportunity to learn SMILE and offer it to my patients.

Two aspects of SMILE stood out to me: the novel concept of creating an intrastomal refractive lenticule to correct vision, and the fact that the entire surgery is performed using one laser. I was excited by the positive visual results that patients were experiencing postoperatively and their rapid recovery with few limitations or restrictions to their daily lives.

Q **How would you compare the learning curve for SMILE versus LASIK?**

A Some of the more challenging aspects of learning LASIK involved what we were doing preoperatively: identifying candidates, interpreting their imaging, and learning the appropriate verbiage to use to counsel patients. While the indications for SMILE differ somewhat from LASIK, our preoperative approach is similar.

Intraoperatively, the two surgeries diverge. For LASIK, we need to learn different techniques for creating flaps, depending on the laser platforms used. With experience, we develop a style in terms of lifting the flap, centering the treatment, laying down the flap, and securing it in the proper position. We also must be prepared to manage potential flap-related complications postoperatively.

Similarly, much of the learning curve for SMILE takes place intraoperatively, as we need to become familiar with using the VisuMax laser and learn how to identify the anterior and posterior planes to successfully dissect the lenticule.

ZEISS does a fantastic job of counseling and coaching surgeons on utilizing the VisuMax laser. For example, I created 50 LASIK flaps with the VisuMax laser before performing my first SMILE surgery. That experience helped me become comfortable with the laser and also helped me focus and improve on small intraoperative details, such as positioning the patient's head, centering the treatment on the visual axis, and practicing verbal anesthesia. Participating in a wet lab with ZEISS before my first SMILE case also helped me feel confident for my first day of live cases

Q **Do you have specific parameters for which you recommend SMILE over LASIK for your patients?**

A When I'm assessing patients in my clinic, in addition to their ocular health and refraction, I'm reviewing their topographies and tomographies and measurements of higher-order aberrations to determine if they would require topography-guided LASIK or PRK as opposed to SMILE. SMILE enables me to take a customized approach in my refractive decision tree.

As a beginning SMILE surgeon, I've been particularly thoughtful about which patients I select. I started by correcting astigmatism and higher degrees of myopia, because these treatments produce thicker lenticules and are potentially easier dissections. As I've become more comfortable performing SMILE, I've expanded my parameters a step at a time.

Q **What do you think is the main barrier for surgeons who have not yet adopted SMILE within their refractive practices?**

A For some, it may just be not knowing about SMILE. If surgeons aren't in practices or in regions where their colleagues are performing SMILE, it may not be on their radar. There also may be some reluctance among surgeons who have mastered PRK and LASIK over the years to incorporate a new type of refractive surgery technique into their practices.

I believe surgeons who offer SMILE have a competitive edge. Ophthalmology is a dynamic field, and it's important that we keep our minds open, stay excited about advancements in technology, and remain eager to learn on our feet. SMILE is a fun technique to learn. It makes patients happy, and it has allowed me to grow my refractive practice tremendously in just one year.

About Dr. Nandini Venkateswaran

Dr. Venkateswaran is a member of the Cornea and Refractive Surgery Service at Massachusetts Eye and Ear Infirmary and an instructor of ophthalmology at Harvard Medical School. She earned her medical degree from the University of Rochester School of Medicine and Dentistry, completed her ophthalmology residency at the Bascom Palmer Eye Institute, University of Miami, and completed a fellowship in cornea, external disease, and refractive surgery at the Duke Eye Center, Duke University, Durham, NC.