

Eye Emergencies: US Approach

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Outline

US Approach to the Non-Traumatic Eye

- Retinal Detachment (RD)
- Posterior Vitreous Detachment (PVD)
- Vitreous Hemmorhage (VH)

US Approach to the Traumatic Eye

- Traumatic Eye Exam
- Ruptured Globe
- RD, PVD, VH
- Retrobulbar hematoma
- Lens Dislocation

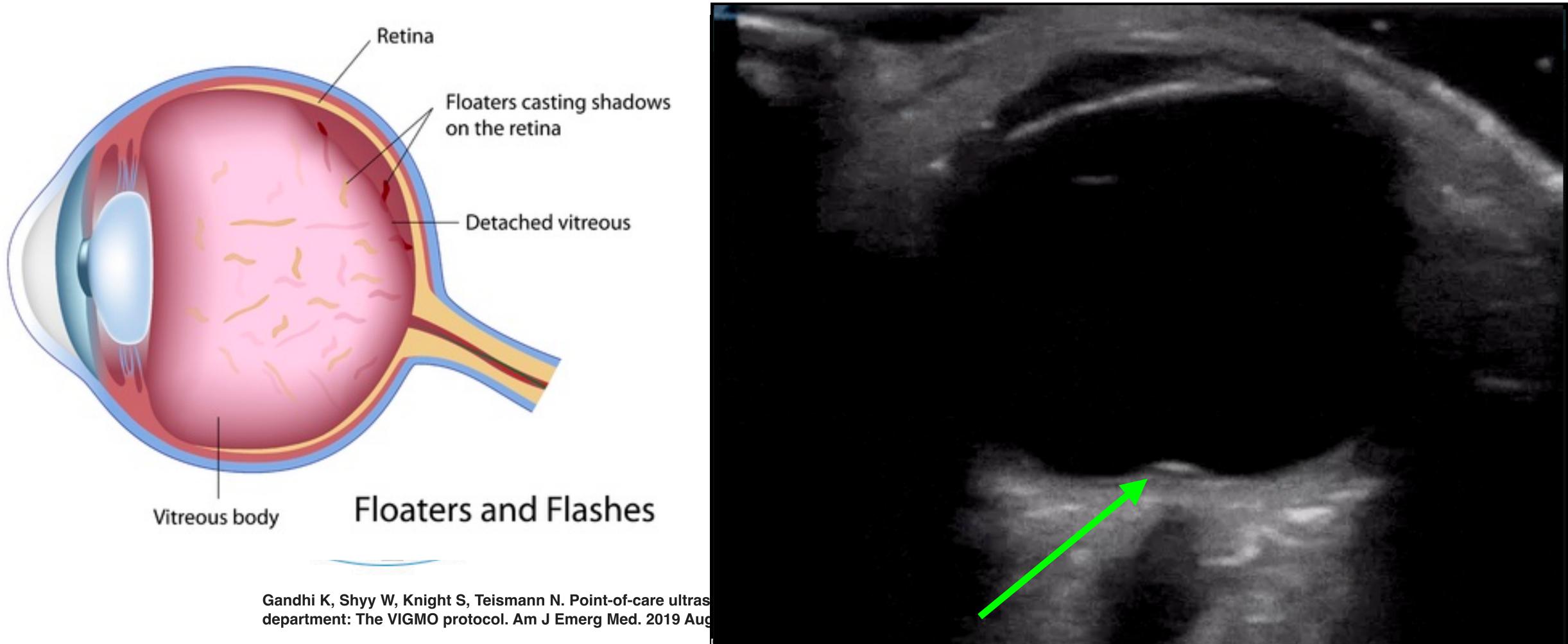


Ocular US Set-Up Lid Anterior Chamber Lens Vitreous

Retina

Optic Nerve

Atraumatic Ocular US Approach ViGNO



- months and new painless left vision changes x 2 weeks.
 - ADLs are difficult
 - OD- Light only
 - OS- 20/400

Case

• 50 y/o man with HIV (off ART) with right monocular painless vision loss x 2

Ocular US

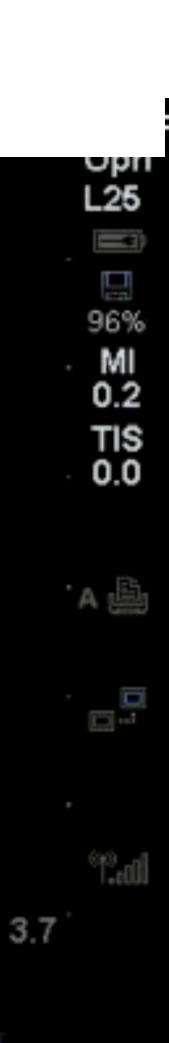
Hogh Gain





Hogh Gain

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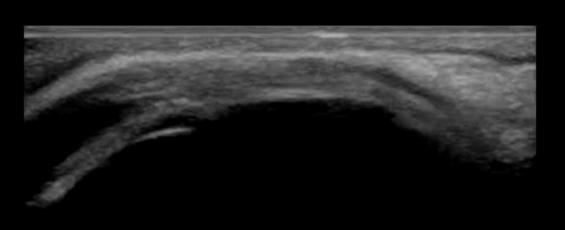


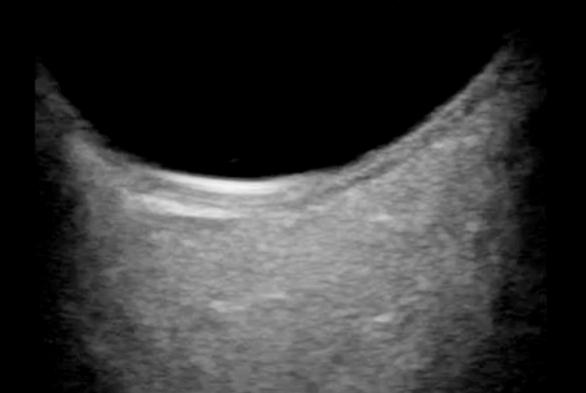
Case 50 y/o with acute monocular painless vision changes.

