

# Phacoemulsification in White Cataract: A Challenging Surgical Endeavor

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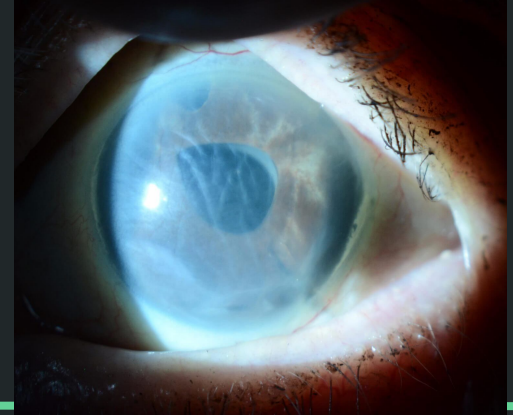
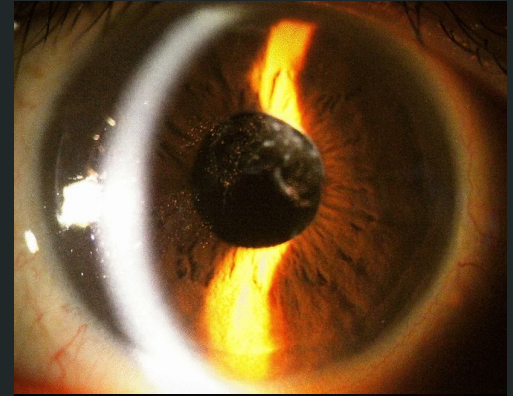
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The authors declare that here is no conflict of  
interest.

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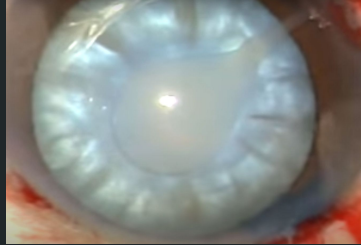
White cataracts present difficulties during surgery with increased risk of complications such as:

- Posterior capsule rupture
- Vitreous prolapse →
- Zonular Rupture
- Retained or dropped nuclear material
- Inability to implant the intraocular lens
- Prolonged surgical time
  - Corneal endothelial damage →
  - Increased risk of endophthalmitis



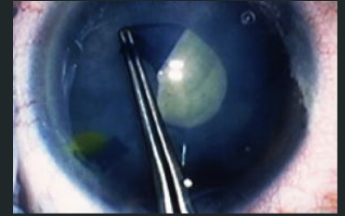
Achieving a CCC can be difficult due to:

- poor visualization
  - opacification of lens
  - liquified lens cortex leakage

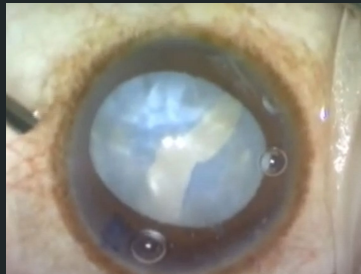


Modifications during surgery:

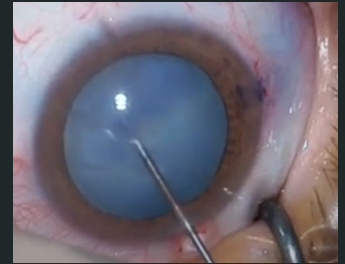
- Use of Trypan Blue to help visualization



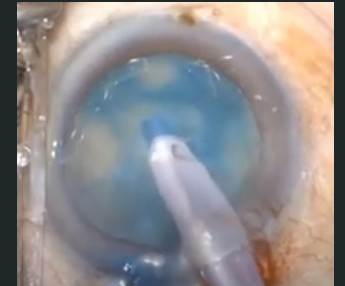
- increased intracapsular tension (might cause capsulorhexis to extend posteriorly, "Argentinian flag")



- Anterior capsule puncture and intralenticular space decompression:
  - with a needle or cannula
  - phaco capsulotomy



- Two-staged capsulorhexis



Challenges:

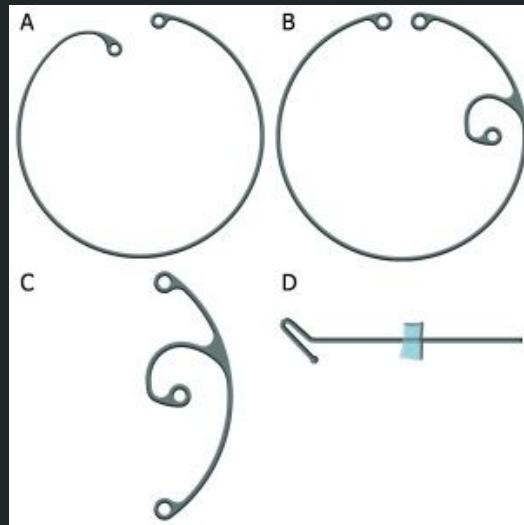
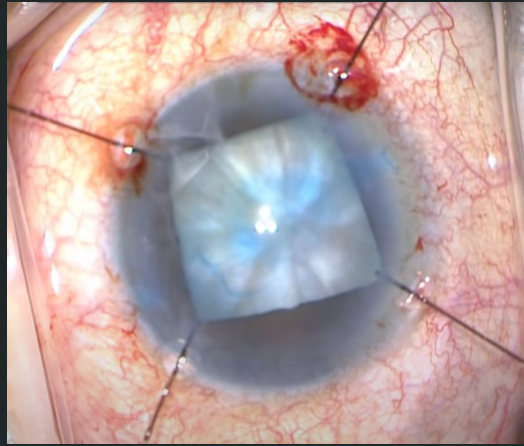
- Poor mydriasis
- Zonular instability
- Phacodonesis



