OZil IP torsional ultrasound, available exclusively on the INFINITI Vision System (Alcon Laboratories, Inc., Fort Worth, TX) (Figure 1), continues to impress phaco surgeons with its versatility and thus is gaining a steady stream of converts. Surgeons note that the most recent INFINITI software upgrade (V2.05), which includes OZil Intelligent Phaco (IP), enhances the performance of OZil torsional ultrasound with all grades of cataracts.

Most cataract surgeons are familiar with the principles of OZil torsional ultrasound technology. The OZil torsional handpiece moves the phaco tip side-to-side, enabling it to shear off and emulsify nuclear fragments with each stroke and generating minimal repulsion at the tip (Figure 2). Traditional longitudinal ultrasound moves the phaco tip in a forward-and-backward, jackhammer-like motion that generates significantly more repulsion at the tip (Figure 3). Traditional technology only emulsifies fragments on the forward thrust, and it can relinquish purchase of the fragment on the backward motion. Because OZil torsional ultrasound emulsifies material on both side-to-side movements versus the one forward movement of traditional ultrasound, torsional ultrasound typically requires less total energy to fully emulsify a nucleus.1,2

**ENHANCING EFFICIENCY**

Surgeons find that the shearing action of OZil torsional ultrasound offers significant advantages over longitudinal phacoemulsification.3,4 Thanks to the lack of repulsion at the OZil phaco tip, the surgeon does not need to increase the phaco machine’s vacuum and flow rates to compensate. In fact, Cesar Espiritu, MD, director of the American Eye Center in Manila, the Philippines, said in an article published in CRSToday Europe that, “With OZil Torsional phacoemulsifi-
“The ability to complete cataract surgery faster and expend less thermal energy in the main incision were the two main reasons I switched to the OZil torsional technology.”

— Charith Fonseka, MD
surgery, particularly with dense nuclei. Dr. Kaufer does not adjust his technique between soft and hard nuclei, but instead uses the foot pedal to adjust the power settings (for this reason, he keeps all of his settings in linear mode). "A routine cataract takes me between 6 and 8 minutes to emulsify using OZil IP torsional ultrasound; very dense nuclei may take up to 10 minutes," Dr. Kaufer stated.

Bekir Sitki Aslan, MD, head of the Ophthalmology Department at MESA Hospital in Ankara, Turkey, said that the OZil IP torsional ultrasound system is effective with soft and dense cataracts. "The OZil IP technology reshapes the nuclear material and keeps it at the tip safely, without surge," he stated.

Dr. Aslan first performs viscodissection as described by Richard Mackool, MD,10 and then he extracts the fragments using a horizontal chopping technique. "Although some surgeons use straight phaco tips with soft nuclei," said Dr. Aslan, "I prefer the KEUMAN 45° beveled micro flared tip for all types and grades of cataract."

In a recent monograph, Richard Tipperman, MD, of Wills Eye Hospital in Philadelphia, said that he preferred OZil IP in challenging cases such as eyes with small pupils, loose zonules, and pseudoexfoliation. He feels that OZil IP provides enhanced efficiency. "This efficiency reduces the amount of irrigation and vacuum forces required for cataract extraction, which not only lessens the impact on endothelial cells, but also increases the stability of the anterior chamber. Greater stability in the anterior chamber in turn prevents shallowing, which is paramount when working around small pupils or floppy irides," he said.11

Michael L. Nordlund, MD, PhD, of the Cincinnati Eye Institute, also offered pearls for emulsifying dense cataracts with OZil IP torsional ultrasound. He stated that the goal is to disassemble the lens as efficiently as possible. "Because dense nuclei tend to have much less cortex than normal cataracts," he explained, "the entire anterior capsular system surrounding these lenses has less elasticity, and surgical maneuvers affect the capsular bag and zonules more directly."12