


| | | | |
|---|------------------------|---------------|-----------|
|  | US Vein Mapping | | |
| | Reviewed: | Date: 5/26/26 | Dr. Cai |
| | Revised: | Date: 5/26/26 | J.Finizio |

PURPOSE

Practice parameter for the performance of diagnostic ultrasound of the mapping of upper extremity veins and arteries for dialysis shunt otherwise known as A-V fistula

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 ultrasound vascular mapping for preoperative planning of dialysis access include but are not limited to:
 - Planning of vascular access for hemodialysis

CONTRAINDICATIONS

- There are no absolute contraindications.

EQUIPMENT LIST

- Real-time ultrasound scanner with transducer of appropriate frequency
- Gel
- Towels
- Patient gown (if applicable)
- Positioning aid to help position patient upper extremity

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

A normal mapping of upper extremity for fistula placement protocol will aim to include the following views:

Upper Extremity Arterial Mapping

2D, Color and Spectral Doppler of:

- Subclavian Artery
- Axillary Artery
- Brachial Artery at the antecubital fossa
- Radial Artery (prox, mid, distal forearm)
- Ulnar Artery (prox, mid, distal forearm)
- Measure the caliber of the arteries. Do NOT include the wall in this measurement

Upper Extremity Venous Mapping

R/O DVT throughout but only images needed include:

- Sag IJV w/ color to show patency
- Sag Subc V. w/ color to show patency
- Cephalic V. Diameter Measurements:
 - Upper Arm
 - Prox
 - Mid
 - Distal
- Forearm
 - Prox

- Mid
- Distal
- Basilic V. Diameter Measurements:
- Upper Arm
- Prox
- Mid
- Distal
- Forearm
- Prox
- Mid
- Distal

Document pathological findings with all appropriate additional views to include color doppler and/or pulsed wave doppler

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 preliminary report to give to ordering provider
6. If it is between 2200 - 0730, submit exam along with proper documentation to teleradiology

REFERENCE

Approved by Pharmacy and Therapeutics Board on 06/20/2025

Approved by Medical Executive Team on 08/12/2025

Approved by Medical Director, Dr. Kelley Cline, on 06/17/2025

ACR Practice Parameters Resolution 30 (2016)

References

| Reference Type | Title | Notes |
|----------------|-------|-------|
|----------------|-------|-------|

Documents referenced by this document

| | |
|----------------------|--|
| Referenced Documents | ACR Practice Parameters Resolution 30 (2016) |
|----------------------|--|

| | | | |
|------------------------|------------|------------------|------------|
| Current Effective Date | 02/19/2026 | Next Review Date | 02/19/2028 |
|------------------------|------------|------------------|------------|

| | | | |
|-------------------------|------------|----------------|-------------------------|
| Original Effective Date | 03/26/2020 | Document Owner | Schneider, Ron Director |
|-------------------------|------------|----------------|-------------------------|

Diagnostic Imaging