Intraoperative Considerations in Angle-based MIGS

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Angle visualization is >90% of the Battle

Know your landmarks
Know your landmarks

Maneuvers for clarification in case of abnormal anatomy or lightly pigmented TM:
- Vision Blue
- Look elsewhere
- Transient AC decompression
- Trendelenburg positioning

Know your goal: Clear, steady, en face view

Consider:
- Patient position
- Microscope
- Gonioprism
- Interface
- Viscoelastic
- Corneal wound

Patient position

- Move patients head away from you 30-45 degrees
  - Avoid head taping; inform patient ahead of time
  - Often times further than you think to achieve en face view
  - Ask patient to look away as well
- Uncooperative patient or with physical limitations
  - Avoid angle-based MIGS
  - Limbal suture if necessary
Patient position

Consider reverse Trendelenburg
Decreases episcleral venous pressure
Decreases likelihood of significant bleeding

Microscope

- Angle the microscope towards you approx 30-45 degrees
- Can premark
- Plan which clock hour you are aiming for and center yourself and your microscope
- Look for concentration of episcleral vessels or areas of more pigmented TM
- ZOOM IN
- Use gross focusing with the microscope rather than the pedal until you are in the eye

Gonioprism

- Toothed, non-toothed, or hands-free gonioprism
- Apply just enough pressure to get rid of the air or bubbles in the interface
- Too much pressure can cause corneal striae and escape of viscoelastic
- Can try to use goni to move eye further away
- Hands free gonioprism – frees up one hand but may still require some manipulation
Viscoelastic

- Cohesive viscoelastic
  - Underinflation can be associated with iris bowing and inability to visualize angle structures, poor view from corneal striae, and more reflux bleeding
  - Overinflation can cause collapse of Schlemm's canal and difficulty cannulating or opening it
  - A little bit of blood reflux is likely confirmation of positioning, tamponade with more viscoelastic

- Don’t forget about the interface
  - Avoid heme
  - Avoid limbal vessels during wound construction
  - Reapply goniosol or viscoelastic as needed

Incision location

Too anterior:
- May have difficulty maneuvering the gonio on the corneal surface while the instrument is in the eye

Too peripheral:
- May nick perilimbal vessels causing heme in the interface

Main incision

- Short incision
  - Less AC stability
- Long incision
  - More likely to be obscured with corneal striae especially if pushing on the posterior aspect of the wound
- Focal procedures such as iStent or Kahook dual blade goniotomy
  - Close to 3 or 9 o’clock if possible
- Make another incision if necessary
- Remember oblique is an option!
Creation of separate wound (Hydrus)

Sequence of angle-based MIGS in combo cases

<table>
<thead>
<tr>
<th>BEFORE PHACO</th>
<th>AFTER PHACO</th>
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</thead>
<tbody>
<tr>
<td>PRO: Cornea is clearest</td>
<td>PRO: More open angle</td>
</tr>
<tr>
<td>CON: Hyphema may confound view for phaco</td>
<td>CON: View may be more hazy</td>
</tr>
<tr>
<td>CON: Patient may be less cooperative</td>
<td>CON:</td>
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