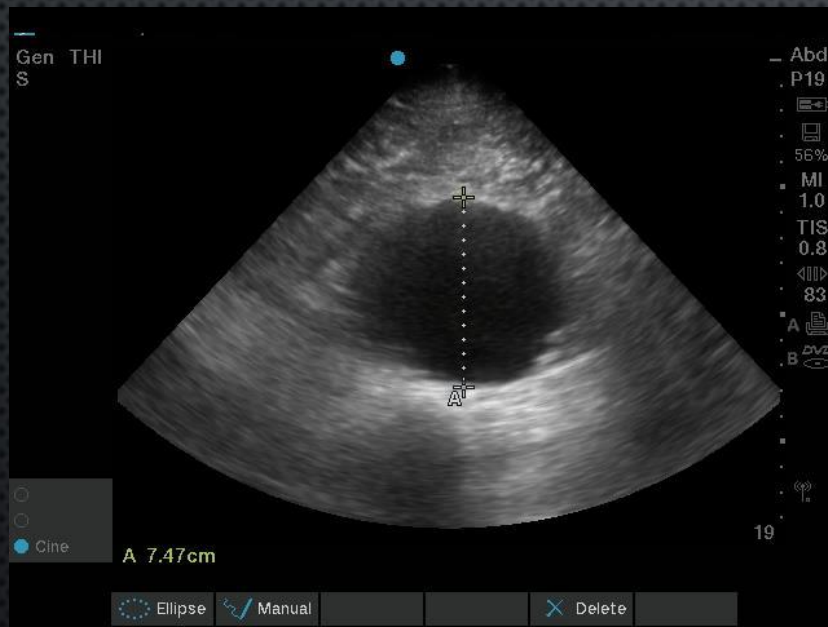


EMERGENCY ULTRASOUND  
REQUIRED IMAGES  
GUIDE

UNIVERSITY OF CINCINNATI  
EMERGENCY MEDICINE

# DISCLAIMER

A single diagnostic image of rule in emergent pathology is always acceptable  
For example...





# AORTA

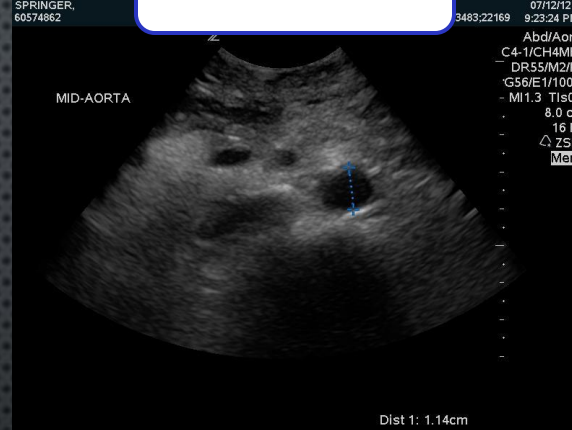
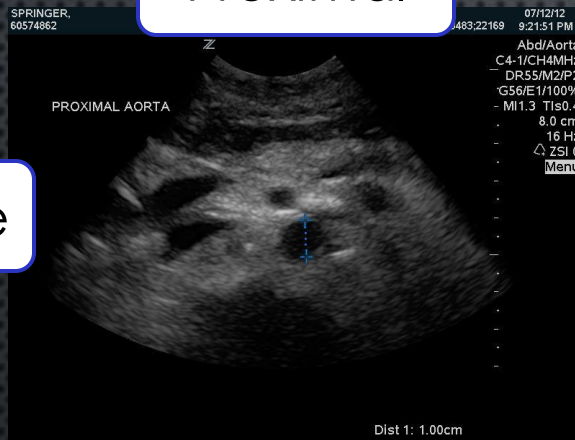
Measure outer wall to outer wall at each location.  
A clip and still of each is recommended.