Low Gain

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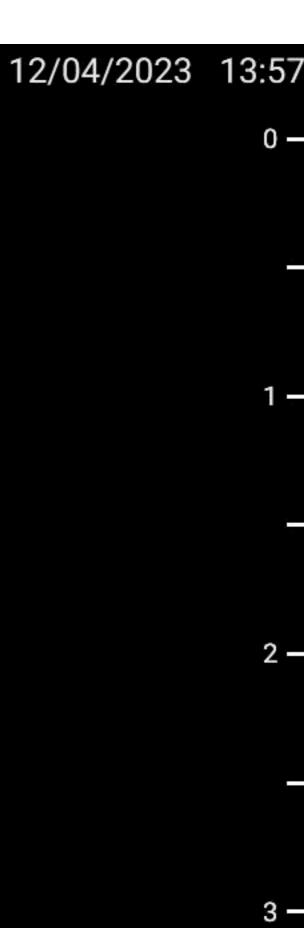




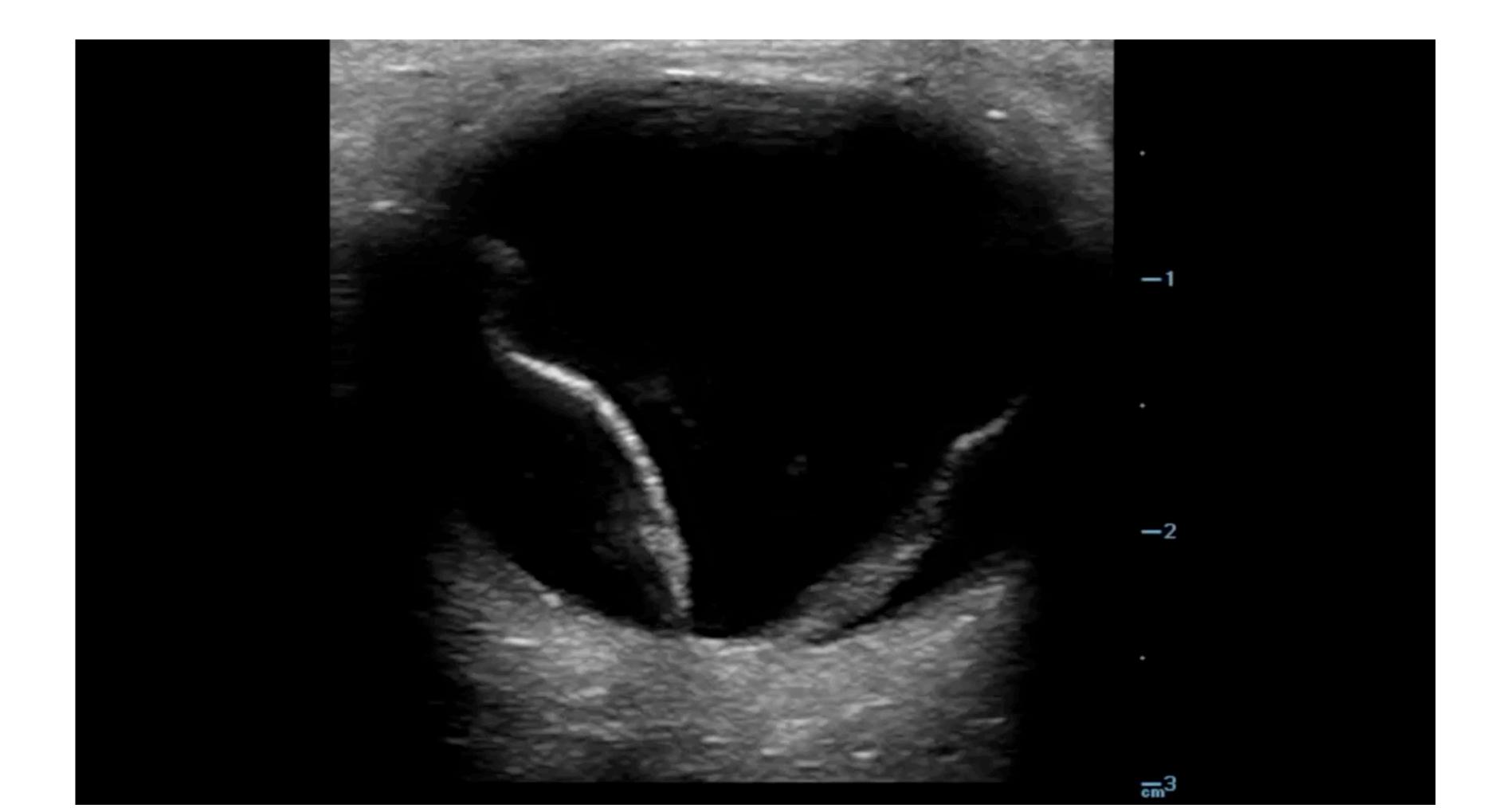


High Gain

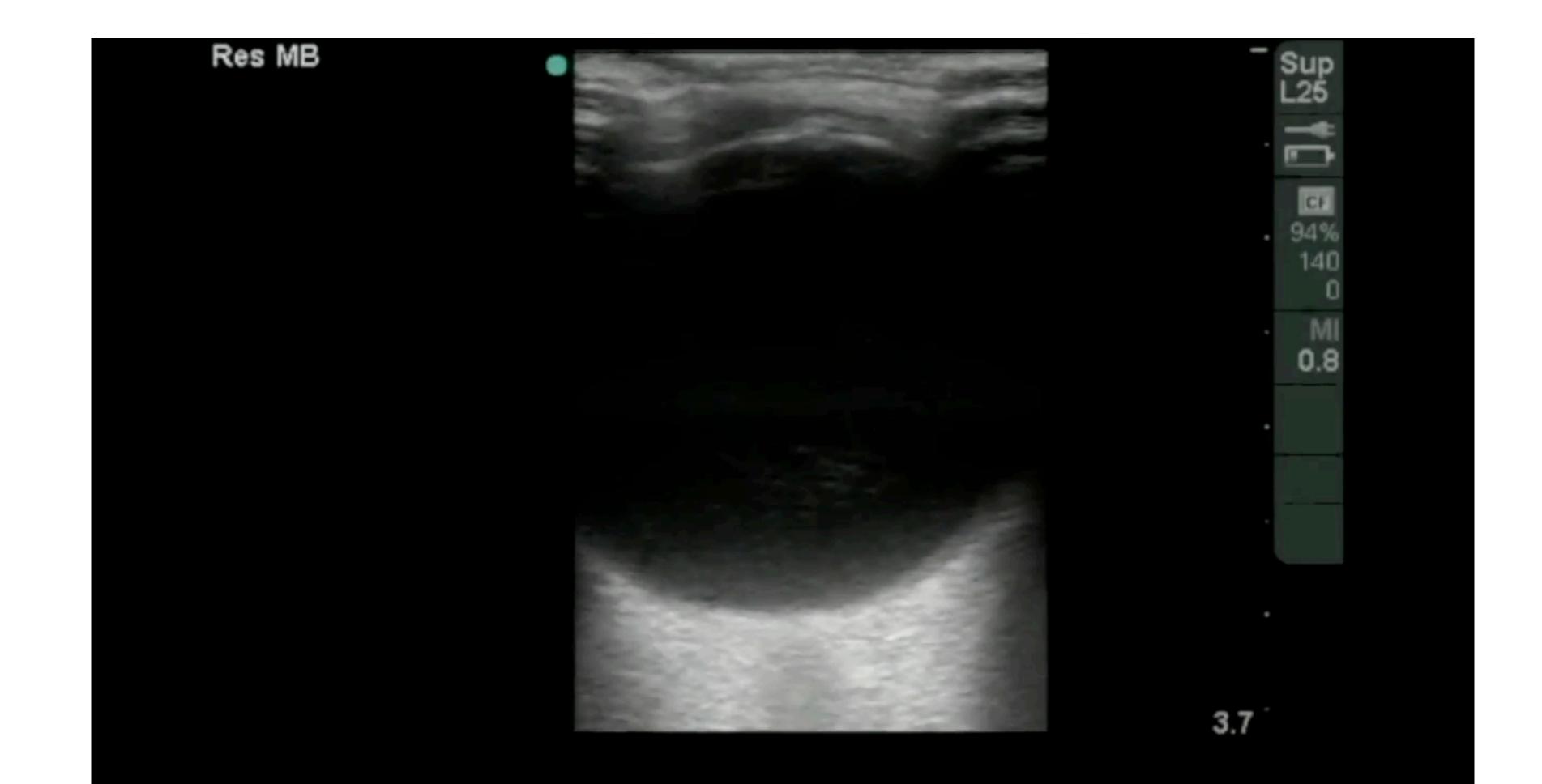
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