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In the bag IOL implantation  
followed by PP Posterior  
capsulotomy

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# When to cut: before or after IOL implantation

- There is no universal agreement on whether the IOL should be implanted before or after the posterior capsulotomy and anterior vitrectomy
- **AAO** strategy: **PP posterior capsulotomy** following in the bag IOL implantation

# Anterior/ limbal approach

- Preferable for anterior segment surgeons
- PCCC is technically difficult and needs experience
- Difficult IOL implantation in a non intact capsule
- Anterior vitreous face disruption
- Residual vitreous in the AC (Triamcinolone)—-> risk of RD



# Posterior/ PP approach

- IOL implantation in an intact capsular bag
- No disruption of anterior vitreous face
- OVD can be removed without fear of engaging vitreous





**Incidence and Risk Factors of Retinal Detachment after Pediatric Cataract Surgery (A Tertiary Center Model)**

Heba Fouad; Jylan Gouda; Christina Ibrahim; Rasha Zedan; Ahmed Awadein; Heba Elgendy; Hala ElHilali

Cairo University Children Hospital  
Cairo, Egypt

Aim of the study: to determine the incidence and risk factors of RD following pediatric cataract surgery and to compare the incidence of RD in limbal vs pars plicata approach in lens removal

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## Incidence and Risk Factors of Retinal Detachment after Pediatric Cataract Surgery (A Tertiary Center Model)

Heba Fouad; Jylan Gouda; Christina Ibrahim; Rasha Zedan; Ahmed Awadein; Heba Elgendy; Hala ElHilali

Cairo University Children Hospital  
Cairo, Egypt

**Methods:** Retrospective review of data of all children who underwent pediatric cataract surgery during the time period of 2016 to 2021 in Cairo University Children Hospital. Cataract cases due to trauma, acquired systemic or ocular pathology, and cases with ocular anomalies associated with the development of retinal detachment were excluded.

**Results:** Among 568 eyes of 372 children undergoing surgery for congenital cataract (66% via anterior approach and 34% via pars plicata approach), 8 eyes (7 children, 1.4%) developed retinal detachment at a mean time of  $2.14 \pm 1.68$  years after surgery. Five eyes had undergone pars plicata lens removal and 3 eyes had undergone lens removal through a limbal approach ( $p=0.09$ ).

Secondary glaucoma was detected in 5 of the 8 eyes that developed RD ( $p$  value; 0.0001). One eye was controlled with antiglaucoma eye drops, two eyes needed cyclo-photocoagulation and two eyes needed glaucoma surgeries. Age, sex, reoperation for visual axis opacification, primary IOL implantation and secondary IOL implantation did not affect the incidence of retinal detachment ( $p$  value 1, 0.39, 0.92, 0.59, 0.35 respectively).

**Incidence and Risk Factors of Retinal Detachment after Pediatric Cataract Surgery (A Tertiary Center Model)**

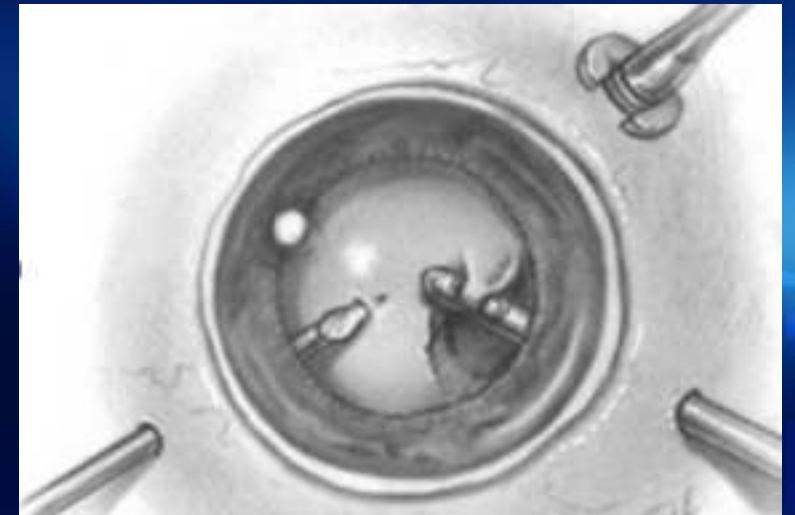
Heba Fouad; Jylan Gouda; Christina Ibrahim; Rasha Zedan; Ahmed Awadein; Heba Elgendy; Hala ElHilali