Proximal

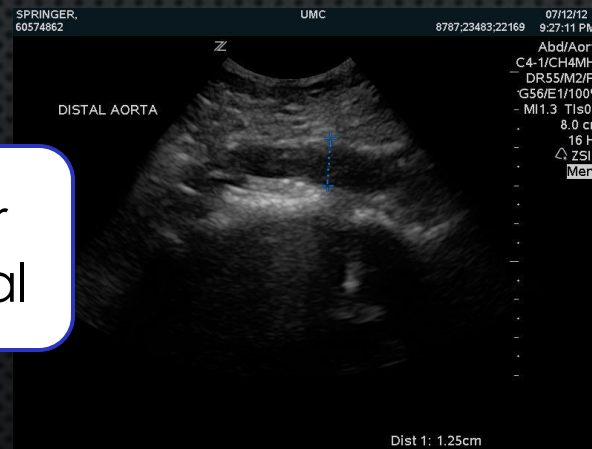
Mid

Distal

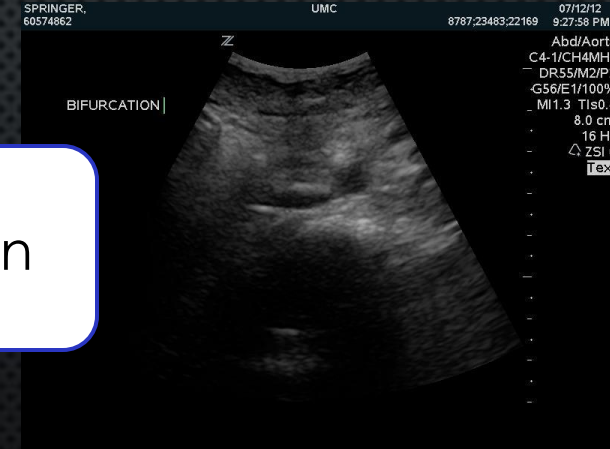
Transverse



Saggital or  
Longitudinal



Bifurcation



# RENAL

Add color Doppler to potential hydronephrosis to ensure it is not a vessel.  
Eval for ureteral jets if any hydronephrosis is seen

Bladder

Transverse



Right

Left

Long

Long

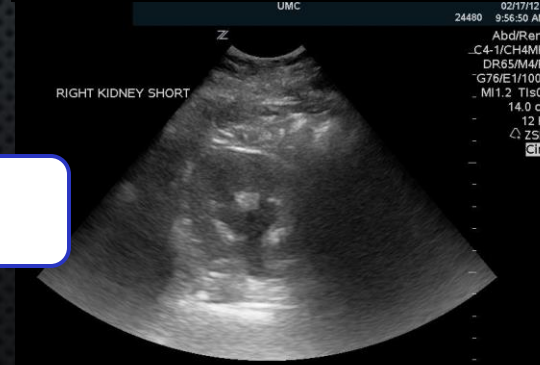


Saggital



Short

Short



Ureteral jets





# BILIARY

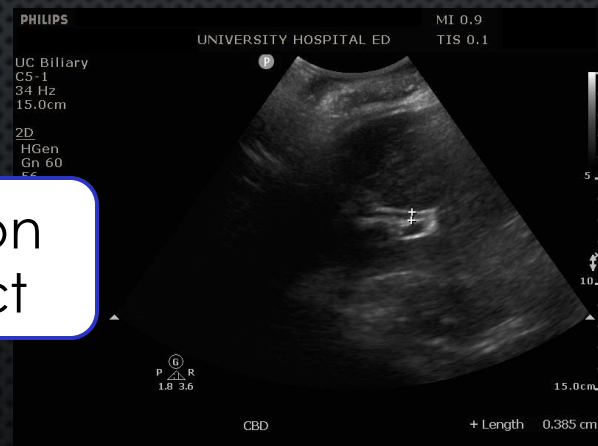
Short axis



Long axis



Common  
bile duct

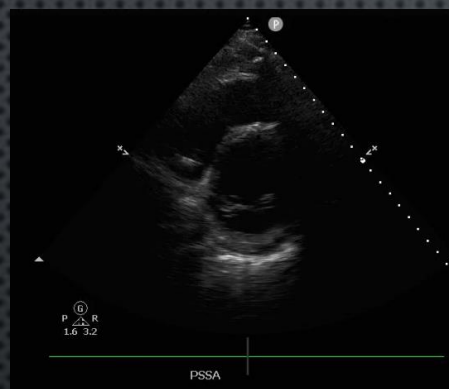


Multiple images of each view is recommended  
Evaluate gallbladder neck fully  
Use color Doppler to ensure identification of CBD