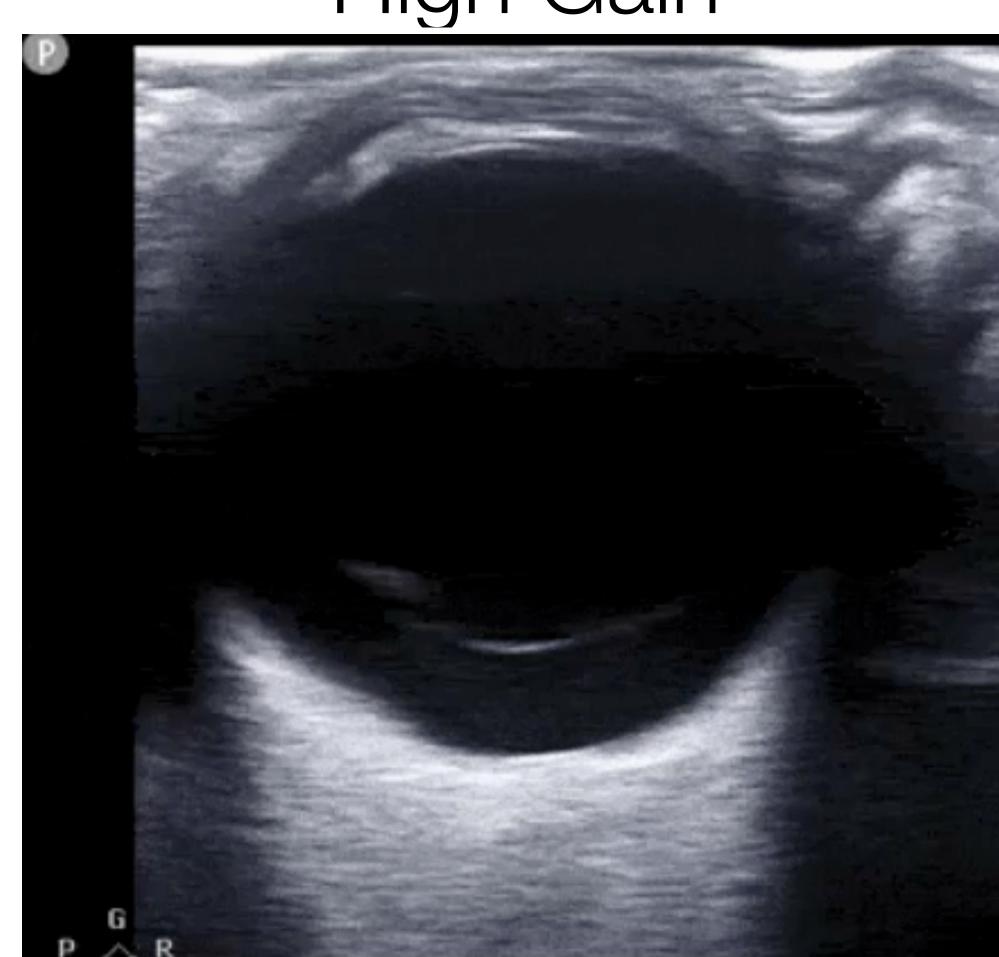
Case 50 y/o with acute monocular painless vision changes.



Case 50 y/o with DM and acute monocular painless vision changes.



Case 50 y/o with acute monocular painless vision changes.



