MARY WASHINGTON HEALTHCARE IMAGING SERVICES

ABDOMINAL AORTA IMAGING PROTOCOL

I. **Patient Preparation:** NPO 8 hours.

II. **Equipment:** Performed with real-time scanner using a sector or curved linear transducer with frequencies ranging from 3.5 MHz to 5.0 MHz, higher frequencies often necessary for children and infants. On occasion, large patients may require a lower frequency of 2.5 MHz.

III. **Clinical indications:** At least one of the following should be listed as a clinical indicator for the exam: abdominal or back pain, pulsatile abdominal mass, epigastric bruit, atherosclerosis or aneurysm. *Follow endograft protocol & use endograft worksheet for imaging of all endografts.*

IV. **Image Optimization:** Optimize gray images using abdominal vascular or abdominal penetration preset, TGC, depth and transmit/focal zones, I-scan, AGC and harmonics to allow for vessel wall and plaque identification.

V. **Imaging Technique:**

Abdominal Aorta/Common Iliac artery

Longitudinal views with grayscale & color Doppler – **measure AP diameter of the following:**

1. Proximal abdominal aorta – posterior to left lobe of liver; include celiac axis and superior mesenteric artery when possible
2. Mid abdominal aorta – distal to superior mesenteric artery
3. Distal abdominal aorta – at region of umbilicus.
    a. Obtain color and/or spectral Doppler waveform
4. Proximal right and left common iliac arteries

Transverse views – **measure width diameter of the following:**

1. Proximal abdominal aorta – posterior to left lobe of liver; include celiac axis and superior mesenteric artery when possible
2. Mid abdominal aorta – distal to superior mesenteric artery
3. Distal abdominal aorta – at region of umbilicus
4. Bifurcation into common iliac arteries – image proximal right and left and common iliac arteries

Inferior Vena Cava

1. Longitudinal grayscale image of the IVC document positioning of inferior vena cava as it passes through the liver
2. Longitudinal color Doppler of the IVC

Image Summary

Image:	Measurement:
1. Patient information screen	
2. Long IVC grayscale	
3. Long IVC color	
4. Long proximal aorta grayscale	AP*
5. Long mid aorta grayscale	AP*
6. Long distal aorta grayscale	AP*
7. Long distal aorta color and/or spectral Doppler waveform	
8. Transverse proximal aorta grayscale	Width*
9. Transverse mid aorta grayscale	Width*
10. Transverse distal aorta grayscale	Width*

11. Transverse right and left common iliac arteries	Width*
12. Long left common iliac artery grayscale	AP *
13. Long left common iliac artery color	
14. Long right common iliac artery grayscale	AP*
15. Long right common iliac artery color	

*Please make sure to obtain grayscale images with AND without calipers.

Document any aortic dilatation by measuring sagittal AP and AP & width transverse diameter noting level as suprarenal, juxtarenal or infrarenal; careful gain setting should be used to assess for thrombus, calcium, plaque and intimal flap/dissection; assess periaortic region or any evidence of fluid, inflammation or adenopathy; PW and/or Color Doppler may be used to document blood flow in aorta or when clinically indicated.