المؤتمر السنوي الدولي للجمعية المصرية
INTERNATIONAL CONGRESS OF THE
EGYPTIAN OPHTHALMOLOGICAL SOCIETY
EOS 2023

My Top 5 Pearls for Managing Posterior Capsule Rupture

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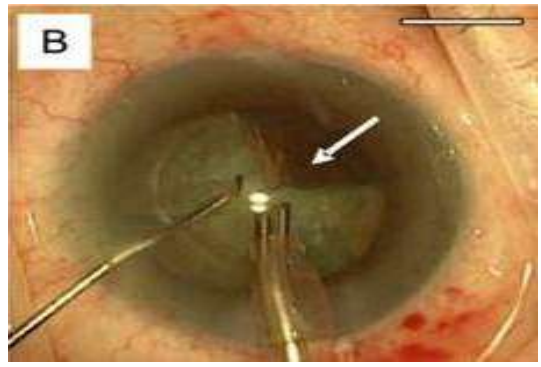
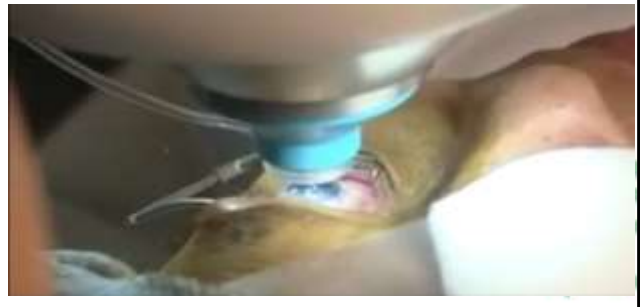
- Phacoemulsification is considered the procedure of choice for cataract surgery.

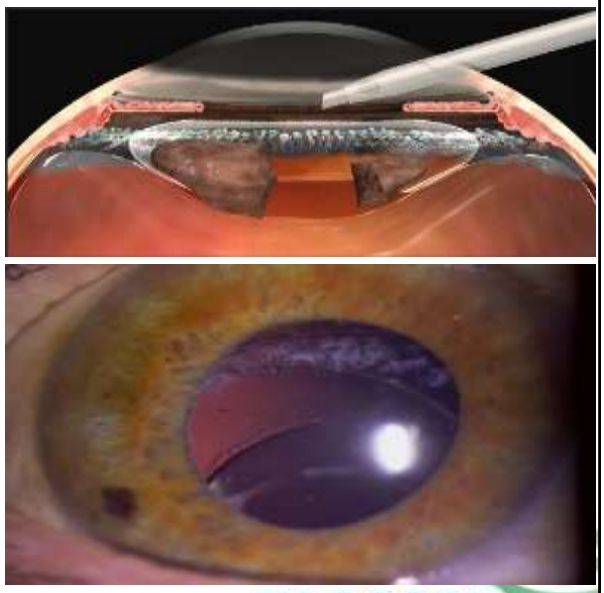




PCR remains one of the most significant complication of this surgery because:

1- You lose one of the barriers between the anterior and posterior segments.

2- The chance of placing an IOL in Posterior chamber is Jeopardized.



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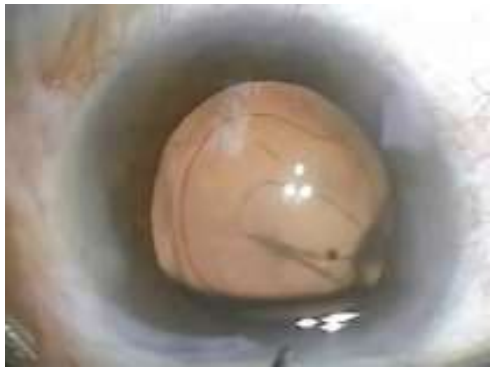
- The best of practices have a rupture rate of 2 to 4 per thousand cases.
- Every surgeon can expect one but anticipation and preparation can make a PCR a manageable crisis.