High Gain

Case 50 y/o with acute monocular painless vision changes. High Gain



Atraumatic Ocular US Approach *ViGMO*

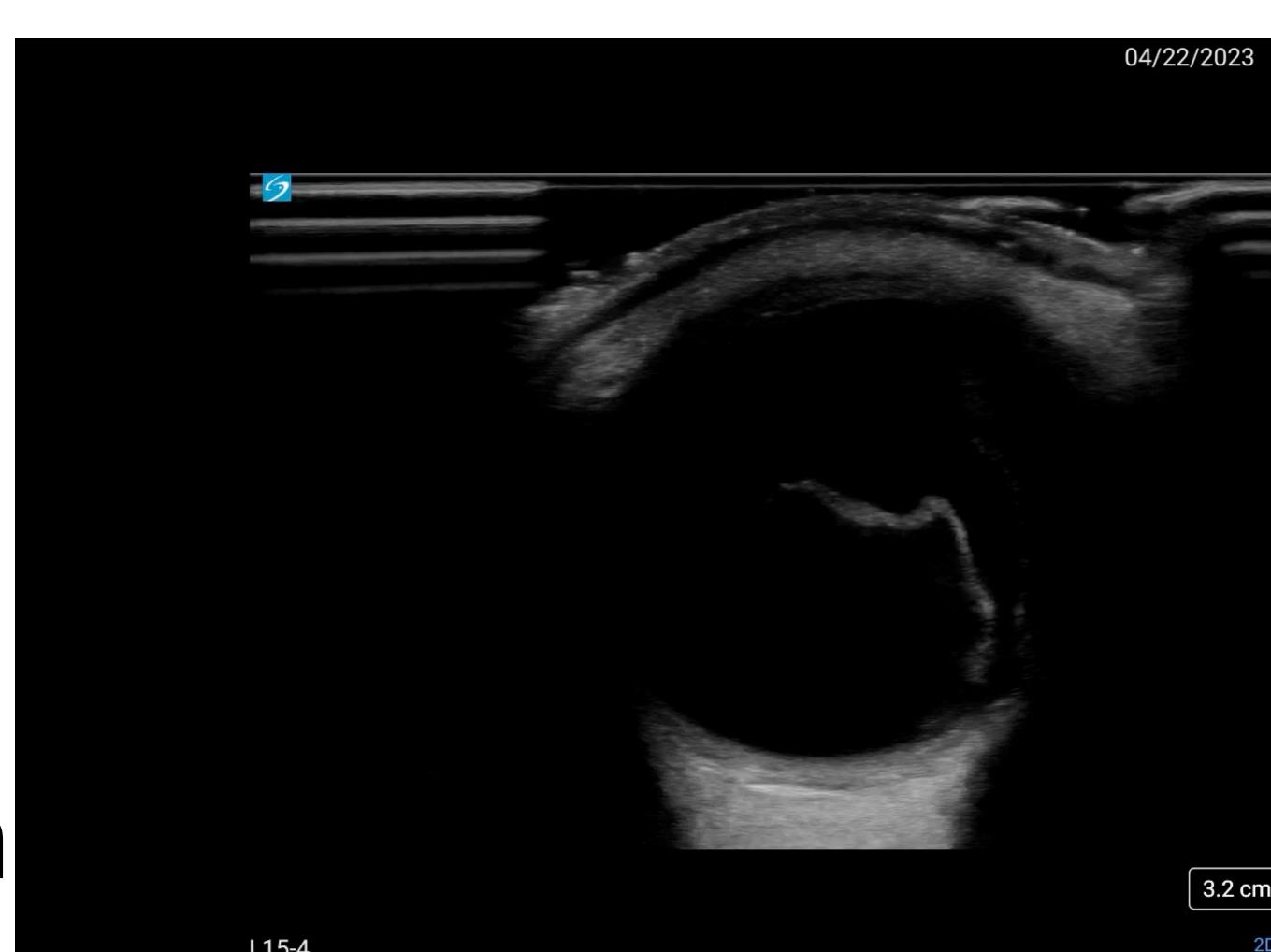
Vitreous evaluation

Gain (High & Low)

Movement (Kinetics)

Optic disc evaluation

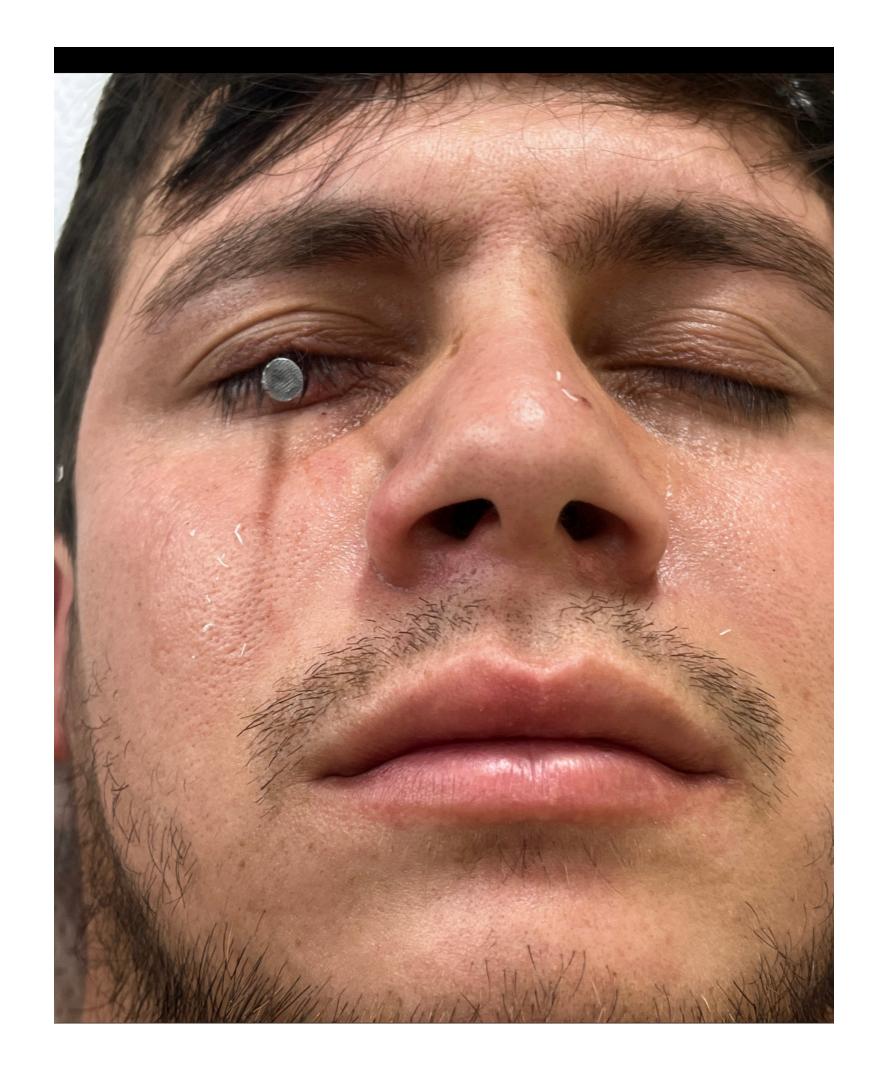
Gandhi K, Shyy W, Knight S, Teismann N. Point-of-care ultrasound for the evaluation of non-traumatic visual disturbances in the emergency department: The VIGMO protocol. Am J Emerg Med. 2019 Aug;37(8):1547-1553.



