



BY MARK KONTOS, MD

IOL

OL implantation is the last step of cataract surgery, other than wound closure, and executing this step perfectly every time is the goal of all cataract surgeons. How do we best accomplish this?

Each step in the surgical process builds on the properly executed steps before it, and lens insertion is no exception. A properly constructed wound, an intact capsule, and a circular capsulotomy all contribute to making lens insertion a straightforward process. My technique for lens implantation is as follows.

STEP BY STEP

After I have placed just enough OVD in the capsular bag and anterior chamber to create appropriate space, I am handed the loaded lens cartridge. I inspect it briefly to ensure that the haptics are in place and the lens is loaded correctly. I then use the plunger to move the body of the lens down the barrel of the cartridge three-quarters of the way before placement. The lens should move smoothly with minimal resistance.

Next, I insert the cartridge bevel-up into the main incision so that the leading edge of the inserter is just beyond the internal end of the wound. Countertraction is applied with a Sinsky hook at the paracentesis or sometimes with 0.12-mm forceps if I need to use more force to enter the incision. Once the cartridge is in place, I hold the inserter with my left hand and turn the plunger end slowly with my right to eject the lens in a controlled, continuous motion.

As the lens is entering the eye, I angle the inserter down slightly so that the leading haptic and front of the lens enter under the far side of the capsular bag. At this point, proper orientation of the lens haptics should be confirmed. The leading end of the haptic should be pointing to the left and the trailing haptic to the right. I continue the ejection of the lens until it is completely free of the inserter. With some three-piece lenses, it is necessary to rotate the inserter slightly as the lens is unfolding to achieve proper placement.

The inserter is then withdrawn, and the Sinsky hook is used to

place the trailing haptic into the near side of the capsular bag, dialing it downward and clockwise at the same time. For a one-piece lens, I orient the haptics at 2 and 8 o'clock in a right eye and 10 and 4 o'clock in a left eye. I believe this may help reduce the possibility of dysphotopsias postoperatively.

Once the lens is in place, it is important to check that both haptics are securely seated in the bag and the lens is centered with about 0.5-mm overlap of the anterior capsule 360° around the lens edge. The OVD can then be removed.

MODIFICATIONS

Sometimes modifications in lens placement may be needed because of issues that occurred during previous steps of the surgery. For instance, if iris prolapse is present at the wound, I place the inserter bevel-down, using it as a shield to push iris away and below the mouth of the injector. I then reorient it bevel-up. This way the lens can be ejected without trapping iris tissue.

If the anterior capsule has a tear, the lens haptics should be oriented 90° away from the defect. In the

IMPLANTATION

One of the last steps of cataract surgery, but not the least.

event of a large defect in the posterior capsule, a three-piece lens can be inserted with the haptics placed in the sulcus, and the Sinsky hook can be used to secure the body of the lens through the capsulotomy and under the intact anterior capsule.

In some cases, the only option for lens placement is to use an anterior chamber IOL or to suture

a lens into place. Suturing of IOLs is beyond the scope of this article, but placement of an anterior chamber IOL is a procedure with which all surgeons should be comfortable. Placement begins with injection of acetylcholine chloride to constrict the pupil. OVD is then injected to create the necessary space. The wound must be enlarged to

approximately 5.5 mm. It is important to grasp the lens in the proper orientation, with the leading open haptic pointing to the right in this case. This ensures that the lens is vaulting upward. A Sinsky hook is used to dial the trailing portion of the lens into place under the incision, rotating clockwise and orienting the lens at 12 o'clock. A small iridectomy is created, and the OVD is then removed.

CONCLUSION

Proper lens placement is the part of cataract surgery that gives patients that “wow” factor on postoperative day 1. Executing IOL placement perfectly should be the goal of all surgeons. With attention to detail and proper surgical technique, perfect placement can be the end result just about every time. ■

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