Surgical Management of Zonular Weakness

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Nicole R. Fram, MD
Advanced Vision Care, Los Angeles, CA
Clinical Instructor, Jules Stein Eye Institute, UCLA

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Etiology

- Common
  - Iatrogenic
  - Pseudoxefoliation
  - Previous Trabeculectomy/PPV
  - Trauma
- Less Common
  - Marfan’s Syndrome
  - Homocysteinuria
  - Weill-Marchesani
  - Retinitis Pigmentosa
  - ROP
Signs of Zonular Weakness

- Phacodonesis
- "Bulls eye" PXE changes on anterior capsule and TIDs
- Shallow chamber is eyes with PXE
- Lens subluxation
- Poor pupil dilation
- Asymmetry of anterior chamber depth
- Angle recession

Surgical Tool Box

- Dispersive OVD
- Capsule Retractors
- Capsule Tension Rings/Segments

Standard Iris Hooks for Capsular Support

- Readily available
- Some re-usable
- Not designed for the capsule bag
- Caution: Ends not polished
Makool Cataract Support

- Manufactured by Impex
- Original reusable
- Now Disposable
- Ergonomic design but cumbersome to use

MST Capsule Retractors

- Newest to the marketplace
- Support at equator of the bag
- 4 per package

Yaguchi-Kazowa Double Hooks

- 2 point fixation for each hook
- Ends are smooth
- 5 per package
- Available only in Japan
- info@handaya.co.jp
Ahmed Capsular Tension Segment

- Can be used for temporary capsule support or permanent with suture fixation
- Typically used in conjunction with a CTR

Capsular Tension Rings

<table>
<thead>
<tr>
<th>Bag Fixed</th>
<th>Suture Fixed</th>
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<tbody>
<tr>
<td>Morcher Pre-Loaded</td>
<td>Cionni Modified CTR</td>
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<tr>
<td>Henderson Ring</td>
<td>Malyugin/Cionni Pre-Loaded CTR</td>
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</table>

- Type 1-G is ideal

78 y/o female with spherophakia variant and diffuse zonulopathy OU

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Post Operative Photos

CTR Complication

Iatrogenic: Zonules Gone Wild
Summary

• “As late as you can, but as early as you must” - Ken Rosenthal

• Capsule retractors serve as artificial zonules

• CTR alone in <3-4 clock hours of weakness

• Suture segments or modified CTR >4 clock hours of zonular weakness

• Do not place CTR in the setting of anterior or posterior tears