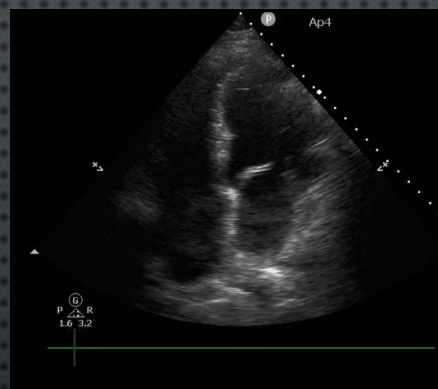
# CARDIAC



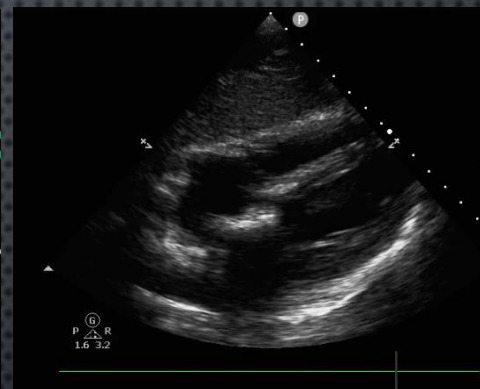
PSTL



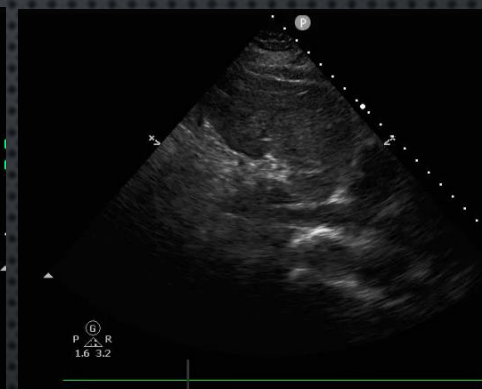
PSAX



AP4/5



Subxiphoid



IVC



# EARLY PREGNANCY - TRANSABDOMINAL

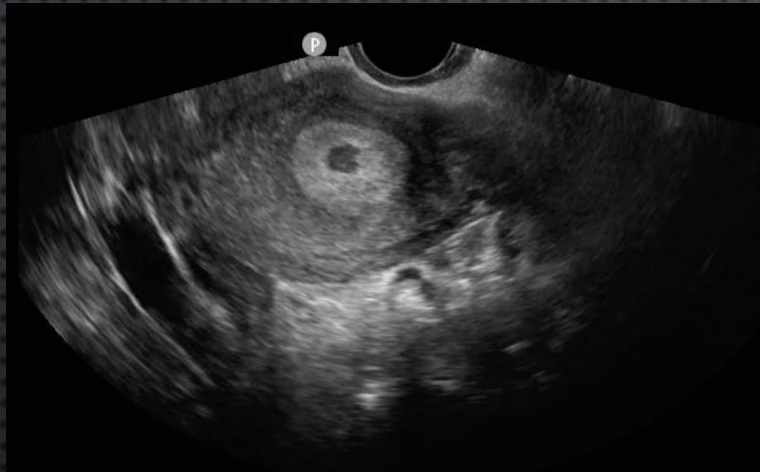


Uterus transverse



Uterus sagittal

# EARLY PREGNANCY- TRANSVAGINAL



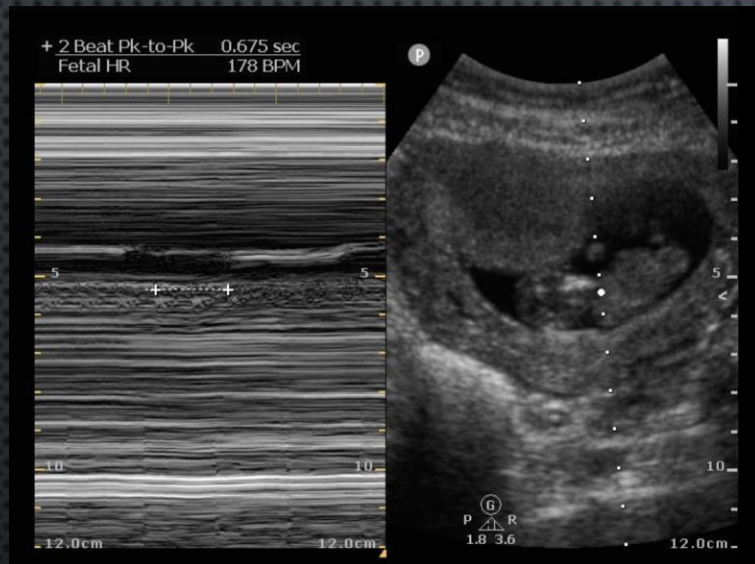
Uterus transverse



Uterus sagittal



# INTRAUTERINE PREGNANCY VISUALIZED



Fetal heart rate



Crown rump length

# FAST

Three components to a FAST exam:

Abdomen

Cardiac

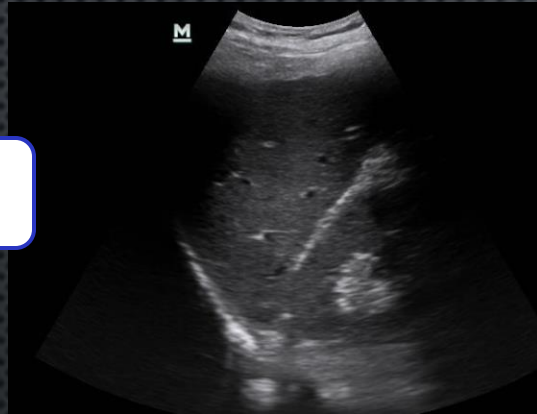
Thoracic

Include each component as clinically indicated.



