Procedural Ultrasound
Chapter 4

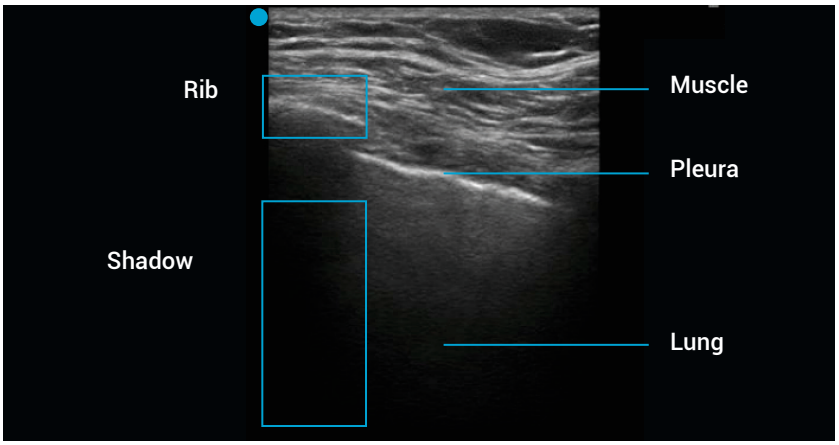
ULTRASOUND GUIDANCE FOR THORACENTESIS AND INTUBATION

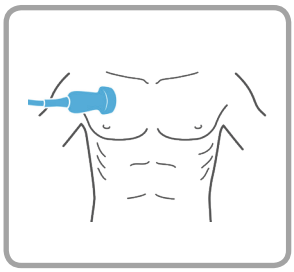
Sara Damewood

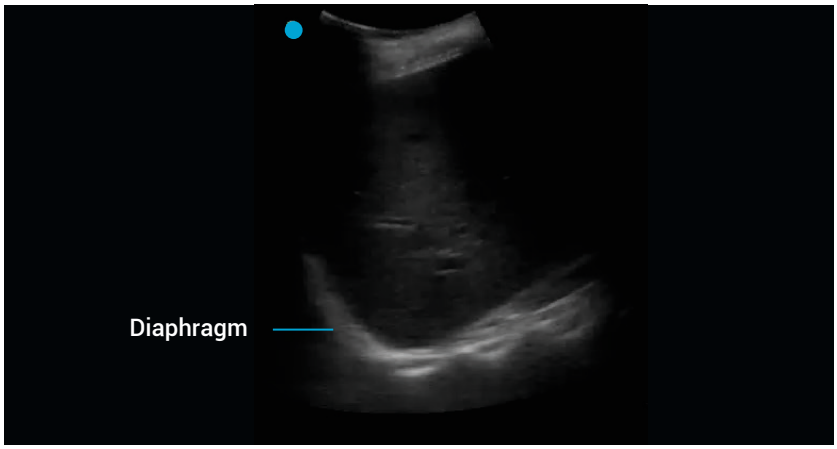
Ultrasound guidance for thoracentesis and intubation

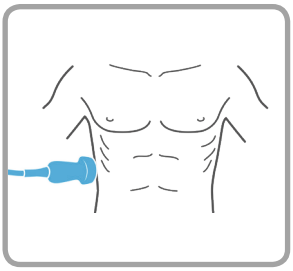
IDENTIFYING THORACIC ANATOMY ON ULTRASOUND

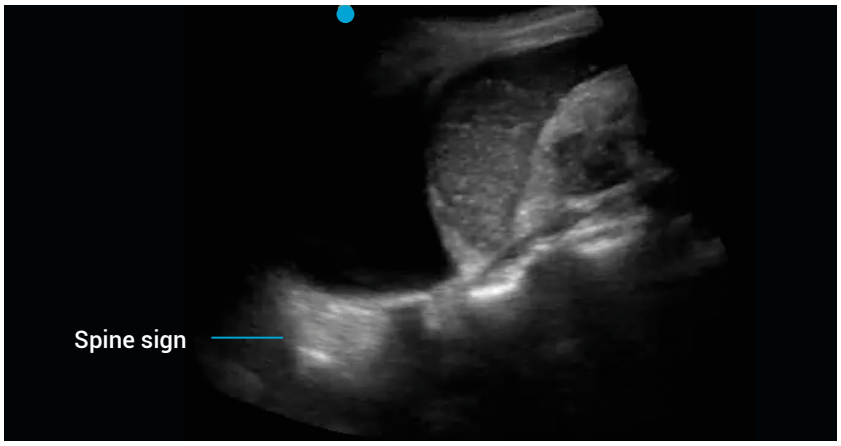
When using ultrasound to guide thoracentesis, it is useful to get a sense of the structures that you will see in the chest.











