

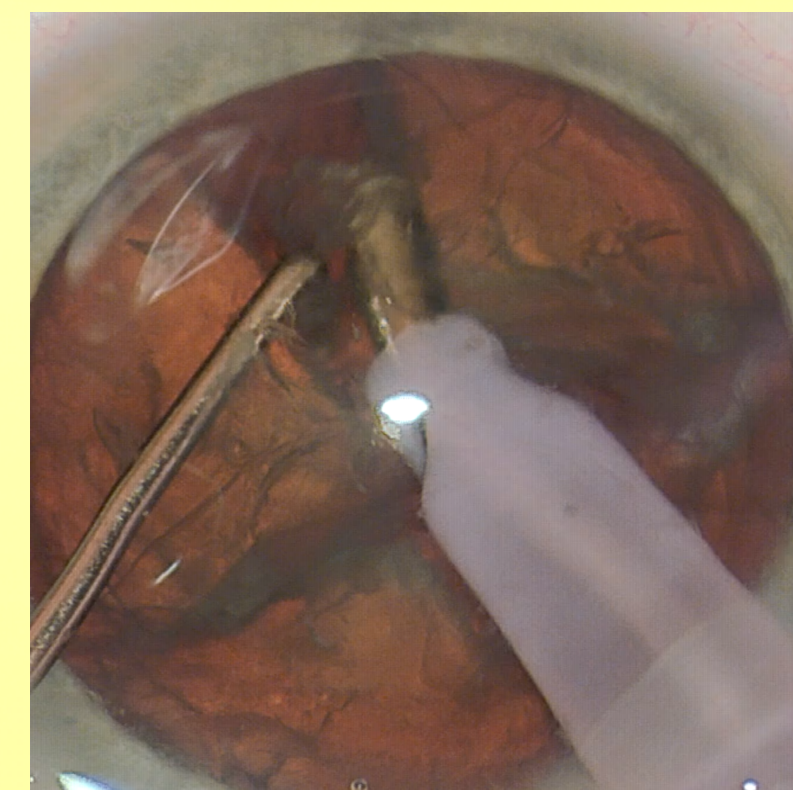
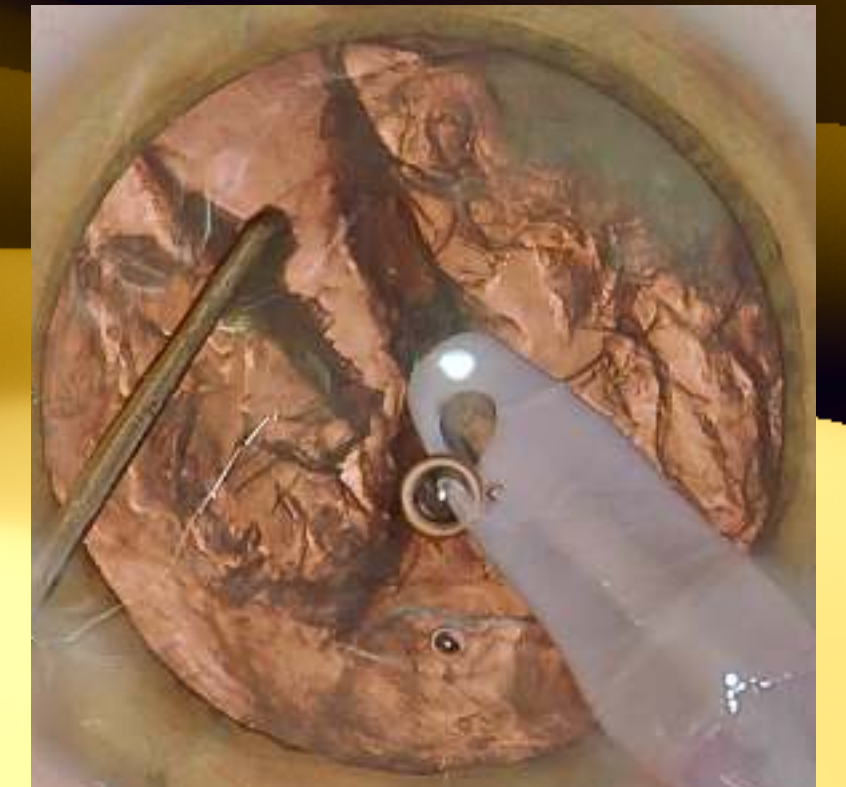
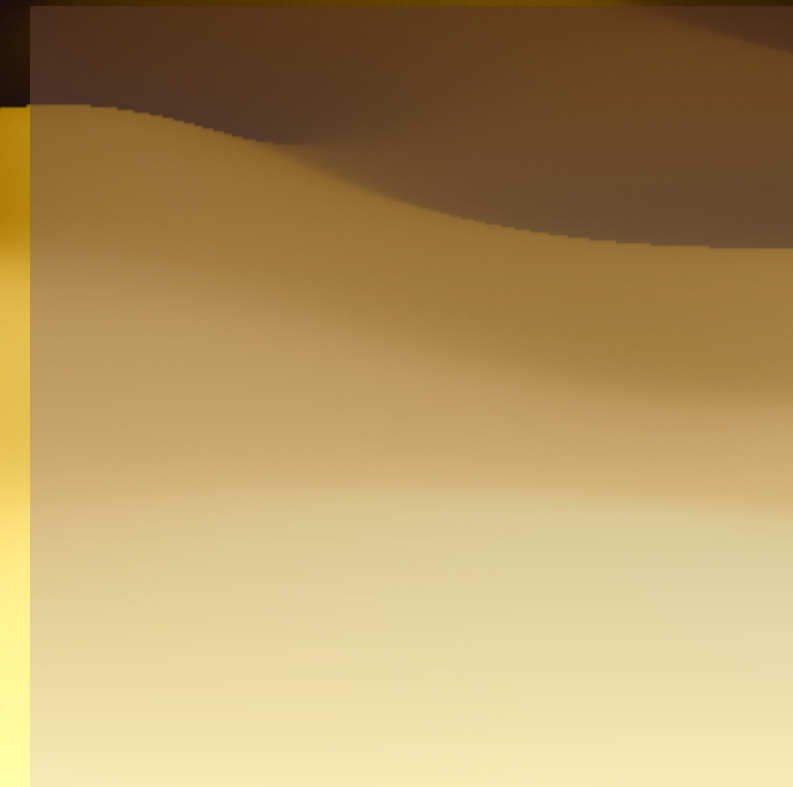
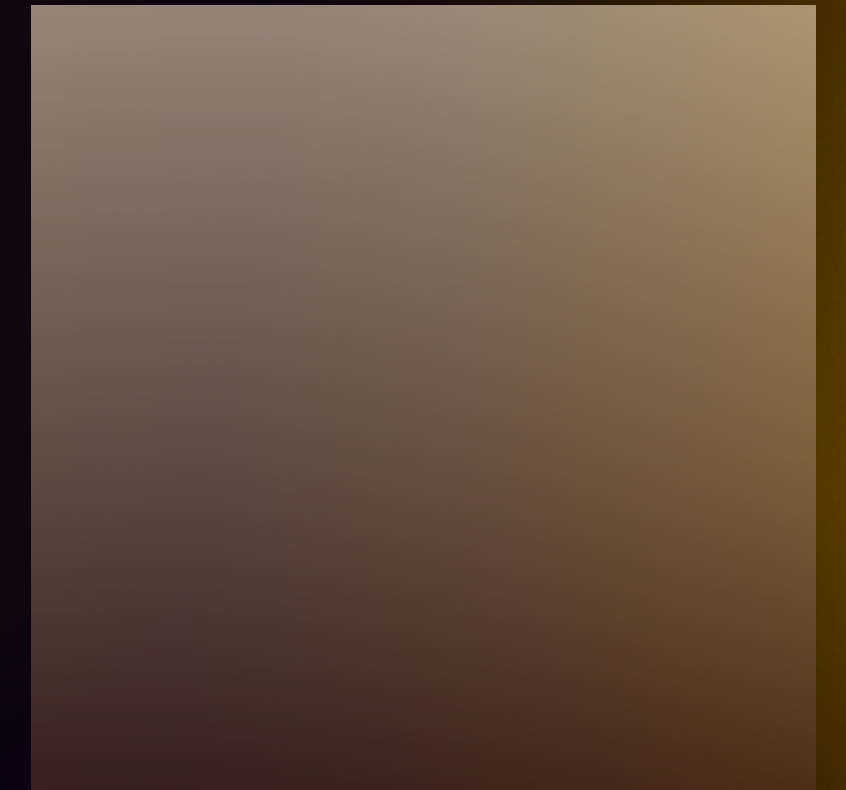
