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AutoSert IOL Delivery System Enhances Surgical Control

Foot-controlled injector handpiece delivers the lens in a smooth, consistent, and accurate manner.

BY ROBERT LEHMANN, MD

This article continues a series that explores advanced cataract techniques and technologies. Here, Robert Lehmann, MD, of the Lehmann Eye Center in Nacogdoches, Texas, discusses why an automated, single-hand injector is beneficial for maintaining astigmatically neutral microincisions. To watch videos of the cases described herein, visit Eyetube.net and type the keyword "Intrepid" in the search bar.

The INTREPID AutoSert IOL Injector handpiece (Figure 1; Alcon Laboratories, Inc.) is an automated IOL delivery system controlled via the INFINITI Vision System footswitch, and is designed for automated delivery of the AcrySof IQ family of lenses (Alcon Laboratories, Inc.). The settings on the device are customizable and easily programmable, which provides a high level of surgeon control. Importantly, the AutoSert IOL injector delivers the implant in an incredibly smooth and accurate manner directly to the intended target. This reduces the potential for inaccurate IOL placement and reduces any additional manipulation of the IOL once it is inside the capsular bag.

INCREASED CONTROL

The ability to control the speed and accuracy of IOL delivery during cataract surgery has improved my IOL implantation technique. Prior to owning AutoSert, my preferred device for delivering an AcrySof IQ IOL has always been the Monarch III injector (Alcon Laboratories, Inc.). Its use, however, requires two-handed operation, while I would prefer a single-handed technique. When using the Monarch injector, I use one hand to stabilize the tip and my second hand to rotate the screw to advance the plunger (or I ask an assistant to perform this step).

As I have moved to smaller incisions, I have tried several "manual" single-handed insertion devices in order to attain that desired free hand. Personally, I have found them to be unsatisfactory and not an upgrade over two-handed delivery devices. My experience with the INTREPID AutoSert IOL Injector, however, has been much different. With the AutoSert handpiece, I can now control the speed precisely with my predetermined settings, freeing my second hand to help stabilize the globe during IOL delivery (Figure 2).

MICRO-COAXIAL INCISION COMPATIBILITY

Control and safety are especially important when attempting to perform microincisional cataract surgery. If I were using a 3.0-mm incision during my cataract surgeries, I could easily get the tip of the cartridge through the incision and directly to the location of desired delivery. In that scenario, the patient's cooperation in looking directly at the tip of the injector would be less of an absolute requirement. My current technique, however, is to use a much smaller incision size. I currently use a microincision

Figure 1. The AutoSert handpiece.

For important safety information about these products, please see pages 3-4

whenever possible to reduce the potential for postoperative residual astigmatism. The refractive results my patients demand are not possible without making every effort to minimize postoperative residual astigmatism.

This smaller incision size preferred by many surgeons, including myself, for modern cataract surgery requires an IOL delivery mechanism that minimizes the impact on the incision. AutoSert allows me to control the eye position with one hand so it does not require a level of patient participation. I have measured my incisions after using AutoSert with internal calipers and find them to be enlarged or expanded by zero to 0.5 mm. I believe this is because there is little-to-zero vertical expansion of the incision, and as a result, the AutoSert delivery system is, in my experience, astigmatically neutral. Knowing that the eye position is controlled and the IOL delivery is closely monitored with good centration of the globe during implantation increases both patient and surgeon comfort level at that critical point in surgery. The smooth fluid movement of the implant into the capsular bag provides a level of precise and controlled delivery that I have never before experienced (Figure 3).

> "This smaller incision size ... for modern cataract surgery requires an IOL delivery mechanism that minimizes the impact on the incision."

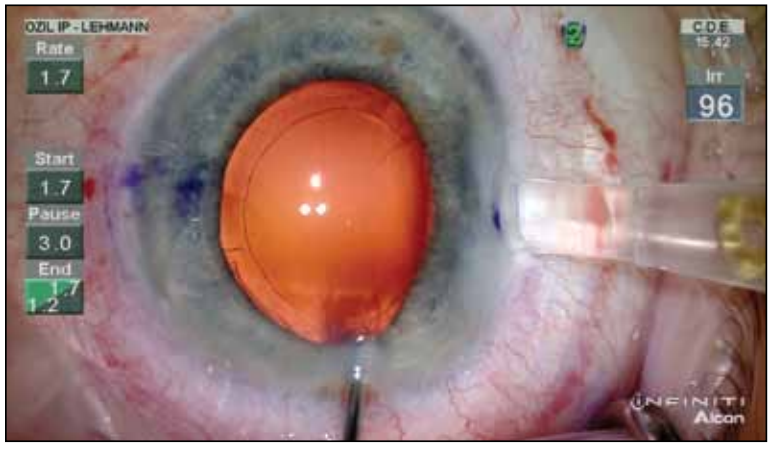

Figure 2. A second instrument is used to stabilize the globe while preparing to insert the IOL through a small incision.

