



MANAGEMENT OF SUBLUXATED LENS

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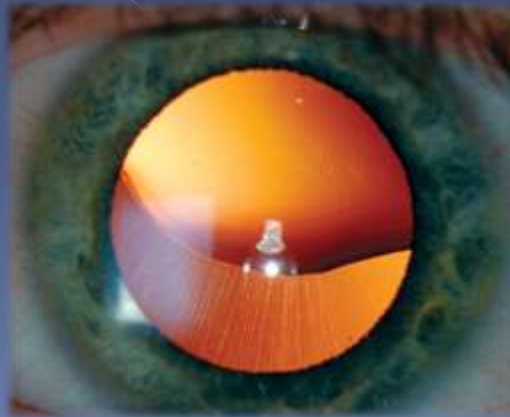
Research institute of ophthalmology (RIO)

Management of lens subluxation is one of the **most challenging** anterior segment situations that the surgeon may encounter starting from clinical evaluation to surgical approach ..

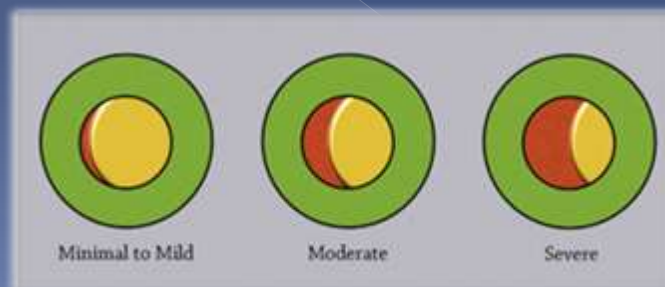


Lens Subluxation

Any displacement or malposition of the crystalline lens



- **Minimal to mild:** Lens edge uncovers 0% to 25% of the dilated pupil
- **Moderate:** Lens edge uncovers 25% to 50% of the dilated pupil
- **Severe:** Lens edge uncovers greater than 50% of the pupil



▶ Causes:

**Congenital or
Developmental
systemic
conditions**

Marfan syndrome / Homocystinuria / Ehlers-Danlos syndrome / Hyperlysinemia / Sulfite oxidase deficiency / Simple primary ectopia lentis / Congenital aniridia syndrome

**Adult
onset**

Pseudoexfoliation syndrome

**Acquired
or
Iatrogenic**

Blunt external trauma

Clinical Evaluation

- ◉ Family History
- ◉ Relevant Trauma
- ◉ Onset and types of visual **symptoms:**
(Decrease of visual acuity, Monocular diplopia, Poor near vision)
- ◉ Pediatric patients most likely to have **metabolic** disorders.
- ◉ Adult patients mostly will present with **Marfan** Syndrome.

Ophthalmic Examination

1. Degree of zonular loss
2. Evaluation of subluxated lens edge
3. Comparing between slit lamp and supine position
4. Ultrasound biomicroscopy

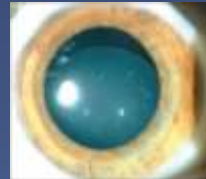
► The Degree of Zonular Loss:

Focal trauma
or congenital
defects

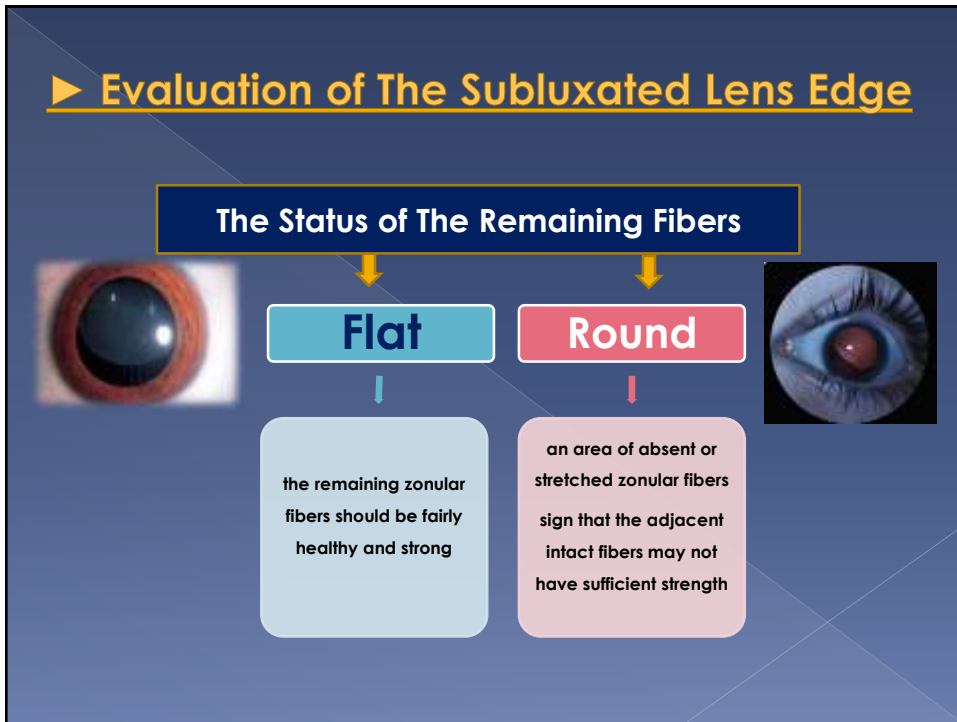
Localized
zonular
compromise

Systemic conditions
such as Marfan or
ocular conditions such
as PXF

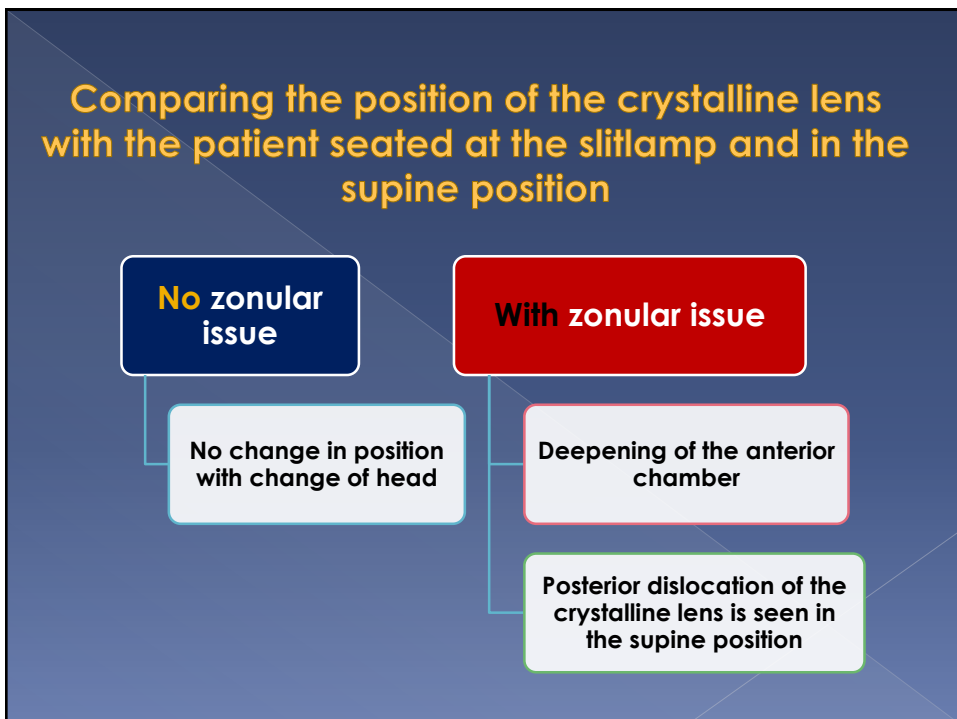
Global weakness to the
zonular fibers



► Evaluation of The Subluxated Lens Edge

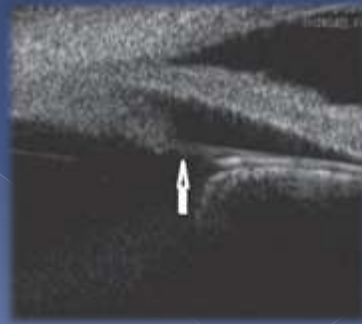


Comparing the position of the crystalline lens with the patient seated at the slitlamp and in the supine position



