

# AORTA ULTRASOUND

## **Patient Prep (recommended):**

1. Patients are recommended to be NPO for 6 hours prior to an aorta ultrasound examination.
  - a. If a patient has not been NPO (or tube feeding not stopped) for 6 hours, the technologist will scan the patients and document patient preparation.
  - b. Patients who are inadequately prepped may be required to undergo a second limited examination to view the organ that was unable to be imaged.
2. Patient may take water with medications up to exam time (small volumes only).

## **Survey:**

Perform a real-time survey of the Aorta and Iliac arteries.

The use of Doppler and color flow should be used to evaluate blood flow in the Aorta and iliac arteries as appropriate per physician order.

## **Image Documentation:**

Each image must be labeled with the patient's full name, medical record number, accession number, initials of the imaging technologist, organ/area identification, scanning plane and patient orientation if different from supine.

If an image of a structure is not well seen, take an image of the structure and annotate the purpose of the image (i.e. proximal aorta not well seen).

## **General Procedure Description:**

1. Representative images of the aorta in two planes should be obtained using the longitudinal and transverse axis.
2. Measurements of the aorta should be documented in the longitudinal AP and transverse axis. Pay close attention to verify that the image is parallel to the aorta in the longitudinal plane and perpendicular to the aorta in the transverse plane. In the longitudinal image, obtain a measurement in anterior/posterior of the aorta. In the transverse image obtain a measurement of the width of the aorta.
3. The measurements should be made to the plane of the aorta and not the plane of the patient.
4. All measurements are made from outer wall to outer wall.
5. The aorta should be examined with color flow and Doppler to document patency as needed per order. The velocity measurements with Doppler should be obtained as needed per order.
6. Aneurysm should be imaged in two planes with appropriate measurements obtained. Verify relationship of aneurysm to renal arteries.

7. Grafts and stents should be evaluated for position to wall and endoleaks. Color and spectral Doppler images are required to document the presence or absence of endoleaks.

## **Guidelines for Aorta Duplex Ultrasound:**

### **AORTA/ILIAC ARTERIES**

1. Longitudinal Aorta (proximal, mid and distal).
  - a. Gray scale with and without measurement.
  - b. Anterior-Posterior (AP) measurement.
  - c. Color flow.
  - d. Color flow and Doppler with velocity measurements.
2. Transverse Aorta (proximal, mid and distal).
  - a. Gray scale with and without measurements.
  - b. Transverse measurement.
3. Longitudinal right and left aorta/iliac bifurcation.
  - a. Gray scale with and without measurement.
  - b. Anterior-Posterior (AP) measurement.
  - c. Color flow.
  - d. Color flow and Doppler with velocity measurements.
4. Transverse right and left iliac origin.
  - a. Gray scale Transverse with and with measurements.
  - b. Transverse measurement.
5. If an aneurysm is present, obtain appropriate longitudinal and transverse images with appropriate measurements. Obtain a color flow and Doppler image.

## **Guidelines for Aorta/Retroperitoneum Ultrasound:**

### **AORTA/ILIAC ARTERIES**

1. Longitudinal Aorta (proximal, mid and distal).
  - a. Gray scale with and without measurement.
  - b. Anterior-Posterior (AP) measurement.
  - c. Color flow.
2. Transverse Aorta (proximal, mid and distal).
  - a. Gray scale Transverse with and without measurements.
  - b. Transverse measurement.
3. Longitudinal right and left aorta/iliac bifurcation.
  - a. Gray scale with and without measurement.

- b. Anterior-Posterior (AP) measurement.
  - c. Color flow.
4. Transverse right and left iliac origin.
  - a. Gray scale with and with measurements.
  - b. Transverse measurement.
5. If an aneurysm is present, obtain appropriate longitudinal and transverse images with appropriate measurements. Obtain a color flow image.

### **Guidelines if Graft or Stent present:**

#### **AORTA GRAFT**

1. Longitudinal Graft Lumen (proximal, mid and distal)
  - a. Gray scale with and without measurements.
  - b. Anterior-Posterior (AP) measurement.
  - c. Color flow to evaluate for endoleaks.
  - d. Color flow and Doppler with velocity measurements.

#### **ILIAC STENTS**

2. Longitudinal Stent Lumen (proximal, mid and distal)
  - a. Gray scale with and without measurements.
  - b. Transverse measurement.
  - c. Color flow to evaluate for endoleaks.
  - d. Color flow and Doppler with velocity measurements.

#### **PATHOLOGY**

1. Image pathology as needed.

Revised 02/2017  
Revised 04/2019