Skagit RADIOLOGY INCORPORATED PROFESSIONAL SERVICES	US Peripheral Arterial		
	Reviewed:	Date: 4/11/2024	
	Revised:	Date: 4/11/2024	

PURPOSE

Practice parameter for the performance of diagnostic ultrasound of the peripheral arterial system including upper and lower extremities.

SUPPORTIVE DATA

- Obtain a written, verbal, or electronic order from provider
- Verify that written orders are scanned into Epic
- Previous relevant imaging procedures

INDICATIONS

Indication for a peripheral arterial system ultrasound examination include but are not limited to:

- The detection of stenosis or occlusions in segment(s) of the peripheral arteries in symptomatic patients with suspected arterial occlusive disease. These patients could present with recognized clinical indicators, such as claudication, rest pain, ischemic tissue loss, aneurysm, or arterial embolization.
- The monitoring of sites of previous surgical interventions, including sites of pervious bypass surgery with either synthetic or autologous vein grafts
- The monitoring of sites of previous surgical interventions, including angioplasty, thrombolysis/thrombectomy, atherectomy, or stent placement
- Follow-up for progression of previously identified disease, such as documented stenosis in an artery that has not undergone intervention, aneurysms, atherosclerosis, or other occlusive diseases
- The evaluation of suspected vascular and perivascular abnormalities, including such entities as masses, aneurysms, atherosclerosis, or other occlusive diseases
- Mapping of arteries prior to surgical interventions
- Clarifying or confirming the presence of significant arterial abnormalities identified by other imaging modalities
- Evaluation of arterial integrity in the setting of trauma
- Evaluation of patients suspected of thoracic outlet syndrome, such as those with positional numbness, pain, tingling or a cold hand

CONTRAINDICATIONS

- There are no absolute contraindications but there may be physical limitations that prevent a complete duplex examination. These include open wounds, recent surgeries, scar tissue, calcification, severe edema, contractures or other causes of mobility.

EQUIPMENT LIST

- Real-time ultrasound scanner with transducer of appropriate frequency
- Gel
- Towels
- Patient gown (if applicable)

SAFETY

- Universal precautions for bodily fluids should be observed as per hospital protocol.
- All ultrasound carts are annually checked and are up to date with all state and manufacturer guidelines.
- Exams will be prioritized according to ordering status (STAT, ASAP or Routine)

PATIENT PREPARATION

- None

PROCEDURE

1. Check provider's orders for reason for exam and any comments.
2. Review report of patient's most recent ultrasound, relevant imaging or relevant labs if applicable.
3. Start exam in Epic
4. Verify patient by 2 patient identifiers (name, DOB, wristband).
5. Process should be explained to patient.
6. Have patient change into gown if appropriate
7. Perform imaging procedure
8. End exam in Epic

IMAGING PROCEDURE

Upper Extremity Arterial

A normal upper extremity arterial protocol will aim to include 2d, color doppler and spectral doppler on the following views:

1. Subclavian Artery
2. Axillary Artery
3. Brachial Artery Prox

4. Brachial Artery Mid
5. Brachial Artery Distal
6. Radial Artery Prox
7. Radial Artery Mid
8. Radial Artery Distal
9. Ulnar Artery Prox
10. Ulnar Artery Mid
11. Ulnar Artery Distal
12. Repeat on other side
13. Document pathological findings with all appropriate additional views to include color doppler and/or pulsed wave doppler
14. Document calcification on worksheet diagram

Upper Extremity (Thoracic Outlet)

A normal upper extremity for thoracic outlet protocol will aim to include the following views:

1. Collect History regarding injury or other reason inducing arm or shoulder pain, numbness and/or weakness.
2. Demonstrate Doppler waveform of subclavian artery proximal and distal to clavicle in a neutral non-symptom inducing position.
3. Have patient put arm in symptom inducing position and demonstrate supraclavicular and infraclavicular subclavian arterial waveform.
4. Have patient put arm in position of a bicep curl, have patient flex and fush bicep toward ceiling against something (table, machine or person) to provide resistance. Demonstrate supraclavicular and infraclavicular subclavian arterial waveform in this position.
5. Have patient put arm straight out to side at 90 degree angle to torso have patient push down on object to provide resistance. Demonstrate supraclavicular and infraclavicular arterial waveform in this position.
6. Repeat on non-symptomatic arm to compare waveforms.
7. Document pathological findings with all appropriate additional views to include color doppler and/or pulsed wave doppler

Lower Extremity Arterial

A normal lower extremity arterial protocol will aim to include color doppler and spectral doppler on the following views:

1. CFA Velocity
2. DFA Prox Velocity
3. SFA Prox Velocity
4. SFA Mid Velocity
5. SFA Distal Velocity

6. POP A. Velocity
7. ATA Distal/Dorsalis Pedis Velocity
8. PTA Distal (at medial malleolus) Velocity
9. Any Stenoses Velocities
10. Graft Prox and Distal Anastamoses Velocities
11. Graft Prox, Mid, Distal Velocities
12. Document pathological findings with all appropriate additional views to include color doppler and/or pulsed wave doppler
13. Document calcification on worksheet diagram
14. Perform spectral doppler with measurements on the CFA more proximally and into the distal external iliac artery on all lower extremity arterial ultrasounds in cases where the CFA has a peak velocity of 200cm/sec or greater.

DOCUMENTATION

1. Written, verbal, or electronic order from provider
2. The worksheet and images need to be scanned into PACS under appropriate exam and put online.
3. Ultrasound images should be labeled with anatomy imaged and orientation (SAG or TRANS)
4. All images are submitted with above documentation for dictation and stored in PACS
5. For all STAT, ER and Urgent Care ultrasound exams, call radiologist for prelimanary report to give to ordering provider
6. If it is between 2200 - 0700, submit exam along with proper documentation to teleradiology

REFERENCE

- Approved by Pharmacy and Therapeutics Board on 08/14/2020
- Approved by Medical Executive Team on 09/11/2020
- Approved by Medical Director, Dr. Muneer Desai, on 08/20/2020
- Approved by Radiology Protocol Committee on 3/9/2020
- ACR Practice Parameters Resolution 17 (2017)

References

Reference Type	Title	Notes
	Documents referenced by this document	
Referenced Documents	ACR Practice Parameters Resolution 17 (2017)	