



Breaking Barriers: Women in Femto

A Discussion with Zarmeena Vendal, MD, and Durga Larkin, MD



Femtosecond laser-assisted cataract surgery (FLACS) has been available to U.S. cataract surgeons since 2011. Zarmeena Vendal, MD, Founder of Westlake Eye Specialists in Austin, Texas, was in practice 6 years when FLACS became available and adopted the technology almost immediately. Durga Larkin, MD, of the Rhode Island Eye Institute in Wakefield, Rhode Island, took much longer to be convinced, but has now adopted FLACS later in her career. Recently, both surgeons spoke about why they adopted LenSx (Alcon) and shared best practices for how to be successful with it.

When did you adopt FLACS and what drove you to make that decision?

Dr. Vendal: Part of our mission at our practice is to constantly strive to deliver reproducible surgical outcomes. Residing in Austin, Texas, the local culture really values state-of-the-art technology, as do I. When LenSx was first introduced, there was no question that I was interested in exploring it for our practice. My first impression was excitement about the efficiency but also reproducibility. Even though we had good, reliable, manual cataract surgery, I was processing what the technology could do and the level of fine-tuning that was possible, especially with astigmatism correction. I have not been disappointed.

Dr. Larkin: I have known about FLACS for a long time, and initially I thought it was a lot of hype that wouldn't have a lot of value. As FLACS grew in popularity, I perceived it to be only financially feasible for surgeons working at universities or large ASCs. However, over time I saw that LenSx was here to stay, and two things influenced me to jump in and try it. The first was that Alcon made it possible to rent the laser, and, with a very attainable number of procedures, the rental fee pays for itself. This drastically reduced the financial risk. Second, I was speaking to a colleague who told me that by doing a high percentage of LenSx procedures, he

believed he would extend his surgical career by 10 years. Since I am over 50, as are many of my local colleagues, that comment had a big impact.

Once you decided to adopt FLACS, why did you choose LenSx?

Dr. Larkin: I have had a lot of opportunities to interact with Alcon throughout my career. They have a reputation for always being on top with the latest technology. Importantly, they are also known for their great customer service. When my colleagues and I were ready to adopt FLACS, we went with LenSx because we knew the technology was excellent, but what really tipped our decision was the partnership and the fact that we have all had great experiences working with Alcon in the past. If I ever need any support for my equipment or my implementation strategy, I know that I can call Alcon and they will answer.

Dr. Vendal: Alcon has a stellar reputation for leading the charge in surgical innovation, as well as having excellent customer service. When you are going into uncharted territory with new surgical technology, you need collaboration every step of the way. Both the industry and the surgeon must feel that they are partners. There was an immediate sense that Alcon was passionate about the capability of LenSx,

that they stood behind their product, and that they were with us every step of the way to train us and help us troubleshoot.

Having experienced multiple software updates to the platform, I feel that each iteration is better and easier to use due to Alcon's ongoing dedication to improvement and listening to their clients. One thing that has always been great with the LenSx is how uniform it makes corneal work regardless of surgeon experience. Each surgeon in our practice can make laser arcuate incisions to manage astigmatism, as well as primary and secondary corneal incisions without difficulty, and the results can be predictable because the laser is placing the incisions.^{1,2}

What excites you the most about using LenSx in your practice?

Dr. Vendal: As surgeons, we strive to give all our patients consistent, excellent outcomes. We want the surgery to go the same way every single time. The predictability that LenSx introduces to my surgical day is very exciting to me. When I have a series of LenSx cases, I can almost guarantee they are all going to progress in a similar fashion,¹⁻⁶ and that my cases will be similar to the cases of my colleagues in different cities and with varying years of practice. Our incisions will look similar as long as our laser settings are similar. It's a technology that allows us to not only

manage astigmatism, but manage it with consistency across all offices.¹⁻⁶

Dr. Larkin: From a physician standpoint, I love that you can take this on and be successful with it whether you are early on or more advanced in your career. If you are in a big academic setting or a small community environment, you can jump into LenSx and be very successful. It really works for everyone. The learning curve is not onerous, and the outcomes are excellent. Before using LenSx, I thought my outcomes were great and didn't see how they could improve. But there is a precision beyond human capability when surgery is done with a laser.²⁻⁵ A reproducible capsulorhexis that is perfect and centered every time is no small thing.³⁻⁵ Normal human imperfection means that a capsulorhexis might be slightly off center, or not quite perfectly round, and that can impact lens centration, stability, and tilt. These little subtleties can make a difference in the patient's vision. I was also surprised and happy to see that correcting those small, 0.5-0.75 D, amounts of cylinder even further sharpens the final acuity.⁷

Dr. Vendal: We did an internal study in our practice where we looked at 100 cases that had FLACS and 100 cases that had traditional cataract surgery, and we compared the amount of time spent inside the eye, as well as the amount of energy dissipated. We found that with LenSx, not only were we inside the eye for less time and dissipating less energy, but that each one of our surgeons had a similar result. This is validated by clinical data.⁸

Dr. Larkin: When you are skilled at creating a manual capsulorhexis, it's difficult to imagine that the laser can help much. But there is just something about having it done almost perfectly every

time; knowing that it will be perfectly centered and chopped well eliminates psychological stress for the surgeon.^{1,2} In addition, I find that being able to correct even small amounts of cylinder has a valuable effect. As a surgeon in my 60s, adopting FLACS has been amazing for my practice and for me.