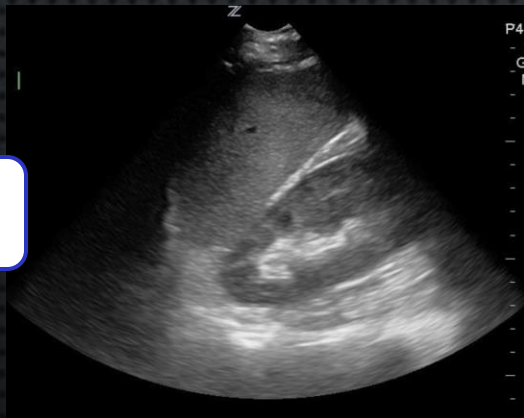
# FAST - ABDOMEN

RUQ



Include:  
Hepatorenal space  
Subdiaphragmatic space  
Inferior edge of the liver

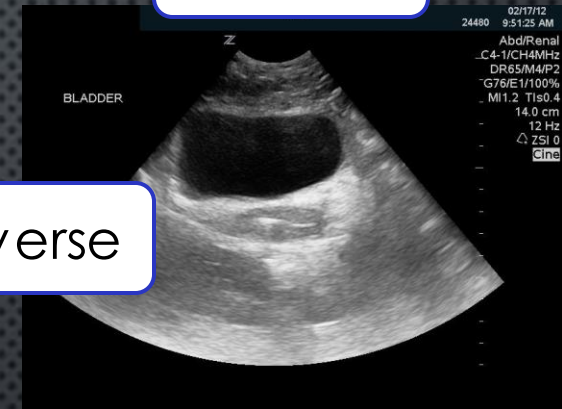
LUQ



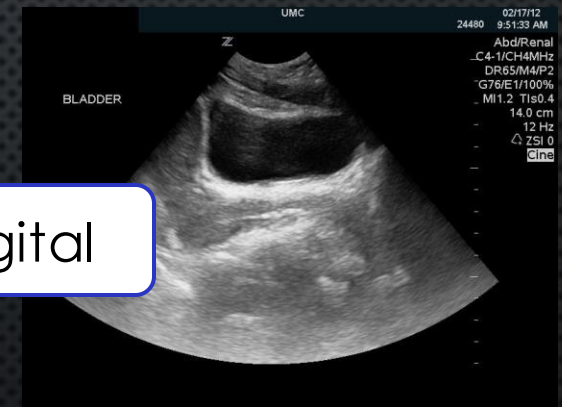
Include:  
Splenorenal space  
Subdiaphragmatic space  
Left paracolic gutter

Pelvis

Transverse



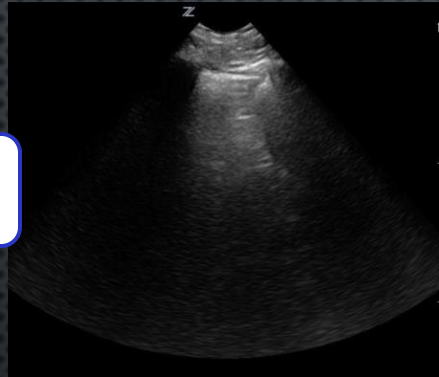
Saggital



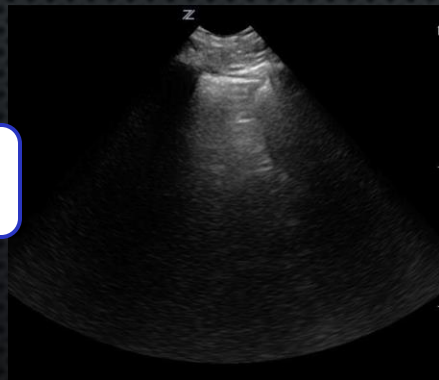
# FAST - THORACIC

Anterior chest

Right



Left

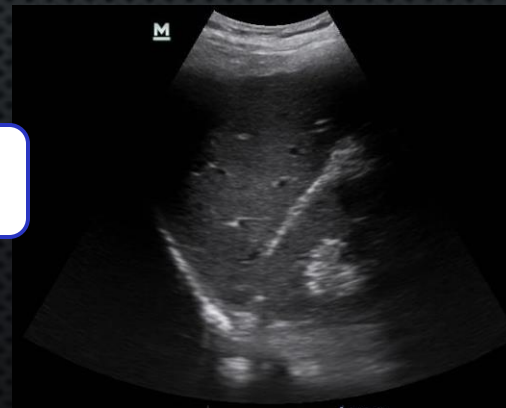


Lateral inferior chest,  
coronal view

Right



Left



Visualize diaphragm and spine.

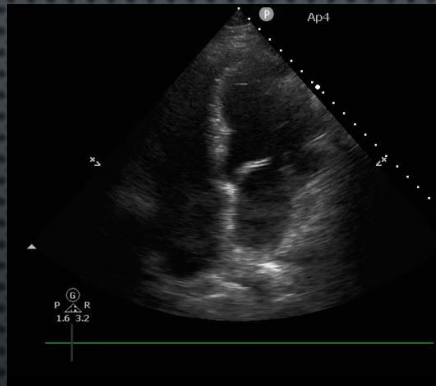
These can be obtained concurrent with abdominal RUQ and LUQ views



