

# MEETING REPORTER

*Ophthalmic Practice* is pleased to offer the following summaries based on the Advanced Medical Optics' (AMO) Booth Presentations given at the American Society of Cataract and Refractive Surgery Annual Meeting held in Philadelphia, Pennsylvania, June 2002.

## PHACOEMULSIFICATION

### Microphaco Update

*Randall J. Olson, MD*

John A. Moran Presidential Professor of Ophthalmology, Department Chairman and Director, John A. Moran Eye Center, University of Utah School of Medicine, Salt Lake City, Utah

Dr. Olson described microphacoemulsification — cataract surgery using ultrasound through two small stab incisions — using 19- to 21-gauge technology. Wound burn is now not a problem with AMO's Sovereign system plus Whitestar technology.

About 18 months ago, the author performed his first microphaco, using a 19-gauge needle, a 4-hole chopper, and a classical horizontal chop. The patient's anterior chamber was not particularly well controlled, but the result was good and the patient was happy. When the author first used 20-gauge technology with a vertical chopper (Rhein Medical) and Whitestar technology on a very hard cataract, he had much better chamber control and very low equivalent phaco time (EPT). About a year ago, he performed the first known hard cataract extraction using a 21-gauge, 0.8 mm-diameter phaco needle (Micro Surgical Technology), and his EPT was substantially lower. The procedure involved a capsulorhexis with fine forceps (Asico) and bimanual irrigation/aspiration.

Microphaco results in a tight wound, uses only two stab incisions, and allows the surgeon to switch instruments. Separating irrigation from aspiration results in more efficient phaco. With a coaxial system, at least a third of the irrigation goes where the phaco tip does no effective

work. With microphaco, however, particles automatically go to the phaco tip. Whitestar technology eliminates risk of wound burn. An in-vitro study showed that with 100% power aspiration, temperatures never surpassed 32 degrees. A study of 10 consecutive patients found that temperatures never reached higher than 36 degrees. In 18 consecutive cataract surgery patients with hard cataracts (more than 2+), mean EPT was 1.4 seconds (range 0.3 to 5.6 seconds) and all patients were 20/25 (6/7.5) or better by 3 months.

"You don't have to chase particles. And it's chasing particles particularly with ultrasound that gets us into trouble. As long as we're never near — with our aspiration — the capsule, the iris or the cornea, we're going to get better results," Olson says. "Whitestar technology allows you to have the flexibility of totally safe wounds without concern about wound burn."

### Removing Brunescent Cataracts with Whitestar

*David F. Chang, MD*

Clinical Professor of Ophthalmology, University of California, San Francisco, California

Dr. Chang related his experience using AMO's Sovereign with Whitestar phacoemulsification system to treat over 700 patients. This system is particularly effective for patients with brunescent 4+ cataracts.

The author performs a vertical chop using a micro tip and a very sharp tip chopper, so he can impale the nucleus and then penetrate it with the chopper tip. He fragments the nucleus with manual energy, which spares a lot of phaco time and power. With cold phaco, there is less heat and energy going into the eye, so there is no risk of wound burn. The Sovereign with Whitestar system allows surgeons to lengthen the rest period in between pulses. Instead of 50% on, 50% off, they can use 25% on, 75% off. Instead of 6 pulses per second, they can use 60 pulses per second. The technology allows full power ultrasound in short, fast pulses that does not repel the lens, so there is no turbulence or chatter.

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