

Ophthalmology Times[®]

All the Clinical News in Sight

MARCH 15, 2003
www.ophtalmologytimes.com

Cataract

Under development

Bimanual microphacoemulsification: the next phase?

Technique may be another step to enhance surgical procedure for patients

Cataract Corner

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Cataract removal by means of phacoemulsification has improved over the last 35 years in small, incremental steps. The sequential introductions of capsulorhexis, foldable IOLs, clear corneal incisions, and topical anesthesia have made small improvements in the safety and efficacy of cataract surgery and as a whole have taken us one giant leap forward. Bimanual phacoemulsification is just another one of these small steps that may ultimately enhance our ability to offer the best surgical procedure to our patients.

Bimanual phaco

The idea of removing the cataractous lens through two microincisions is not a new concept and has been attempted with varying degrees of success and failure since the 1970s.¹⁻⁵ With the development of new phacoemulsification technology and power modulations,⁶ we are now able to emulsify and fragment lens material without the generation of significant thermal energy. Thus the removal of the cooling irrigation sleeve and separation of infusion and emulsification/aspiration through two separate incisions is now a viable alternative to traditional coaxial phacoemulsification. Machines such as the AMO WhiteStar, STAAR Sonic, Alcon NeoSoniX, and Dodick Nd:YAG Laser Photolysis systems offer the potential of offering relatively “cold” lens removal capabilities and the capacity for bimanual cataract surgery.⁷⁻¹⁰

A recent point/counterpoint discussion regarding bimanual phaco has exposed the potential benefits and limitations of this technique.¹¹ From a personal perspective, the transition to bimanual microincision surgery has permitted a glimpse regarding the advantages

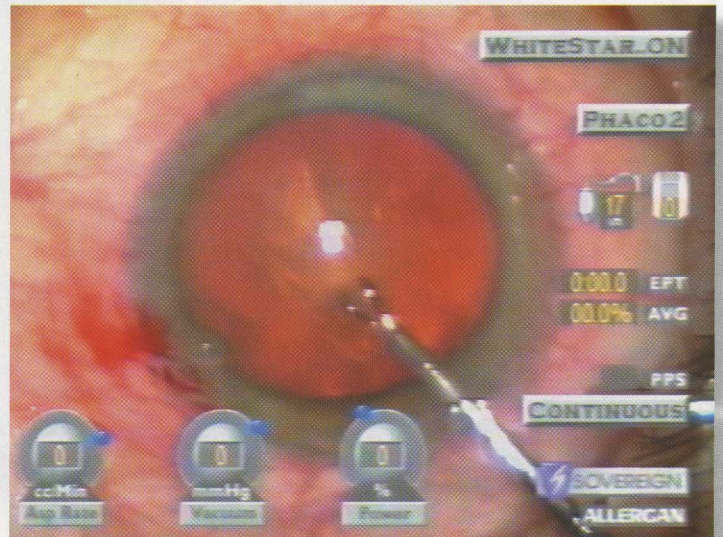


Figure 1 ASICO Capsulorhexis Forceps performing rhexis construction through the 1.2-mm clear corneal incision.

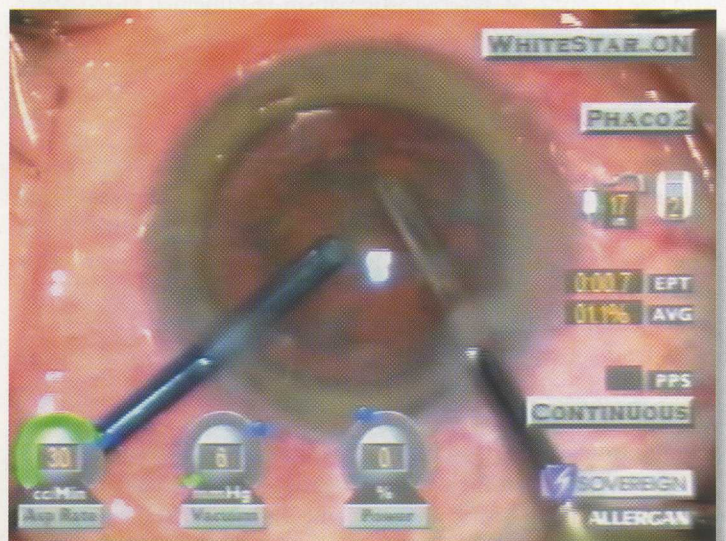


Figure 2 Bimanual phacoemulsification utilizing bare phacoemulsification needle (right) and Fine irrigating chopper (left).

and disadvantages of this procedure and the pros may soon outweigh the cons—especially in light of newer lens and fluidic technology on the horizon.

Let us first look at the advantages. Why do we need to remove a lens through two 1- to 1.2-mm incisions rather than a 2.5- to 3-mm incision? While it is true that coaxial phaco is an excellent procedure