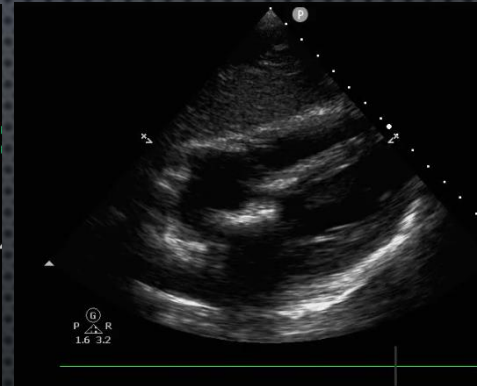
# FAST - CARDIAC



PSTL



AP4/5



Subxiphoid

Obtain any one of these

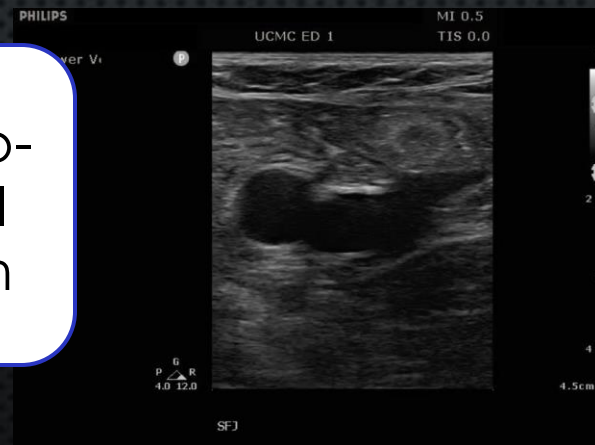
# LOWER EXTREMITY DVT

Obtain clips demonstrating compression of the vein. Another option is to utilize dual mode and obtain side-by-side still images of each site uncompressed and compressed.

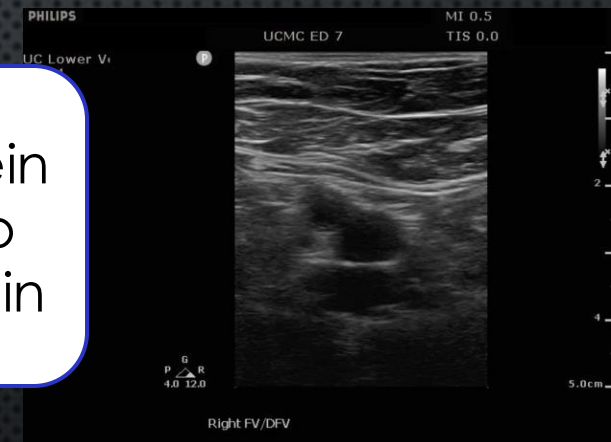
Common femoral vein



Sapheno-femoral junction



Femoral vein and deep femoral vein

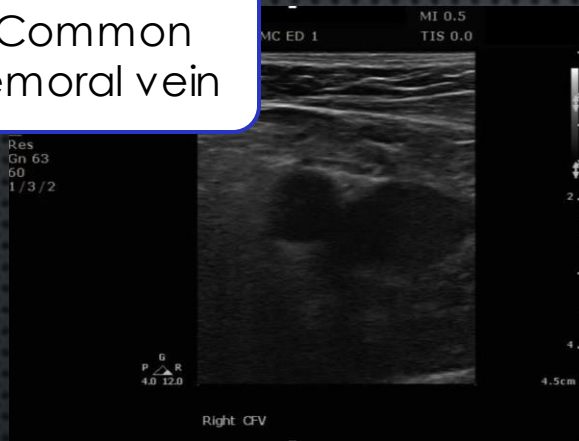




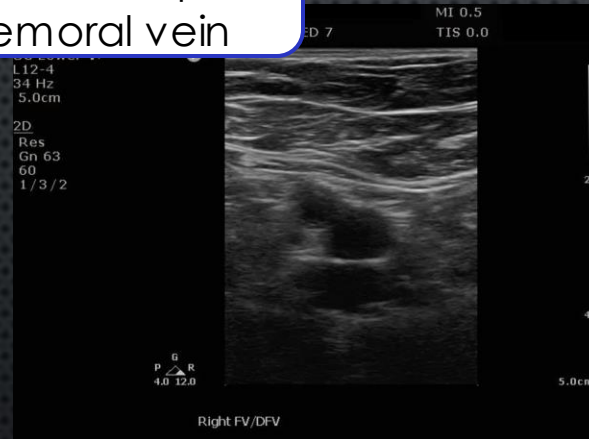
# LOWER EXTREMITY DVT

Obtain clips demonstrating compression of the vein. Another option is to utilize dual mode and obtain side-by-side still images of each site uncompressed and compressed.