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My Top 5 pearls for managing PCR

- Pearl No. 1: Prevention.
- Pearl No. 2: Stop and Stabilize.
- Pearl No. 3: Choose your surgical strategy.
- Pearl No. 4: Anterior vitrectomy.
- Pearl No. 5: Implant a suitable IOL.

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Pearl No. 1: Prevention

Pearl No. 2: Stop and Stabilize

Pearl No. 3: choose your surgical strategy.

Pearl No. 4: Anterior vitrectomy

Pearl No. 5: Implant the suitable IOL.

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Prevention is always better than treatment so you have to:

1- Do each step properly as described.

2- Use techniques that keep you away from the capsule.

3- Use newer-generation phaco systems that provide good surge protection.

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Prevention

a- Anticipate PCR.

b- Dealing with complications that may led to PCR.

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a. Anticipate PCR

1.Lens factors:

- Intumescent cataract.
- Dense cataract.
- Post-polar cataract.
- Longstanding cataract.

2. Ocular factors.

- Deep orbit with enophthalmos and prominent nose.
- Corneal opacity.
- High hyperopia or myopia.
- Pupil that dilates poorly.
- Weak zonules (PEX).

3. Patients factors:

- Musculoskeletal alterations.
- Obesity and short neck.
- Cardio pulmonary diseases.
- Mental disorders.

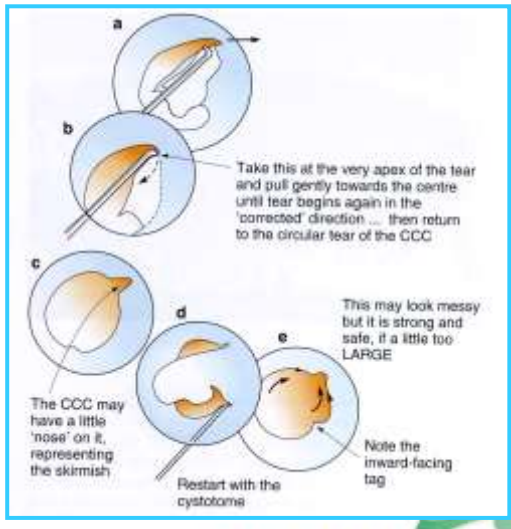
b- Dealing with complications that may led to PCR.

1- During rhexis

If you have extended radial tear

- Look for the extensions:

a. Visible extension → use forceps as usual starting at the very apex of the tear and pull toward the center.



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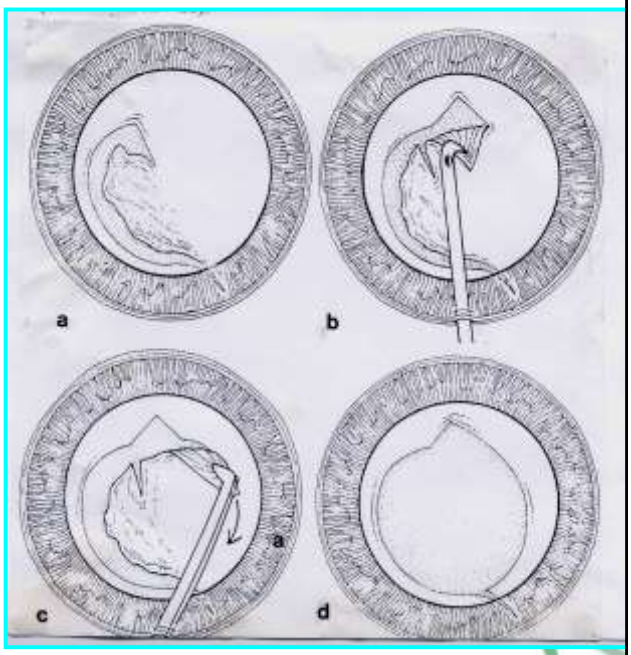
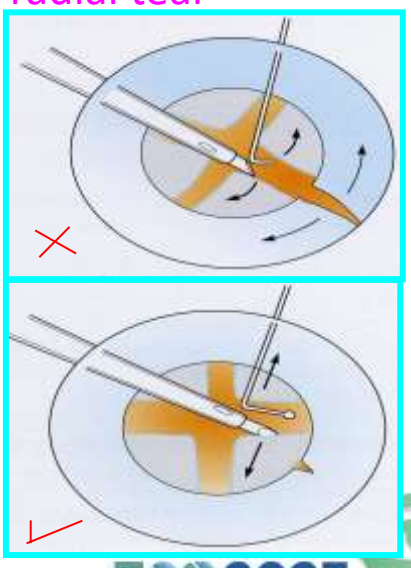
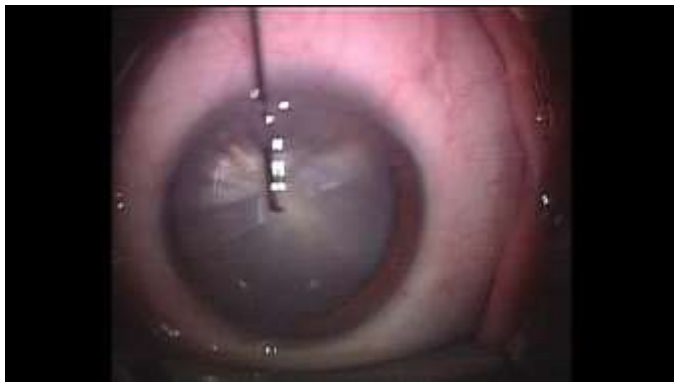
b. Invisible extension (under the iris)→ use a cystitome to create a new flab tear near the original start of capsulorhexis. Then use the forceps to complete it in the opposite direction.

