Setting Up Today’s Cataract & Refractive Surgeons for Success

By Thomas Harvey, MD

Optical biometry has long been a staple in the planning and follow-up of cataract and refractive surgeries, and like all technologies in healthcare today, biometers continue to evolve. While we may once have expected the biometer to simply provide information on axial length, keratometry, and anterior chamber depth to calculate for intraocular lens (IOL) powers, today’s systems go well beyond these basics. For example, the Aladdin HW 3.0 Optical Biometer and Corneal Topographer (Topcon Healthcare; Tokyo, Japan) provides nine different parameter calculations in one device, and it does so on an instrument that is easy to use and has a conveniently small footprint.

For cataract and refractive practices with increasing surgical volumes looking to maximize workflow efficiency, or to add greater functionality and additional IOL calculation formulas, a new biometer featuring advanced technology such as state-of-the-art corneal topography and dynamic pupillometry can help to bring the practice to the next level. My practice has seen firsthand the benefits such a device can yield since we added the Aladdin a year ago.

Supporting the Practice with the Right Technology

While most biometers are moving to a component model in this day and age, the Aladdin continues to be an entirely mobile, multi-modal device. The device offers a touch screen experience and software integration that eliminates the need for a keyboard and mouse.

The efficiency of the Aladdin HW 3.0 for potential IOL upgrades to premium IOLs is one of its greatest advantages. Within seconds, I know exactly what is needed for the patient to achieve his or her visual goals. This is dictated into my EMR notes, including the exact model, power, and orientation of the lens. Even with post-corneal refractive surgery, the time savings are monumental.— Thomas Harvey, MD

Aladdin Optical Biometer and Corneal Topographer: At A Glance

The Aladdin HW 3.0 Optical Biometer and Corneal Topographer provides low coherence interferometry biometric readings for axial length, central corneal thickness, anterior chamber depth and crystalline lens thickness. Placido-ring topography provides anterior corneal curvature, shape and wavefront (Zernike) analysis. In addition, white-to-white and dynamic pupillometry are also offered. The device performs all relevant measurements to assist in IOL calculation and surgical planning, with different IOL calculation formulas, including the Barrett Suite, the Olsen formula, as well as other formulas for post-refractive surgery and toric IOL power calculations.

Helping Cataract & Refractive Procedures to “Shine”

We use the Aladdin HW 3.0 for all anterior segment surgery applications. Our refractive surgeons love Placido topography, and this device provides top-shelf images with no extra time investment. Of course, cataract surgery is our number one procedure, and Aladdin shines with its biometry capacity. The software is a great tool to help me educate patients on astigmatism and its potential impact on uncorrected acuity.
The patient had to come back to be remeasured. The patient left the building, meaning if there was an error prone to transcription errors, but it had to be done after powers. Not only was this process labor-intensive and printout, to enter into online calculators to select our IOL using autorefractor/keratometer data and a topographic tion from the standard contact or immersion biometer.

It literally takes seconds compared to more than 15 minutes per patient previously. This allows the entire team to be more efficient in sending orders and avoiding unnecessary callbacks and billing errors.

This device has been an “upgrade machine” in my practice: when the onboard topography plus Barrett Toric Calculator says 2 diopters of toricity correction is needed, I can educate the patient on the spot, so immediate value is realized and the ability to upgrade to a premium IOL increases so that the patient receives the best option for uncorrected visual correction postoperatively. The dynamic pupillometry data assists me in ruling-out patients that might not be good candidates for multifocal IOLs, helping to avoid patient dissatisfaction after the surgery.

Reaping Practice Benefits
The efficiency of the Aladdin HW 3.0 for potential upgrade patients is one of its greatest advantages. Within seconds, I know exactly what is needed for the cataract patient to achieve his or her visual goals. This is dictated into my EMR notes, including the exact model, power, and orientation of the lens. Even with post-corneal refractive surgery, the time savings are monumental.

Other benefits of the device include reducing the time to upgrade a basic IOL implant and calculate for a premium IOL option to less than one minute, and generating fewer transcription errors since all of the information is housed in the software. Our enhancement and explanta-

tion rate for premium IOL implants is less than 1% due to the accuracy of the device.

We also use the Aladdin for some refractive procedures, including laser vision correction, phakic IOLs, and refractive lens exchanges. It has excellent keratoconus detection software, which can help with potential ectasia patients. The automatic photopic and mesopic pupil information is valuable in both refractive and premium IOL surgeries.

Accelerating Toric and Multifocal IOL Calculation
I still remember the days when we would take information from the standard contact or immersion biomter using autorefractor/keratometer data and a topographic printout, to enter into online calculators to select our IOL powers. Not only was this process labor-intensive and prone to transcription errors, but it had to be done after the patient left the building, meaning if there was an error the patient had to come back to be remeasured.

With the Aladdin HW 3.0, I now have all upgraded implants calculated by the time the patient sees the sched-

uler. It literally takes seconds compared to more than 15 minutes per patient previously. This allows the entire team to be more efficient in sending orders and avoiding unnecessary callbacks and billing errors.

I have found the device to be on par with popular swept-source biometers in the US in terms of reproduc-
ibility for basic IOL implantation as well as premium IOLs. There are so many good biometers today, but I cannot understand why anyone would pay twice as much for an-
other machine that is more time-consuming, offers fewer features, and takes up the entire corner of a room.

We chose the Topcon Aladdin HW 3.0 for its total pack-
age of portability, performance, and price. It is the one irreplaceable device for our cataract and refractive surgery patients.

Thomas Harvey, MD, is a fellowship-trained eye surgeon, specializing in surgical vision correction and medical ophthalmology, and owner of Independent Vision Group, based in Eau Claire, Wis.