GUNDERSEN/LUTHERAN ULTRASOUND DEPARTMENT POLICY AND PROCEDURE MANUAL

SUBJECT: Lower Extremity Arterial Ultrasound Exam of the Native Arteries
SECTION: Radiology Ultrasound
ORIGINATOR: Kaylee Waldvogel, RDMS, RVT, MBA; James Yohn RDMS, RVT
DATE: January 24th, 2022

APPROVED BY: _____
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Scheduling: One every half hour.

IMG11532 US LOWER EXTREMITY ARTERY BILATERAL
IMG11531L LEFT US LOWER EXTREMITY ARTERY
IMG11531R RIGHT US LOWER EXTREMITY ARTERY

Prep: None.

Patient Position: Supine, with head elevated as comfortable for patient.

Equipment: Ultrasound unit with a 5 MHz. linear array transducer. It may be necessary to use a transducer with a lower or higher frequency depending on the patient's body habitus.

Purpose: To localize the level of arterial stenosis in order to help guide treatment.

Indications: This non-contrast study is useful in patients who are poor candidates for CT. Arterial duplex can also be helpful in evaluating the popliteal artery for injury after a knee dislocation. Other indications may include: claudication, decreased pulses and bruit.

Exam Protocol: With real-time ultrasound the lower extremity arteries are imaged. This exam will also include color and spectral Doppler evaluation of the CFA, proximal, mid, and distal SFA, popliteal artery, posterior tibial artery, peroneal artery and anterior tibial artery, and the documentation of any areas of plaque and/or stenosis that are seen. Evaluation of stenotic areas should be documented by measuring the PSV proximal to, at the area of, and distal to the stenosis, with the demonstration of post stenotic turbulence if present.

Imaging Protocol: The following images will represent the lower extremity arterial ultrasound exam. **Additional images may be needed for proper documentation.**

- Longitudinal EIA
  - Gray Scale
  - Color Doppler
  - Angle-Corrected Spectral Doppler with PSV measured.

- Longitudinal CFA
  Gray Scale
  Color Doppler
  Angle-Corrected Spectral Doppler with PSV measured.

- Longitudinal proximal PFA
  Color Doppler
  Angle-Corrected Spectral Doppler with PSV measured.

- Longitudinal proximal SFA
  Gray Scale
  Color Doppler
  Angle-Corrected Spectral Doppler with PSV measured.

- Longitudinal mid SFA
  Gray Scale
  Color Doppler
  Angle-Corrected Spectral Doppler with PSV measured.

- Longitudinal distal SFA
  Gray Scale
  Color Doppler
  Angle-Corrected Spectral Doppler with PSV measured.

- Longitudinal proximal popliteal artery
  Gray Scale
  Color Doppler
  Angle-Corrected Spectral Doppler with PSV measured.

- Longitudinal distal popliteal artery
  Gray Scale
  Color Doppler
  Angle-Corrected Spectral Doppler with PSV measured.

- Posterior Tibial Artery (near medial malleolus)
  Angle Corrected Spectral Doppler with PSV measured.

- Peroneal Artery (near medial malleaolus)
  Angle Corrected Spectral Doppler with PSV measured.

- Dorsalis Pedis Artery (on top of foot)
  Angle Corrected Spectral Doppler with PSV measured.