

**Functional Requirements for PM&R Ultrasound  
For Minneapolis VA Healthcare System (Station 618)  
Obligation Number 618-B79036**

*This Physical Medicine and Rehabilitation ultrasound will be used for the following clinical applications:  
Diagnostic and interventional musculoskeletal, neurologic, pain & regenerative medicine; general  
purposes, vascular*

**Technical Requirements:**

1. All imaging modes available on a single transducer
  - a. 2D
  - b. 3D (freehand)
  - c. Harmonic Imaging
  - d. M mode
2. Doppler Displays
  - a. Frequency
  - b. Velocity
  - c. Power - Microvascular/directional
  - d. Duplex
  - e. Triplex
3. Panoramic mode
4. Monitor – minimum 21 inches
5. Touchscreen monitor – minimum 12 inches
6. Image storage – minimum 3 days
7. One button image optimization
8. Programmable protocols
9. Patient worklist
  - a. ability to make worklist without being connected to network or requiring an order
10. 4 active transducer ports
11. Operating system – Windows 7 or above
12. Shear wave and strain based Elastography
13. Beam Steering
14. Ease of maneuverability
  - a. Screen rotation of 180 degrees from center in either direction
  - b. Unit moves up and down both monitor and the control panel
  - c. Size of equipment – no more than 23 inches wide, 39 inches in depth
  - d. Weight of unit – no more than 200 pounds
  - e. Desktop/control panel rotation of 180 degrees from center in either direction
15. Ability to enter a standby mode or sleep mode
  - a. Quick start-up
16. Battery life – minimum 30 minutes
17. Black and white printer
18. Needle enhancement
19. Foot pedal control
  - a. multi-function
  - b. programmable (preferred)

- 20. Display
  - a. full screen image capability
  - b. comparison view
- 21. Image editing
  - a. easy video editing
  - b. annotation

Transducers/ Probe Types:

- 1. Linear array high (18 to 5MHZ) frequency range
- 2. Linear array lower (12 to 5MHZ) frequency range
- 3. Convex/curved
- 4. Intraoperative (i.e. hockey stick)
- 5. Single crystal technology

*Each vendor is to respond with transducers that meet the criteria listed above. Please include all other transducers offered by your company in the optional section on the quotes.*

Analysis Packages:

- 1. Procedural
- 2. Abdominal
- 3. Musculoskeletal Clinical
- 4. Small Parts
- 6. Vascular – measurement and analysis of vessels

*Each vendor is to respond with analysis packages that meet the criteria listed above. Please include all other analysis packages offered by your company in the optional section on the quotes.*

Support and other Documentation to Provide:

- 1. Please provide the weight of the unit.
- 2. Please provide the physical size (Height, Width, Depth).
- 3. Please describe in detail the standby mode or sleep mode.
- 4. Provide DICOM conformance statement.
- 5. Provide completed pre-procurement assessment form (6550).
- 6. Provide information about your companies support structure during the warranty period (i.e. a listing of field service engineer locations and availability, support phone number(s), remote support, etc.). Warranty period shall be a minimum of 1 year – part and labor. Contractor shall provide a hard copy of the warranty with the product.
- 7. Please provide version/platform long-range plan.
- 8. Provide 2 copies product service manuals (1 hard copy and 1 digital copy).
- 9. Provide references for the clinical applications trainer that will be assigned to VISN 23.

Training:

- 1. On-site
  - a. Clinical applications **during go-live** - minimum of 2 days (8 hours each day)
  - b. Training should be for both technologists and physicians