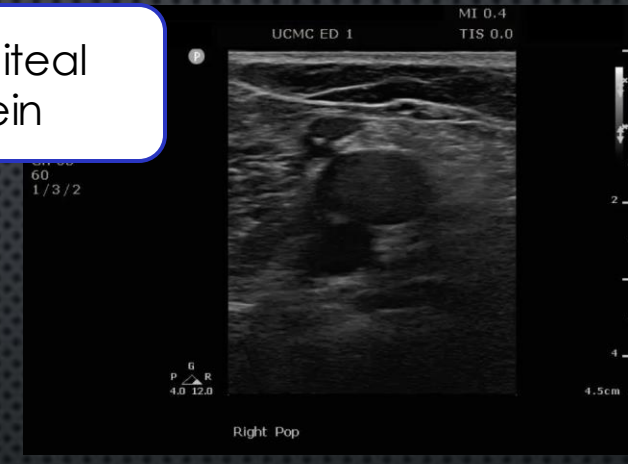
Common femoral vein



Femoral vein and deep femoral vein



Popliteal vein



Sapheno-femoral junction



Popliteal trifurcation



# LUNG

If evaluating only for pneumothorax bilateral anterior chest clips are sufficient. M-mode can also be utilized.

If evaluating only for pleural effusion bilateral lateral inferior chest views that demonstrate the diaphragm are sufficient.

If evaluating for parenchymal disease 10 zones should be assessed: Right and left anterior superior, anterior inferior, lateral superior, posterior inferior, lateral inferior.

