

B-scan Workshop

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Ophthalmic Ultrasonography

- Financial Disclosure: None
- Singh AD, Hayden BC. Ophthalmic Ultrasonography. Elsevier. London, England 2011.

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Ophthalmic Ultrasonography

Techniques: 10 mHz B-scan probe

- Lumibird ® Ophthalmic Ultrasound B-scan Probe



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Ophthalmic Ultrasonography

Techniques: 10 & 20 mHz B-scan probe

- Penetration depth approximately 40mm, resolution 200 microns
- Coupling agent needed at probe/tissue interface
- Transocular imaging
- High resolution posterior segment 20 mHz probe also available

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Ophthalmic Ultrasonography

Techniques: B-scan probe positions

- Axial : Primary gaze through the lens
- Transverse : Lateral extent
- Longitudinal : Radial extent

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Ophthalmic Ultrasonography

Techniques: Axial B-scan Probe Position

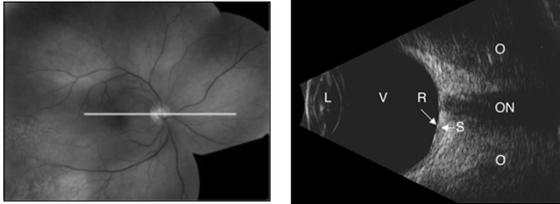


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Ophthalmic Ultrasonography

Techniques: Axial B-scan Probe Position



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Ophthalmic Ultrasonography

Techniques: Axial B-scan Probe Position

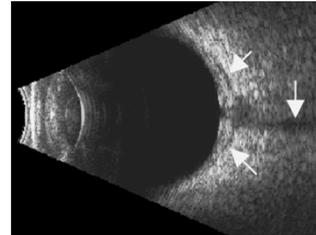
- Why perform this scan?
 - Best view to examine:
 - Posterior lens capsule
 - Peripapillary fundus and scleral thickening
 - Peripapillary infiltration of Tenon's-posterior scleritis
 - Intraconal orbital mass

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Ophthalmic Ultrasonography

Techniques: Axial B-scan Probe Position

- Posterior scleritis



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Ophthalmic Ultrasonography

Techniques: Axial B-scan Probe Position

- When to avoid this scan?
 - Corneal instability
 - Uncooperative patient
 - IOL present
 - IOL will create irregular artifacts and sound attenuation

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Ophthalmic Ultrasonography

Techniques: B-scan probe positions

- Axial : Primary gaze through the lens
- Longitudinal : Radial extent
- Transverse : Lateral extent

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Ophthalmic Ultrasonography

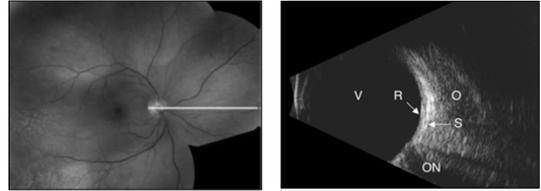
Techniques: Longitudinal B-scan Probe Position



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Ophthalmic Ultrasonography

Techniques: Longitudinal B-scan Probe Position



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Ophthalmic Ultrasonography

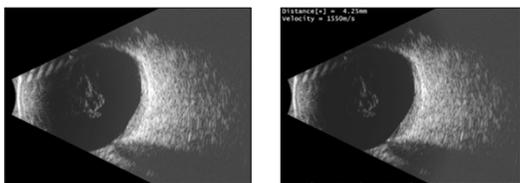
Techniques: Longitudinal B-scan Probe Position

- Why perform this scan?
 - Pin point retinal tears
 - Perpendicularity to the macula more readily established

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Ophthalmic Ultrasonography

Techniques: Longitudinal B-scan Probe Position :
Macula



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Ophthalmic Ultrasonography

Techniques: B-scan probe positions

- Axial : Primary gaze through the lens
- Longitudinal : Radial extent
- Transverse : Lateral extent

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Ophthalmic Ultrasonography

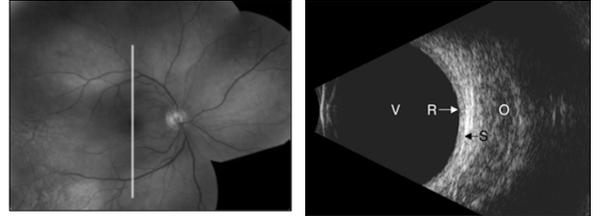
Techniques: Tranverse B-scan Probe Position



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Ophthalmic Ultrasonography

B-scan Techniques: Tranverse Probe Position



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Ophthalmic Ultrasonography

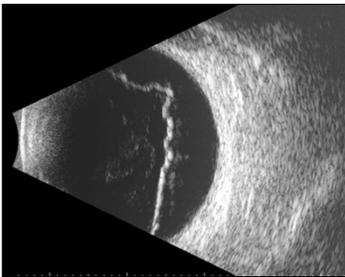
B-scan Techniques: Transverse Probe Position

- Why perform this scan?
 - Entire posterior segment can be imaged in 4 dynamic movements of the probe
 - Lateral extent of pathology easily visualized
 - Retinal detachment
 - Intraocular tumor

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Ophthalmic Ultrasonography

B-scan Techniques: Transverse Probe Position :
RD



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