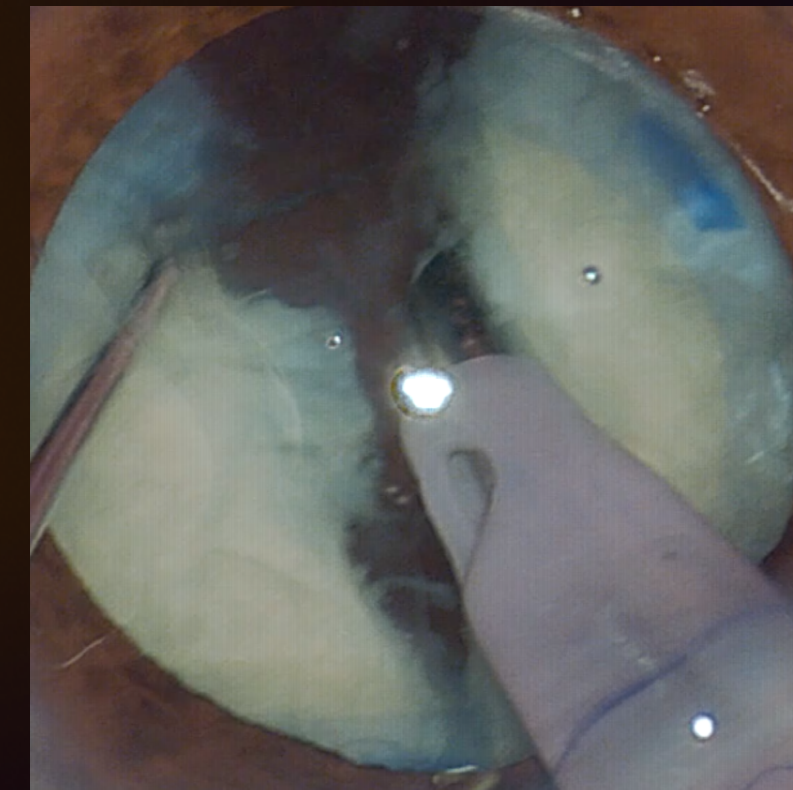
18<sup>th</sup> International Conference of the  
Research Institute of Ophthalmology