Anterior superior

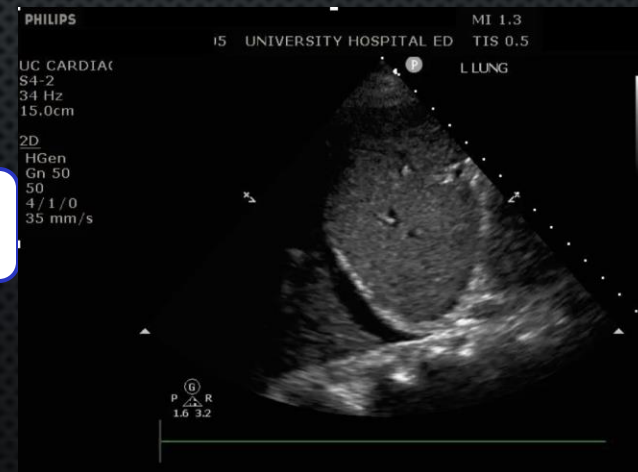
Anterior inferior

Lateral superior

Posterior inferior

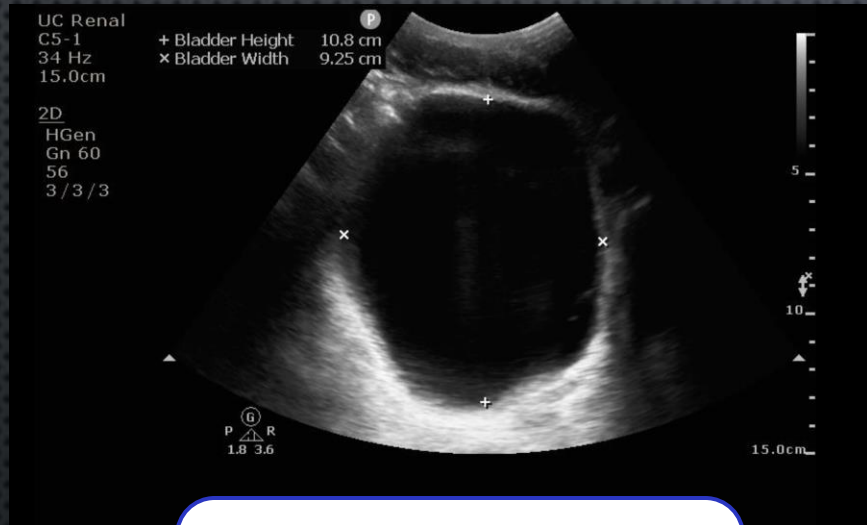


Lateral inferior





# BLADDER VOLUME



Transverse plane -  
width and height



Sagittal plane -  
length

# OCULAR - REQUIRED

Transverse Sweep  
Through the Globe



- Always Label Left/Right Eye
- Label nasal/Temporal on images

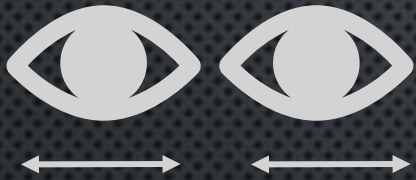
Longitudinal Sweep  
through the globe





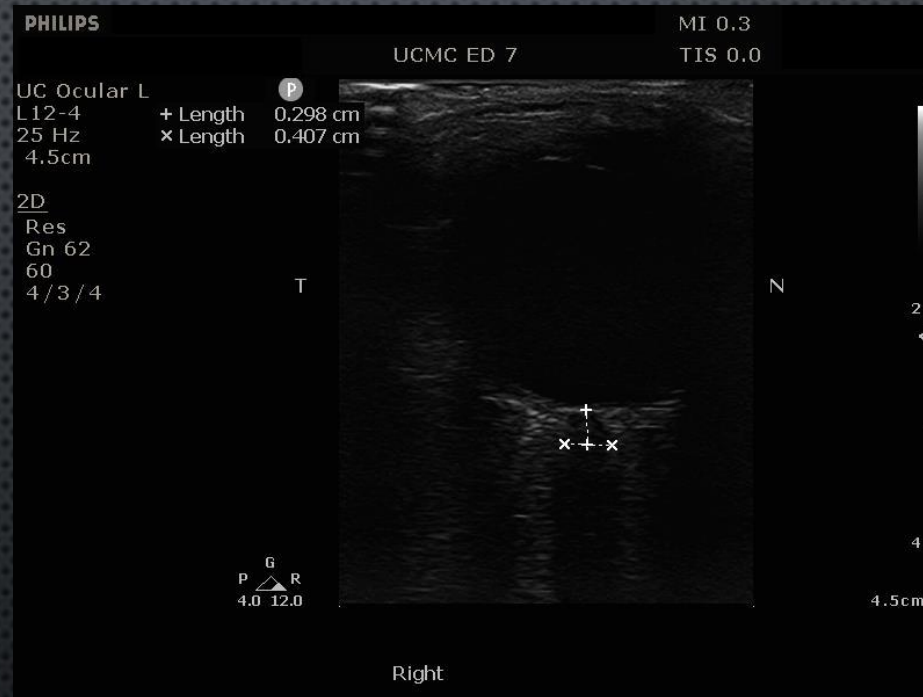
# OCULAR - SUGGESTED

Dynamic Images



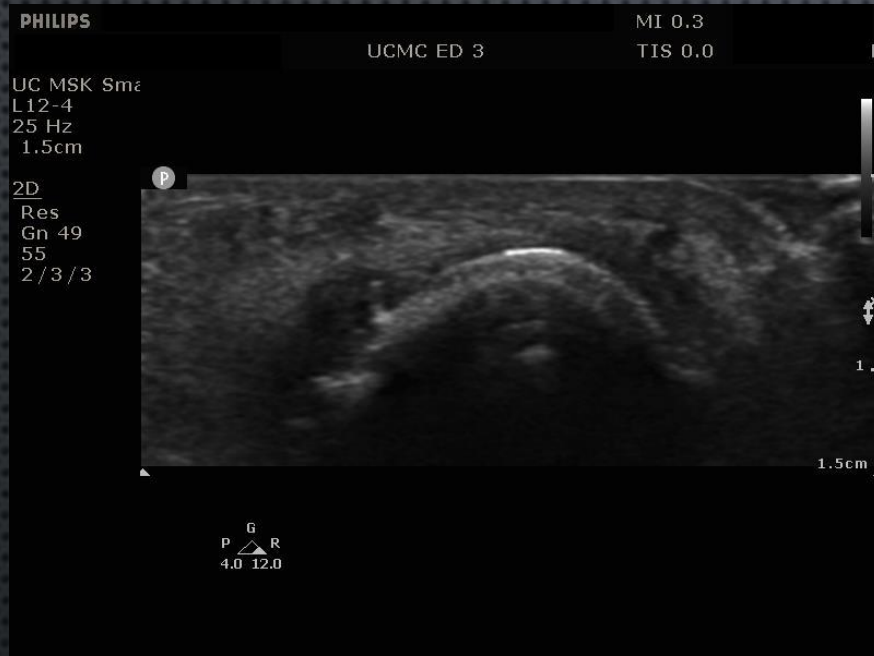
Scan the  
contralateral side

Optic Nerve  
Measurement

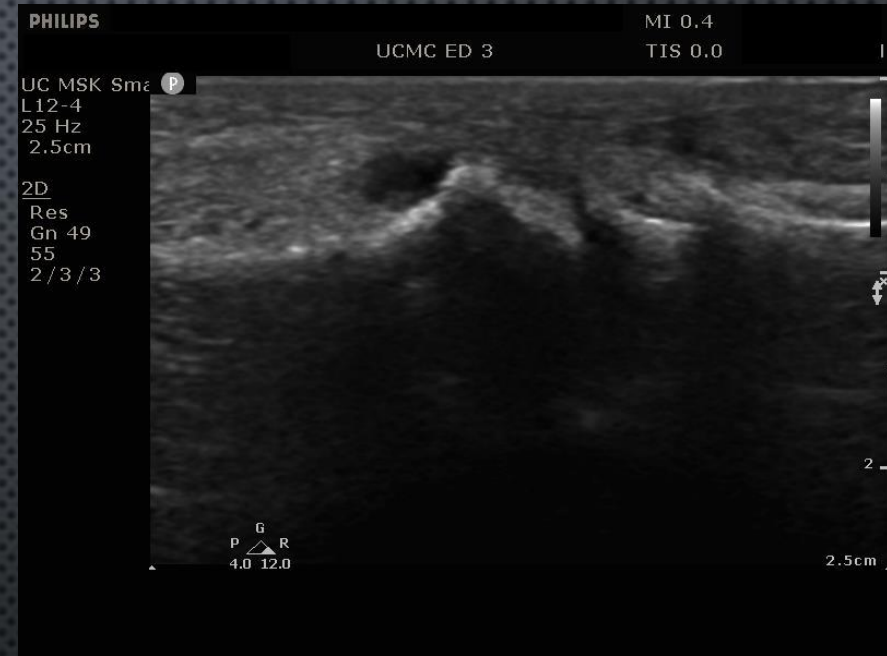


- Optic nerve at 6 O'Clock
- Measure 3mm down from retina
- Measure width across ON
- Normal is < 5mm

