Patient Flow in Laser Cataract Surgery

Where to locate the laser and how to move patients to the OR will challenge every practice.

BY ERIC D. DONNENFELD, MD

One of the demands faced by anyone interested in new disruptive technology is that he or she gain experience with and incorporate it into the practice. My colleagues and I have been dealing with this challenge at Island Eye Surgicenter and Ophthalmic Consultants of Long Island, where we have had our femtosecond laser system for cataract surgery for 8 months now. Including myself, 12 surgeons here are trained to use the laser, and we have performed approximately 500 cases.

Among the most challenging aspects of laser cataract surgery are that it requires increased chair time for discussing surgical options and more time in the OR, at least initially, because it changes the established flow of patients.

Figure 1. Dr. Donnenfeld performs laser cataract surgery in one of his practice's three ORs.

LOGISTICS

As we have adopted this technology, we have adhered to several basic guiding principles. As defined by the OR staff and the surgeon, our primary goal is to ensure patients' safety and optimal outcomes. Secondary goals are (1) to provide surgeons with appropriate access to the OR so that their patients may undergo the laser cataract procedure in a timely manner and (2) to maximize the efficiency of the staff and materials used in the OR. A tertiary goal in the OR is to be cost-effective.

With that in mind, we considered four different options for the laser system's placement:

- a different building than the OR
- a different floor of the same building that contains the OR
- the same floor as but outside the OR
- the OR

Our laser is now located in one of our three ORs.

I quickly realized that—compared with my time for a routine, traditional cataract procedure—I was approximately 50% slower when performing laser cataract surgery in one room. If I used two rooms, I was 35% slower compared with my traditional procedure. The additional time required for positioning the patient under the laser and performing the surgery (which only takes approximately 2-3 minutes) was minimal. Moving the patient and clearing the room were the sticking points. The solution that has worked for my colleagues and me is to use three ORs. I perform the laser procedure one room, and then I use the other two rooms for the remainder of the surgery. This arrangement takes me approximately 20% longer than performing traditional cataract surgery.

All ORs pose challenges in terms of space. Based on our experience, I believe the optimal placement of the femtosecond laser is just outside the OR. This setup would allow maximal use of the ORs without slowing down patients' access. With this scenario, we could maintain maximal quality of care and efficiency using only two rooms. Unfortunately, our spatial requirements do not permit this setup.

Figure 2. The patient is then moved to another OR for conventional cataract removal and IOL placement.

A LASER SPECIALIST

After performing more than 200 laser cataract cases, I can say that a dedicated laser specialist dramatically increases efficiency. Specifically, either a senior associate who is dedicated to performing laser surgery or a fellow who has watched me perform more than 100 cases assists me on laser cataract surgery. I greet the patient and inform him or her that two specialists will perform the surgery. The laser specialist completes the laser portion, and I extract the cataract and implant the IOL.

This arrangement has improved my efficiency by approximately 20%. The steps completed by the laser specialist expedite my performance of the cataract procedure, including the incision, capsulorhexis, and disruption of the lens.

THE PATIENT

With any premium surgery, the patient should have a high-quality experience. To that end, my colleagues and I seek to minimize the manipulation of patients by keeping them on the same stretcher, if possible, and setting up the laser on the same floor as the OR (Figures 1 and 2). They receive mild sedation for the laser procedure as well as for the cataract surgery.

Our patients' response to laser cataract surgery has been overwhelmingly positive. I expected approximately 15% to 20% of them to request the technology, but the actual penetration in our practice is close to 60% of eligible patients. We have optimized patient flow, and we feel that we are giving them a superlative surgical experience. Our outcomes with laser cataract surgery have been excellent. ■

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