Overview

- Sarah’s Thoughts on Artifacts
- OCT
- Slit Lamp
- AF
- FA
- ICG
- Fundus Quiz

Sarah’s Thoughts on Artifacts

1. Be able to identify artifacts.
2. Understand / Learn how they got there
3. Prevent them from occurring
4. Inform your doctors
   - Especially if clinically significant!

Macular OCT Artifacts

Check Scan Quality!
- signal strength
- scan placement
- movement / fixation
- scan saturation
- segmentation lines
- standard deviation

Macular OCT Artifact Study

- >100 eyes from Cirrus
- ~90 eyes from Spectralis
- >85% had at least 1 artifact
- ~91% had at least 1 artifacts
- >33% had 1 artifact in the center 1mm area
- >38% had 1 artifact in the center 1mm area
- >6% were clinically significant
- >8% were clinically significant

More than 50um

Macular OCT Artifacts

- Misidentification of the Inner Retina
- Misidentification of the Outer Retina
- Fixation Off-center (not on foveal depression)
- Fixation Movement
- Out of register, Inverted, Ghost image
- Cut Edge
- Motion Waves (Cirrus only)

Ian Han, Glen Jaffe.

Misidentification of the Inner Retina

Artifact affected central thickness

Ian Han, Glen Jaffe.
Misidentification of the Outer Retina

Myopic Degeneration

Neovascular AMD with drusen. Spectralis included drusen in measurement. Manual redraw followed RPE to show actual thickness of retina.

Ian Han, Glen Jaffe.

Fixation off-center

Fixation Movement

Fixation Movement: Double Fovea

Out of register, Inverted, Ghost image

Out of register, Inverted, Ghost Image

Cut Edge and Segmentation

Ghost image is from inverted retina
Motion Waves

What’s this artifact?

Asteroid Hyalosis

Macular OCT Artifacts
- Image taken before scanner engaged
- Shadowing from Vitreous Hemorrhage
- Gas Bubble
- Iris Clipping

Image taken before scanner engaged

Shadowing from Vitreous Hemorrhage

Gas Bubble

Iris Clipping

RNFL OCT Artifacts
- Check Scan Quality
- signal strength
- scan placement
- movement / fixation
- scan saturation
- segmentation lines
- standard deviation

Images provided by Dennis Orlock
Optic Nerve

- Signal strength
- Circle placement
- Movement / fixation
- Scan saturation
- Segmentation lines

Optic Nerve OCT when the patient isn't dilated?

RNFL Artifact: Pathology

- Typical signal strength
- Movement / fixation
- Scan saturation
- Segmentation lines

Pupil Dilation for RNFL

Are you requiring patients be dilated before doing RNFL OCTs?

Slit Lamp

- Corneal defect patient
- Lids, Lashes, Tears
- Pseudoexfoliation
- Light Reflexes
- Oeooops!
- Thin Slit

Lids, Lashes and Tears
Light Reflexes

Light Reflexes

Ooops!

Thin Slit

AF

- I love auto fluorescence!
- Averaging/Patient Motion Artifact
- Composite Feature
- "Cunningham Sign"
- IR Bleaching?

Plaquenil

AMD

Averaging/Patient Motion Artifact
“Cunningham Sign”

- Retinal Bleaching
- Cunningham D.  

- Retinal Bleaching During Fundus Autofluorescence Using a Confocal Scanning Laser Ophthalmoscope. 

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IR Bleaching?

- Floaters?
- What’s this?
- Barrier Filter Smudge
- Barrier Filter- UNC problem
- Tears
- Newborn Vessels
- Myopic Degeneration

Floaters??
Blood in the Vitreous

What's this?

Shooting around the IOL

• Dislocated
• Misplaced
• Large dilation

Barrier Filter Smudge

Barrier Filter

I hope those tears aren't on my lens now….

Newborn Vessels

Newborn Vessels OD
ICG

- Myopic Degeneration

ICG of Myopic Degeneration

-19.75

Fundus Artifact Quiz

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10.

Artifact 1

Artifact 2

Artifact 3
Debra Cantrell, COA  
Rona Lyn Esquejo-Leon, CRA