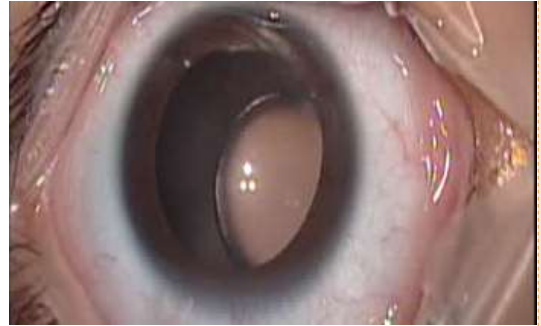


# Management of Subluxated lenses in Children

*Hala Elhilali MD*

*Professor of Ophthalmology*

*Cairo University*



# Ectopia Lentis

- Etiology:
  - Trauma
  - Familial ectopia lentis
  - Ocular Diseases
  - Systemic Diseases



Traumatic lens subluxation

## Ocular Diseases Associated with Ectopia Lentis

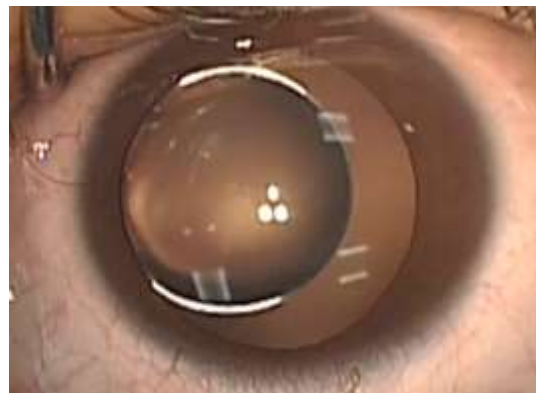
- Congenital Glaucoma
- Aniridia
- Retinitis Pigmentosa
- Axenfeld-Rieger's anomaly



Subluxated Lens in primary congenital glaucoma

## Systemic Diseases Associated With Ectopia Lentis

- Marfan's syndrome
- Homocystinuria
- Weil-Marchesani syndrome
- Sulphite oxidase deficiency
- Ehlers-Danlos
- Hyperlysinemia



Microspherophakia with subluxation in Weil-Marchesani syndrome

# Complications of Lens Subluxation

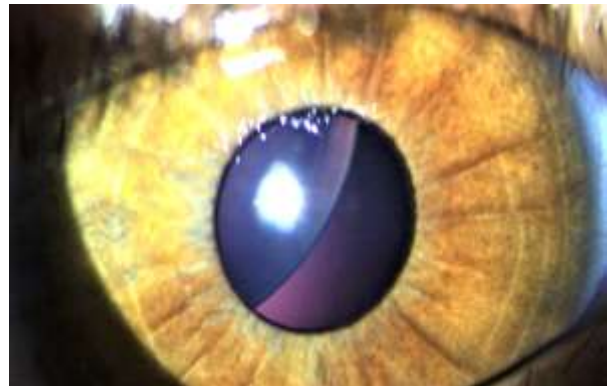
- Reduced visual acuity:
  - Loss of accommodation
  - Myopia / astigmatism
- Diplopia
- Forward dislocation:
  - Pupillary block
  - Acute/chronic angle-closure glaucoma



Microspherophakia with pupillary block

# Management of Lens Subluxation

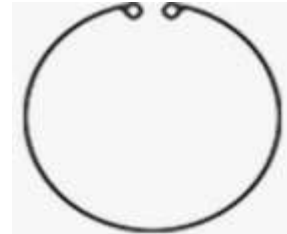
- Observation:
  - Glasses / contact Lenses
  - Amblyopia therapy in anisometric myopia/astigmatism
- Surgery:
  - Visual acuity not correctable
  - Anterior dislocation of the lens
  - Lens-induced glaucoma
  - Lens opacity
  - Threat of dislocation