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**Conclusion:**secondary glaucoma was associated with higher incidence of RD, surgical approach did not affect the incidence, a larger sample size is needed to confirm this observation

# Posterior/ PP approach place of incision

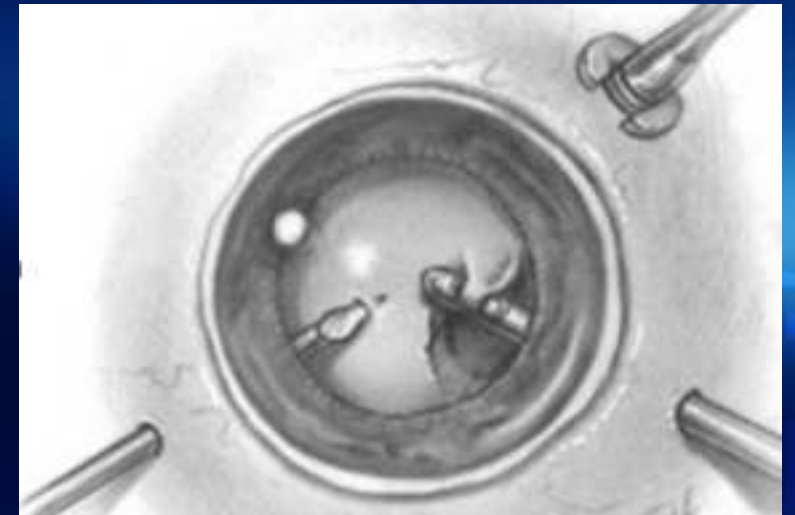
- Less than one year: 2 mm from the limbus
- 1-4 years old: 2.5 mm from the limbus
- Over 4 years: 3 mm from the limbus





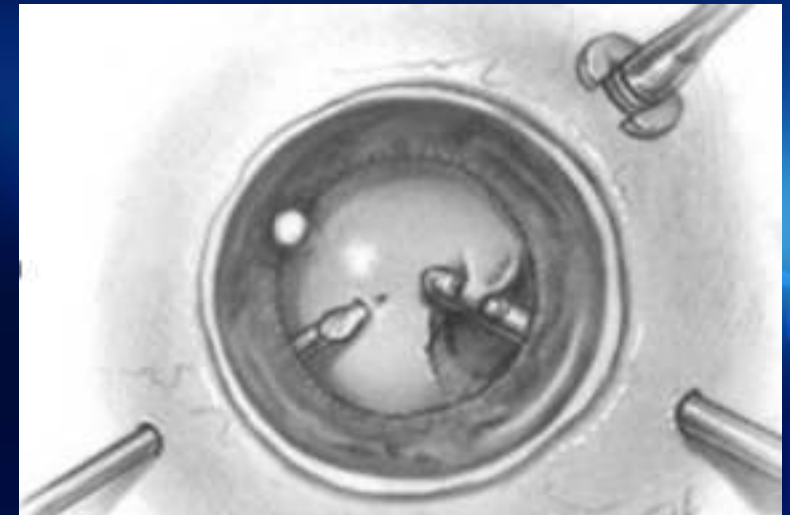
# size of posterior capsulotomy

- 4.5-5 mm
- 1-1.5 mm smaller than optic diameter



# pp posterior capsulotomy or pp posterior capsulotomy+ anterior vitrectomy?

- less than 5 years: anterior vitrectomy is a crucial step
- 5-8 years: controversial



