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Medical Imaging on 1st
Union Avenue Open MRI

Abdominal Aorta Ultrasound Protocol

Reviewed by: Mark Yuhasz, MD**Last review date:** January 2015**Contact:** (866) 761-4200, Option 1**Indications:**

Indications for ultrasound of the abdominal aorta include, but are not limited to:

- Diagnostic Evaluation for Abdominal Aortic Aneurysm
 1. Palpable or pulsatile abdominal mass.
 2. Unexplained lower back pain, flank pain, or abdominal pain.
 3. Follow-up of a previously demonstrated abdominal aortic aneurysm.
 4. Follow-up of patients with an abdominal aortic and/or iliac endoluminal stent graft.

- Screening Evaluation for Abdominal Aortic Aneurysm
 1. Men age 65 or older.
 2. Women age 65 or older with cardiovascular risk factors.
 3. Patients age 50 or older with a family history of aortic and/or peripheral vascular aneurysmal disease.
 4. Patients with a personal history of peripheral vascular aneurysmal disease.

- Groups with additional risk include patients with a history of smoking, hypertension, or certain connective tissue diseases (e.g., Marfan's syndrome).

- There are no absolute contraindications to ultrasound of the aorta. If aortic rupture or dissection is clinically suspected, ultrasound is usually not the examination of choice.

Required Images➤ *Diagnostic Examination*

The examination includes the following, when feasible:

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- Abdominal aorta
 - Longitudinal images (along the long axis of the vessel)
 1. Proximal
 2. Mid
 3. Distal
 - Transverse images (perpendicular to the long axis of the vessel)
 1. Proximal (near diaphragm)
 2. Mid
 3. Distal
 - Measurements
 1. Measurements of the proximal, mid, and distal aorta should be obtained. Measurements are taken at the greatest diameter of the aorta from outer edge to outer edge.
 2. If an aneurysm is present, the maximal size and location of the aneurysm should be documented and recorded. The relationship of the dilated segment to the renal arteries and to the aortic bifurcation should be determined if possible.
 3. A measurement of the length of the aneurysm is not necessary.

- Common iliac arteries
 1. Longitudinal images of the proximal right and left common iliac arteries (along the long axis of the vessel).
 2. Transverse images (perpendicular to the long axis of the vessel) of the proximal common iliac arteries just below the bifurcation.
 3. Measurement of the widest visualized portion of each common iliac artery from outer edge to outer edge.

- Color Doppler imaging and/or spectral Doppler with waveform analysis of the aorta and iliac arteries may provide additional information.

- After endoluminal graft placement, color (or power) and spectral Doppler are required to document the presence or absence of endoleaks.

- Interobserver measurements of an aortic aneurysm can vary by as much as 5 mm. This variation makes visual comparison with previous studies particularly important to determine whether not a significant change in size has occurred.

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➤ *Screening Examination for Abdominal Aortic Aneurysm*

- Abdominal aorta
 - Longitudinal images (along the long axis of the vessel)
 1. Proximal
 2. Mid
 3. Distal
 - Transverse images (perpendicular to the long axis of the vessel)
 1. Proximal (near diaphragm)
 2. Mid
 3. Distal

➤ *Interpretation of the screening examination should include at least 3 categories:*

- Positive – Infrarenal abdominal aortic aneurysm greater than or equal to 3 cm in diameter or greater than or equal to 1.5 times the diameter of the more proximal aorta. The latter definition is particularly important in women.
- Negative – No infrarenal abdominal aortic aneurysm.
- Indeterminate – Aneurysmal status not defined because of nonvisualization or only partial visualization of the infrarenal abdominal aorta.

The report should also state whether or not the suprarenal aorta was seen and, if seen, should reflect whether or not it is normal.