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MANAGING COMPLEX CATARACT CASES

The INTREPID Transformer I/A Handpiece brings flexibility, agility, and versatility to the OR, along with the safety of a polymer tip.

BY BRANDON D. AYRES, MD



For all of my career, I have preferred operating bimanually. Many of my patients are referred to me for complex cataract surgery, and the bimanual technique affords me the control I need for these challenging cases.

In many cases, I begin operating bimanually and then switch to a coaxial irrigator/aspirator (I/A) to complete the surgery. With traditional instrumentation, switching from bimanual to coaxial and vice versa involves several extra steps in the OR, which has a negative impact on our efficiency.

When I first heard about the INTREPID Transformer I/A Handpiece (Alcon), which converts from coaxial to bimanual mode, I was interested but somewhat skeptical. Over the years, I have seen other “new and improved” instrumentation that was interesting but not necessarily better than what it was designed to replace.

Having used the Transformer I/A Handpiece for about a year for a wide range of complicated cases,

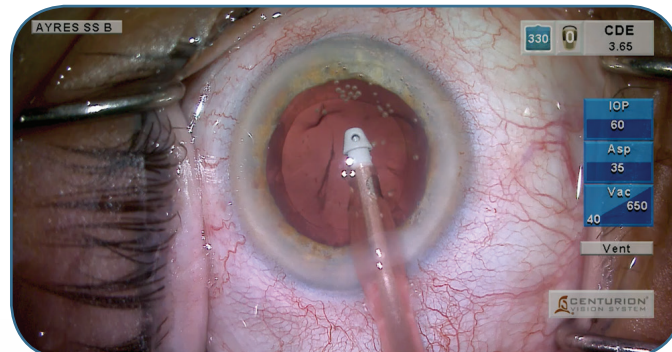


Figure 1. The Transformer I/A Handpiece has a smooth and capsular-friendly polymer tip.

I can say that it is the first new I/A handpiece that truly reflects a rethinking of this device, enabling me to quickly switch modes as needed during a single procedure, while still taking advantage of the smooth, capsular-friendly polymer tip (Figure 1). In my experience, this handpiece is safe and provides increased efficiency and is particularly advantageous when a case takes an unexpected turn.

Surgical videos: eyetube.net/video/HLEN • eyetube.net/video/VFGEP • eyetube.net/video/DTWEK • eyetube.net/video/MGTAD



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Fast Response for Unexpected Complications

When you know a case will be complicated, you prepare for it, but when a routine case becomes complicated and you are using a traditional coaxial I/A, stress builds and surgery is delayed as you and your team scramble to respond with the appropriate instrumentation.

The real beauty of the Transformer I/A Handpiece is that you have the best of both worlds in your hand. If your surgery goes as expected, you may never have to switch from coaxial to bimanual, but when a complication arises that requires a bimanual approach, you simply twist and pull to separate the handpiece (Figure 2). Once the complex portion of the surgery has been completed, you just snap the handpiece together again and proceed in coaxial mode. With the Transformer I/A Handpiece, you have everything you need right at your fingertips, whether you knew you needed it or not.



Figure 2. Brandon D. Ayres, MD, separates the Transformer I/A Handpiece to use in bimanual mode.

What follows are some of the situations where I particularly appreciate the versatility of the Transformer I/A Handpiece.

Cortical Cleanup

The most challenging part of cortical cleanup is removing subincisional cortex, and when a lens is already loose, it is even more difficult. Using the Transformer I/A Handpiece in bimanual mode, I no longer have to struggle with cortical cleanup.

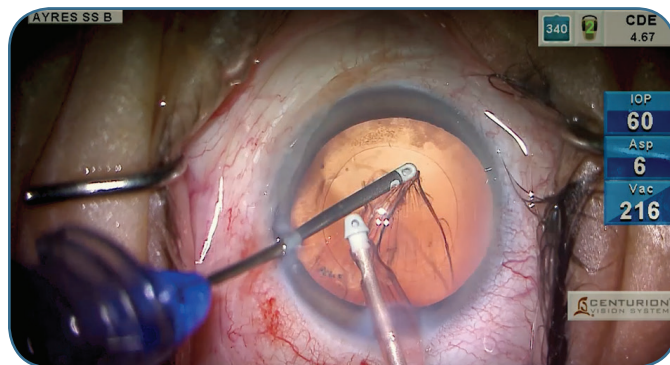


Figure 3. Brandon D. Ayres, MD, uses the Transformer I/A Handpiece in bimanual mode to remove subincisional cortex.

When zonular dehiscence is present and the cataract is mobile in the eye, I feel a bimanual I/A has tremendous advantages over a coaxial I/A. I can use the irrigation port to help stabilize the capsular bag, and I have more control and gentler control when stripping the cortex. In my experience, it is easier to use tangential stripping in this cases.

The Transformer I/A Handpiece really shines during femtosecond laser-assisted cataract surgery. The laser tends to cleave the anterior cortex while creating the capsulotomy, making it more challenging to initiate cortical cleanup. Using the bimanual mode, I have additional control to gently move the aspiration port, which simplifies cortical cleanup (Figure 3).

Traumatic Cataract

With traumatic cataract, you never know what you are going to get. Your view may be reduced because of blood in the eye, and the support system may have been damaged. In addition, traumatic cataracts tend to be more brittle.

I always use a bimanual I/A for traumatic cataract surgery, again, because I can be gentler in the eye and have more control. With the Transformer I/A Handpiece, I can quickly switch from bimanual to coaxial, depending on what I encounter during surgery.