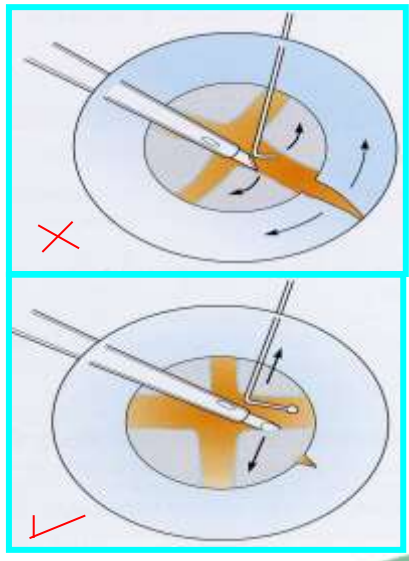


2- Continuing phaco in the presence of a radial tear

- Ensure full –depth groove of nucleus before splitting.
- Crack the nucleus in a meridian away from the radial tear.







Pearl No. 1: Prevention

Pearl No. 2: Stop and Stabilize

Pearl No. 3: choose your surgical strategy.

Pearl No. 4: Anterior vitrectomy

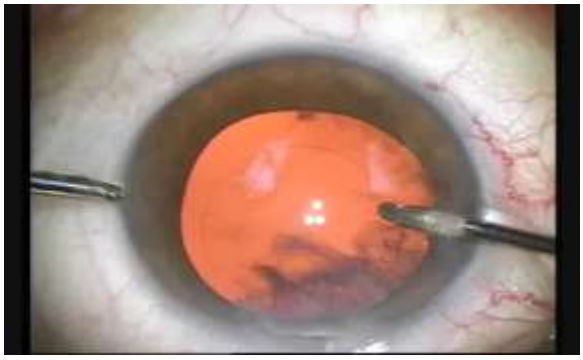
Pearl No. 5: Implant the suitable IOL.

- When you suspect a PCR:

1- Immediately stop all aspiration and ultrasounds.

2- Keep the infusion and the phaco or I&A still.

3- Do not use the irrigating tip to move things out of the way.



- Once you confirm the rupture:

1- Keep irrigating.

2- Go through the side part incision and inject dispersive vissoelastic.

Pearl No. 1: Prevention

Pearl No. 2: Stop and Stabilize

Pearl No. 3: choose your surgical strategy.

Pearl No. 4: Anterior vitrectomy

Pearl No. 5: Implant the suitable IOL.

