MARY WASHINGTON HEALTHCARE IMAGING SERVICES

POPLITEAL ARTERY ANEURYSM PROTOCOL

- I. **Patient Preparation:** No preparation necessary.
- II. **Equipment:** Performed with real-time scanner using a linear transducer with a frequency 8 MHz or higher. Appropriate imaging and Doppler frequency and focal depths will be utilized for the vessels being evaluated with an adjustable range-gated Doppler sample volume size with a visual and audible Doppler output. A Doppler angle of 60 degrees or less is used when quantitative measurements of flow are performed.
- III. **Primary Purpose of the Examination**—to determine the presence or absence of an aneurysm. If the lumen doubles in size it should be considered an aneurysm versus ectasia. A complete history will be taken prior to the beginning exam including history of AAA, or AAA repair and PVD.
- IV. Patient Positioning: Patient should lie supine with head elevated 30-45 degrees. Patient will be slightly rotated on hip (of leg being evaluated) with the lower extremity externally rotated and knee slightly bent. Patient may also be placed in the prone position depending on patient comfort and technologist preference.

V. Imaging Protocol:

- 1. Begin in a transverse scan plane scanning throughout the entire popliteal artery evaluating for dilatation. Obtain maximum transverse width measurements of the proximal, mid and distal popliteal artery.
- Obtain longitudinal gray scale image of the popliteal artery. Measure maximum AP diameter of proximal, mid and distal popliteal artery. Document the presence of plaque or thrombus. If the vessel has thrombus, measure the outer diameter of the artery and the residual lumen.
- 3. Obtain longitudinal color image of the popliteal artery.
- 4. Obtain longitudinal color image with spectral Doppler of the popliteal artery. Documentation of areas of suspected stenosis must include representative waveforms recorded **before**, at and distal to the stenosis.
- 5. Have the patient identify the area of concern if there is a palpable lump.
- 6. Record representative images including incidental findings such as Baker's cyst, lymph nodes or masses.
- 7. When critical findings are present or a wet reading is requested by the ordering physician, the technologist should discuss the exam with an available radiologist (preferably one on-site), then reserve the exam with the RadReserve system. If necessary, the Radiologist will provide a verbal wet reading to the ordering physician with a priority written report to follow.

Note: Color Doppler imaging may be used to aide in vessel identification, course, and low flow settings should be used to demonstrate vessel patency when an occlusion is suspected.

Image Summary

Image		Measurement
1.	Patient information screen	
2.	Trans proximal popliteal artery grayscale	Maximal diameter
3.	Trans mid popliteal artery grayscale	Maximal diameter
4.	Trans distal popliteal artery grayscale	Maximal diameter
5.	Long proximal popliteal artery grayscale	AP
6.	Long proximal popliteal artery color	
7.	Long mid popliteal artery grayscale	AP
8.	Long mid popliteal artery color	
9.	Long mid popliteal artery color with spectral Doppler	PSV
10.	Long distal popliteal artery grayscale	AP
11.	Long distal popliteal artery color	

Documentation of areas of suspected stenosis must include representative waveforms recorded **before**, **at and distal** to the stenosis.

Record representative images including incidental findings such as Baker's cyst, lymph nodes or masses.