

# Toric IOLs: Low-Hanging Fruit

Incorporating the AcrySof Toric IOL into your practice is an ideal entry step into the refractive IOL arena.

BY ROBERT J. CIONNI, MD

It is not awful to be conservative about entering the refractive IOL market—especially when we surgeons have heard that, although the vast majority of patients do well with the presbyopia-correcting IOLs, a small percentage of them will torture us for the rest of our natural lives with issues and complaints. I suggest entering the refractive IOL market by offering toric IOLs to your patients. This type of lens is not associated with an increased incidence of glare or halos, and the success rate (patients' level of satisfaction) after the bilateral implantation of these IOLs is quite impressive, with 97% achieving complete freedom from spectacles for distance vision.<sup>1</sup> Why, then, have not all surgeons adopted the use of toric IOLs? This article discusses the three reasons apparent to me as well as surgical strategies for AcrySof Toric IOLs (Alcon Laboratories, Inc., Fort Worth, TX) implantation (Figure 1).



Figure 1. AcrySof Toric IOL.

## REASON No. 1. COMFORT WITH THE STATUS QUO

Whether we are talking about a surgical procedure or an old pair of jeans, it is hard for any of us to become motivated to change when we are comfortable. As better technologies become available, however, we as physicians must make an effort to use them if they have been shown to improve patients' surgical outcomes. Such is the case of the toric IOL.

## REASON No. 2. MONEY

Ever since we left our residency or fellowship and ventured into ophthalmic practice, we have learned that we must increase surgical volume in order to deal with decreasing reimbursements. With the relatively new ruling by the Centers for Medicare & Medicaid Services, we now have the opportunity to be paid for premium technologies that can benefit patients who choose to pay for them. That means we need to become more comfortable asking patients to pay out of pocket for a procedure that promises a better outcome. Because the results with the toric IOL have been excellent, it should be relatively easy for us to recommend this technology while feeling confident that the lens will deliver the expected benefits.

## REASON No. 3. UNCERTAINTY ABOUT IMPLANTATION

We surgeons are used to simply placing an IOL in the capsular bag and may feel apprehensive about the additional step of rotating the IOL to the appropriate axis. It is also necessary to mark the steep axis preoperatively, a process that involves steps not familiar to many of us, especially if we have not managed astigmatism with limbal relaxing incisions. The end result is definitely worth the effort; patients enjoy a better surgical outcome, and our practice receives greater reimbursement.

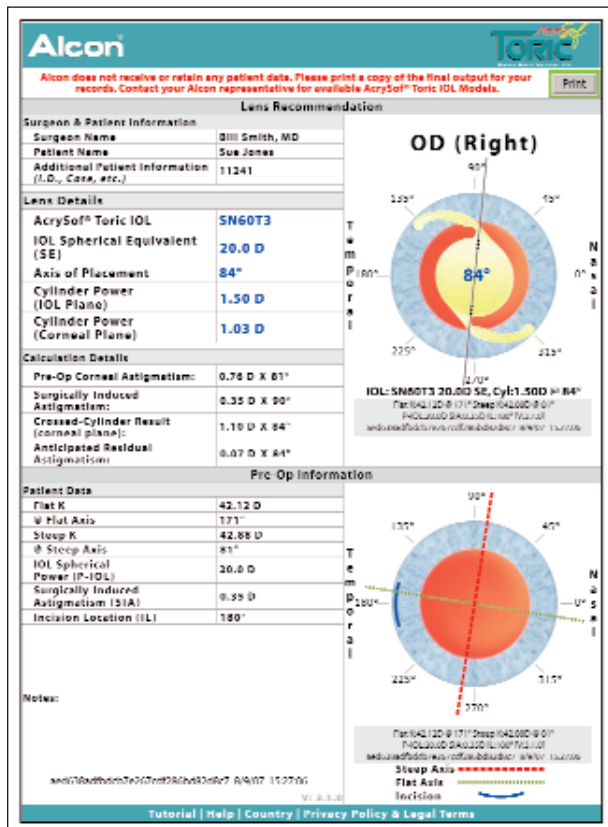


Figure 2. The AcrySof Toric calculator.

## PREOPERATIVE TESTING

### Keratometry

The most important step in a toric IOL's placement does not occur intraoperatively but during the preoperative examination. Properly determining the axis and amount of astigmatism is imperative to success. We are not choosing a toric IOL based on refractive cylinder but on corneal cylinder. The former incorporates lenticular astigmatism, which will no longer be present when the cataract is removed. Accurate keratometry is therefore extremely important to successful outcomes.

It is prudent to compare manual keratometry readings to those obtained with the IOLMaster (Carl Zeiss Meditec, Inc., Dublin, CA) and topography. If these measurements do not agree with each other, they should be repeated. If a significant discrepancy remains, then there is usually some degree of irregularity to the corneal surface due to dry eye or perhaps basement membrane disease. The cause of the irregularity needs to be managed before IOL surgery.

