



New Phaco Technology: Transversal Ultrasound

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Disclosure

- Consultant for Advanced Medical Optics



Evolution of Phaco U/S Technology


Traditional longitudinal ultrasound

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Micropulse “cold” phaco/power modulation
Pulse shaping

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New-generation ultrasound
Torsional, Transversal



Evolution of Phaco U/S Technology


Areas of ongoing study

- Phaco tip
- Phaco energy waveforms
- Tip-fragment interaction
- Understanding and enhancing cavitation
- Interaction of mechanical and cavitation forces



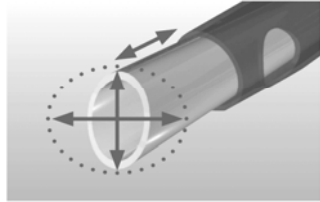
Lateral Motion

- Achieved with both torsional and transversal ultrasound
- Advantages:
 - Increase cutting efficiency by emulsifying lens material in more than one direction
 - Reduce repulsion of nuclear material
 - Increase followability
 - Reduce energy and trauma




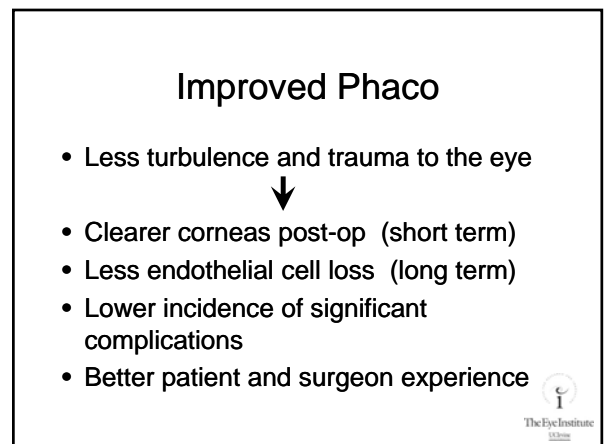
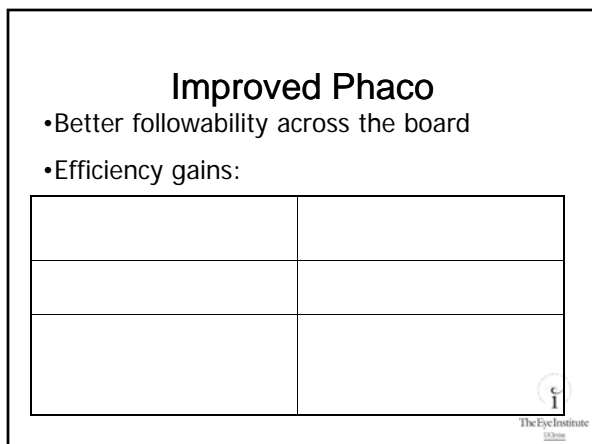
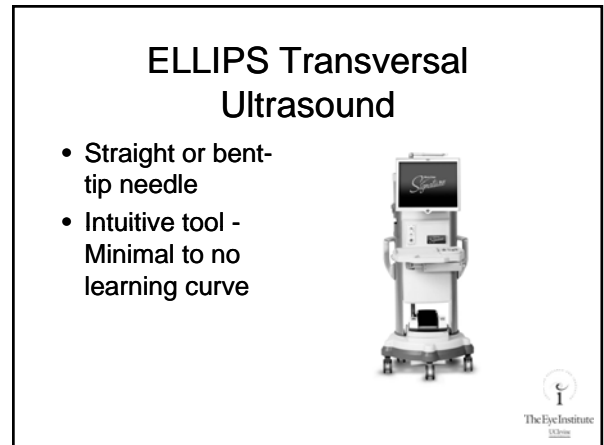
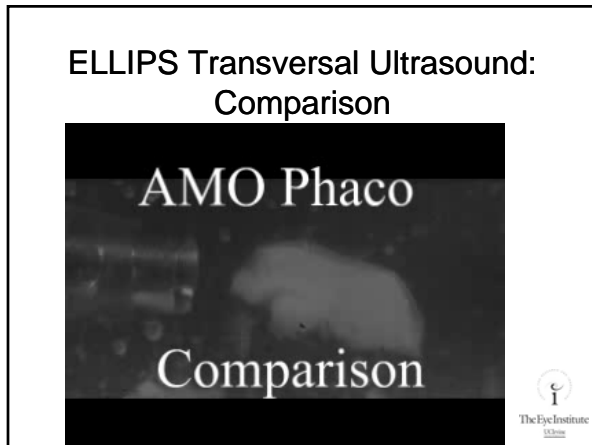
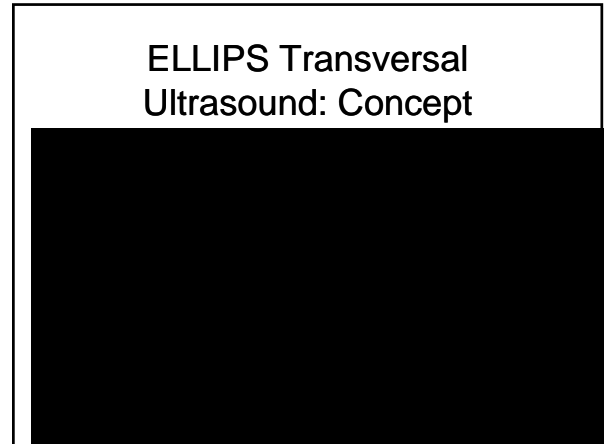
WHITESTAR Signature™ System with Fusion™ Fluidics

Ellips™ Transversal Ultrasound



- Longitudinal (forward/backward) combined with transversal motion (elliptical)
- Optimized with WHITESTAR® Micropulse Technology





Conclusions

- ELLIPS Transversal Ultrasound facilitates safe and efficient removal of very soft to very hard nuclei with minimal energy and minimal stress on the corneal endothelium and other ocular structures
- It offers the surgeon more tip options and a wide range of parameters with all the advantages of WhiteStar micropulsing and fluidics control

