



Procedural Ultrasound
Chapter 5

ULTRASOUND GUIDANCE FOR LUMBAR PUNCTURE

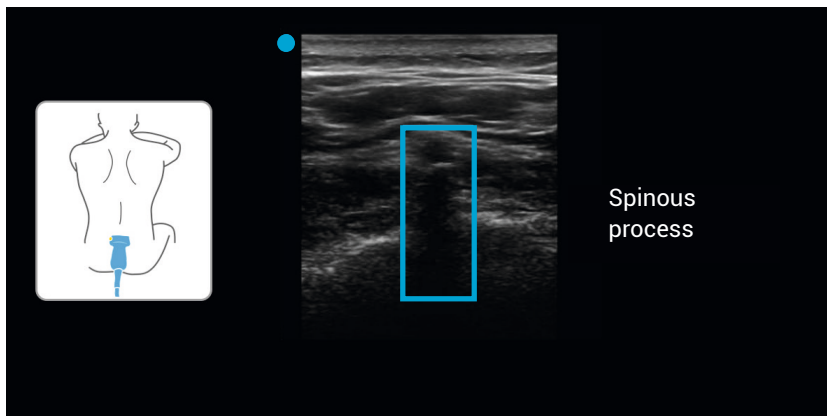


Sara Damewood

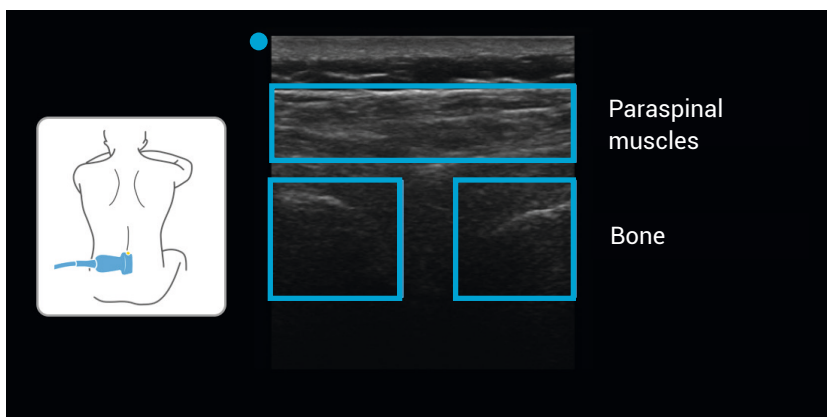
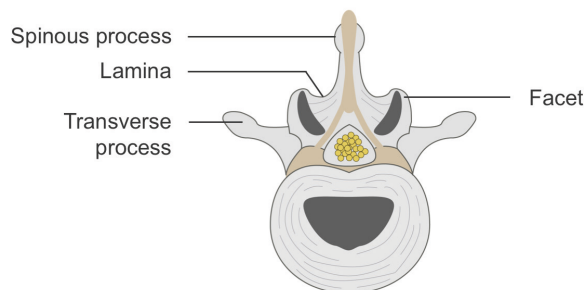
Ultrasound guidance for lumbar puncture

IDENTIFYING THE LUMBAR SPINE ON ULTRASOUND

Using ultrasound to guide lumbar puncture is useful when there are no landmarks able to be palpated. Here is the important ultrasound landmark of the spinous process in transverse view.



This highlights the midline of the spine.



Sometimes, in the sagittal plane, a paramedian approach is useful instead of exactly on the midline.

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USING ULTRASOUND TO SET THE MARK

It is hard to do real time ultrasound guidance for lumbar puncture. You can use ultrasound to find your landmarks for lumbar puncture, and then mark them on the skin.

Step 1:

Find the midline with a spinous process (SP).

Step 2:

Mark just above the probe where the SP is.

Step 3:

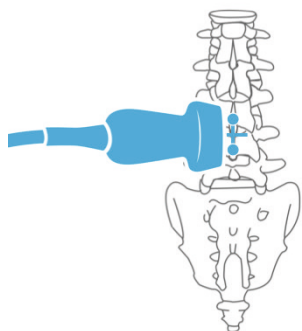
Slide the probe up until you find the next SP.

Step 4:

Mark just above the probe where the SP is.



You can continue this up another space if you want to know the next proximal interspace.