L15-4 EMERGENCY DEPT Nerve UCSF MEDICAL CE... MI: 1.3 TIS: 0.1

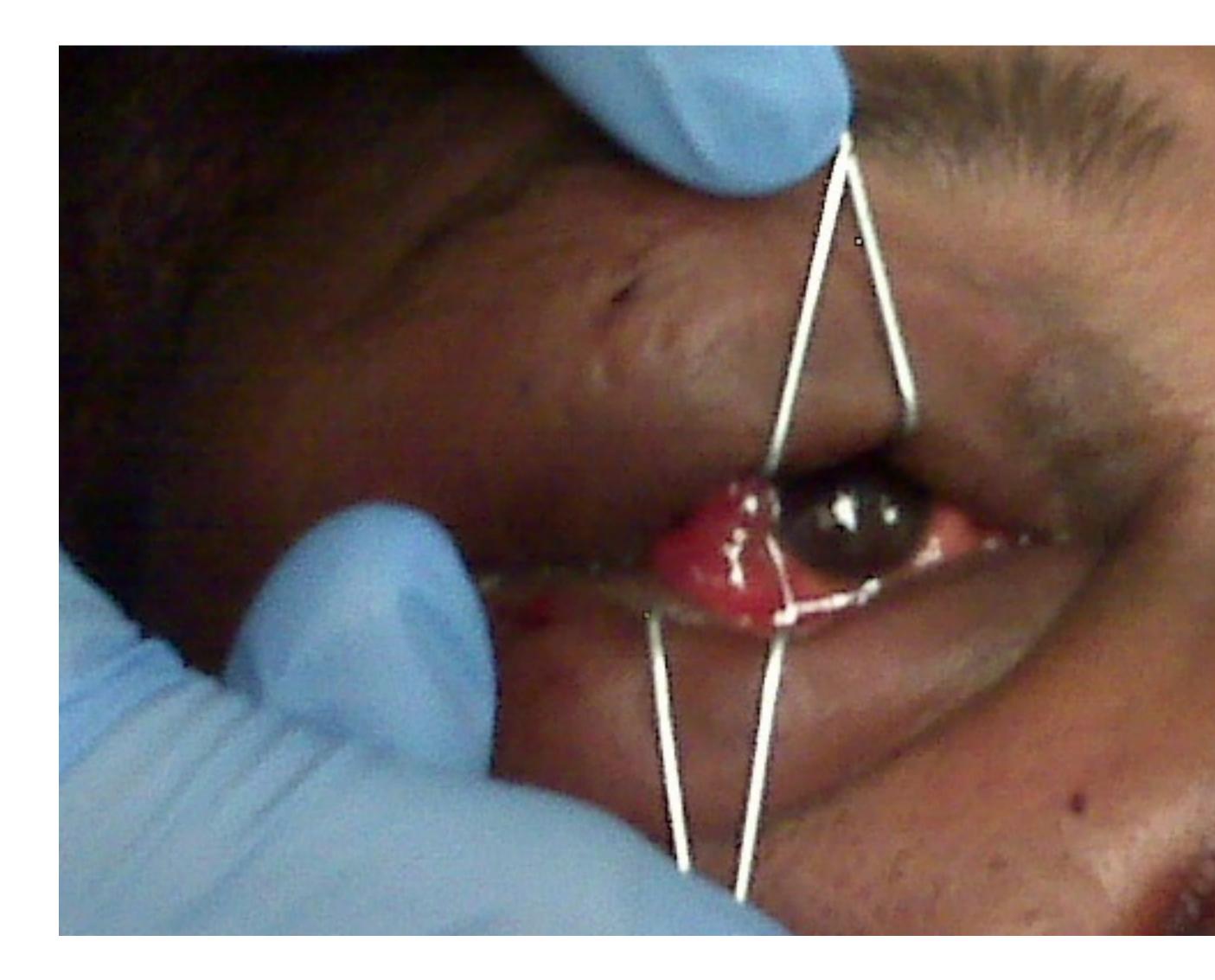


US Approach to Traumatic Eye



Ocular Trauma Exam

Pupillary Response EOMs Globe Assessment





SonoSite HFL38xp/13-6 Small Parts MI: 0.7 TIS: 0.3



6mm



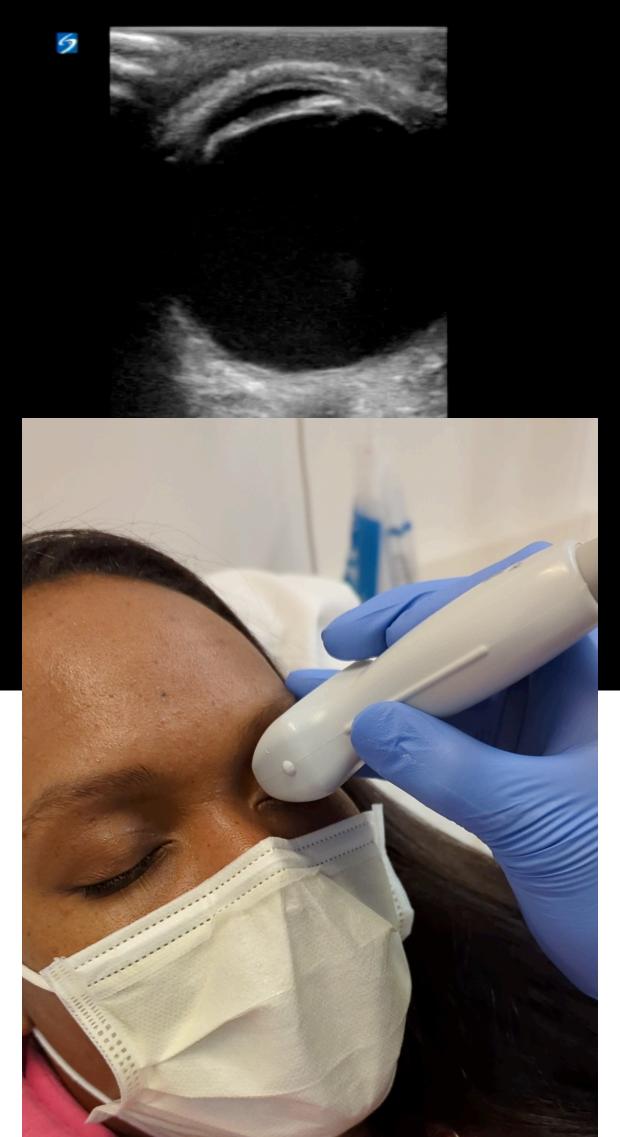






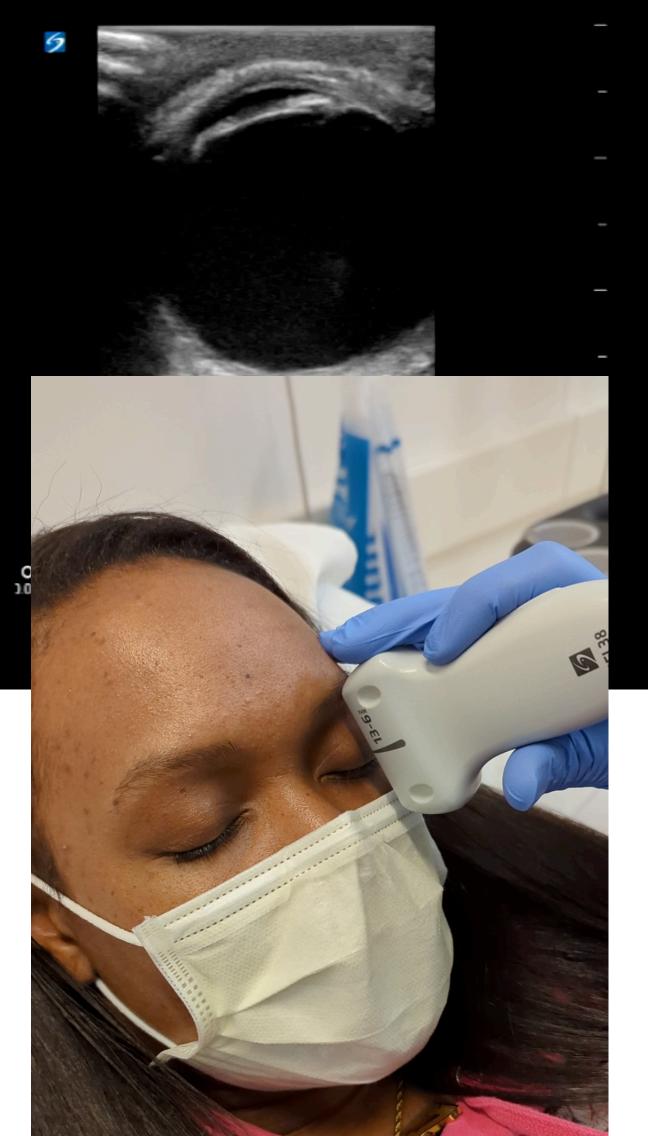


