ASUM

Standards of Practice

Promoting ultrasound excellence



Guidelines, Policies and Statements

Guidelines for the Operation of Vascular Ultrasound Practices

Adopted by Council July 2007

Revised June 2018

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Australasian Society for Ultrasound in Medicine

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1. Introduction

The Australasian Society for Ultrasound in Medicine (ASUM) is a multidisciplinary society whose mission is to advance the clinical practice of diagnostic medical ultrasound for the highest standards of patient care. A primary aim of ASUM is to promote, educate and disseminate standards of ultrasound practice in this continually developing specialty.

1.1. Purpose

The purpose of these Guidelines is to set out the professional standards for ultrasound practices operating in the area of vascular services and procedures.

1.2. Background

Since this policy's inception, the Diagnostic Imaging Accreditation Scheme (DIAS) has been developed, helping ensure safety and quality standards for diagnostic imaging practices. Since July 2010, all diagnostic imaging practices offering diagnostic services listed in the Diagnostic Imaging Services Table (DIST) for the purpose of 'Medicare benefits' must be accredited under DIAS.

To meet 'full suite' Practice Accreditation, all 15 Standards for the DIAS must be met. Accreditation to three of these Standards (Standards 1.2, 1.3 and 1.4) is known as 'entry level' accreditation.

Practices entering the DIAS for the first time may choose to be accredited against either the entry level Standards or the full suite of Standards. Practices initially choosing to be accredited against the entry level Standards have a period of two years to achieve accreditation against the full suite of Standards to maintain their accreditation. Practices awarded accreditation against the full suite of Standards enter the accreditation maintenance program, which requires re-accreditation against the full suite of Standards every four years.

This policy acknowledges DIAS but also provides some industry-specific practice protocols for students or other members operating within vascular services. It complements DIAS by providing specifying some relevant ultrasound requirements.

1.3. Scope/Applicability

This guideline is applicable to all ultrasound practitioners.

2. Documentation

2.1. Vascular Ultrasound Protocols

The vascular ultrasound protocols should be explicit and detail a step-by-step sequence of the entire ultrasound examination as performed in the practice. As most practices perform the examinations in a unique and individualised manner, it is important that the protocols are specific and describe the techniques actually used.

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2.2. Diagnostic Criteria

2.2.1. A detailed description of the diagnostic criteria used for each examination should be maintained. This should accompany any charts, graphics or formulae used in the interpretation of the examination results. Specific references, including text or article, author, date, name and volume number of journal, or name of text and publisher should be provided.

2.2.2. A manual, containing diagnostic criteria that have been developed within the vascular practice or modified from standard published criteria, should be internally validated where possible. Internal validation is usually accomplished in the course of correlation and confirmation of test results.

2.3. Quality Assurance

Validation of vascular ultrasound against angiographic, surgical and/or internal validation is a critical part of quality assurance. Practices should maintain the following documentation:

- A statement detailing quality assurance measures and procedures should be maintained.
- The policy for the provision of Continuing Professional Development for all clinical staff.
- A policy for regular equipment maintenance.
- Policies and procedures to ensure patient safety.
- Policies and procedures on the retention, storage and destruction of patient information.

3. Personnel

3.1. The Medical Director and Medical Staff

The Medical Director should hold an appropriate specialist qualification such as the FRACS (Vascular), FRANZCR, DDU or equivalent.

3.2. The Technical Director/Supervising Sonographer, Staff Sonographers and Student Sonographers

3.2.1. The Technical Director/Supervising Sonographer and Staff Sonographers must have appropriate ASAR or NZMRTB accreditation.

3.2.2. A Technical Director/Supervising Sonographer should be designated for the vascular practice, whose responsibilities include day to day operations of the practice, including maintenance and operation of the equipment.

3.3. Support Services (Nursing/Clerical/Other services)

The Medical Director must ensure that support services are appropriate and in the best interests of patient care.

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3.4. Continuing Professional Development

All personnel should receive appropriate continuing professional development.