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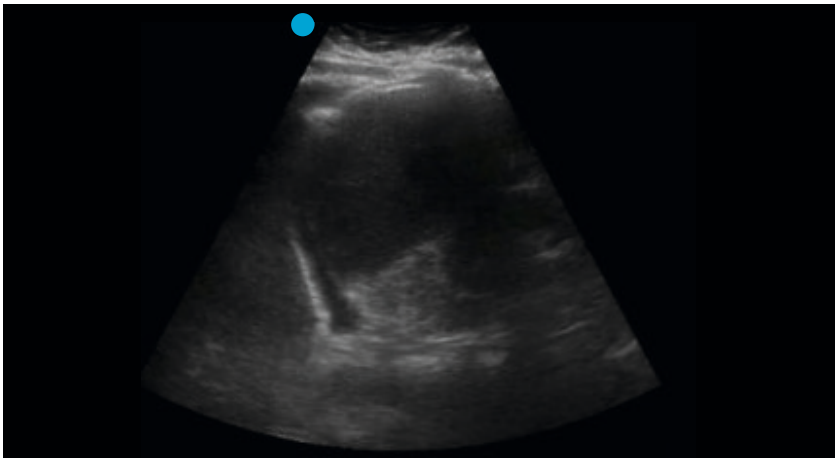
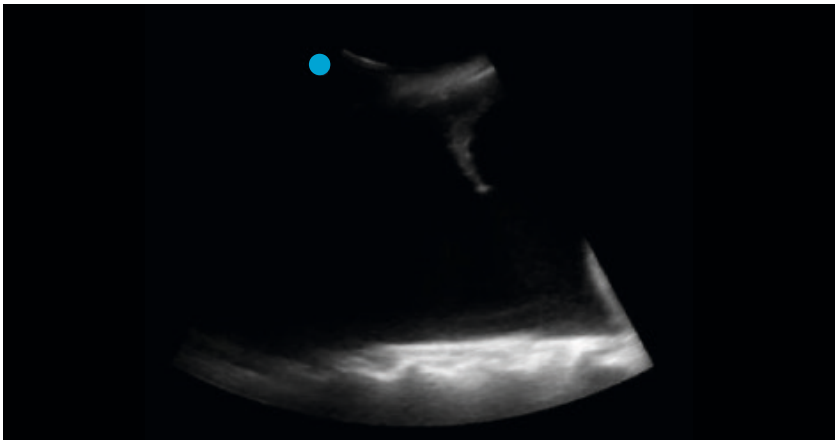
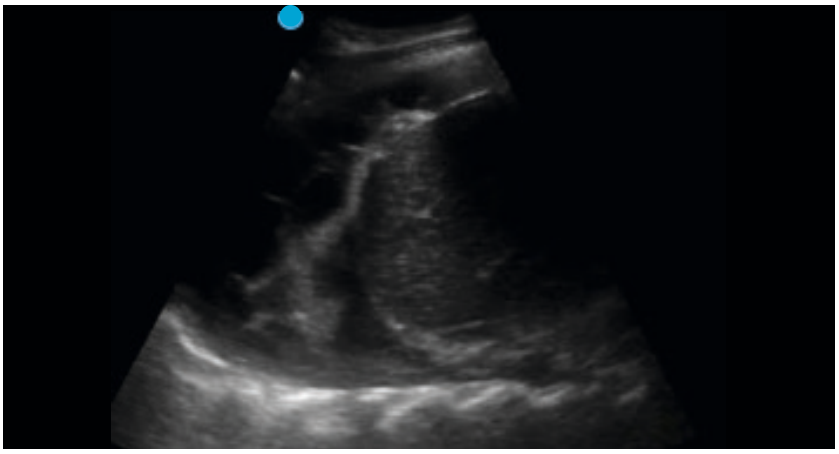
IDENTIFYING PLEURAL EFFUSIONS ON ULTRASOUND

