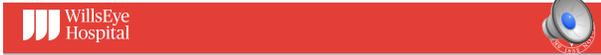


Intraoperative Considerations in Angle-based MIGS

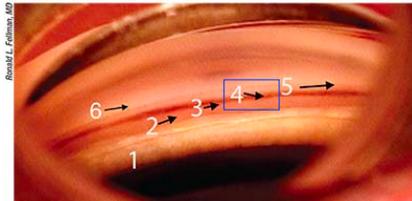
Natasha Nayak Kolomeyer, MD
Assistant Professor of Ophthalmology
Glaucoma Service, Wills Eye Hospital



Angle visualization is >90% of the Battle



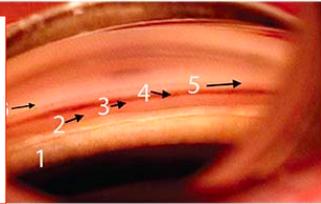
Know your landmarks



Know your landmarks

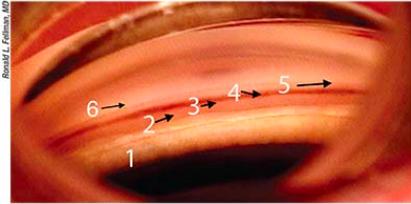
Maneuvers for clarification in case of abnormal anatomy or lightly pigmented TM:

- Vision Blue
- Look elsewhere
- Transient AC decompression
- Trendelenburg positioning



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Know your goal: Clear, steady, *en face* view



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

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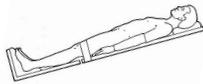
Patient position

- 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

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Patient position

- Consider reverse trendelenburg
- Decreases episcleral venous pressure
- Decreases likelihood of significant bleeding



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Microscope

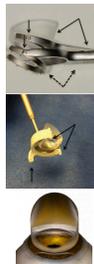
- Angle the microscope towards you approx 30-45 degrees
 - Can premark
- Plan which clock hour you are aiming for and center yourself and your microscope
 - Look for concentration of episcleral vessels or areas of more pigmented TM
- ZOOM IN
- Use gross focusing with the microscope rather than the pedal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



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Gonioprism

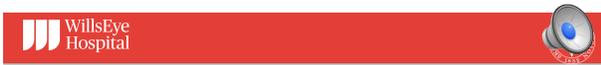
- Toothed, non-toothed, or hands-free gonioprism
 - Apply just enough pressure to get rid of the air or bubbles in the interface
 - Too much pressure can cause corneal striae and escape of viscoelastic
 - Can try to use gonio to move eye further away
- Hands free gonioprism – frees up one hand but may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



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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

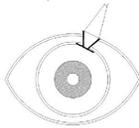


Incision location

THE GOLDILOCKS PRINCIPLE



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

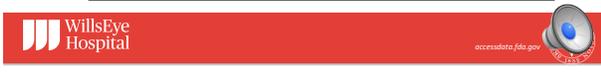
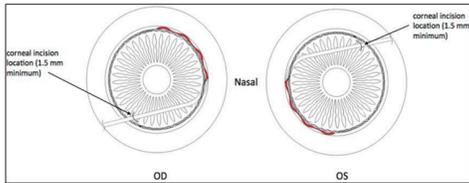


Main incision

- 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!

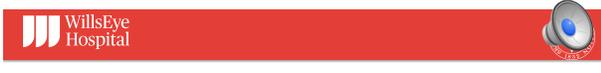


Creation of separate wound (Hydrus)



Sequence of angle-based MIGS in combo cases

BEFORE PHACO	AFTER PHACO
PRO: Cornea is clearest	PRO: More open angle
CON: Hyphema may confound view for phaco	CON: View may be more hazy CON: Patient may be less cooperative



Know your goal: Clear, steady, *en face* view



- Consider:
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