Medial-Lateral



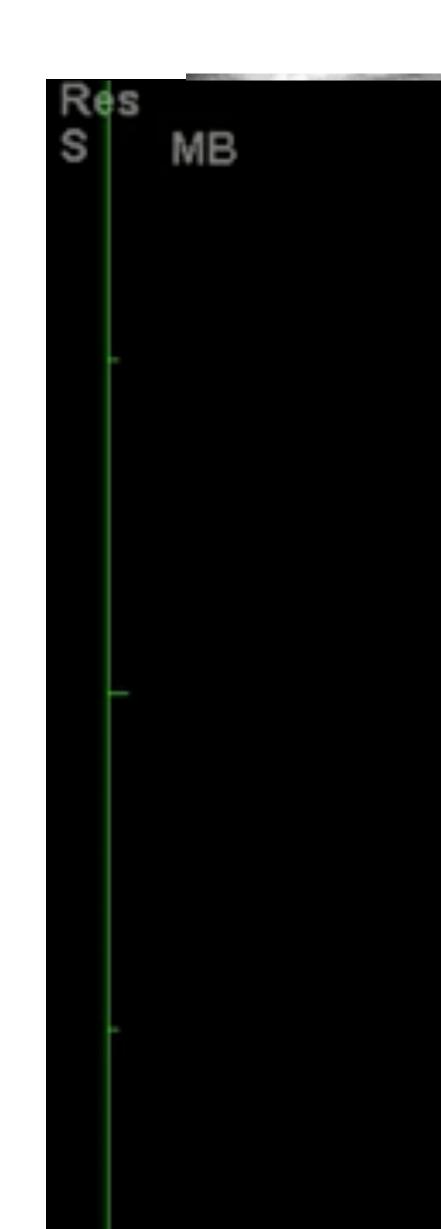
Extraocular Muscle Exam

Superior-Inferior



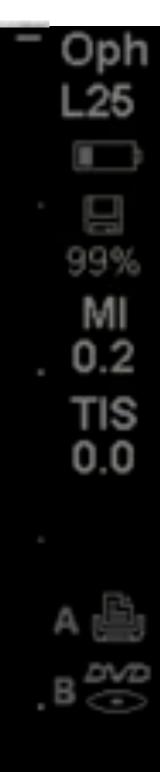
Ocular Trauma Pathology

Lens Dislocation





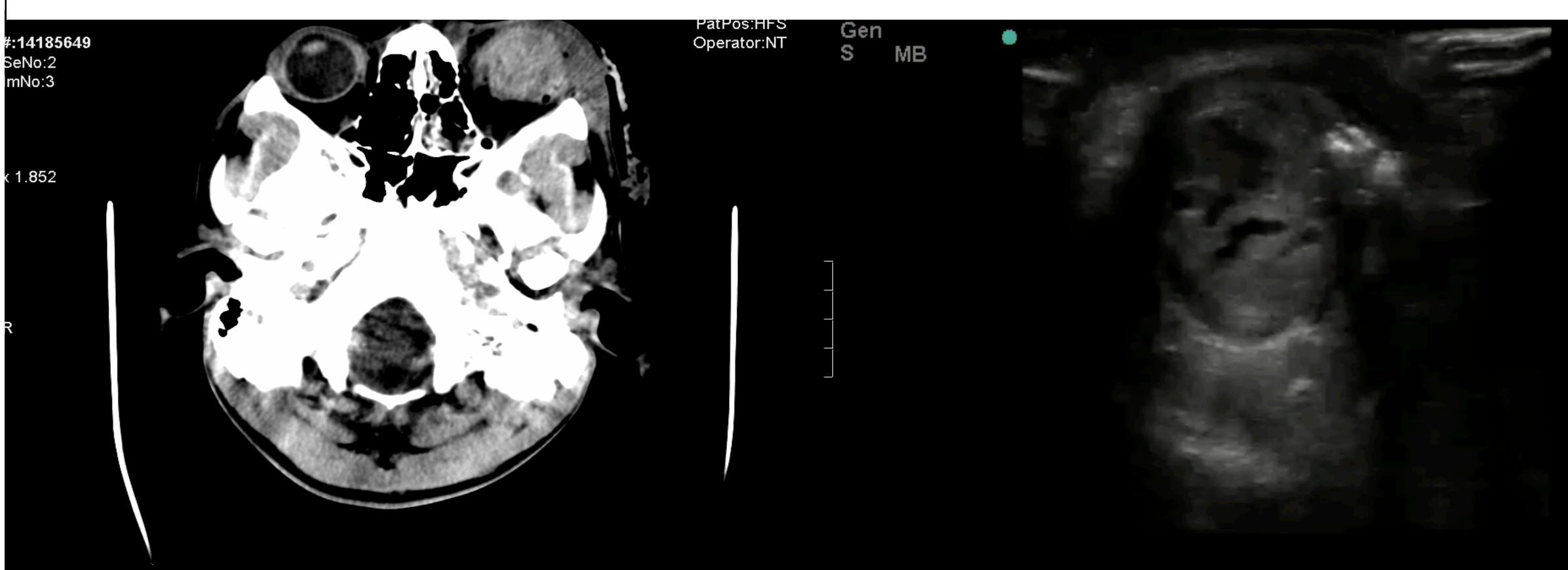
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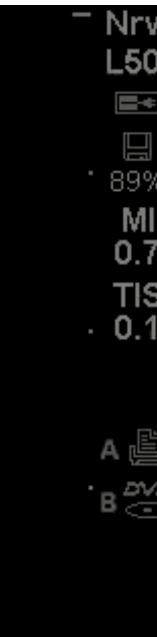