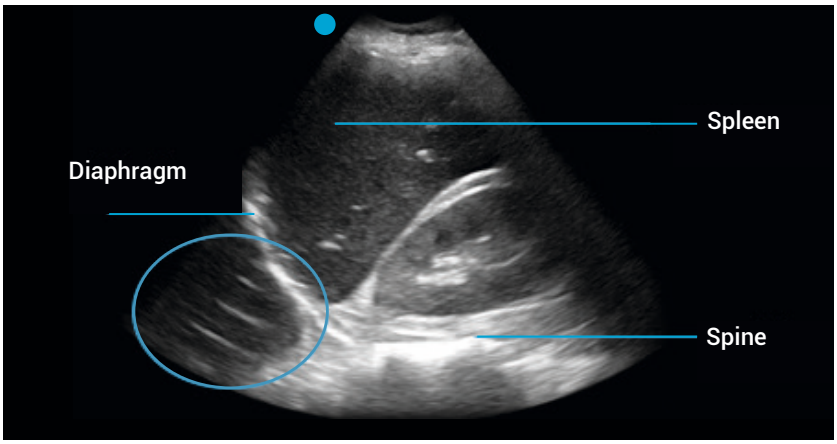


Effusions come in all different shapes and sizes, ranging from trace to large.





Finding loculations is helpful because you may decide a change in management is necessary.



Remember, fluid is typically black on ultrasound. Don't be fooled by mirror artifact!

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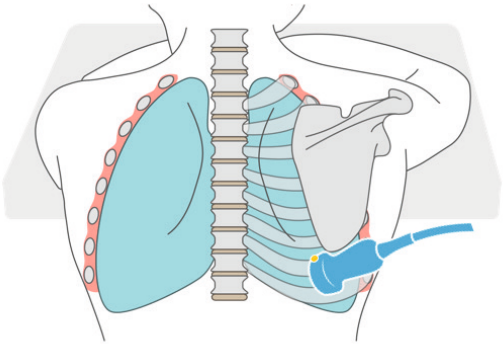
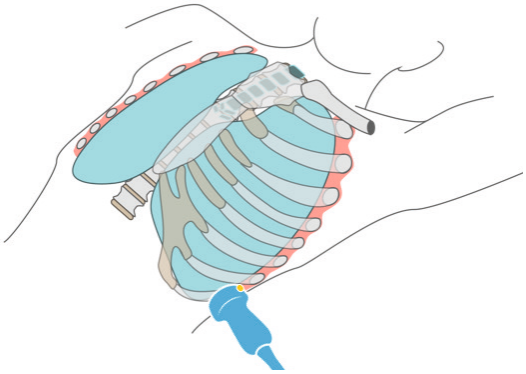
MASTERING ULTRASOUND GUIDANCE FOR THORACENTESIS

There are two basic approaches for ultrasound-guided thoracentesis.