# MSK



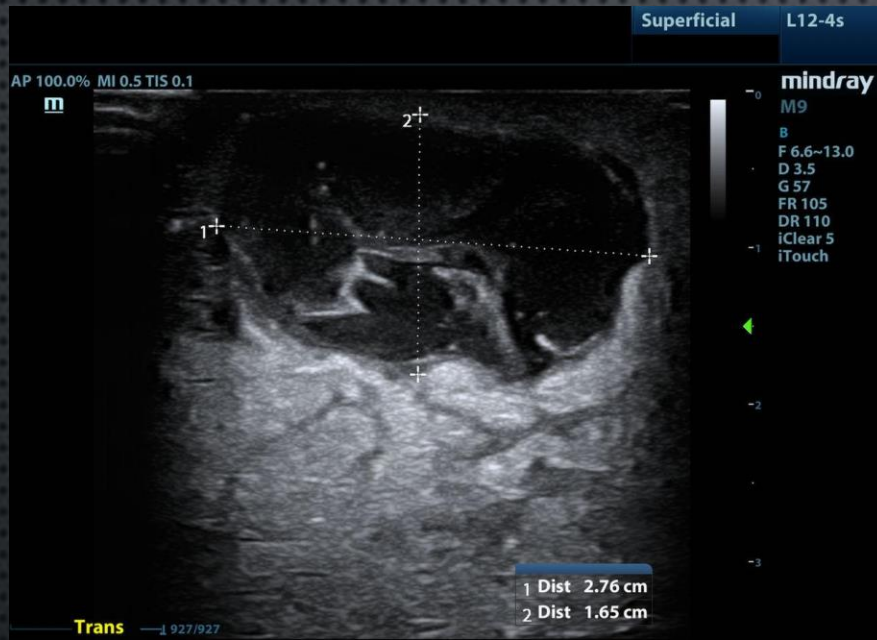
Transverse sweep  
through the  
structure of interest



Longitudinal sweep  
through structure  
of interest



# SOFT TISSUE



Transverse sweep  
through the  
structure of interest

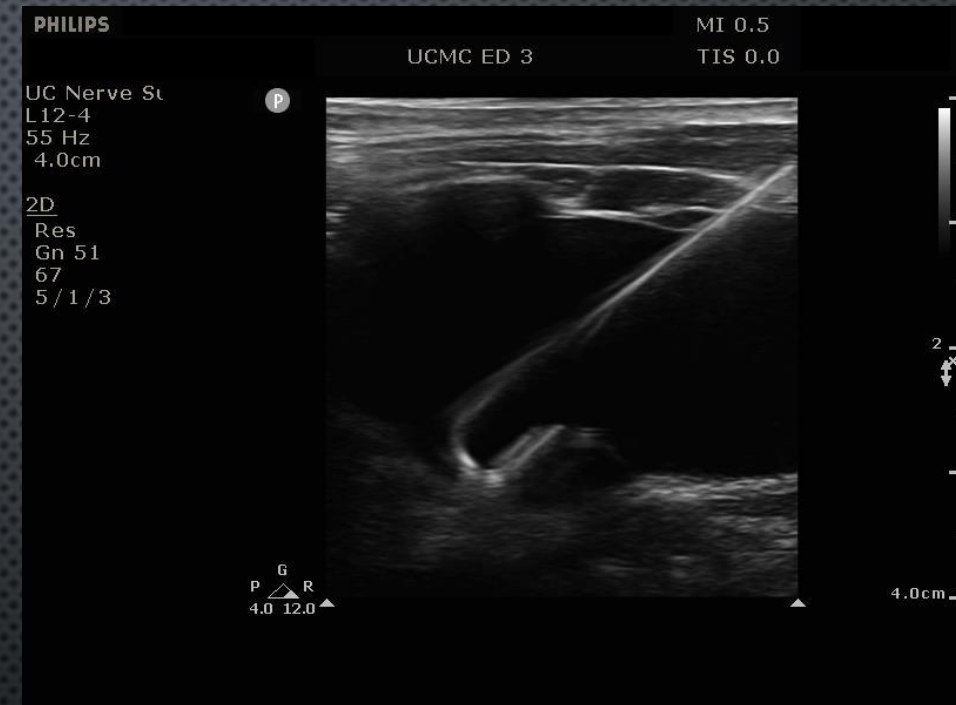


Longitudinal sweep  
through structure  
of interest

# CENTRAL LINE/PERIPHERAL LINE



**Required:**  
Single still image of the  
vessel to be accessed



**Suggested:**  
Image of wire or IV in  
vessel