RIO 2026

# The WEDGE Mechanical Fracturing Technique



NETO**ROSATELLI**







# The WEDGE Mechanical Fracturing Technique





# WEDGE Technique (Neto Rosatelli, 2012)

- **Mechanical fracturing** technique: no vacuum or ultrasound
- Fracture achieved by **compression** between chopper and phaco tip
- **Sideways phaco tip**: bevel acts as a **WEDGE** while the chopper stabilizes the nucleus





# WEDGE - Technique Details

- Horizontal Chopping Technique
- Long-bend chopper with a blunt tip ( $\geq 2.0$  mm, ball point)
- Chopper placed in the capsular bag, engaging the equator
- Phaco tip positioned sideways: the bevel acts as a WEDGE (45° tips are best suited)

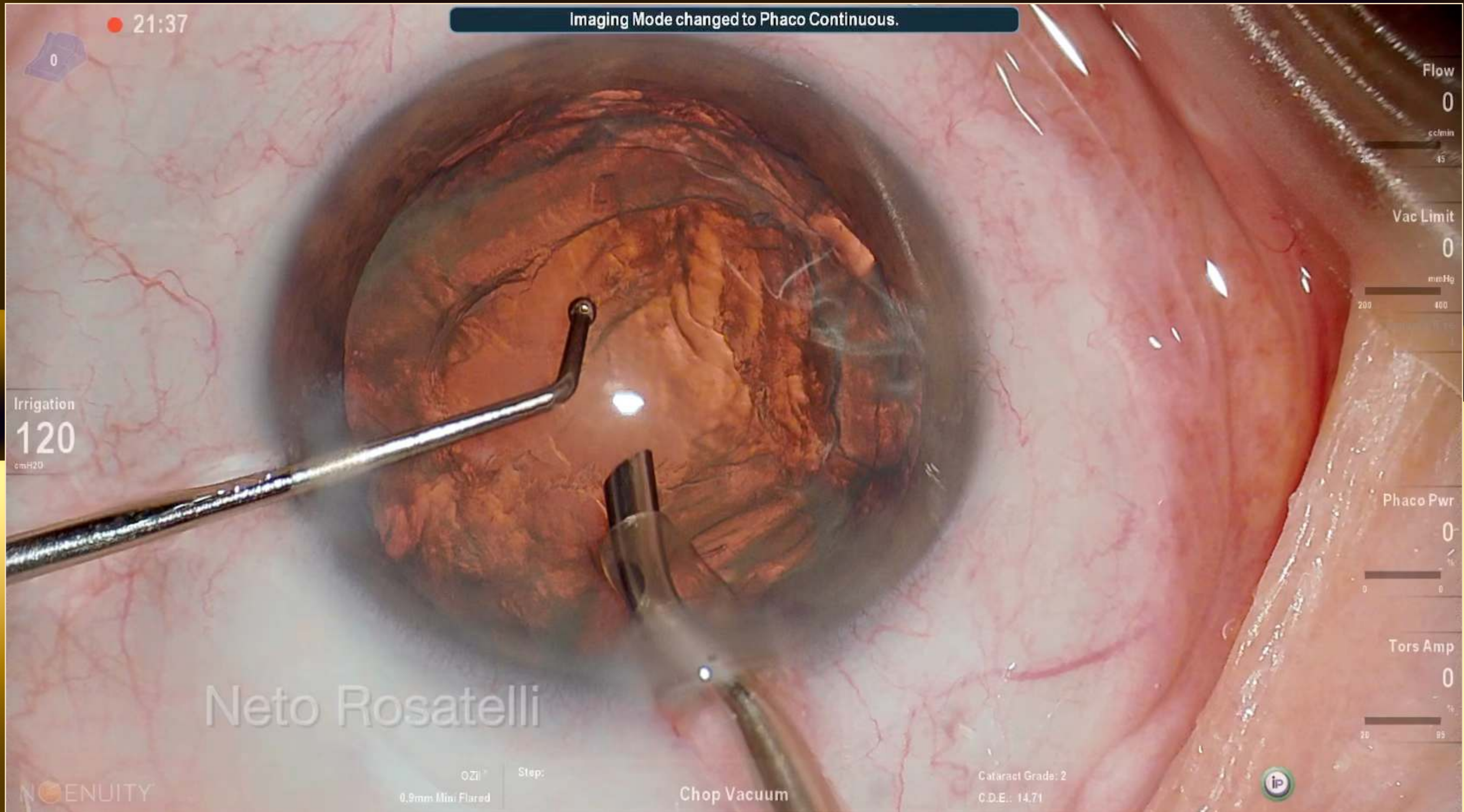




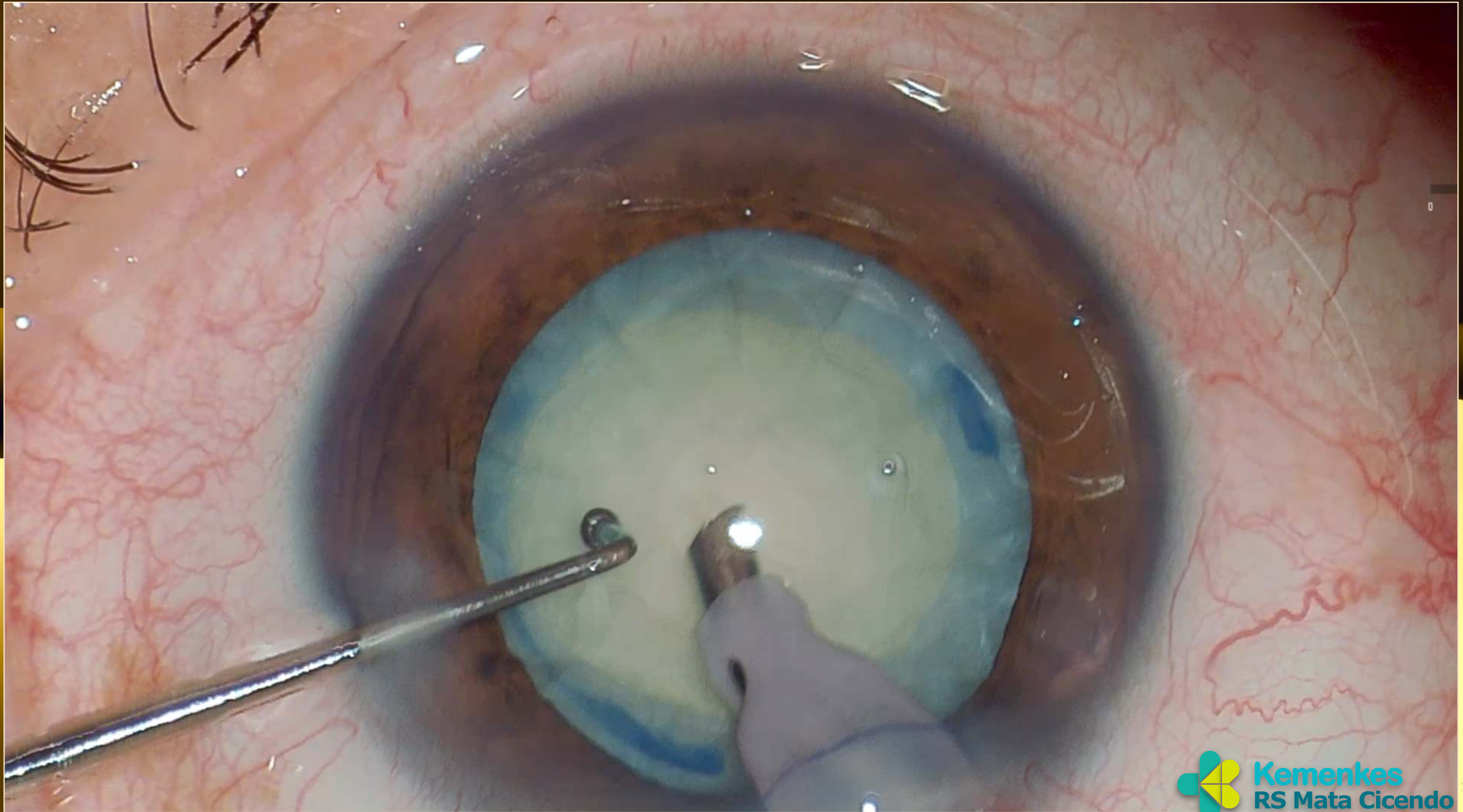
# WEDGE - Technique Details

- Under irrigation only (pedal position 1), the chopper compresses the nucleus against the phaco tip
- The bevel initiates the fracture, which propagates along the nucleus' natural cleavage planes
- After complete division, the nuclear fragments are routinely emulsified













# WEDGE - Advantages

- Easy to learn and reproduce
- No change in standard phaco parameters required
- Compatible with basic phaco platforms
- Can be combined with other techniques and used during fragment emulsification
- Applicable to nuclear density grades I–III

