

THE DOCTOR-PATIENT RELATIONSHIP, THE KEYSTONE OF MEDICAL CARE, AND THE FOUNDATION OF PREDICTABLE OUTCOMES IN CATARACT SURGERIES

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The past 3 decades have seen rapid developments in cataract surgery. The procedure has gone from the simple removal of an opacified natural lens to one that can provide spectacle independence and aims to restore, if not improve, overall visual outcomes.



The advances in the procedure coincide with breakthroughs in technology wherein surgeons have a wide array of instruments and devices that aid in providing better surgical outcomes, and in which patients have access to health trends at the tips of their fingers. However, amidst all of these improvements, the doctor-patient relationship has remained constant as the foundation of care.^{1,2}

The relationship between the doctor and patient is a vital element of medicine. Although patients are more involved in their health and wellness decisions, they still consent to their surgeries with the utmost trust that their surgeons will perform the procedure safely and efficiently while delivering the desired outcomes.

In cataract surgery, the intraocular lens (IOL) is the only device which remains in the patient's eye. Accordingly, the importance of implanting the IOL

with the correct power (i.e., sphere and/or cylinder) in its precise position (i.e., axis in some cases) is essential to the success of the procedure and to the preservation of the trust inherent to the doctor-patient relationship.²

Let's use patients with astigmatism as an example. These patients wish to be less dependent on spectacles

after surgery. Accordingly, I use the ORA SYSTEM Technology (Alcon) intraoperative wavefront aberrometer, which provides real-time information on IOL spherical and cylinder power calculations through aphakic measurements and axis orientation through pseudophakic measurements.^{3,4} More importantly, during the aphakic

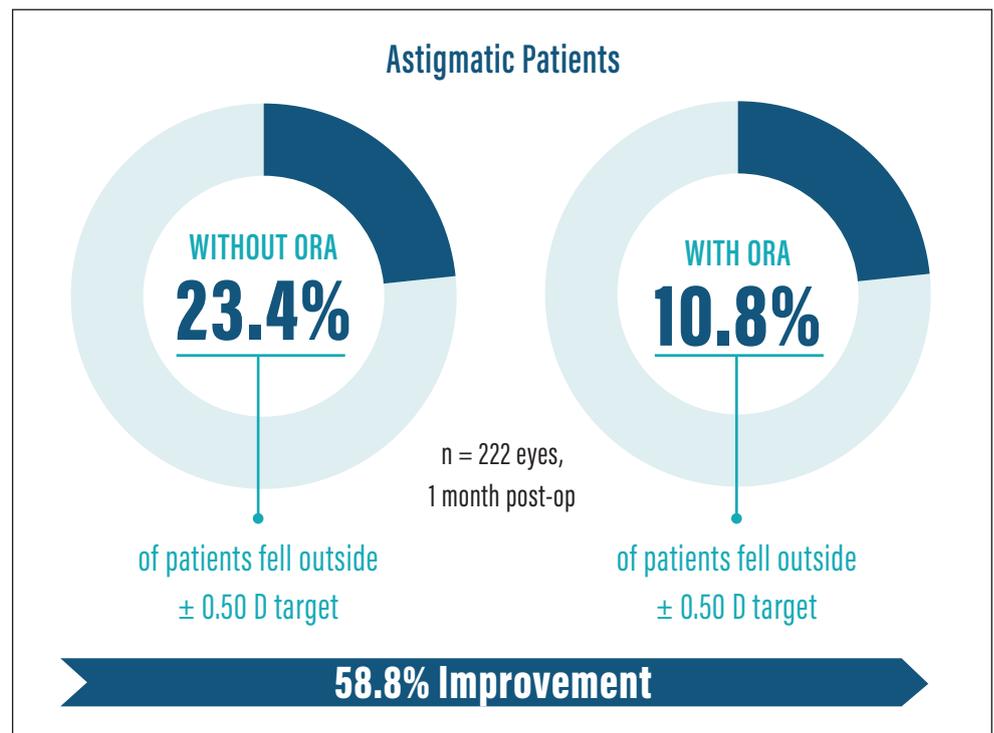


Figure 1. The ORA System Technology empowers the surgeon to achieve predictable postoperative refractive outcomes that are unique to each patient's visual needs.



phase, the ORA SYSTEM is able to measure the total refractive astigmatism, which accounts for both anterior and posterior curvatures of the cornea. Given that the cornea contributes 66% of the eye's refractive power,⁵ this measurement is very important in eyes that have been planned for toric IOL implantation, as well as eyes that have a history of keratorefractive procedures.^{6,7} One could suggest that newer biometers and IOL calculation formulas may obviate the need for intraoperative aberrometry, however even if the most advanced biometer and the latest generation IOL calculation formulas are used to preoperatively determine the IOL power (sphere and cylinder), the lens power that is derived remains an estimate (due to these formulas making assumptions based on population averages) that can only be validated during or after surgery.

In a prospective, randomized, observer-masked, contralateral eye comparison study, the percentage of

eyes with astigmatism of ≤ 0.50 D at the 1-month follow-up was higher in the intraoperative aberrometry group compared to the control group in which eyes were implanted with IOLs based on standard preoperative methods alone (89.2% vs 76.6%; $P = .006$; $n = 222$ eyes). Furthermore, the mean postoperative refractive astigmatism was lower in the intraoperative aberrometry group compared to control group (0.29 ± 0.28 D vs 0.36 ± 0.35 D; $P = .041$).⁸

I have relied on the ORA SYSTEM to validate data used in preoperative IOL calculations through intraoperative, real-time, aphakic measurements. Furthermore, I have learned to depend on the ORA SYSTEM to verify both the spherical and cylindrical power of the toric IOL that I need to implant in each of my patients' eyes. In the final analysis, the ORA SYSTEM empowers me to achieve predictable postoperative refractive outcomes that are unique to each of my patients' visual needs

and allow me to maintain valuable doctor-patient relationships.² ■

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ORA™ SYSTEM WITH VERIFEYE™+ TECHNOLOGY IMPORTANT PRODUCT INFORMATION

INTENDED USE:

The ORA SYSTEM™ Technology is designed to be used during ophthalmic surgery. Wavefront data is obtained, analyzed, and presented to the user via a cart mounted LCD touchscreen, within a period that does not impede the surgical procedure

The ORA SYSTEM™ Technology is intended for use in the measurement and analysis of the refractive power of the eye (i.e. sphere, cylinder, and axis measurements).

The safety and effectiveness of using the data from the ORA SYSTEM™ Technology have not been established for determining treatments involving

higher order aberrations of the eye such as coma and spherical aberrations.

U.S. Federal law restricts this device to sale by or on the order of a physician or ophthalmologist.

CAUTIONS:

It will be difficult to obtain accurate, consistent, and reliable measurements if any of the following conditions or situations exists:

Patients having progressive retinal pathology such as diabetic retinopathy, macular degeneration, or any other pathology that the physician deems would interfere with patient fixation.

Patients having corneal pathology such as Fuchs', EBMD, keratoconus, advanced pterygium impairing the cornea, or any other pathology that the physician

deems would interfere with the measurement process.

Patient's for which the preoperative regimen includes residual viscous substances left on the corneal surface such as lidocaine gel or viscoelastics.

Visually significant media opacity, such as prominent floaters or asteroid hyalosis, will limit or prohibit measurement process. Image quality indicator will indicate when this is an issue.

Patients having received retro or peribulbar block, or any other treatment that impairs their ability to visualize the fixation light.

Utilization of Iris hooks during an ORA SYSTEM™ Technology image capture will yield inaccurate measurements.