

**19<sup>TH</sup> ANNUAL CONGRESS OF THE  
EGYPTIAN SOCIETY FOR THE  
Glaucomas** ESG 2019

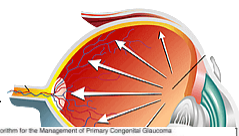
## The Lens in Primary Congenital Glaucoma

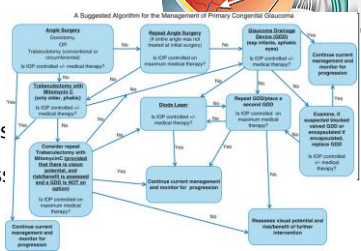
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Financial Disclosures: None

## The Lens in PCG

- ↑ IOP in the first years of life → enlargement of the globe (↑ corneal diameter, broadening of the limbus, ↑ of the axial length)
- (↑ corneal diameter + ↑ diameter of the ciliary ring) → increases t<sub>r</sub> pathology
- Congenital anomalies are likely to occur in groups and as anomaly in PCG or childhood glaucoma in syndromes as:
- Rx of PCG → surgical (angle surgery, filtering surgery, combined angle and filtering surgery) → associated with increased likelihood of lens pathology



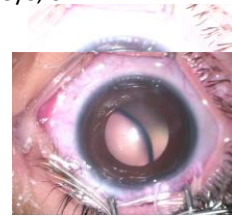


## The Lens in PCG

- Abnormalities of lens ***clarity*** (cataract) and/or ***position*** (subluxation / dislocation) → a profound effect on ***vision***:
  - A cataract → 31 eyes(56%)
    - occlude -totally or partially- the pathway of light into the eye; or:
    - produce a glare effect due to light scatter
  - A subluxated lens → lens periphery in the pupil →
    - significant astigmatism; 20 eyes(36%)
    - an equator crossing the pupil precluding refraction;
    - The lens clearing the pupil altogether → functional aphakia (“Pseudo-aphakia”) → relative hypermetropia.

422 patients  
(613 eyes)

39 patients  
(54 eyes)



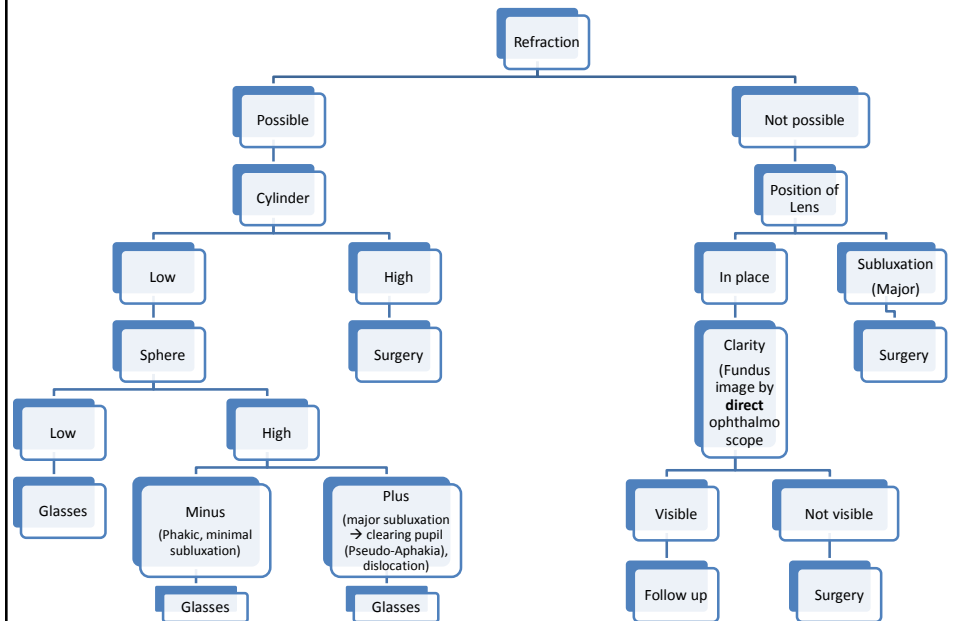
## The Lens in PCG

- Treatment of lens pathology in cases of PCG involves
  - Refractive correction for cases of astigmatism or pseudo-aphakia
  - Lens extraction for the remaining situations
  - Lens surgery in PCG eyes is technically demanding
    - questionable zonular integrity (enlarged ciliary ring / increased corneal diameter)
    - large ciliary ring per se posing an atypical working circumstance
    - soft IOP inherent in operated controlled cases of PCG
    - possible poor intraoperative visualisation (corneal pathology → Haab's stria, scarring)
  - Lens surgery in eyes operated for PCG may affect long term IOP control

## The Lens in PCG

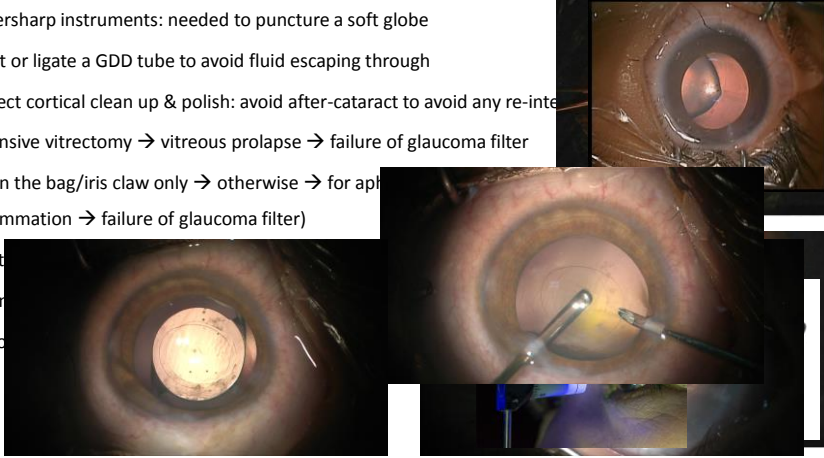
- Visual rehabilitation following a -hopefully- successful lens surgery in children is extremely challenging.
- Visual function is already difficult to assess at all stages of the treatment process.