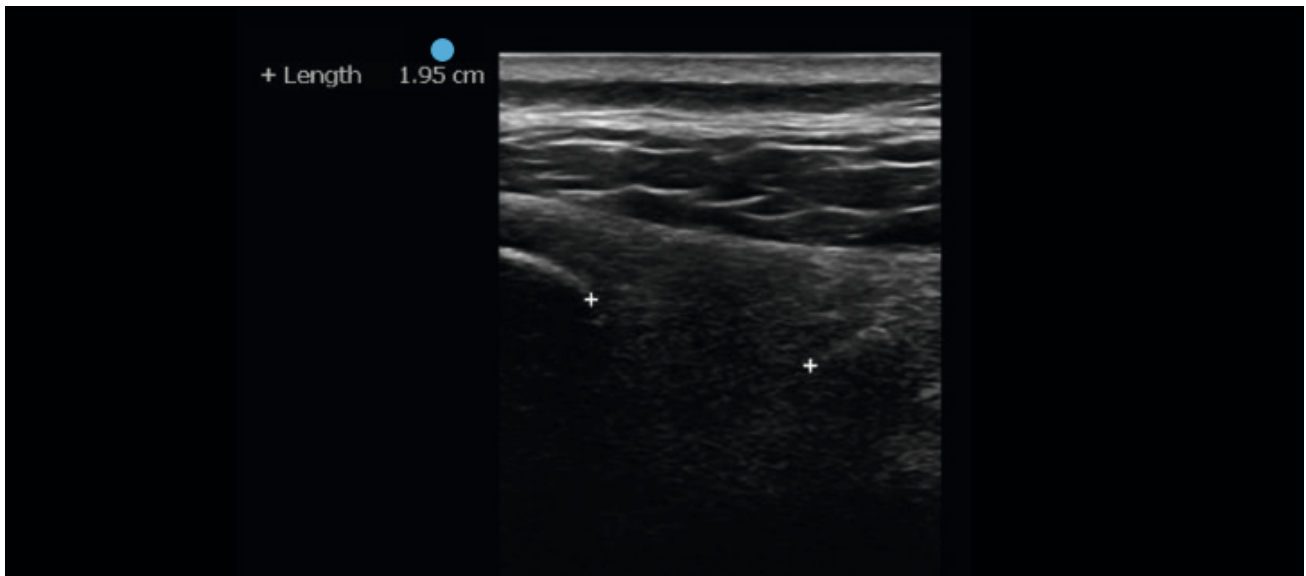
Next, you can find the interspinous space by looking in the sagittal plane. Place the probe between your two SP marks. Find the interspinous space, then mark the skin.

Now you have a target!

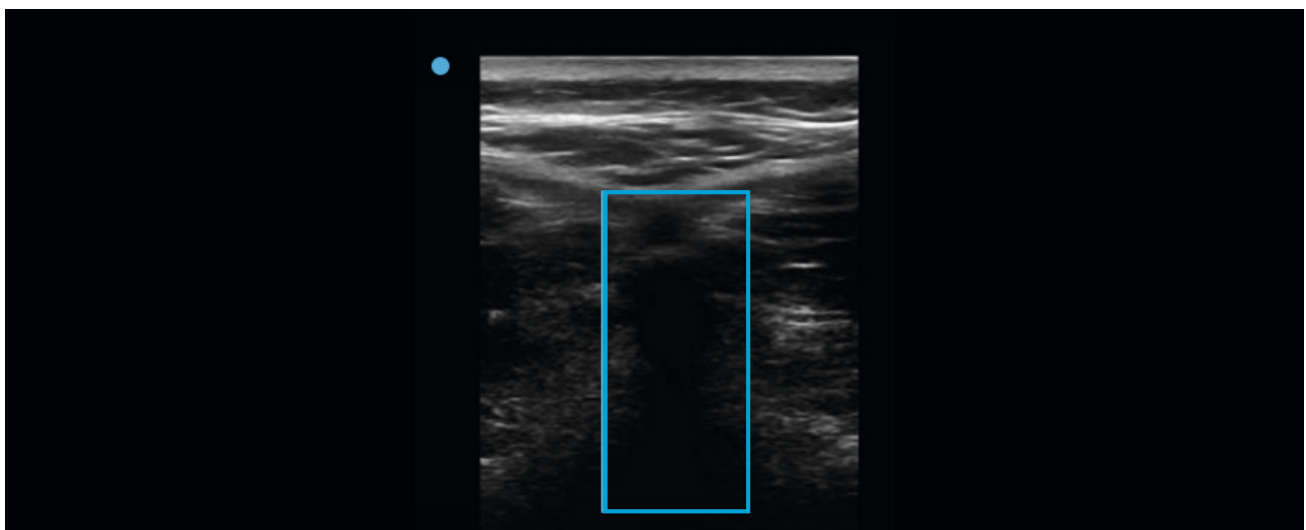
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POSITIONING YOUR PATIENT

Ultrasound can help you decide what patient position would be more ideal. You can measure the interspinous space, in both the sitting and the lateral decubitus position, and see where the space is larger.



Remember, if you get lost out there, go back to what you know. Find the spinous process to redetermine your midline.



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MASTERING THE TRICKS OF THE TRADE



Correct technique and positioning is often important for performing ultrasound, especially for obtaining ultrasound images of the lumbar spine.

- Anchor your hand.
- Use plenty of gel.
- Sit down.
- Have the patient in the position they will be in for lumbar puncture.



If you really can't find a single landmark, you can find the sacrum. It is a flat bone just below L5. Then, count up the spinous processes, to find your ideal interspinous space for lumbar puncture.

FURTHER READING

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