

Single-handed Automated Injector

This instrument provides surgeons with precise control when inserting an IOL.

BY DONALD N. SERAFANO, MD

The Intrepid AutoSert IOL Injector (Alcon Laboratories, Inc.) is a motor-assisted, automated injector that attaches to Alcon's Infiniti Vision System (Figure). The surgeon controls the injector's operation via surgeon-selected parameters and the phaco system's foot pedal. I have found the device to be ideal for implanting IOLs, especially through microincisions. Alcon's aspheric IOLs are validated for the AutoSert and include the AcrySof IQ monofocal IOL (model SN60WF), the AcrySof IQ toric IOL (model SN6AT), and the AcrySof IQ Restor IOL (model SA60D1). I use this device for all cases in which I am implanting one of these IOLs that can be inserted using a D cartridge.

CONTROLLED DELIVERY OF THE IOL

Most injectors available today are manual and require two hands—one hand to position the injector and the other hand to move the steel screw-type mechanism that advances the IOL. In my view, the primary advantage of the AutoSert IOL Injector is that it frees up my second hand to stabilize the eye during the IOL's insertion. The other one-handed IOL injectors currently available are manual and require the surgeon to place pressure with his or her thumb on a syringe plunger to advance the IOL. The pressure that is required can cause the IOL to enter the eye with too much force and velocity, which can damage the internal structures of the eye such as the capsular bag or iris.

In my experience, the AutoSert Injector allows for a more controlled delivery of the IOL. The initial velocity advances the IOL in the cartridge to a "ready-to-insert" position. During the pause phase, which occurs just before the IOL leaves the cartridge, the lens is compressed, and I can assess if the eye is ready for the IOL to be inserted. The final velocity phase advances the IOL into the capsular bag.

The hallmark feature of this injector is that the foot pedal controls the plunger. The initial velocity is fixed, and the pause should be at least 1 second. The final velocity can be



Figure. The AutoSert handpiece.

linear, which allows me to control the speed at which the plunger advances the IOL. Because my final velocity is linear from 1.2 to 3.5 mm/sec, if I want to slow down the plunger, I ease up on the foot pedal. If I want greater speed, I press the foot pedal farther down. My normal method is to begin with a higher velocity and, as the IOL approaches the capsular bag, to ease up on the foot pedal so that the lens softly lands in the capsular bag.

LEARNING CURVE

The curve for learning how to use this device is short. The only adjustment the surgeon needs to make to his or her normal procedure is to stabilize the eye with his or her free hand. Initially, the injector's velocity can be adjusted to mimic that to which the surgeon is accustomed with a manual device. After using the device becomes routine, he or she can customize the velocities as desired.

CONCLUSION

The AutoSert IOL Injector represents an advance in IOL insertion technology because of the consistency and predictability it provides. With my free second hand, I can stabilize the position of the eye while I insert the IOL, and with this device, I can control the velocity with the foot pedal. The device's automated lens placement smoothly, consistently, and safely inserts the IOL. ■

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