Clinical evaluation

- Character of PCR:
  - * Visibility.
  - * Site
  - * Shape.
  - * Extent.
- Associated factors:
  - * Vitreous loss.
  - * AC stability.
  - * State of the pupil.
  - * State of nucleus.

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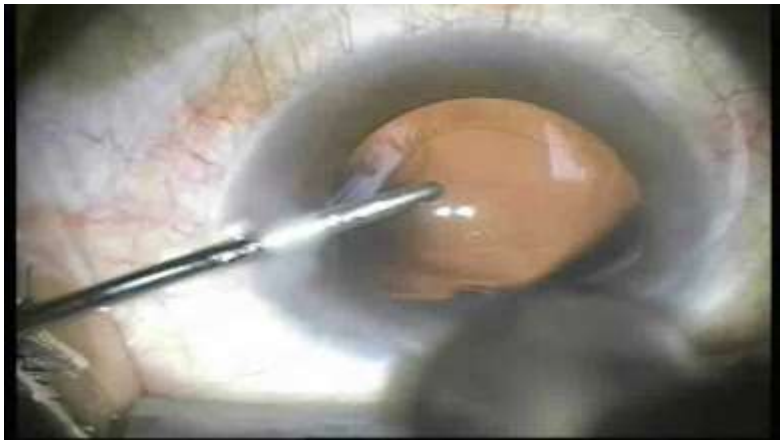
Case No 1



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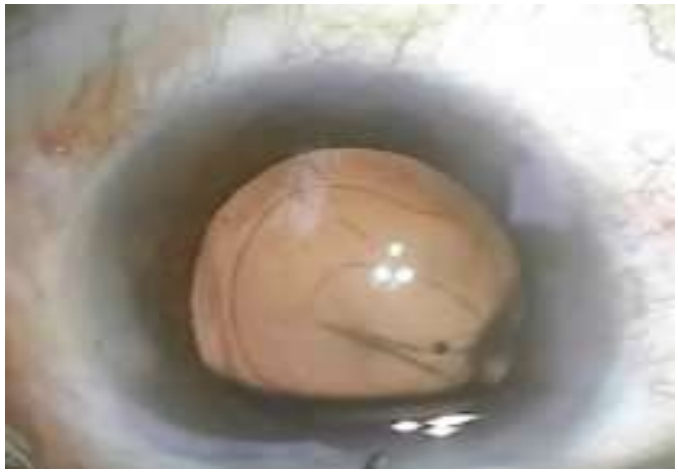
- Character of PCR

* Visible * Central
* Rounded * Localized

- Associated factors:

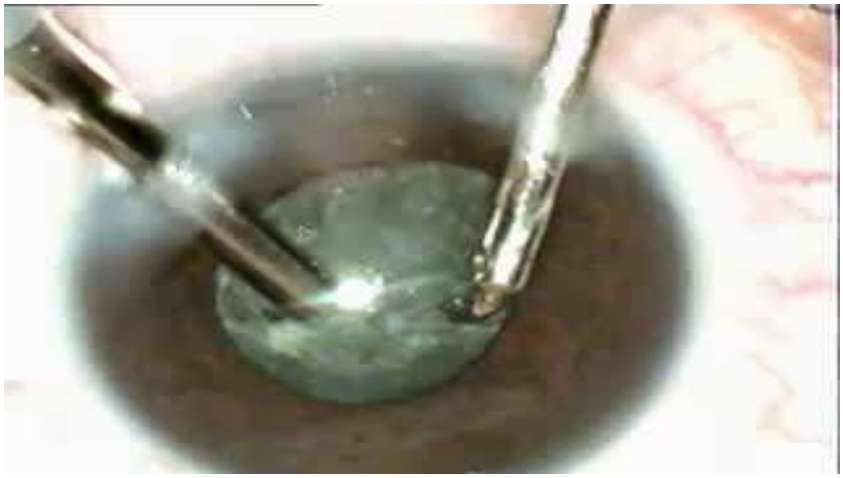
* No Vit. loss. * stable AC.
* Dilated pupil. * No nucleus.



Convert it into posterior CCC.