Modifications during surgery:

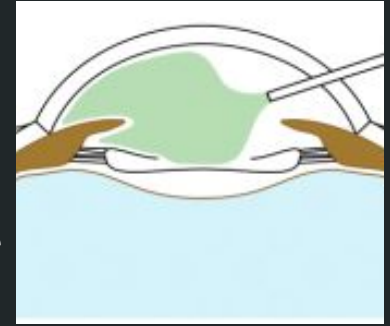
- Use of iris hooks
- Use of capsular support devices

- A) Capsular tension ring
- B) Modified capsular tension ring
- C) Capsular tension segment
- D) Capsular retention hook



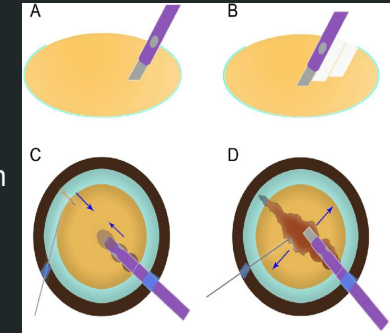
Challenge:

Phacoemulsification  
White cataracts require higher ultrasound energy with increased risk of corneal endothelial damage, posterior capsule rupture.



Modifications during surgery:

- Abundant use of viscoelastic
- Preferred techniques using less ultrasound energy and lens rotation (e.g. phaco chop)

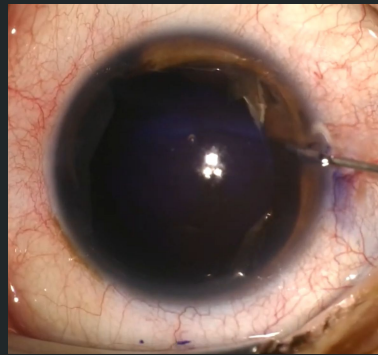


## Surgical challenges in removing white cataracts:

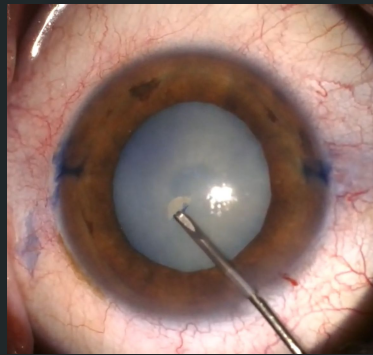
- Reduced visibility of the anterior capsule
- Poor iris mydriasis
- Zonular instability

## To address these factors the surgeon can:

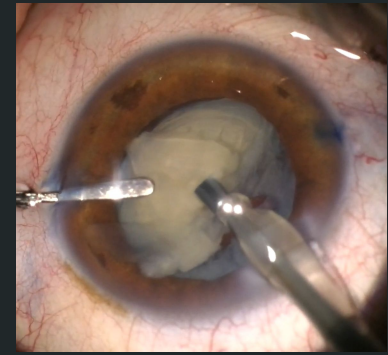
- Use trypan blue dye to help visibility
  - Use iris hooks to secure adequate iris dilation and even zonular stability
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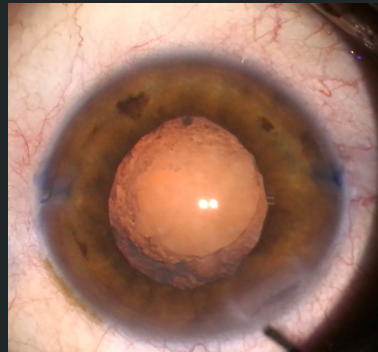
Trypan blue for capsule visibility



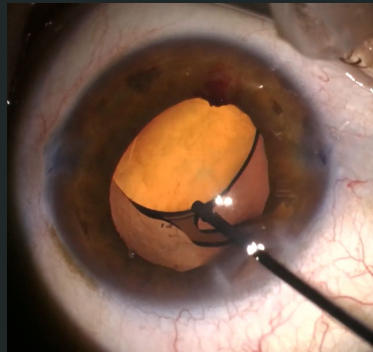
Careful Capsulorhexis



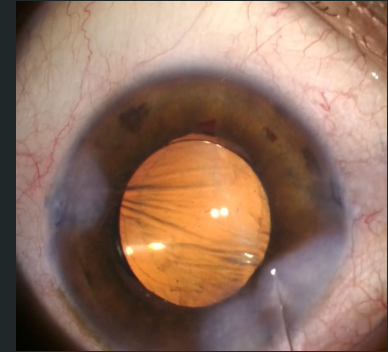
Phaco with abundant use of viscoelastic



Lens cortex removal



IOL implantation



Incision hydration

## Surgery Procedure

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# Post operative care

Even after a successful and uneventful surgical procedure the postoperative recovery can be prolonged with corresponding need for increased medications such as:

- corticosteroids
- NSAIDs
- hypertonic saline solutions

Continuous monitoring of the patient if advised for postoperative complications such as:

- Corneal dysfunction
  - Macular edema (Irvine-Gass Syndrome)
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