CSVS

THE COLLEGE AND SOCIETY
FOR CLINICAL VASCULAR SCIENCE
Great Britain and Ireland

Professional Standards

Vascular Science Scope of Practice for Diagnostic Procedures

Version 1.0

March 2025

Doc Ref PS-SM017.

CSVS
THE COLLEGE AND SOCIETY
FOR CLINICAL VASCULAR SCIENCE
Great Britain and Ireland

Professional Standards

Vascular Science Scope of Practice for Diagnostic Procedures

Version 1.0

March 2025

Doc Ref PS-SM017

Version Number	Change	Author	Date
1.0	**New document**	**Author:** Jo Walker, CSVS 2025 Professional Standards Committee Chair **Review:** Steven Rogers & Hannah Williamson **Approval:** CSVS 2025 Executive Committee	**March 2025**

Vascular Science Scope of Practice for Diagnostic Procedures

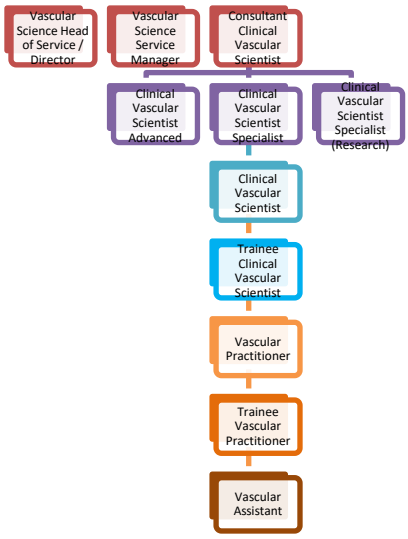
Contents

Vascular Science Scope of Practice for Diagnostic Procedures

Introduction

1. The CSVS Vascular Science Scope of Practice for Diagnostic Procedures is aligned to the CSVS Vascular Science career pathway. Services may choose for Healthcare Science staff to deliver vascular diagnostic tests outside of the relevant scope of practice however this must be documented in local pathways, SOP's and job descriptions, with consideration to quality and safety with regards to professional indemnity and registration, appropriate qualifications and ongoing competency assurance of staff to an agreed standard. For vascular science staff on training pathways, the scope is limited to the relevant level of competency signoff for each diagnostic test for the duration of training until final qualification is attained. This is the responsibility of the employer to assure training competency. CSVS minimum performance standards are those set out in the CSVS PPGs (protocols) where available.

Vascular Science career pathway



Professional Registrations

1.1. A **Vascular Science Practitioner** will be expected to register with the CSVS, gain and maintain CSVS Accredited Vascular Practitioner (AVP) accreditation; follow the AHCS Standards of Proficiency for Healthcare Science Practitioners[1], AHCS Good Scientific Practice[2], and attain and maintain registration on the AHCS PSA Accredited register[3].

1.2. A **Clinical Vascular Scientist** will be expected to register with the CSVS, gain and maintain CSVS Accredited Vascular Scientist (AVS) accreditation, and to follow AHCS Good Scientific Practice. It is recommended, where possible (such as via an equivalence route), to also gain and maintain registration on the HCPC register as a Clinical Scientist.

1.3. An **Advanced / Senior Clinical Vascular Scientist** will be expected to register with the CSVS as a CSVS Accredited Vascular Scientist (AVS), and to follow AHCS Good Scientific Practice. It is recommended, where possible (such as via an equivalence route), to also gain and maintain registration on the HCPC register as a Clinical Scientist or Higher Specialist Scientist.

2. Vascular Science Practitioner Scope of Practice for Diagnostic Procedures

2.1. **Education & Training:** A Vascular Science Practitioner will be expected to hold a relevant CSVS approved undergraduate degree: Vascular Practitioner. Vascular Practitioners already in practise (prior to the launch of a relevant CSVS approved undergraduate degree) will be expected to register with the CSVS, gain and maintain CSVS Accredited Vascular Practitioner (AVP) accreditation via individual special application to the CSVS for AVP with a portfolio of evidence to demonstrate equivalent knowledge and experience.

2.2. **Equipment:** The equipment used for vascular diagnostics will include handheld Doppler and imaging ultrasound. Ultrasound tests at practitioner level will fully utilise CW Doppler and B-Mode. Additional equipment may include Toe Pressure systems including Plethysmography.

2.3. Core Tests

Core tests are those which are expected as the main role/routine practise. For vascular science these often include non-imaging diagnostic tests using handheld Doppler systems and imaging diagnostic tests using ultrasound systems.

Core tests at Vascular Practitioner Level <u>are limited</u> to:

Non-Imaging Tests

- Ankle & Brachial Pressure Index Measurement (ABPI)
- Pre & Post Exercise ABPI
- Toe Absolute Pressures & Toe Brachial Pressure Index Measurement (TBPI)
- Continuous Wave Doppler Waveform Assessments
- *Segmental Pressure Measurements
  *Plethysmography
  *These are less common tests that are not usually part of the core scope of practice

Arterial Imaging

- Abdominal Aortic Aneurysm B-Mode Assessment & Surveillance
- Peripheral Arterial Lower Limb Aneurysm B-Mode Assessment & Surveillance

Venous Imaging

- Lower limb Duplex Deep Vein Thrombosis (DVT) (Common femoral vein to distal Popliteal Vein)
  *An AVP may perform a full leg DVT scan to include the calf veins (and/or iliac vein DVT scan where indicated) only if the employer has assured competency to use Colour and Spectral Doppler aligned to the full CSVS scan guideline, or competency standard to a local agreed standard operating procedure.
- Upper & Lower Limb Pre-operative Vein Mapping / Marking

3. Clinical Vascular Scientist Scope of Practice for Diagnostic Procedures

3.1. **Education & Training:** A Clinical Vascular Scientist will be expected to hold a minimum of a PgCert. Medical Ultrasound (Level 7, 60 credits, CASE accredited [4]) including a Vascular Ultrasound module, or Scientist Training Programme (STP) Vascular Science, and/or attain CSVS Accredited Vascular Scientist (AVS) accreditation.