Small Pupils

The challenge with small pupils is that you



can lose your view, and it becomes more difficult to see cortex. What I appreciate about the Transformer I/A Handpiece is that if the pupil is coming down, I can use the irrigation line to push the iris to one side while I aspirate with the other hand. Instead of needing flexible iris retractors or Malyugin rings in questionably small pupils, I can use the Transformer I/A Handpiece in bimanual mode to help manipulate the pupil.

Implanting a toric IOL in an astigmatic eye with a small pupil can be challenging, as we must be able to see under the pupil while aligning the IOL. This is a real problem in small pupils, because we cannot use pupil expanders when positioning an IOL. When I use the Transformer I/A Handpiece in bimanual mode, I can move the iris and position the lens with the second hand, making sure the IOL is aligned with the steep axis of the astigmatism.

Postoperative Cases

In vitrectomized eyes, we see increased incidence of zonular dehiscence and unstable lenses. They also tend to develop very deep anterior chambers. When the front of the eye is inflated, the cataract dips deep inside, almost out of view. Using a coaxial I/A can be difficult in these cases, because you are diving that device deep into the eye. Being able to convert the Transformer I/A Handpiece to a bimanual I/A makes that surgical approach much easier (Figure 4).

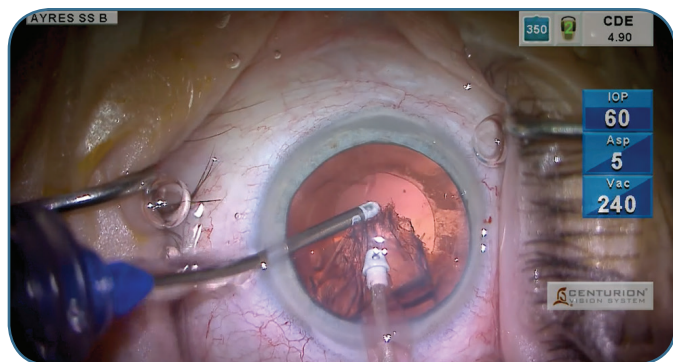


Figure 4. Brandon D. Ayres, MD, uses the Transformer I/A Handpiece in bimanual mode in a vitrectomized eye.

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Patients with deep chambers, including high myopes and people who have had vitrectomy, may develop reverse pupillary block, where the fluid being infused into the front of the eye catches the pupil on the capsular bag and deepens the anterior chamber. Alleviating reverse pupillary block involves placing an instrument under the iris and lifting it up, which normalizes the fluid exchange and stabilizes the eye. If you are using a coaxial I/A, you have only one instrument in the eye, making it more difficult to lift the iris and aspirate the cortex at the same time. With the Transformer I/A Handpiece in bimanual mode, I can complete these maneuvers simultaneously, stabilizing the fluid entering the eye.

The common theme with all of these cases, including glaucoma surgeries, is that patients often have zonular instability or shallow or unstable chambers. The answer is the same for all of them: control. When you use bimanual technique, you have more precise control and struggle less.

Efficient and Safe

The fewer steps required in our surgeries, the more efficient we are, and the more we can accomplish during our day. Even if you know in advance that you will operate bimanually for a portion of a surgery and then switch to coaxial to complete it, you must have a bimanual pack and a coaxial I/A open and on the field if you are using standard instrumentation. At some point, you will have to remove one I/A and replace it with another I/A. Although these steps may take only 45 seconds or a minute, when your cataract surgeries usually take 10 minutes, 10% of your time has been spent changing instruments.

Whether you know you will need a bimanual I/A or not, when you use the Transformer I/A Handpiece you already have it—all it takes is a twist of your wrist and you are ready to go.

A safety feature that I appreciate on the Transformer I/A Handpiece is the polymer tip. Unlike the metal tips of reusable I/As, which get



bent, dinged, and rusty over time, the polymer tip of the Transformer I/A Handpiece is smooth and capsule-friendly, enabling me to polish the capsule without worrying that the instrument may do any damage.

Conclusion

The INTREPID Transformer I/A Handpiece is the first truly new and different I/A device that we have had in a long time. I think both coaxial and bimanual surgeons will look at the Transformer I/A Handpiece

as an all-in-one instrument. For most cases, I believe this is the only I/A device you will ever need. ■

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CENTURION® Vision System

CAUTION: Federal (USA) 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 CENTURION® Vision system is indicated for emulsification, separation, irrigation, and aspiration of cataracts, residual cortical material and lens epithelial cells, vitreous aspiration and cutting associated with anterior vitrectomy, bipolar coagulation, and intraocular lens injection. The AutoSert® IOL Injector Handpiece is intended to deliver qualified AcrySof® intraocular lenses into the eye following cataract removal.

The AutoSert® IOL Injector Handpiece achieves the functionality of injection of intraocular lenses. The AutoSert® IOL Injector Handpiece is indicated for use with the AcrySof® lenses SN6OWF, 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 CENTURION® 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.

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: Inadvertent actuation of Prime or Tune while a handpiece is in the eye can create a hazardous condition that may result in patient injury. During any ultrasonic procedure, metal particles may result from inadvertent touching of the ultrasonic tip with a second instrument. Another potential source of metal particles resulting from any ultrasonic handpiece may be the result of ultrasonic energy causing micro abrasion of the ultrasonic tip.

ATTENTION: Refer to the Directions for Use and Operator’s Manual for a complete listing of indications, warnings, cautions and notes.