Ocular Trauma POCUS Pupil Exam • EOMs • Retrobulbar Hematoma • Ruptured Globe • RD/VH Lens Dislocation

PEARL

Case14 y/o with acute ocular trauma s/p fireworks accident



SL:-27.921





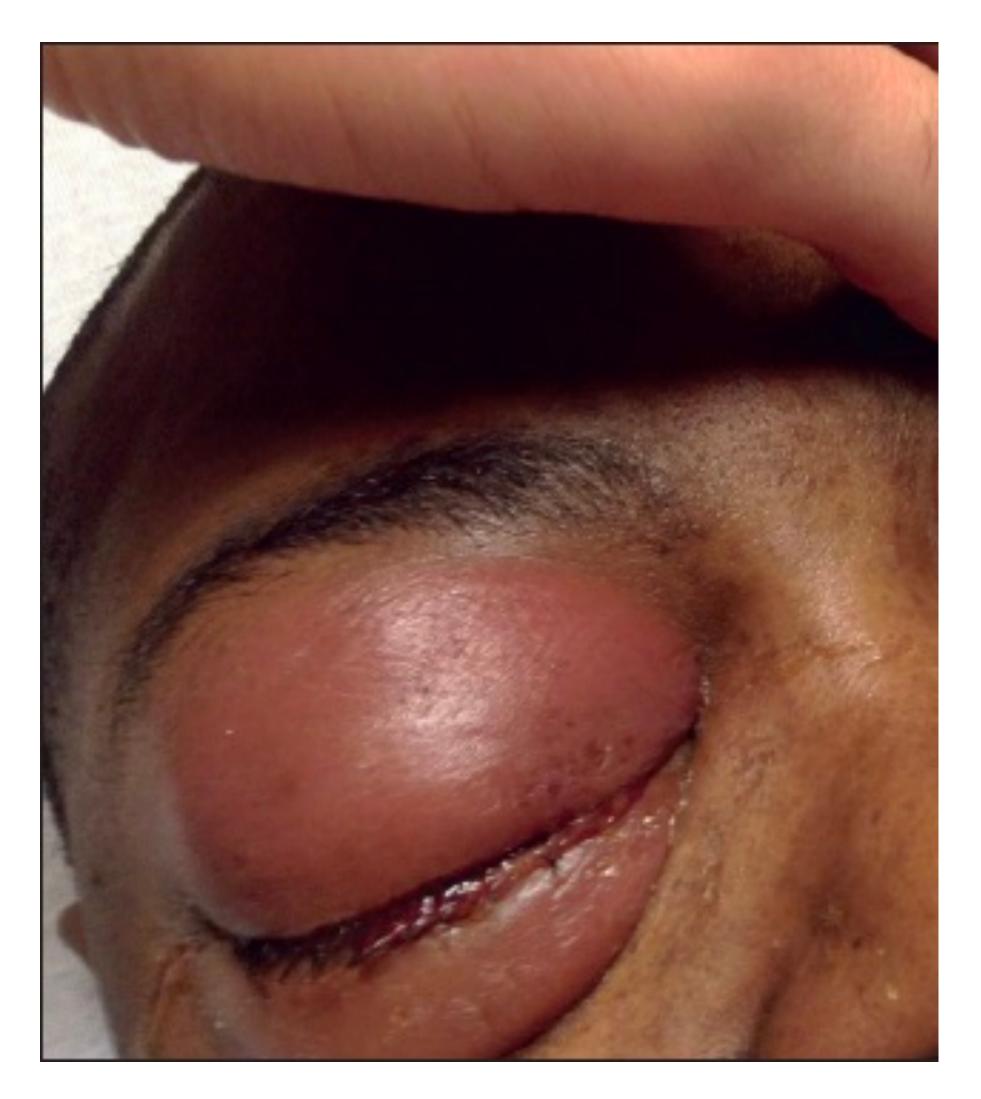
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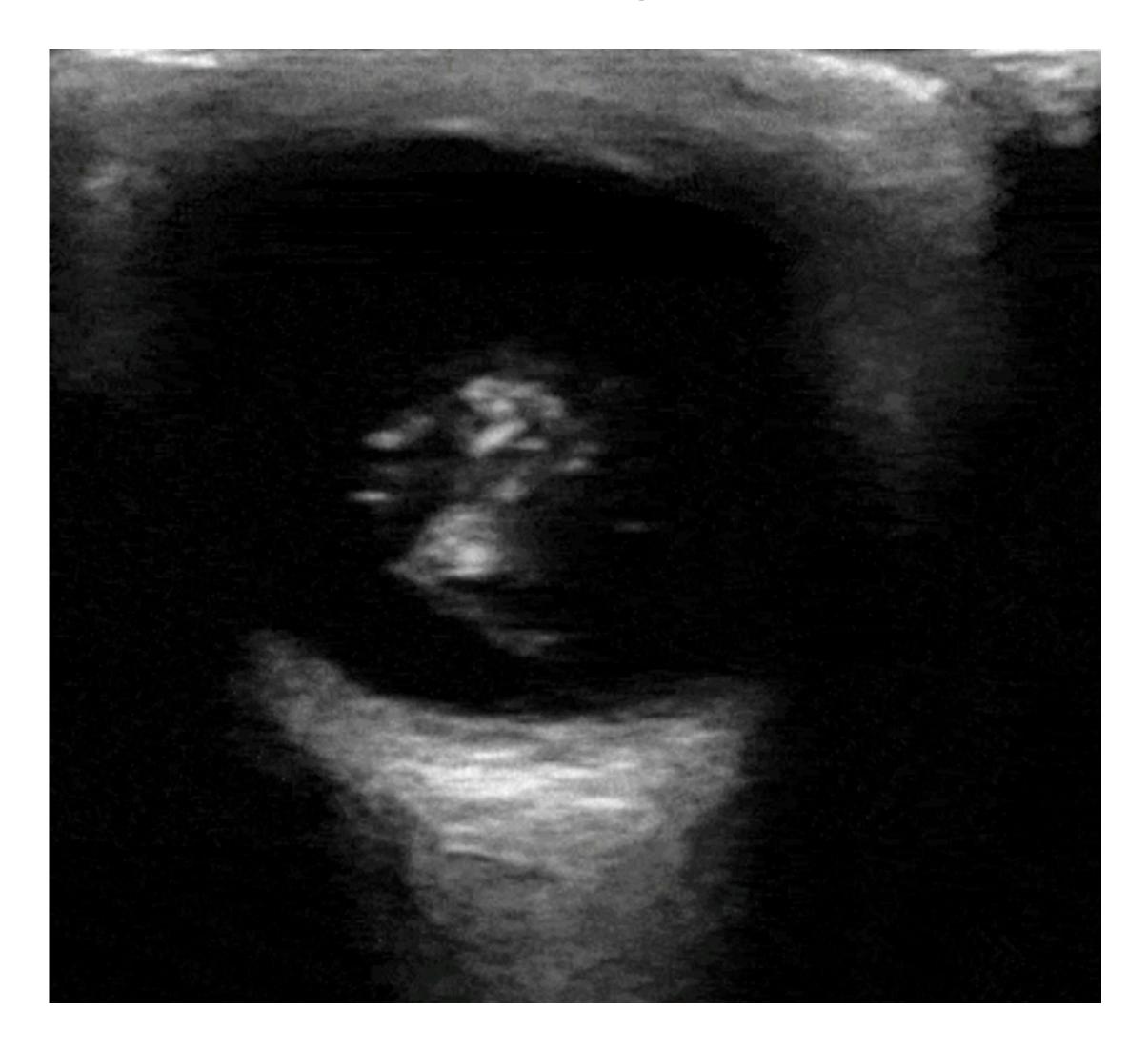
Case 50 y/o transwomen with acute ocular trauma s/p assault