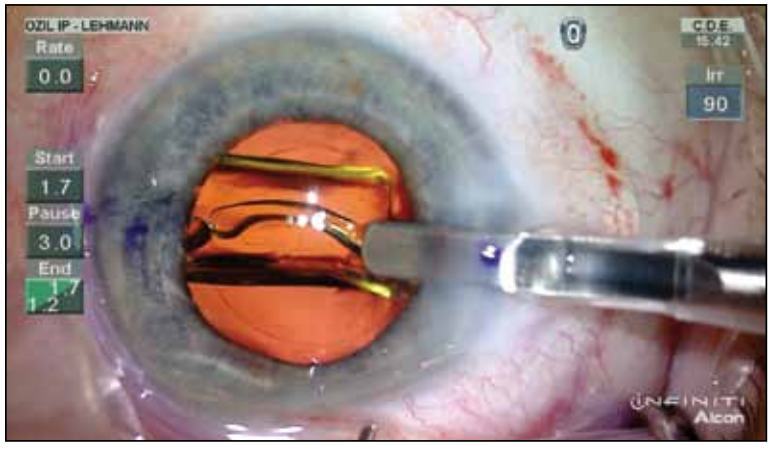

Figure 3. The AutoSert plunger is used to dial the IOL into the desired position.

CONCLUSION

I have been using the AutoSert injector for a number of months and have implanted over 1,000 AcrySof IOLs using the device. I find it very comfortable to use, and I believe it improves both the patient's experience and my own surgical comfort. It offers consistently smooth and accurate delivery of AcrySof IQ IOLs in an easy-to-use platform that is fully adjustable and customizable. The AutoSert perfectly compliments the full system of INTREPID Micro-Coaxial surgical products by Alcon. It helps the surgeon perform minimally invasive micro-incisional cataract surgery by offering a high level of control. ■

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INFINITI® Vision System
Important Safety Information
CAUTION: Federal law restricts this device to sale by, or on the order of, a physician.
As part of a properly maintained surgical environment, it is recommended that a backup IOL Injector be made available in the event the AutoSert® IOL Injector Handpiece does not perform as expected.

INDICATION: The INFINITI® Vision System is indicated for emulsification, separation,
and removal of cataracts, the removal of residual cortical material and lens epithelial cells, vitreous aspiration and cutting associated with anterior vitrectomy, bipolar coagulation, and intra-ocular lens injection. The INTREPID® AutoSert® IOL Injector Handpiece is intended to deliver qualified AcrySof® intraocular lenses into the eye following cataract removal.

The following system modalities additionally support the described indications:

- Ultrasound with UltraChopper® Tip achieves the functionality of cataract separation.
- AquaLase® Liquefracture Device achieves the functionality for removal of residual cortical material and lens epithelial cells.
- The INTREPID® AutoSert® IOL Injector Handpiece achieves the functionality of injection of intraocular lenses. The INTREPID® AutoSert® IOL Injector Handpiece is indicated for use with AcrySof® lenses SN60WF, SN6AD1, SN6AT3 through SN6AT9, as well as approved AcrySof® lenses that are specifically indicated for use with this inserter, as indicated in the approved labeling of those lenses.

WARNINGS: Appropriate use of INFINITI® Vision System parameters and accessories is important for successful procedures. Use of low vacuum limits, low flow rates, low bottle heights, high power settings, extended power usage, power usage during occlusion conditions (beeping tones), failure to sufficiently aspirate viscoelastic prior to using power, excessively tight incisions, and combinations of the above actions may result in significant temperature increases at incision site and inside the eye, and lead to severe thermal eye tissue damage.
Adjusting aspiration rates or vacuum limits above the preset values, or lowering the IV pole below the preset values, may cause chamber shallowing or collapse which may result in patient injury.
When filling handpiece test chamber, if stream of fluid is weak or absent, good fluidics response will be jeopardized. Good clinical practice dictates the testing for adequate irrigation and aspiration flow prior to entering the eye.
Ensure that tubings are not occluded or pinched during any phase of operation.
The consumables used in conjunction with ALCON® instrument products constitute a complete surgical system. Use of consumables and handpieces other than those manufactured by Alcon may affect system performance and create potential hazards.