Has adopting FLACS changed the image of your practice or driven other advanced technology conversions?

Dr. Larkin: In general, I used to recommend toric lenses to anyone with astigmatism greater than 0.75 D, so I already had something of a reputation in my community as a surgeon who uses higher technology just by using toric IOLs early on and presbyopic IOLs as appropriate. Since I started using LenSx, it has just taken off. I'm finding that so many people want the best technology; they feel there is value in it, and they are willing to pay for it. My LenSx conversion rate is 85-90%.

Dr. Vendal: We brought LenSx into our practice 13 years ago to enhance our surgical outcomes and astigmatism management, and we were pleasantly surprised at how it was received. Patients in our market valued innovation and technology, and they identified us as a leader in technology in the community. Even today, they seek us out and ask us for all types of technology as a result, and we have grown exponentially along the same timeline as our introduction of FLACS. Austin was our first market, but since then we have introduced FLACS into our three other locations that may not be perceived to be as urban. These patients have been just as interested in the LenSx.

Where is your LenSx located, in the OR or a separate procedure room?

Dr. Vendal: Initially, our first LenSx was located in a non-sterile procedure

room, and it was very easy to create a flow from the procedure room into the OR that worked nicely. We now house all pieces of equipment in one OR at the ASC. In our second location, we have the LenSx in one OR and then transfer the patient to the OR next door for the phacoemulsification portion. Again, this flows really well. Finally, in our in-office surgical suite we also house all pieces of equipment in one room. Depending on the location, we have scrub technicians, registered nurses, or a specialized trained staff member to manage the workflow. It's very versatile—you can really design a layout to fit your space with great flexibility.

How important is patient education to FLACS, and how do you manage this?

Dr. Larkin: I have always felt very strongly that I should be the one to discuss the surgical options with my patients, and that the patient should understand that they have options. I understand that not all practices are set up with the ability for the surgeon to go over the surgical options in detail, but I think it is crucial to educate each patient, so they feel they are making the decision along with you and are not being forced into an expenditure. After they have been worked up by the technician, the patient is taken to a room where I have posters that show the LenSx, as well as different IOL options. The patient is shown a video from Alcon that discusses traditional phacoemulsification vs FLACS, as well as a video on astigmatism. All of this takes less than 4 minutes. When I come in, I share with my patients that I love LenSx because it is precision beyond human capability,^{1,2} and that if it were paid for by insurance, I would use it on everyone for whom it is appropriate (some patients with very small pupils may not be good candidates for example).

I start the conversation with patients by informing them that they are going to receive a lot of information in a short amount of time, so if they still have questions when I'm done and want to talk more, I am always willing to do a telehealth or a follow-up in-person appointment with them. Very rarely do they ask for an additional appointment, but knowing that they can increase their comfort. Although I always inform patients that they have a choice to get laser or manual surgery, nearly every patient chooses laser surgery. They are excited about the technology. The 10%-15% that do not get the laser either choose manual surgery because they cannot afford it, or because they are not an appropriate candidate.

Dr. Vendal: Education is the biggest factor in patients considering FLACS for their surgery. At our office, as soon as a patient makes an appointment for a cataract evaluation, they will receive educational material in the mail about the different styles of surgery. Then, during their evaluation, they have tablets to watch educational videos on the difference between manual cataract surgery and FLACS. By the time I sit down to talk to the patient, he or she

has a basic foundation to build on, and I spend time talking to them about their options.

I cannot emphasize enough how important it is for the surgeon to make the recommendation of LenSx and share why they believe it is the best option. A patient liaison may later follow up to answer additional questions, but we strongly believe the surgeon must be the one in the room with the patient recommending FLACS and conveying why it is valuable.

What advice do you have for a surgeon just getting into the FLACS space?

Dr. Vendal: My biggest piece of advice is that you really must believe in the LenSx technology yourself. Neither patients, technicians, nor staff members are going to adopt any technique if the surgeon doesn't really believe in it. There is a myth that there is not enough data to show that FLACS is a valuable tool, and that's simply not true. Many studies have been published showing lower CDE numbers, unparalleled precision and reproducibility of corneal incisions, superior astigmatism correction, reduced phacoemulsification time, and so much more.⁹ As a surgeon, take the time to educate yourself and really come to

believe in it. Only then can you impart a culture of innovation and embracing technology within your practice, which your patients will come to appreciate.

Dr. Larkin: Learning to perform FLACS is very straightforward, but there is still a learning curve. To really feel comfortable and create that muscle memory, I dove in and lined up many cases within the first month and opted to have the instructor accompany me beyond the first few cases, which is what all the other surgeons in my center did as well. In addition, I studied the potential issues and pearls from other surgeons, creating my own mental list of detailed steps to avoid any potential issues.

