




Nucleus Management Techniques

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Phaco is a battle



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Rule 1

Decrease your enemies



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Annoying enemies

- Eye movement
- Pupil size
- Wound construction
- Floppy iris
- Rhexis size



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Eye movement

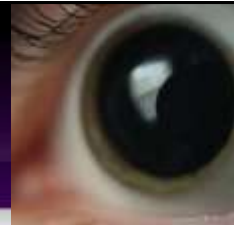
Good peribulbar anaesthesia and akinesia is **ideal** for nucleus management

What about topical anaesthesia



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Pupil size



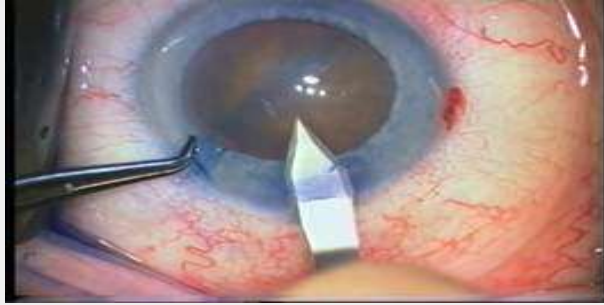
always seek **Full pupillary diltation**

Working under narrow pupil conditions



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Wounds leakage



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Rhexis size



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Rule 2

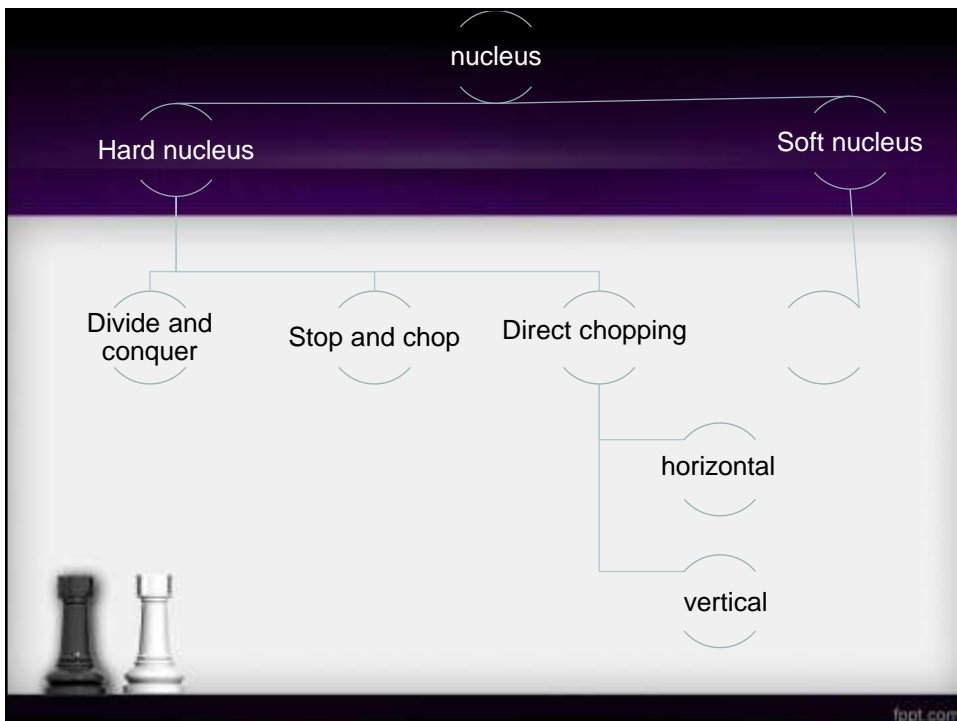


divide et impera

فرق تسد



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Divide and conquer

steps

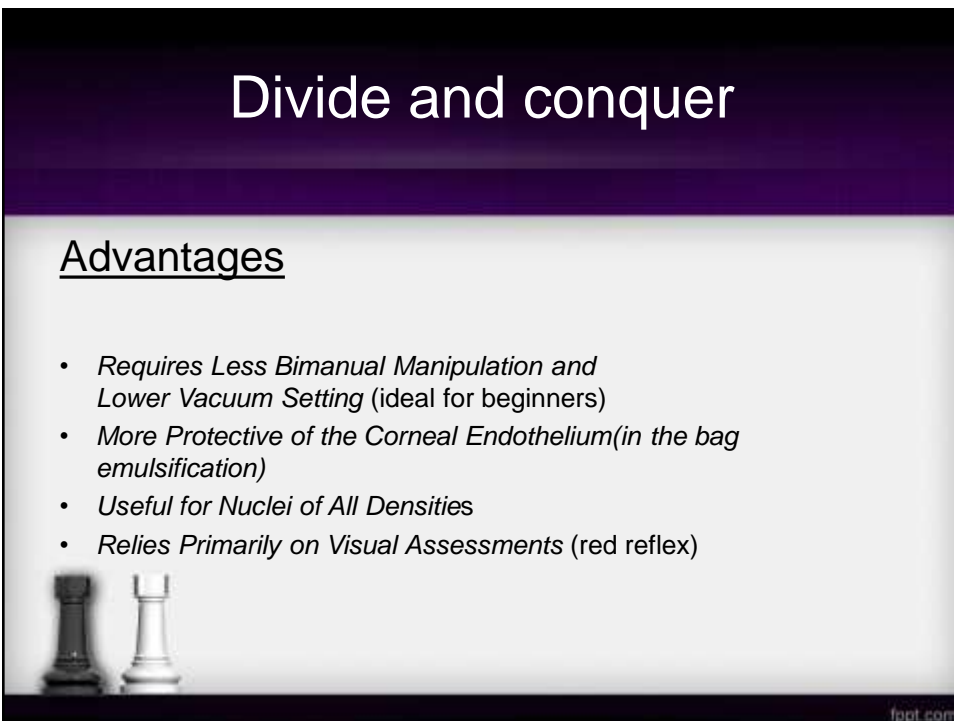
Epinuclear lens material removed with phacoemulsification probe



Divide and conquer

Advantages

- *Requires Less Bimanual Manipulation and Lower Vacuum Setting* (ideal for beginners)