Management

Case No 2



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- Character of PCR

* Visible * Central
- Oval * Extended

- Associated factors:

* No Vitreous loss. * stable AC.
* Dilated pupil. * NO nucleus.

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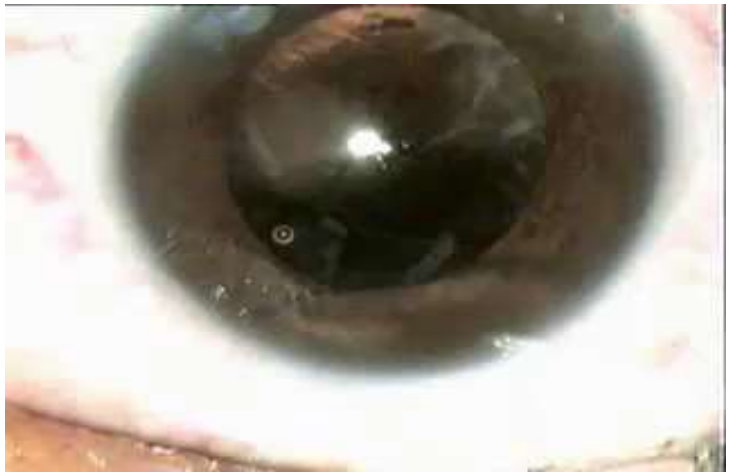
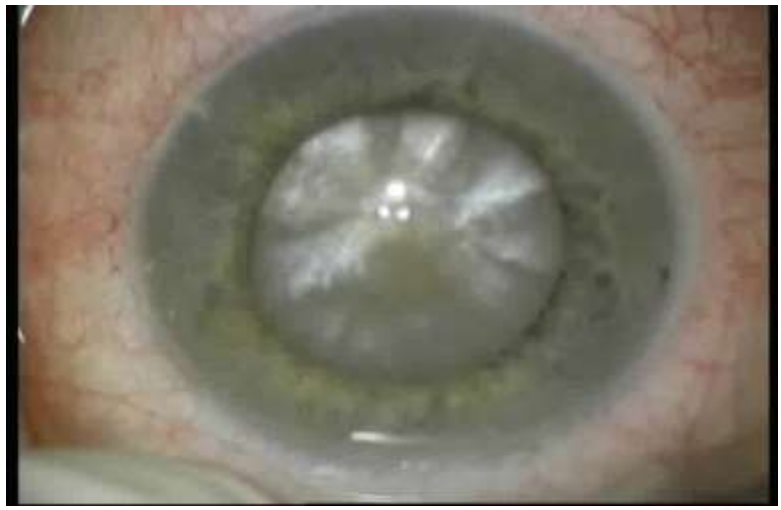


Case No 3



- Character of PCR

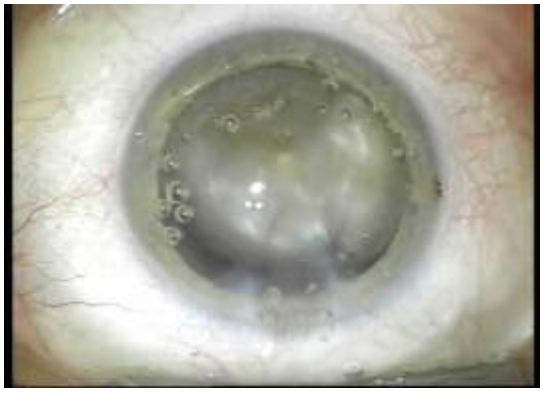
*Not visible * Site ?

* Shape ? * Extent ?

- Associated factors:

* Vitreous loss. * Unstable AC.

* Large pupil. * Hard nucleus.