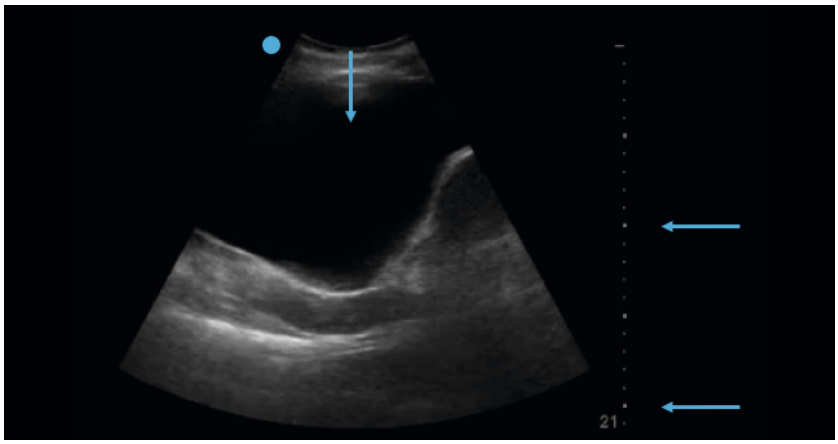


Posterior



Anterolateral

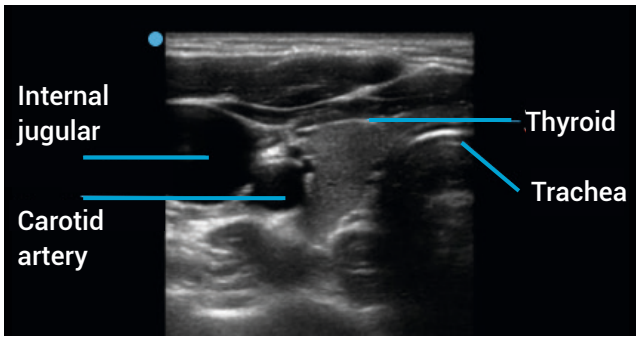
Ultrasound can help you define how deep you will need to penetrate, to get to the pocket of fluid, as well as define your safety zone.

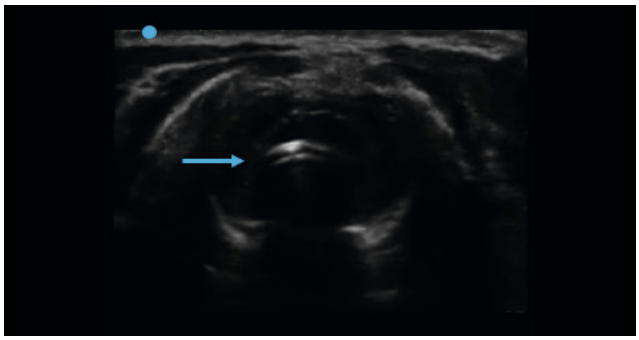


Ultrasound guidance for thoracentesis and intubation

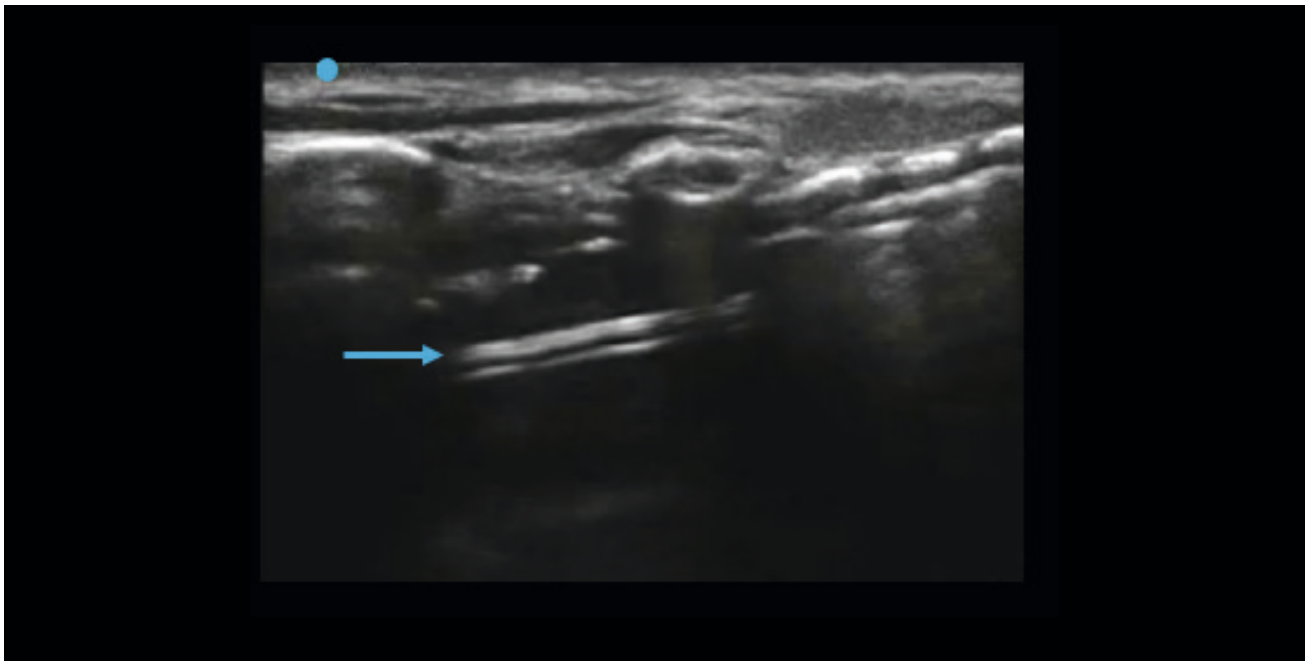
LOCALIZING THE ENDOTRACHEAL TUBE ON ULTRASOUND

The trachea can easily be seen on ultrasound. Here is an example of the left anterior neck. Sometimes there are artifacts seen because of air within the trachea.