### Toric Power

We determine the IOL's spherical power as we would for any other IOL, but we also need to verify the toric

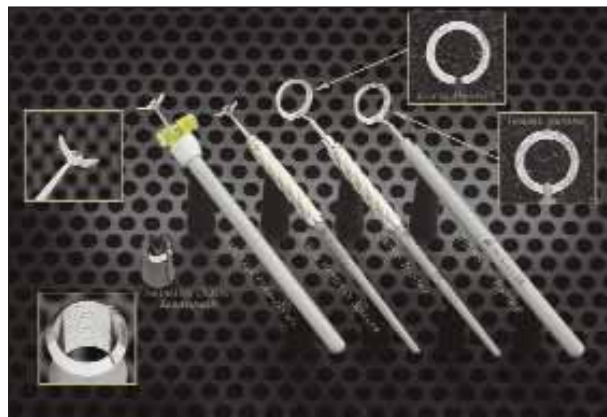


Figure 3. The Mastel Toric Marker System.

power. To do so, we utilize the AcrySof Toric calculator (available at [www.acrysoftoriccalculator.com](http://www.acrysoftoriccalculator.com)) (Figure 2). After entering identifying information for the surgeon and patient, we enter the keratometric values and axes. The only other data required are the intended axis of the phaco incision and the expected amount of surgically induced astigmatism. The default for the latter is 0.50 D, but we can determine our specific amount of induced astigmatism online at the Web site of Warren Hill, MD (available at [www.doctor-hill.com](http://www.doctor-hill.com)). The AcrySof Toric calculator will then determine the correct axis for the IOL's placement. The data may be printed out and taken into the OR, where the sheet should be placed so as to be visible during the procedure. I recommend orienting the printout upside down or sideways to mimic the surgeon's view in order to prevent confusion during the IOL's implantation.

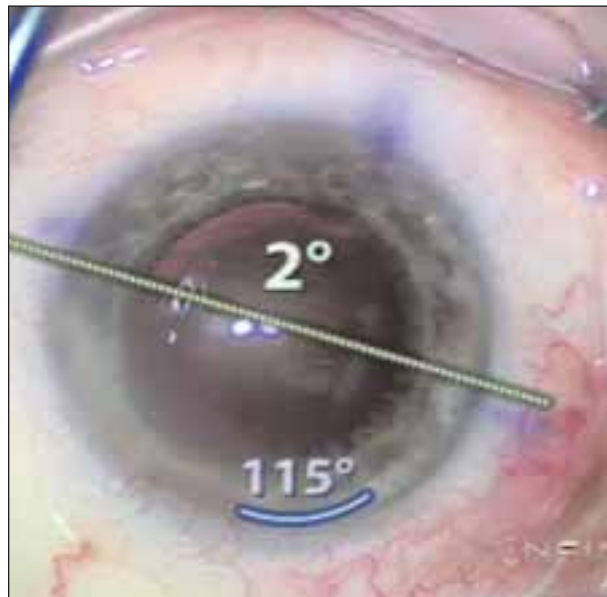
### Corneal Markings

Just before surgery, with the patient upright, I mark the horizontal and vertical meridians with a marking pen. After the preparation, I mark the intended axis for the IOL's orientation and the phaco incision. I find the Mastel Toric Marker System (Mastel Precision Instruments, Rapid City, SD) (Figure 3) works well, as it ensures marking the axis through the corneal center by centering the marker's central ring in the microscope light reflex (Figure 4).

### Phacoemulsification

Cataract surgery is routine except that the phaco incision must be made on the axis, which was decided upon and marked preoperatively. After removing the nucleus and cortex, I fill the capsular bag with viscoelastic and insert the IOL. With the bag still full of viscoelastic, I rotate the lense until it is 5° or 10° counterclockwise shy of the final desired axis of orientation. I then remove the

(Courtesy of Douglas Mastel)



**Figure 4.** Marks of the reference axis, incisional axis, and axis for the toric IOL's orientation.

viscoelastic from the eye while holding the IOL in position with the second instrument so that the lens does not rotate away from the desired axis.

After the viscoelastic's removal, the IOL's final orientation is achieved. I find the silicone-tipped I/A instrument a helpful tool for performing the final rotation without scratching the IOL. I can place the instrument directly on the IOL's optic in the midperiphery with the aspiration port directed posteriorly. When I initiate aspiration, I make sure that the silicone tip will suction onto the optic, which will allow for easy rotation of the IOL to the intended axis. This technique was taught to me by one of my partners, Joshua Sands, MD. Once the single-piece IOL is oriented properly, it is unlikely to rotate off axis postoperatively due to its sticky nature.

### CONCLUSION

Those of us who have been reluctant to adopt new techniques should find comfort in the high degree of success with the AcrySof Toric IOL. Although a few additional steps are needed, the excellent visual outcomes provided by these lenses make them a perfect first step into the realm of refractive IOLs. ■

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1. Lane SS. The AcrySof Toric IOL's FDA clinical trial results. *Cataract & Refractive Surgery Today*. May 2006;6(5): 66-68.