My first tip is to avoid any possibility of capsular tags by using Rhein forceps to tent the cornea right in the middle, and then gently pulling it starting at one point and working my way around the circle, rather than directly lifting it up. A capsular tag is very rare², but pulling it off in a way that disrupts any tag and prevents it from extending is a step I have automatically integrated.

My second tip is to loosen subincisional cortex by hydrodissecting with a Chang cannula. Capsular blowout is avoided by first expressing a little fluid into the anterior chamber to make sure there is no air in my Chang cannula (even though the scrub tech has theoretically expressed all the air out prior to handing me the cannula, sometimes an air bubble stubbornly remains). Then I use one gentle fluid wave, followed by massaging the lens gently to softly push the fluid around and move any little air bubbles out.

Finally, patients that pay for any premium technology have high expectations. My years of using toric and multifocal IOLs have taught me the importance of accurate measurements. With presbyopic IOLs, we all know that

	DR. VENDAL	DR. LARKIN
Practice Location	Austin, TX	Wakefield, RI
# of ASCs	4	1
# of LenSx machines	3	2
Where the LenSx is kept	1. Same OR as phaco 2. Different OR than phaco 3. Holding area outside of OR	1. Dedicated laser room 2. OR
# of LenSx cases annually (per surgeon, not per practice)	700	450
% of cataract cases that choose LenSx	70%	85%
Are you part of a private equity group?	No	Yes as of 2022. This has not impacted my FLACS usage.

additional chair time must be factored in. The beauty of FLACS is that it really does not add any significant chair time and the patients and doctors are all happy.

I do believe an important contributor to my success is that I use three different instruments to measure the topography. If I don't have excellent correlation between these measurements, I place the patient on a dry eye regimen and repeat the measurements at another visit. I do this with all my patients who choose any higher technology. Even with top-of-the-line equipment, measurements don't always match for a variety of possible reasons.

Do you have advice for a surgeon looking to optimize their FLACS usage?

Dr. Vandal: Consumer research on advanced technology in eye surgery tells us that 80% of patients want to know about all the options available, and up to 45% of them are willing to pay more for technology.^{10,11} However, only 12% of patients are currently actually getting FLACS.¹¹ This is a staggering discrepancy, and I believe it is surgeons' responsibility to give our patients access to all of their options.

Any surgeon who wants to use their LenSx more needs to be adept at personally recommending it to their patients. I tell all my patients that LenSx is what I chose for my own father, and I believe these kinds of talking points make a difference.

Next, look at your onboarding process. All junior surgeons and technicians new

to your practice should spend time watching LenSx performed in the OR so they can see the value. It's incredible how excited they get once they watch it. Finally, connect with the industry. Rely on your Alcon reps to guide you; they are your partners in any technology.

Any final thoughts on FLACS?

Dr. Larkin: Physicians worry that patients won't want laser surgery because it's not covered by insurance—but patients really do want it. As the population ages, people are more comfortable with the precision available from technology than from a human. You don't have to be a high-volume surgeon to afford this in your surgery center, nor do you have to be at the very beginning of your career. You can be in your 60s or even 70s, only doing a few surgeries a week, and be very successful with LenSx. It's an exciting technology that removes some of the stress of surgery, and it quickly pays for itself.

Dr. Vandal: As surgeons, it's our job to be experts in all the technology available for eye surgery and to be partners with our patients so that they can make the most informed decisions possible. I want to give my patients access to every style and option for cataract surgery and then educate them to help make their decision. LenSx must be a part of that conversation. ■

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LenSx® Laser Important Product Information

CAUTION:

• Federal Law restricts this device to sale and use by or on the order of a physician or licensed eye care practitioner.

INDICATIONS:

Cataract Surgery Indication: Cataract Surgery Contraindications:
• Corneal disease that precludes applanation of the cornea or transmission of laser light at 1030 nm wavelength
• Descemetocle with impending corneal rupture
• Presence of blood or other material in the anterior chamber

• Poorly dilating pupil, such that the iris is not peripheral to the intended diameter for the capsulotomy
• Conditions which would cause inadequate clearance between the intended capsulotomy depth and the endothelium (applicable to capsulotomy only)
• Previous corneal incisions that might provide a potential space into which the gas produced by the procedure can escape
• Corneal thickness requirements that are beyond the range of the system
• Corneal opacity that would interfere with the laser beam
• Hypotony, glaucoma* or the presence of a corneal implant
• Residual, recurrent, active ocular or eyelid disease, including any corneal abnormality (for example, recurrent corneal erosion, severe basement membrane disease)

• History of lens or zonular instability
• Any contraindication to cataract or keratoplasty
• This device is not intended for use in pediatric surgery.

*Glaucoma is not a contraindication when these procedures are performed using the LenSx® Laser SoftFit® Patient Interface Accessory

ATTENTION: Refer to the LenSx® Laser Operator's Manual for a complete listing of indications, warnings and precautions.