4. Physical Facilities

4.1. Examination Rooms

Examinations shall be performed in a setting providing reasonable patient comfort and privacy.

4.2. Interpretation Space

Adequate designated space shall be provided for the interpretation of the results and preparation of reports.

4.3. Storage Space

Adequate designated space shall be provided for the convenient storage of supplies, records and reports.

5. Instrumentation

5.1. Equipment

Practices should ensure that their equipment meet with the most current acceptable standards.

5.2. Equipment Maintenance

A policy should exist for regular equipment maintenance to be performed on all equipment used for vascular ultrasound, including electrical safety checks, calibration and quality assurance.

5.3. Minimum Standard: The Duplex Doppler Ultrasound Machine

The duplex Doppler ultrasound machine is used to provide simultaneous or sequential real-time gray scale (B-mode) imaging of the vessel wall and plaque and analysis of the angle corrected Doppler frequency spectrum from a selected sample volume within the vessel lumen. As well as the essential characteristics of both B-mode imaging and duplex Doppler spectral analysis for quantification of blood flow velocities (or Doppler frequency shift), the ultrasound machine should have colour Doppler imaging. Colour Doppler provides a qualitative, simultaneous display of flow information superimposed on the real-time gray scale image. Required characteristics:

- Imaging frequencies as specified in anatomic regional sections.
- Range-gated Doppler with the ability to adjust the position and size of the range gate/sample volume.
- Provision for measurement and display of Doppler angle.
- Provision of visual and audible output of Doppler signal.
- Provision for hard copy or other form of recording.

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6. Patient Safety

Practices should maintain specific written policies and procedures to ensure patient safety.

6.1. Incident Reports

A procedure must exist for the identification of patients who suffer untoward effects, or complications of studies performed. A permanent record of such incidents should be maintained.

6.2. Infection Control

Protocols must exist with respect to control of infectious diseases, transducer cleaning and protection of all personnel from the transmission of infectious diseases and blood-borne pathogens, in conformance with the specific policies of the practice.

6.3. Emergency Procedures

Appropriate equipment, supplies and trained personnel should be available to deal with medical emergencies and critically ill patients.

6.4. Patient Confidentiality

All personnel will comply with to professional principles of patient confidentiality at all times.

6.5. Ultrasound Safety

Applicants are referred to ASUM policies and statements regarding safety including the application of the ALARA principle (As Low as Reasonably Achievable) to the output power/intensity and examination time.

7. Reporting Practices

7.1. Reports

7.1.1. Diagnostic studies must be interpreted and reported by the Medical Director or by a qualified medical practitioner approved by the Medical Director. The report shall include the name of the medical practitioner performing the interpretation and be completed in a reasonable time after the study, as specified in the specific policies of the Practice.

7.1.2. The Sonographers' worksheet should be completed, in compliance with Health Insurance Commission stipulations. The name of the sonographer who performed the examination shall be included on the worksheet and report.

7.1.3. If preliminary reports are prepared, a policy should exist to include a mechanism for reconciling differences between preliminary and final reports, should this occur.

7.1.4. A policy for the provision of written and verbal reports to the referring clinician must exist. Adherence to this policy should be audited on a regular basis.

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7.1.5. Retention of records must comply with the Medicare Benefits Schedule. Each Practice should have a policy defining how long patient records should be kept and when they must be destroyed.

7.2. Records

Details will be required of the system used in the practice to record the number and types of procedures performed and the method of hard copy and report storage. All practices are to take and store ultrasound images in accordance with each specific examination's particular protocol.

8. Related/Supporting Documents

The following documents are required to give effect to this guideline:

1. ASUM G04 Guidelines for Reprocessing Ultrasound Transducers.

9. Supporting Information/References

The following documents inform this guideline:

1. The Royal Australian and New Zealand College of Radiologists (RANZCR), Position statement on the provision of medical ultrasound services. Faculty of Clinical Radiology, 2013.
2. ASUM Position Statement, Minimum education & training requirements for ultrasound practitioners, 2017.

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