## Surgical Choices

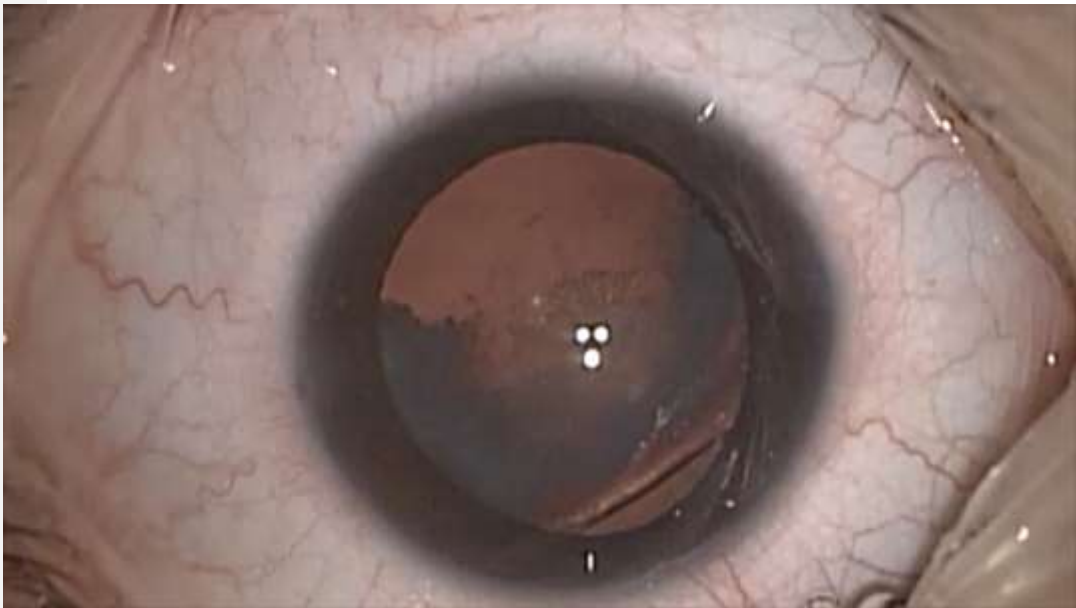
Traumatic (non-progressive) lens subluxation:

- Zonular damage  $\leq$  4 clock hours :
  - Capsule tension ring(CTR)
- Flexible C-shaped PMMA device
- Blunt-tipped eyelet at each end
- Insertion: injector / manually



CTR held with McPherson forceps

## Capsule Tension Ring



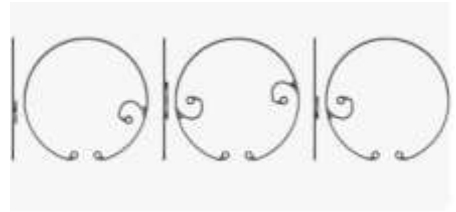
## Surgical Choices

### Non-progressive lens subluxation:

- Zonular dehiscence > 4 clock hours

#### → Modified rings (Cionni):

- C-shaped PMMA device
- 1 or 2 eyelets 0.25 mm anterior to ring plane
- Scleral fixation with 9-0 polypropylene  
or CV-8 Gore Tex

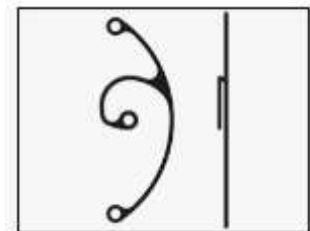


## Capsule Tension Segments

- PMMA segment provides 90° capsular support
- Central eyelet anterior to ring plane
- One or more segments can be used

### Advantages:

- ↓ intraoperative risk of zonular dehiscence,  
posterior capsular rupture, vitreous loss
- ↓ postoperative risk of lens decentration, tilt,  
posterior capsule opacification



Capsule tension segment  
front and side-view

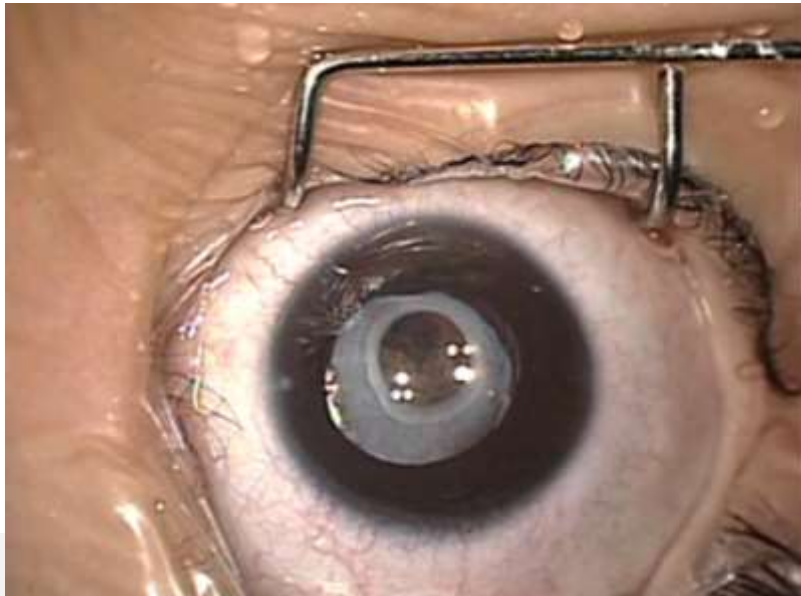


Capsule tension segment with  
central eyelet

## Capsule Tension Segment



## Posterior Capsular Opacification With CTR



## Subluxation in Congenital Glaucoma



## Do's and Don'ts In Subluxated lens Surgery For PCG

### Do's

- Choose incision site carefully
- Meticulous cortical clean-up and anterior capsule polish
- Place IOL in the bag
- Use a CTR if you need it
- Use non-steroidal anti-inflammatory eyedrops

### Don'ts

- Don't compromise functioning blebs
- Don't open the posterior capsule
- Don't place IOL in the sulcus
- Don't use scleral fixation
- Don't use steroid eyedrops unjudiciously

Thank You