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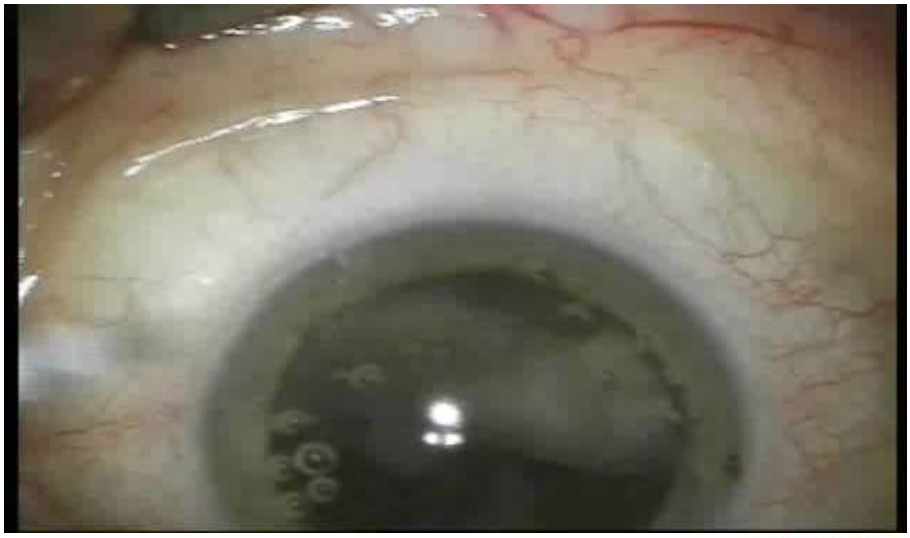
Management



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Pearl No. 1: Prevention

Pearl No. 2: Stop and Stabilize

Pearl No. 3: choose your surgical strategy.

Pearl No. 4: Anterior vitrectomy

Pearl No. 5: Implant the suitable IOL.

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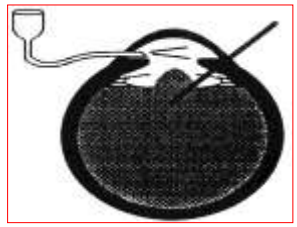
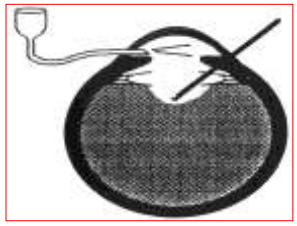
Basic Principle:

- Use separate incision (bimanual).
- Adjust parameters:
  - Cutting rate at least 800 cuts/m
  - Vacuum 100-150mmHg
  - Flow rate 15-25 cc/m.





- Infusion directed into the AC in the plane of the iris.

- Vitrectomy tip is directed down through the opening in PC with cutting port facing up.

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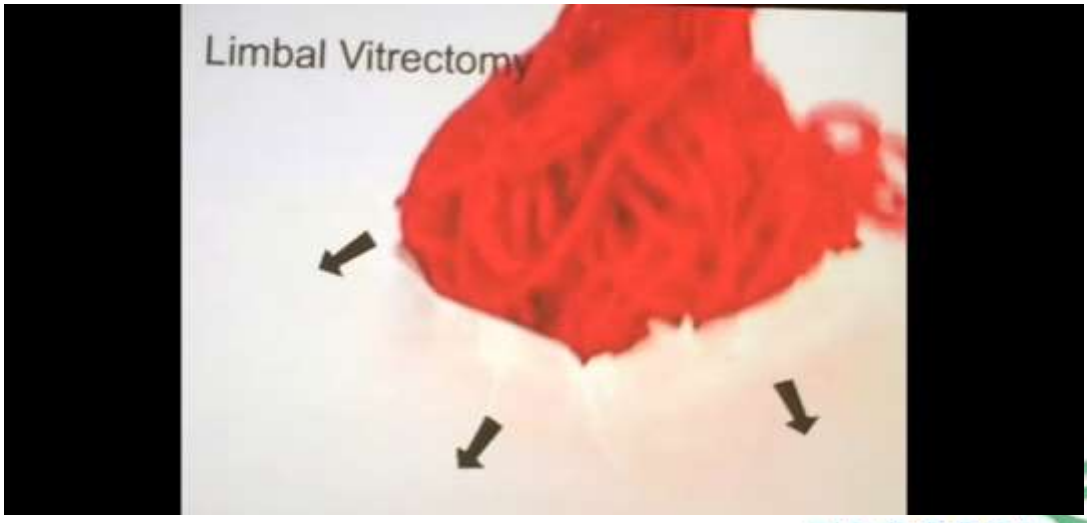
- Limbal versus parsplana