- *More Protective of the Corneal Endothelium* (in the bag emulsification)
- *Useful for Nuclei of All Densities*
- *Relies Primarily on Visual Assessments* (red reflex)



Divide and conquer

Disadvantages

- Increased *Phaco Energy and Heat Delivery*
- *Stress on the Zonules and Capsular Bag*
- Intracapsular sculpting (risk of PCR)



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Stop and chop

steps



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Stop and chop

Advantages

- hybrid of divide and conquer and chopping
- Reduce total phaco time

Disadvantages

- significant ultrasound energy is still necessary in order to sculpt the central trench



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Horizontal chopping



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Vertical chopping

- steps



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Direct chopping

Advantages

- *Reduction in Phaco Energy and Heat Delivery*
- *Reduction in Stress on the Zonules and Capsular Bag*
- *Supracapsular Emulsification*



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Direct chopping

Disadvantages

- *Requires more Bimanual Manipulation and Higher Vacuum Setting* (not for beginners)
- *not Rely Primarily on Visual Assessments* (spatial intelligence)



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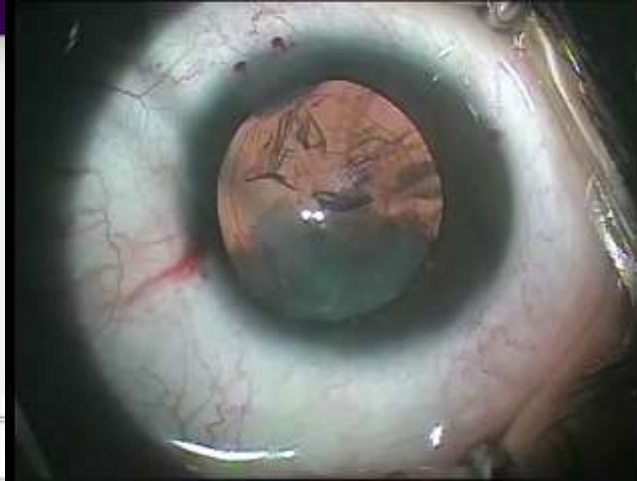
Soft nucleus