Here you can see an example of an endotracheal tube in the trachea.



It is best to have a good view of the esophagus when scanning the trachea, so you can keep your eye on both structures.

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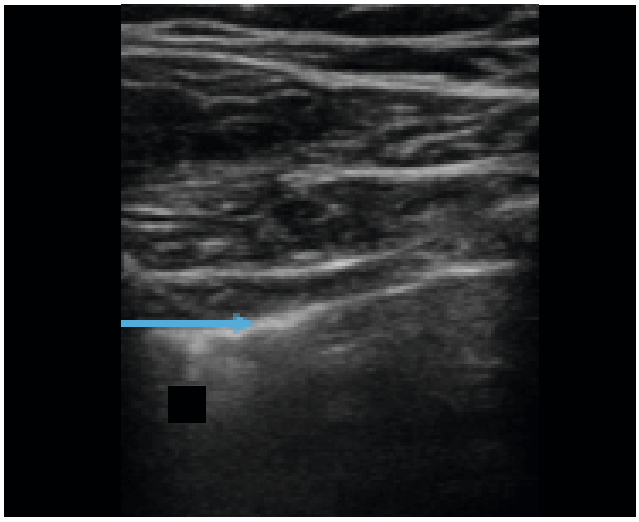
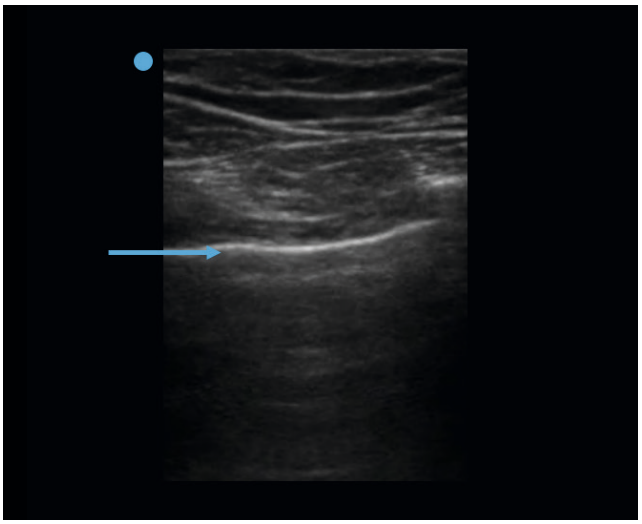
TROUBLESHOOTING COMPLICATIONS

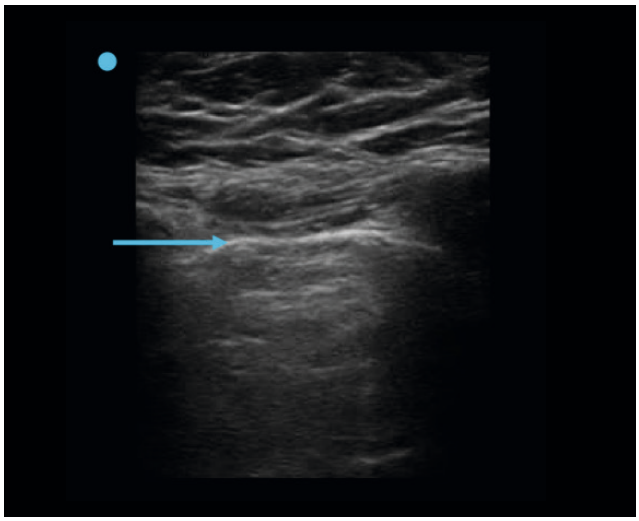
Ultrasound can also help troubleshoot and look for complications from thoracentesis and intubation in real time.



You can see a pneumothorax with a lung point at the transition of the collapsed lung and lung sliding.



You can detect a right mainstem intubation if there is lung sliding on the right, no lung sliding on the left, but no lung point found.



You can see incomplete drainage of effusion, reaccumulation, or hemothorax.

FURTHER READING

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