Why parsplana approach:

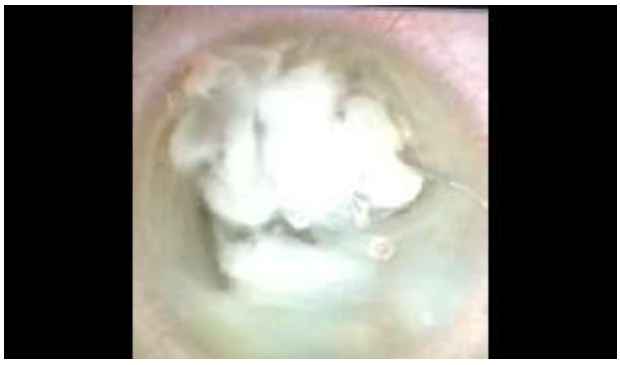
1- Better angle for positioning of the vitrectomy tip.

2- Less turbulence than limbal approach.

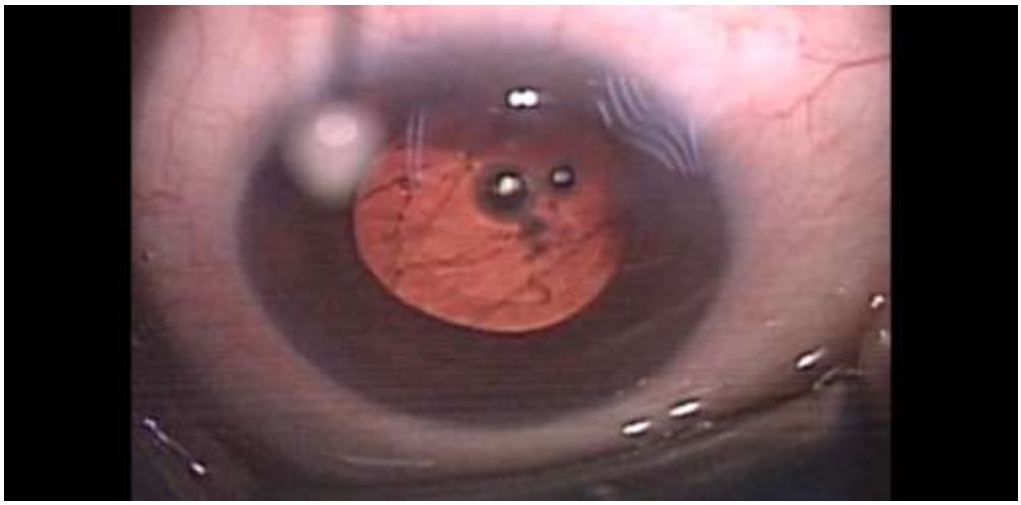
3- PCR in less likely to be extended.

4- Balanced removal of the vitreous from retro-capsuler regain.

5- You are pulling the vitreous back, rather than forward toward incisions.



- Parsplana



- Limbal

Pearl No. 1: Prevention

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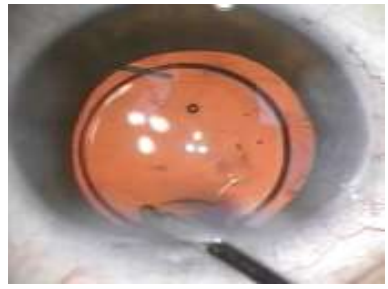
Pearl No. 5: Implant a suitable IOL.

- Positioning

- Small posterior CCC ⟶ put IOL in the bag.
- Large PCR ⟶ put 3 picce IOL in the sulcus and do an optic capture.



- Adjust IOL power

- If it is fully in the sulcus drop the power by one Diopter.
- If it is Captured in anterior rhexis drop the power by 1/2 Diopter.

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THANK YOU

See you next year

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