- Tilt and tumpel technique
- Phaco chip and flip
- Supranuclear emulsification



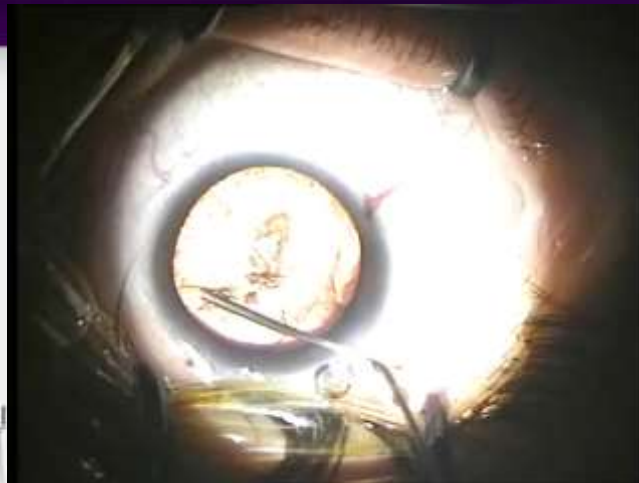
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Tilt and tumpole technique



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Supracapsular emulsification of soft nucleus



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Rule 3



All's well that ends well

الاعمال بالخواتيم



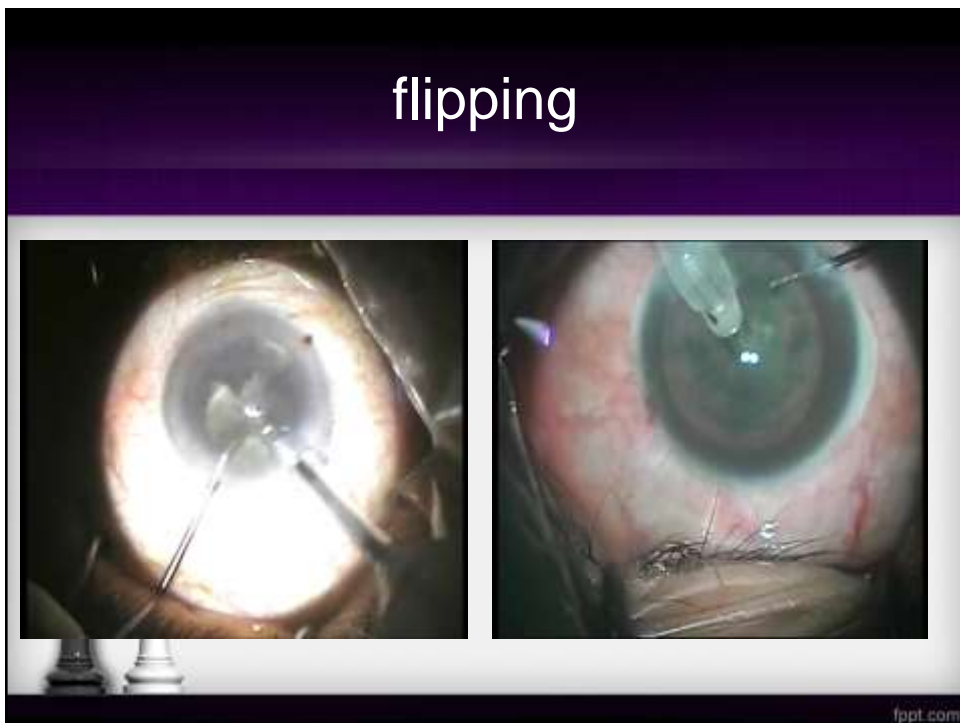
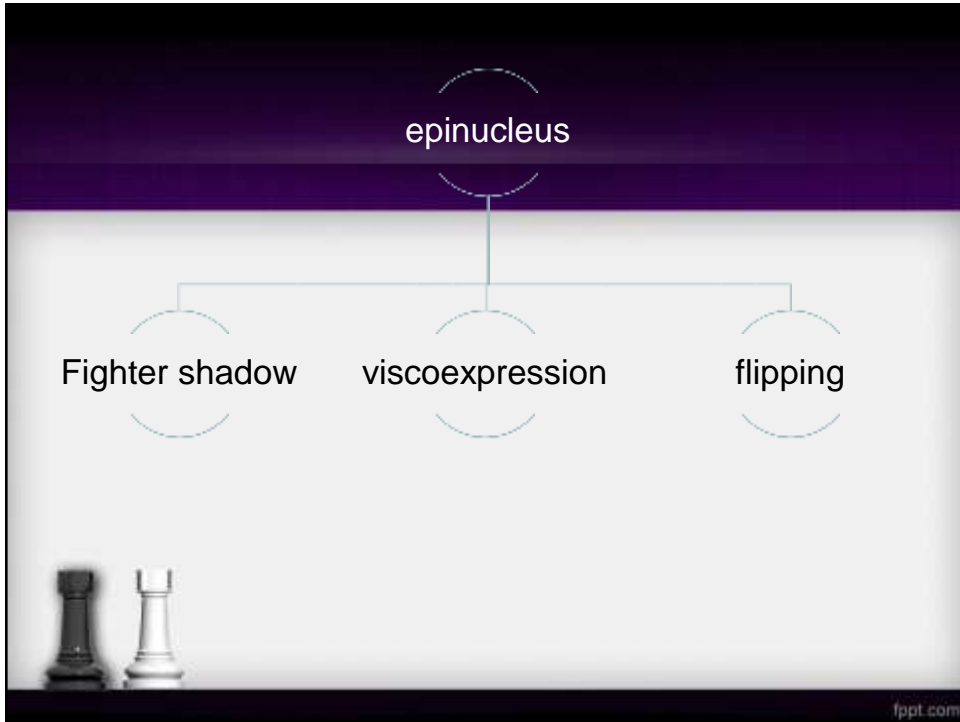
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Epinucleus

