

Lessons Learned From My First 100 Laser Cataract Cases

After performing my first 20 or so cataract cases with the platform, I felt confident.

BY STEVEN J. DELL, MD

In the United States, the use of the Victus Femtosecond Laser Platform (Bausch + Lomb Technolas) in cataract surgery is limited to the creation of the capsulotomy. *[Editor's note: At press time, the Victus received 510(k) clearance from the FDA for the creation of penetrating arcuate cuts/incisions in the cornea in patients undergoing cataract surgery or other ophthalmic treatment requiring penetrating arcuate cuts/incisions in the cornea, according to a company news release.]* Therefore, my technique has not changed that drastically from my manual procedure. What is different, however, are the steps I take in the OR.

IN THE OR

When I approach the patient in the OR after the laser procedure, I ensure that the capsulotomy is complete and free-floating before I start pulling on the capsular fragment. I have used more than one laser cataract surgical platform, and in my Victus cases, it has been encouraging to see free-floating capsulotomies in a high percentage of patients. The hydrodissection technique is slightly more challenging to perform in any laser surgery compared with traditional cases, because the capsulotomy cut extends slightly into the cortical portion of the lens. When the surgeon places the hydrodissection cannula under the capsule, he or she must ensure that it is in the plane between the capsule and the outermost layer of the lens. My technique is to lift up slightly on the capsule with the hydrodissection cannula so that I can visualize the capsule tilting away from the outermost cortical lamellae of the

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lens. At that stage, I can hydrodissect with great confidence that I am in the correct plane. Also keep in mind that in the presence of any tear in the anterior capsule, hydrodissection must be carried out with caution.

Another aspect of I/A in laser cataract surgery is that there are no cortex tags to grab as in manual surgery; instead, there is a sharp edge where both the capsule and the anterior cortex have been incised. It is important to use an angled I/A tip, particularly for removing the subincisional cortex. It helps tremendously to remove the subincisional cortex first while the rest of the cortical material is positioned so that it is holding the bag open. I believe most cataract surgeons have moved toward using silicone-tipped I/A cannulae, which are slightly more expensive but much safer in the long run because they can grab the capsule without tearing it.

DOCKING

I especially appreciate the way the Victus system docks to the eye. I have found that the ability to put a suction

ring on the eye and then have control over the docking process via the suction ring is easier than simply trying to dock directly onto a moving eye. The process is intuitive and similar to that used in a femtosecond laser refractive procedure.

In fact, I did not fully understand the advantage of docking using a suction ring until I tried another platform with a one-piece docking apparatus. For me, it is easier to use the Victus' two-piece suction ring, coupled with the patient interface. The device also has a "dual mode" of docking. For capsulotomy (and for lens disruption outside the United States), a light-dock technique with a thin meniscus of fluid in between the cornea and the interface is used to minimize any corneal folds or pressure on the cornea. Applanating the cornea very firmly is not helpful in cataract surgery when the laser is required to fire through the cornea. The cornea can become distorted with folds, which can disrupt creation of the perfect circular capsulotomy, and to a lesser extent, lens disruption. For corneal procedures, such as arcuate or corneal incisions, I can use a firmer dock and eliminate the meniscus of fluid. This very precisely defines the plane in which the ablation is performed. Similarly, a firm dock is used for the flap's reaction in LASIK.

PATIENT INTERFACE

To achieve the system's dual modality, the Victus platform utilizes a curved patient interface with built-in pressure sensors. This function allows me to monitor the force with which the applanation is transmitted to the cornea. I can tell if there is torque, if the eye is tilted, if I am pressing too hard, or not hard enough. The system's pressure sensor feedback provides a map display of where the eye is under high and low pressure, which is important for the surgeon to know when he or she is docking.

CONCLUSION

After performing the first 20 or so cataract cases with the Victus, I felt confident using the platform. Although it took only a few cases to be able to handle the technique, I began learning things that were not immediately obvious. Further, I have discovered features of the laser that I like, that previously, I did not even know I liked! ■

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