## The Lens in PCG

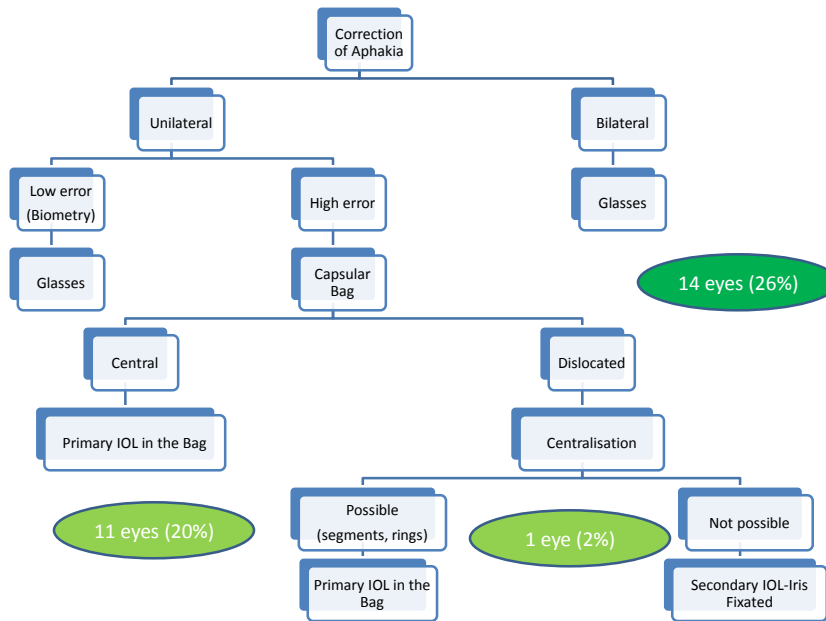


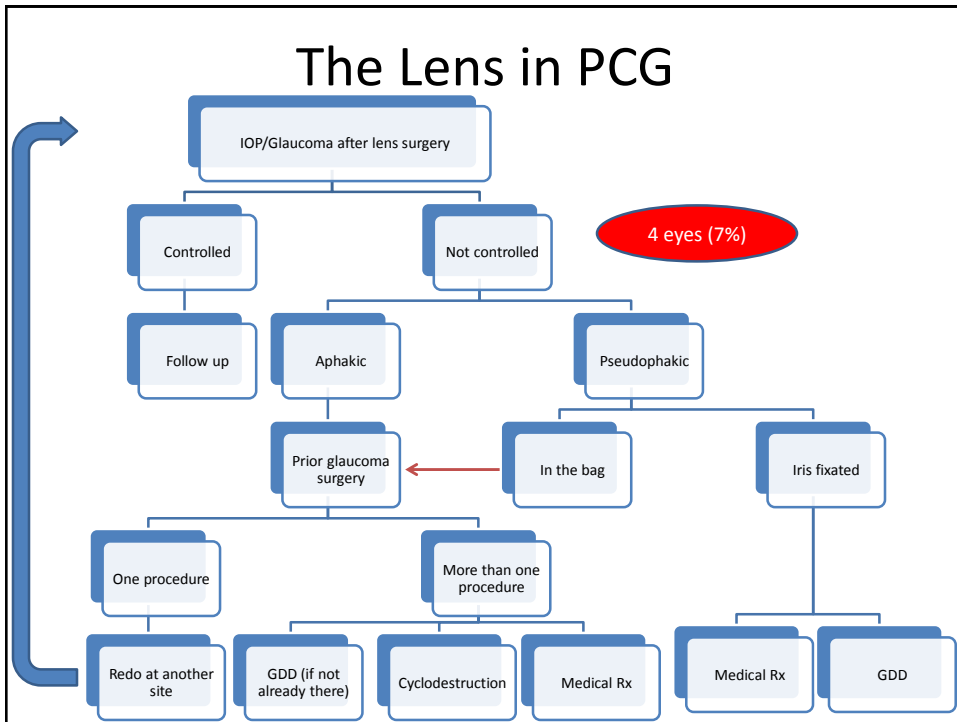
# The Lens in PCG

- Issues related to lens surgery in operated PCG:
  - GA: deep, muscle relaxant (high vitreous pressure → vitreous prolapse → failure of glaucoma filtration)
  - Supersharp instruments: needed to puncture a soft globe
  - Stent or ligate a GDD tube to avoid fluid escaping through
  - Perfect cortical clean up & polish: avoid after-cataract to avoid any re-into
  - Extensive vitrectomy → vitreous prolapse → failure of glaucoma filter
  - IOL in the bag/iris claw only → otherwise → for aphakia (avoid inflammation → failure of glaucoma filter)
  - Tight
  - Exter
  - Lifelo



# The Lens in PCG





## Take Home Message

- Surgery for PCG can result in changes in the natural crystalline lens clarity and/or position, albeit uncommonly (9%).
- The management of an abnormality in lens position depends on the refractive state of the eye and the lens position.
- Lens extraction in operated PCG is technically demanding.
- Correction of aphakia after lens surgery depends on laterality and capsular support.
- Lifelong follow up of IOP after lens surgery is mandatory (15% develop elevated IOP).
- The management of elevated IOP after lens surgery depends on the phakic status of the eye and the prior glaucoma surgical procedure.

Thank you