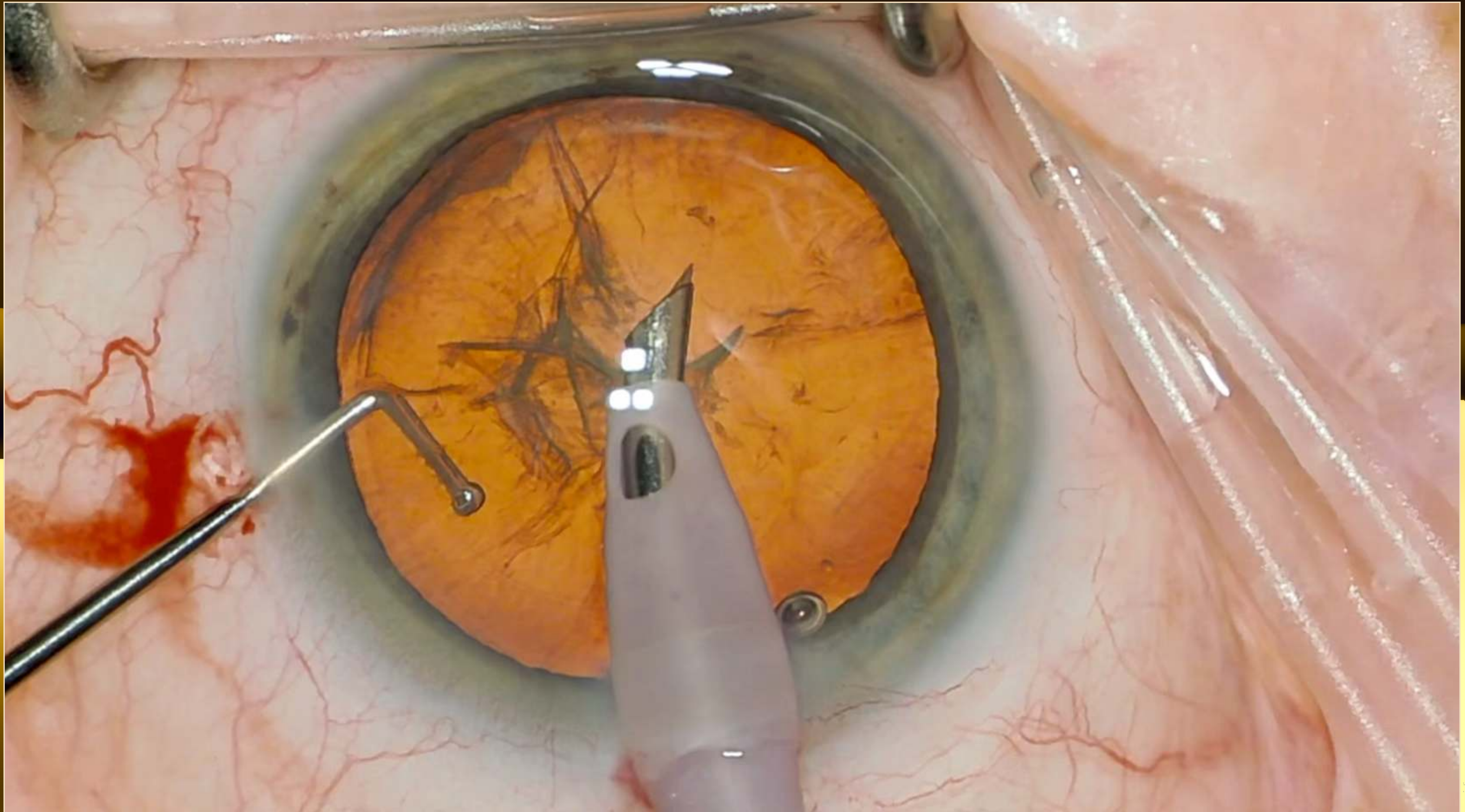




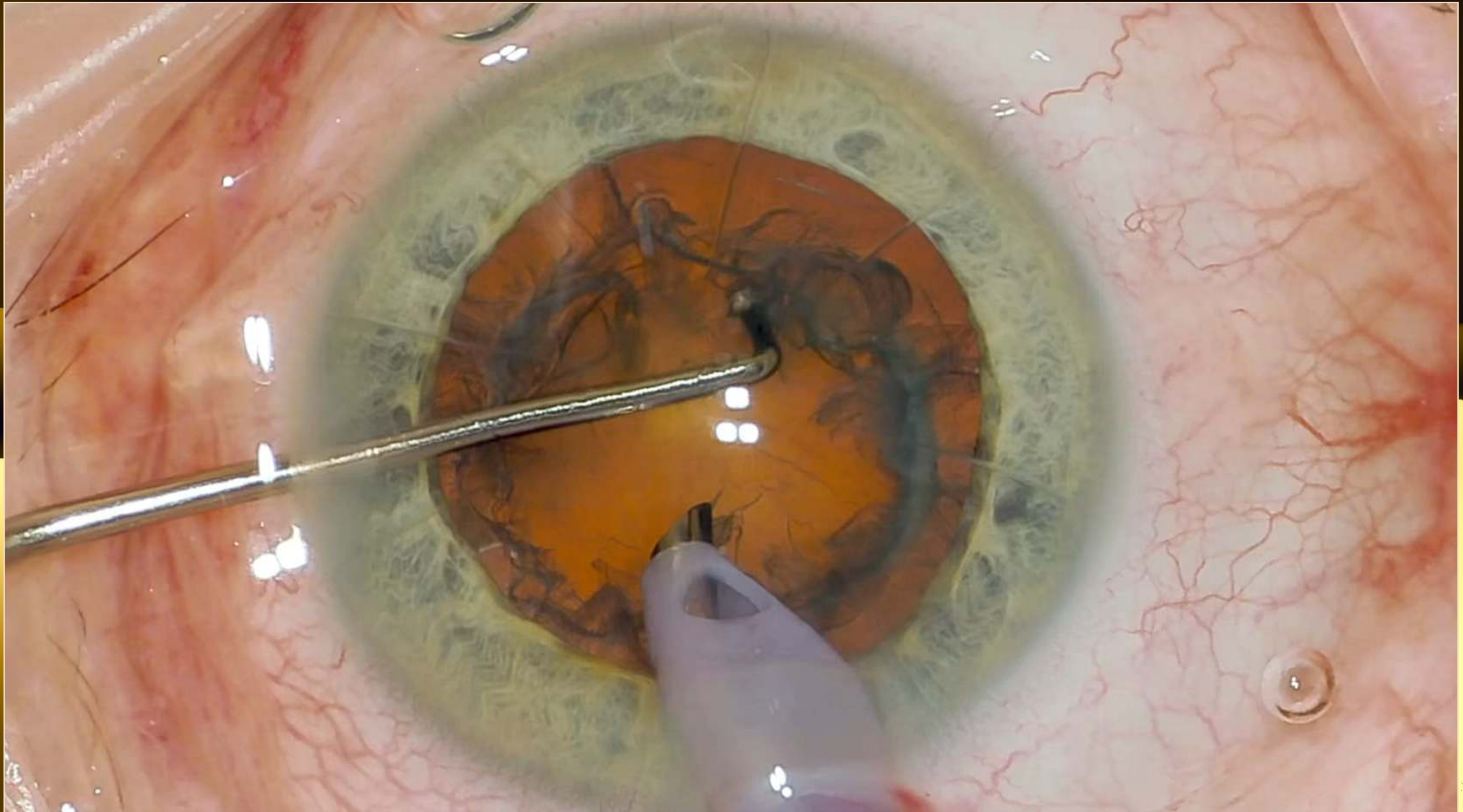
# WEDGE - Advantages

- Significantly reduced ultrasound energy
- High safety profile: avoids surge
- High efficiency: compression concentrated over a small contact area, enabling rapid fracture propagation
- Minimal phaco tip movement, maintained within the safe zone
- Fast execution: independent of vacuum build-up