Ultrasonic Biomicroscopy (UBM)

- ⦿ assessing the degree of **zonular compromise**.
- ⦿ Simulating the condition of the crystalline lens during the surgical procedure .



- ⦿ In cases of trauma, **the lens capsule** should be examined for evidence of damage or puncture
- ⦿ **Prolapsed vitreous**
- ⦿ Increased **iop** in cases of pxf or trauma (recession)
- ⦿ **Posterior segment** for break or tear deal with it first .

Surgical Approach

► Planning:

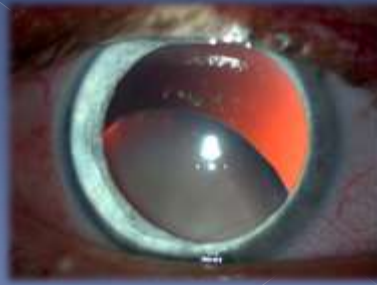
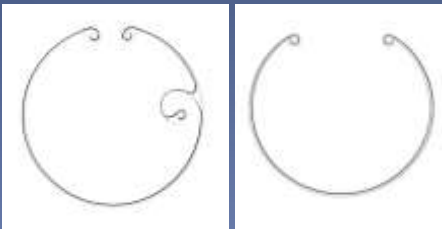
- ◉ zonular abnormality is less than 3 contiguous clock hours.
- ◉ A posttraumatic eye has a small focal area of dialysis.

No Capsular tension ring needed



With a progressive pathologic state such as PXF, and Marfan Syndrome, zonular problems can be expected to worsen over time

A CTR should be placed



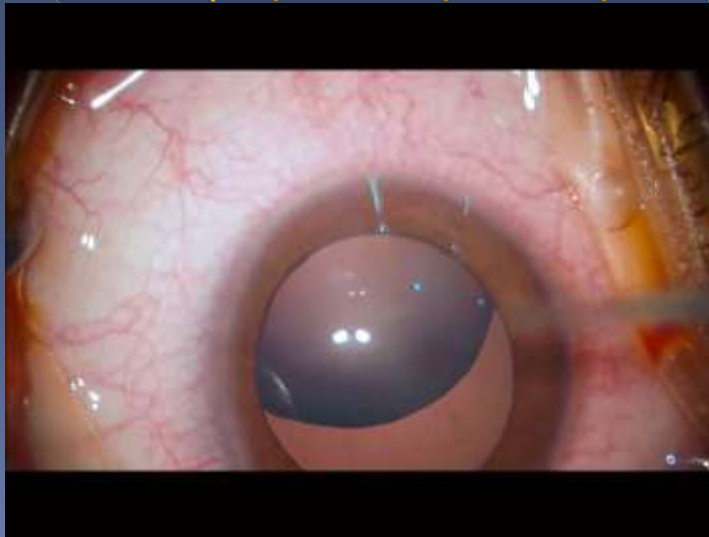
surgeons should be **cautious** for greater damage than is readily apparent



Steps to be considered are:

1. Capsulorrhexis
2. Stabilization of the bag
3. Choice of CTR
4. Phacoemulsification
5. Iol implantation

Courtesy of Prof. Khaled Abdel Rahman (Experts eye Hospital)



Take home message

- A decision of using CTR should be done during examination not in OR.
- Be always prepared for greater damage .
- Place the CTR as late as you can and as early as you must .

Thank You!