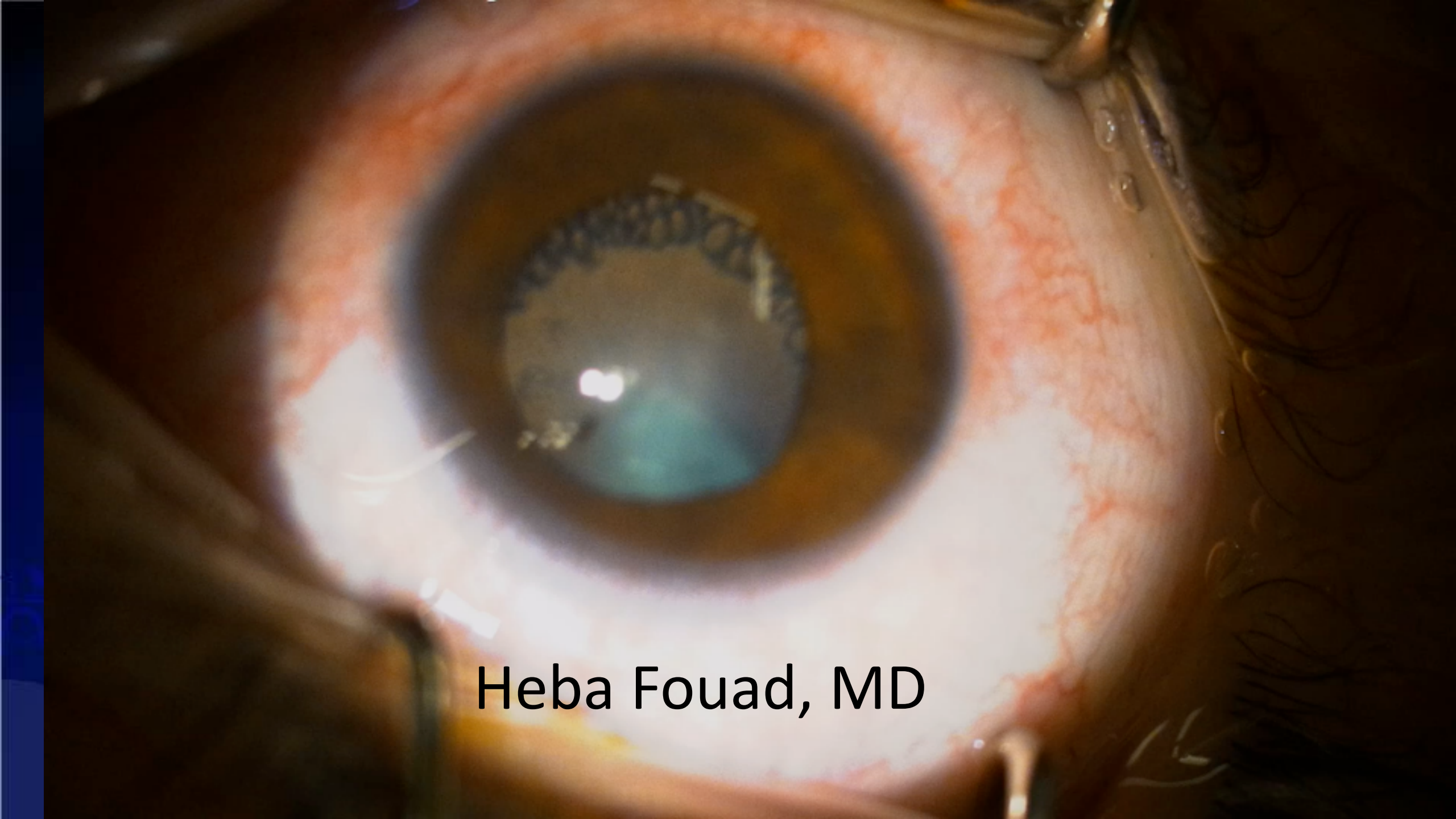
# Posterior/ PP approach :settings

- Gauge:20, 23 or 25 G
- posterior capsulotomy:lower cutting rate, higher vacuum
- anterior vitrectomy: higher cutting rate, lower vacuum



Courtesy of Professor Dr Hala El-Hilali





Heba Fouad, MD

# Conclusion

- Posterior capsulotomy and anterior vitrectomy are essential surgical steps in the management of pediatric cataract surgery
- Surgical approach is best left to the individual surgeon's preference and experience
- AAO recommends pars plana/plicata approach as the safest and most effective technique for posterior capsulotomy and anterior vitrectomy while ensuring a well centered IOL and a clear visual axis

# Thank You

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