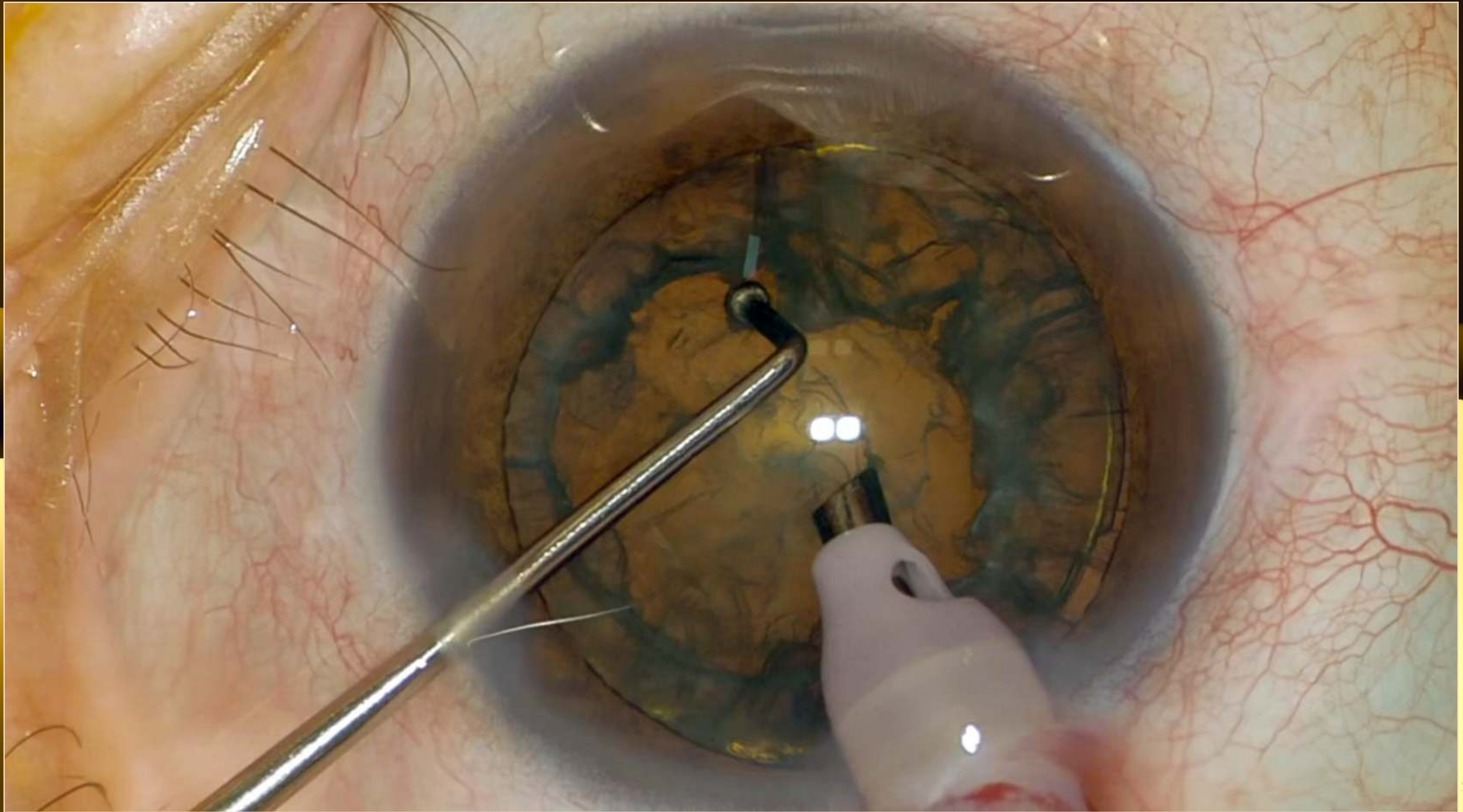




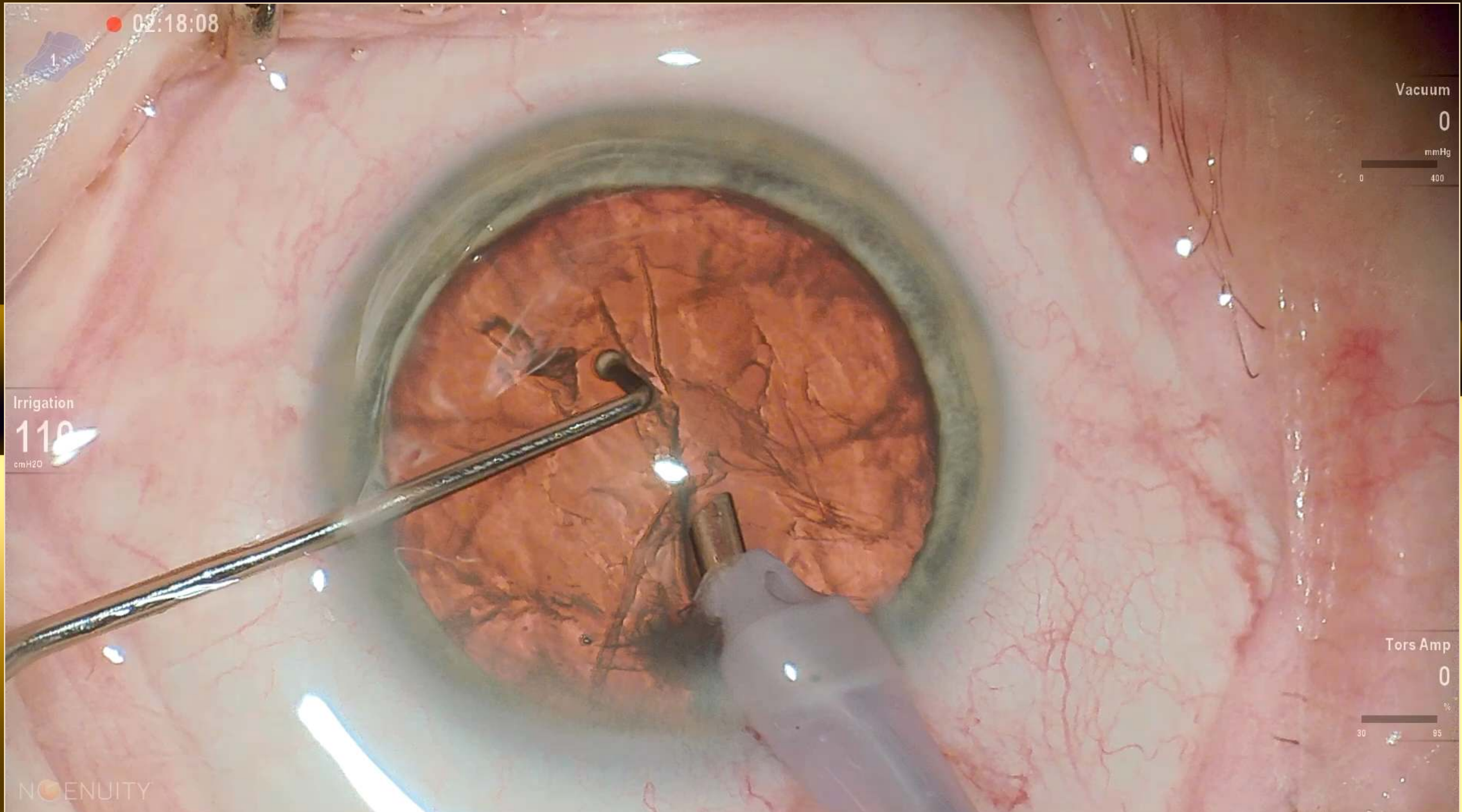












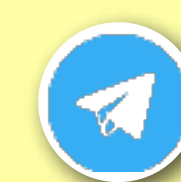




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<http://www.youtube.com/c/TheCataractSurgeryChannel>

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