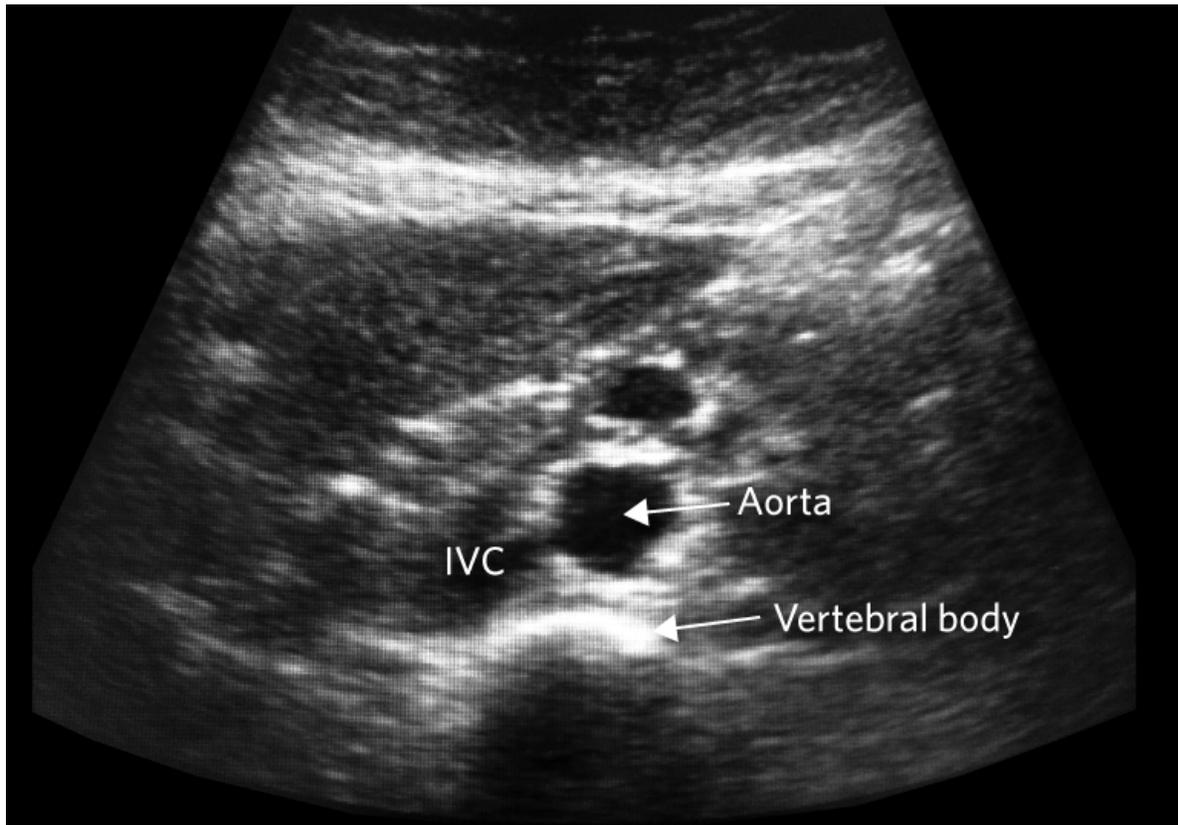




ULTRASOUND OF THE AAA: The How-To Guide



How to do it:

1. Set your depth to maximum.
2. Hold the probe in transverse, with the indicator to the patient's right.
3. Start just below the xyphoid process.
4. Identify the landmark of the vertebral body.
5. Identify the aorta, just anterior to the vertebral body, as the thick walled, non-compressible vessel.
6. Slowly slide the probe caudally, ensuring that you visualize the aorta from the xyphoid to the bifurcation. It is essential to visualize the entire aorta.
7. An abnormal scan is finding an aorta of more than 3 cm in diameter.

How to do it better:

If your view is obscured by bowel gas, apply moderate downward pressure on the probe and patiently wait – for up to 30 seconds. This will usually move the gas out of the way.

If this doesn't work, have the patient take a large breath and hold it. This will push the gas caudally and expose the aorta. Continue to slide the probe caudally until you again come to the area obscured by gas. At this point, have the patient exhale, which will shift the gas back to its original location, and hopefully leave you with a clear view.

Be aware that gas in the umbilicus can also cause also obscure your view of the aorta. You can get around this by putting gel in the umbilicus.

You will be more proficient at this exam if you adjust your depth setting. Start with maximum depth to identify the vertebral body landmark, and the aorta. Once you have done this, decrease the depth considerably to maximize the view of the aorta.

How to do it safely:

Be 100% sure you are visualizing the aorta. Do not focus on the first black structure you see, but rather find the aorta anterior to the vertebral body. Also be sure that you can tell the difference between the aorta and the IVC. It seems obvious on a normal exam, but in the presence of pathology things can be confusing.

An aortic aneurysm is easy to rule in, but often hard to rule out. NEVER call the AAA study negative unless you are sure you have seen the ENTIRE aorta from the diaphragm to the bifurcation at the iliac arteries.

Ultrasound is very sensitive for diagnosing the presence of an aortic aneurysm, but does not tell you if it has ruptured or not. Bleeding tends to be retroperitoneal, and POCUS cannot visualize blood in the retroperitoneum. If the clinical setting does not suggest rupture, you may need a CT scan to confirm it. If you see obvious free fluid on your FAST exam, your patient is likely to be very unstable.

When measuring the aortic diameter, ensure that the probe is in a true transverse alignment. Then take care to measure the aorta from its outside diameter. If you measure the intimal tear or the clot, you will get a falsely small measurement. It can help to adjust the gain setting to make the lumen quite black.

How to use this in practice:

Perform an aortic ultrasound on any patient, 50 years old or more, presenting with back, flank, or abdominal pain. You should also be using the scan for patients with unexplained syncope.

In the family practice setting, this should become part of the screening physical examination for those over 50.

Created by the UBC CPD Hands-On Ultrasound Education (HOUSE) Program (house.ubccpd.ca)

UBC CPD



CONTINUING PROFESSIONAL DEVELOPMENT
FACULTY OF MEDICINE