AEs/COMPLICATIONS: Use of the NeoSoniX®, OZil® torsional, U/S, or AquaLase® handpieces in the absence of irrigation flow and/or in the presence of reduced or lost aspiration flow can cause excessive heating and potential thermal injury to adjacent eye tissues.

ATTENTION: Refer to the directions for use for a complete listing of indications, warnings and precautions.

MONARCH® II/III IOL DELIVERY SYSTEM
PHYSICIANS BRIEF STATEMENT
January 5, 2012

CAUTION: Federal (USA) law restricts this device to the sale by or on the order of a physician.

INDICATIONS: MONARCH® II and III are titanium handpieces that are indicated for use with corresponding MONARCH® cartridges for the surgical implantation of Alcon foldable intraocular lenses (IOLs). AcrySof® IOLs are qualified for use with specific MONARCH® handpiece/cartridge combinations. No unqualified lenses should be used with the MONARCH® II or III IOL Delivery Systems.
The MONARCH® II and III cartridges are single-use devices. The MONARCH® II and III handpieces may be reused after sterilization.

CAUTIONS: Consult the cartridge product information for the correct MONARCH® handpiece/cartridge combination to use with a specific AcrySof® lens model.
Only use an Alcon qualified viscoelastic for use with the Monarch® cartridges.
The MONARCH® II and III handpieces are non-sterile and must be thoroughly cleaned and sterilized prior to each use.
Improper cleaning and rinsing of the handpieces has been linked to Toxic Anterior Segment Syndrome.
Potential risks from reuse or reprocessing the MONARCH® cartridges include a damaged cartridge, a damaged lens, or an unexpected delivery outcome.
If in the medical opinion of the physician a patient with a prion related disease undergoes a high risk procedure, the instrument should be destroyed or be processed according to local requirements.

ATTENTION: Reference the Directions for Use labeling for a complete listing of indications and precautions.

AcrySof® IQ ReSTOR®
Important Safety Information
CAUTION: Federal Law restricts this device to sale by or on the order of a physician.

INDICATIONS: The AcrySof® IQ ReSTOR© Apodized Diffractive Optic Posterior Chamber Intraocular Lens (IOL) is intended for primary implantation for the visual correction of aphakia secondary to cataractous lens in adult patients with and without presbyopia, who desire near, intermediate and distance vision with increased spectacle independence. This lens is intended to be place in the capsular bag.

WARNINGS: Careful preoperative evaluation and sound clinical judgment should be used by the surgeon to decide the risk/benefit ration before implanting a lens in a patient with any of the conditions described in the Directions for Use Labeling. Some adverse reactions that have been association with the implantation of intraocular lenses are: hypopyon, intraocular infection, acute corneal decompensation, macular edema, papillary block, retinal detachment, and secondary surgical intervention (including but not limited to repositioning, biometry error, visual disturbances or patient dissatisfaction). As a result of the multifocality, some visual effects (halos or radial lines around point sources of light at night) may also be expected due to the superposition of focused and unfocused multiple images. A reduction in contrast sensitivity may also be experienced by some patients especially in low lighting conditions such as driving at night. In order to achieve optimal visual performance with this lens, emmetropia must be targeted. Patients with significant preoperative or expected postoperative astigmatism > 1.0 D may not achieve optimal visual outcomes. Care should be taken to achieve IOL centration, as lens decentration may resuly in a patient experiencing visual disturbances under certain lighting conditions.

PRECAUTIONS: Do not resterilize. Do not store over 45°C. Use only sterile irrigating solutions such as BSS® or BSS PLUS® Sterile Intraocular Irrigating Solution. Clinical studies with AcrySof® ReSTOR® IOL indicated that posterior capsule opacification (PCO), when present, developed earlier into clinically significant PCO. Studies have shown that color vision discrimination is not adversely affected in individuals with the AcrySof® Natural IOL and normal color vision. The effect on vision of the AcrySof® Natural IOL in subjects with hereditary color vision defects and acquired color vision defects secondary to ocular disease (e.g. glaucoma, diabetic retinopathy, chronic uveitis, and other retinal or optical nerve diseases) has not been studied. The long-term effects of filtering blue light and the clinical efficacy of that filtering on the retina have not been conclusively established.

ATTENTION: Reference the Physician Labeling/Directions for Use for a complete listing of indications, warnings, and precautions.