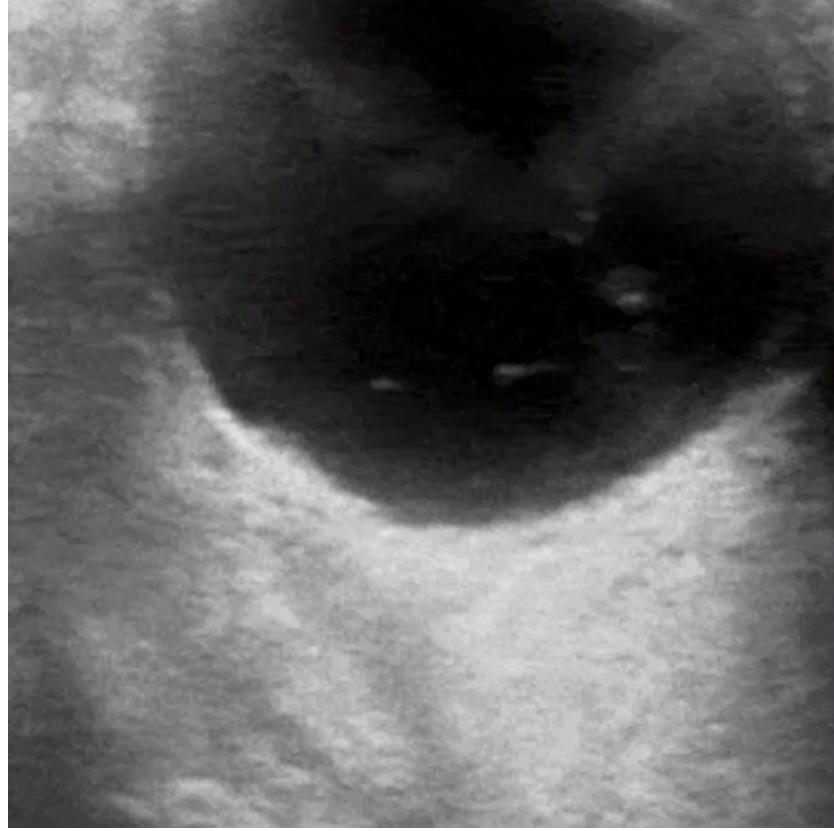
Case 30 y/o with acute ocular trauma and vision changes s/p assault





Take Home Points Atraumatic Ocular US Approach

Vitreous evaluation Gain (High & Low) Novement (Kinetics) Optic disc evaluation



Take Home Points Traumatic Ocular US Approach

Pupillary Response
EOMs
Globe Assessment