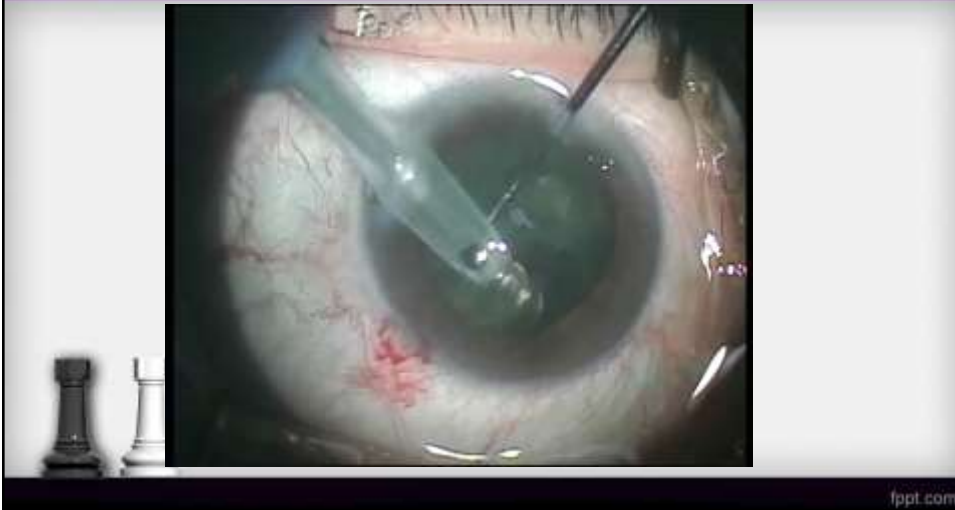
The most dangerous step for the post.
Capsule to open



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Fighter shadow



Home messages

1. Try to **optimize** your conditions to effectively manage the nucleus
2. Divide et empera (stop and chop)
3. Care about the **epinucleus** to perfectly ends your work