3.2. **Equipment:**
The equipment used for vascular diagnostics will include handheld Doppler, imaging ultrasound and other equipment. Ultrasound tests at Clinical Vascular Scientist level will fully utilise and optimise B-Mode, Colour duplex, and Spectral Doppler. More advanced ultrasound equipment modalities may also be considered. Additional equipment will include Toe Pressure systems including Plethysmography.

3.3. Core Tests

Core tests are those which are expected as the main role/routine practise. For vascular science these often include non-imaging diagnostic tests using handheld Doppler systems and imaging diagnostic tests using ultrasound systems.

Core tests at Clinical Vascular Scientist Level should include:

Non-Imaging Tests

- Ankle & Brachial Pressure Index Measurement (ABPI)
- Pre & Post Exercise ABPI
- Toe Absolute Pressures & Toe Brachial Pressure Index Measurement (TBPI)
- Continuous Wave Doppler Waveform Assessments

Arterial

- Lower Limb & Upper Limb Arterial Duplex
- Lower Limb & Upper Limb Arterial Bypass Graft/Stent Duplex Assessment/Surveillance
- Extracranial Carotid Artery Duplex Assessment/Surveillance
- Abdominal Aortic Aneurysm and peripheral aneurysm Duplex Assessment/Surveillance

Venous

- Lower Limb & Upper Limb Duplex DVT
- Lower Limb Duplex Reflux
- Lower Limb & Upper Limb Duplex Pre-operative Vein Mapping / Marking

Additional tests (Section 4.4) may be added (following training and competency assurance) to the existing scope of a Clinical Vascular Scientist, however, are usually associated with advanced scope of practice.

4. Advanced / Senior Clinical Vascular Scientist Scope of Practice

4.1. **Education & Training:** An Advanced / Senior Clinical Vascular Scientist will be expected to hold CSVS AVS accreditation, and may additionally hold a relevant (CASE accredited) postgraduate degree level vascular module Medical Ultrasound (Vascular) MSc, STP, and/or working towards PhD or HSST (DClinSci or equivalence).

4.2. **Equipment:**

The equipment used for vascular diagnostics will include handheld Doppler, imaging ultrasound and other equipment. Ultrasound tests at an Advanced/Senior Clinical Vascular Scientist level, operators will be expected to fully utilise B-Mode, Colour duplex, and Spectral Doppler, including appropriate advanced image optimisation adaptation from pre-set for routine and non-routine findings, and comprehensive knowledge and use of additional functions (as required) on the ultrasound systems (where available) and this may include: contrast enhanced ultrasound, B-Flow, micro-vascular imaging, 3D/4D ultrasound, shearwave elastography and others. This may also include use of specialist additional ultrasound functions specifically for research. More advanced ultrasound equipment modalities may also be considered. Additional equipment will include Toe Pressure systems including Plethysmography. If endovenous treatment procedures are undertaken as an extended scope of practice, this may include use of Laser or Radiofrequency generators and associated equipment.

4.3. If interventional vein treatment procedures are undertaken or diagnostic contrast enhanced ultrasound is performed, Clinical Vascular Scientists may be involved with the administration of associated drugs or ultrasound contrast agents. Clinical Vascular Scientists are not able to prescribe drugs, but may be able to administer these in defined and controlled circumstances, and must be authorised for use via the relevant legal entity to ensure safety and relevant indemnity.

4.4. Additional Tests

Core tests are those which are expected as the main role/routine practise. For vascular science these often include non-imaging diagnostic tests using handheld Doppler systems and imaging diagnostic tests using ultrasound systems. Additional tests listed below are those which may be added to the above scope of a Clinical Vascular Scientist, however are usually associated/expected as core tests within the main role/routine practise with advanced practice if these are provided in a service.

Core tests at Clinical Vascular Scientist Advanced/Senior practice level are not limited (based on training and competency assurance) and may include:

Non-Imaging / Other Tests

- Non-imaging Transcranial Doppler (TCD)
- Segmental Pressure Measurements
- Plethysmography
- Raynaud's CW Doppler Assessment
- Thermography
- Capillaroscopy
- Intraoperative TCD Monitoring

Arterial

- Endovascular Aneurysm Repair Duplex Assessment/Surveillance
- Temporal Artery Duplex
- Thoracic Outlet Syndrome Assessment
- Imaging Transcranial Colour Doppler (TCCD)
- Contrast-enhanced ultrasound Assessment/Surveillance
- Mesenteric Arterial Duplex Assessment
- Visceral Arterial Duplex Assessment
- Native Renal Artery Duplex Assessment
- Transplant Renal Artery Duplex Assessment
- Pre Haemodialysis Arterio-Venous Fistula Duplex Assessment
- Haemodialysis Arterio-Venous Fistula Duplex Assessment
- Arterio-venous malformation Duplex
- Vascular compression syndromes Assessment/Surveillance
- Trans-vaginal venous Duplex Assessment
- Compression Ultrasound of False Aneurysm
- Arterial perforator mapping for surgical planning

Venous

- Duplex Venous Stent Assessment/ Surveillance
- Lower Limb Duplex Ultrasound-guided endovenous ablation

5. References

1. -006-Standards-of-Proficiency-for-Healthcare-Science-Practitioners-v1.3-June-2023.pdf
2. -023-Good-Scientific-Practice-v1.7-January-2025.pdf
3. https://www.ahcs.ac.uk/patients-public/
4. https://www.case-uk.org/course-directory/