Procedure Name: Mesenteric Duplex

Indication:

Abdominal pain associated with eating, persistent diarrhea, significant weight loss, bruit, postoperative evaluation, suspected celiac artery compression, MALS, aneurysm of the mesenteric, hepatic or splenic arteries, vascular insufficiency of the intestines.

General Description:

A complete examination includes evaluation of the entire course of the accessible portions of abdominal aorta and major visceral arteries including the celiac artery, superior mesenteric artery (SMA) and inferior mesenteric artery (IMA).

Patient Preparation:

NPO 6-8 hours prior to exam.

Imaging Sequence:

1. Image patient data demographics page.
2. Aorta
    - Long and transverse grayscale and color Doppler at the level of the celiac and SMA origin
    - Spectral Doppler with PSV and EDV measurement
3. Celiac
    - Long grayscale and color Doppler
    - Spectral Doppler with PSV and EDV measurement of
        - Celiac origin
        - Hepatic artery origin
        - Splenic artery origin
    - If for MALS, include the following:
        - Spectral Doppler with PSV at deep inspiration and complete expiration.
4. SMA
    - Long grayscale and color Doppler
    - Spectral Doppler with PSV and EDV measurement
        - SMA proximal
        - SMA mid
        - SMA distal
5. IMA (if visualized)
    - Long Grayscale and color Doppler
    - Spectral Doppler at origin with PSV and EDV measurement

Technical Considerations:

- Optimize color Doppler settings to show optimal flow by adjusting the scale and gain to maximally fill the vessel without aliasing artifact. However, areas of aliasing due to turbulent flow should be documented.
- Angle correction of ≤ 60º **must** be used to measure velocities. For certain anatomy, may need to try from different approaches to optimize angle.

Criteria:

- SMA PSV > 275 cm/sec predicts > 70% stenosis
- Celiac PSV > 200 cm/sec predicts > 70% stenosis