SOCIETY FOR VASCULAR ULTRASOUND

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VASCULAR TECHNOLOGY
PROFESSIONAL PERFORMANCE GUIDELINES

Quality Improvement Guidelines for Accuracy of Examinations in the Vascular Laboratory

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Quality Improvement Guidelines for Accuracy of Examinations in the Vascular Laboratory

The following Quality Assurance Guidelines are a compilation of recommendations or requirements from the Society for Vascular Ultrasound and the Intersocietal Accreditation Commission.

PURPOSE

To assure that ultrasound exams are accurate compared with alternate imaging modalities and that corrective measures are initiated when discrepancies are identified with the exam. To ensure that exams are reviewed in weekly, monthly or quarterly meetings with the medical director and laboratory supervisor, or his/her designee; annual meetings with all staff must be held to review quality.

EXAMINATION QUALITY MEASURES

Each examination performed in the facility must have a single set of written, validated diagnostic criteria to interpret the presence of disease. Diagnostic criteria must be based on published reports or internally generated and internally validated.

Correlation should include the following:

- Location, extent and severity of disease identified and reported by ultrasound diagnostic criteria.
- Methods of correlation must be able to report location, extent and severity of disease.
- Protocol in each laboratory must be followed and correlations should determine that if the protocol is not followed, is that a reason for non-correlation.
- All correlations should be ongoing, throughout each calendar year, with written minutes of each meeting documented, and all staff participating regularly.
- All comparisons should be made less than 30-90 days of each other, based on the urgency of the exam performed.
- All studies must be interpreted according to written diagnostic criteria.
- A written or computer generated log should be kept and include patient name, indication, exam type, date, sonographer and physician names, and a findings summary.

Laboratories should perform a minimum number of exams of each type to maintain accuracy among all staff:

- A facility should perform a minimum of 100 complete studies yearly.
    - A minimum of four case reviews should be performed per year with at least two reviews per applicable testing modality.
- Case review should be performed with any appropriate imaging modality, surgical findings, clinical outcome or other comparison.

Methods for exam correlation:

- Extracranial cerebrovascular
  - digital subtraction angiography
  - contrast angiography
  - contrast-enhanced CTA
  - MRA (magnetic resonance angiography)
  - operative findings as reported by operating surgeon

- Intracranial cerebrovascular (transcranial Doppler and duplex imaging)
  - digital subtraction angiography
  - contrast angiography
  - contrast-enhanced CTA
  - MRA (magnetic resonance angiography)
  - operative or interventional findings

- Peripheral arterial
  - digital subtraction angiography
  - contrast angiography
  - contrast-enhanced CTA
  - MRA (magnetic resonance angiography)
  - operative or interventional findings

- Visceral (mesenteric, aortoiliac, renal)
  - digital subtraction angiography
  - contrast angiography
  - contrast enhanced CTA
  - MRA (magnetic resonance angiography)
  - operative or interventional findings

- Venous (upper and lower extremity)
  - repeat exam by alternate sonographer at the same sitting (this is only approved for comparisons in venous duplex examinations)
  - clinical outcome (confirmation from attending is required, and may be achieved using a form letter requesting outcome/treatment or further investigative tools which attending physician may have ordered)
  - over-reading by an alternate qualified physician of the final impression, with review of images
  - venography (especially of the upper extremities)
  - operative or interventional findings

- Screening exams
  - correlate with a complete ultrasound exam, by alternate sonographer
  - angiographic, interventional or surgical findings
  - CIMT – a repeat exam or over-read and recalculation of IMT measurements

Quality Improvement (QI) should be performed at each site for all applicable testing areas and include the following measures:

- Test Appropriateness
- Technical Quality Review
- Interpretive Quality Review
- Final Report Completeness and Timeliness
- Case Review
- Quality Improvement meeting documentation and record retention

EQUIPMENT QUALITY ASSURANCE

- Twice yearly preventative maintenance of equipment must be performed.
- Accuracy of transducers must be documented with use of a phantom measurement and records retained by the department and/or biomedical departments.
- Equipment must be cleaned on a regular basis within individual laboratory policy and/or manufacturer's recommendations.
- Maintenance policies and agreements for diagnostic equipment must be maintained by each laboratory and/or biomedical departments.

CONTINUING PROFESSIONAL EDUCATION

- Credentialing in the modality(s) being practiced
- Available credentials via ARDMS, ARRT, CCI
- Minimum of 30 credit hours every three years
  - Each individual responsible for maintaining records of credits

Methods for obtaining continuing professional education credits:

- Attendance at regional or national meetings
- Attendance at local grand rounds or
- Online CME programs
- Credits obtained through scientific journals