

MARY WASHINGTON HEALTHCARE IMAGING SERVICES

UPPER EXTREMITY SUPERFICIAL VENOUS MAPPING PROTOCOL

- I. **Primary Purpose of the Venous Examination**—to determine the patency, size and depth of the veins in the arm for use in bypass. The surgeon will specify which arms or arms are to be mapped. Usually only the Basilic and Cephalic veins will need to be mapped.
- II. **Equipment:** Imaging and flow analysis performed with Duplex sonography using a linear transducer with a frequency of 12 MHz or higher. A Doppler angle of 60 degrees or less is used when quantitative measurements of venous flow are performed.
- III. **Patient Preparation:** None
- IV. **Patient Positioning:** Patient should lay supine (on bed or stretcher) that supports the patient's trunk and upper extremity. Pillows may be utilized to aid patient comfort. A complete history will be taken prior to the beginning of the exam.
- V. **Upper Extremity Venous Mapping Procedure:**

A. Image Protocol:

These images should be taken with a split screen showing the vein compresses on the right with the AP measurement on left side of screen.

Cephalic vein

1. Measure AP diameter of cephalic vein at the following levels:

- Proximal upper arm
- Mid upper arm
- Distal upper arm
- Proximal forearm
- Mid forearm
- Distal forearm

Basilic vein

1. Measure AP diameter of basilic vein at the following levels:

- Proximal upper arm
- Mid upper arm
- Distal upper arm
- Proximal forearm
- Mid forearm
- Distal forearm

2. Document insertion level of the Basilic vein as proximal, mid or distal upper arm.

3. Note if there is any thrombus or wall thickening.

****If veins appear small (<2.5mm), place a tourniquet on the arm and repeat measurements.**

After completing the exam, the technologist will scan the order for the exam into iSite and track the exam in the Syngo system

Upper Extremity Superficial Venous Mapping Image Summary

******These images should be taken with a split screen showing the vein compression on the right and the AP diameter measurement on the left side of screen.

<u>Image</u>	<u>Measurement</u>
1. Patient information screen	
2. Trans dual screen Cephalic prox upper arm	AP diameter
3. Trans dual screen Cephalic mid upper arm	AP diameter
4. Trans dual screen Cephalic dist upper arm	AP diameter
5. Trans dual screen Cephalic prox forearm	AP diameter
6. Trans dual screen Cephalic mid forearm	AP diameter
7. Trans dual screen Cephalic dist forearm	AP diameter
8. Trans dual screen Basilic prox upper arm	AP diameter
9. Trans dual screen Basilic mid upper arm	AP diameter
10. Trans dual screen Basilic dist upper arm	AP diameter
11. Trans dual screen Basilic prox forearm	AP diameter
12. Trans dual screen Basilic mid forearm	AP diameter
13. Trans dual screen Basilic dist forearm	AP diameter
14. If veins appear small (<2.5mm), apply a tourniquet and repeat measurements.	
15. Repeat images in contralateral arm if a bilateral exam is indicated.	

[Rev 3/2013]