

Vascular: Appendix 1

# Vascular standards

DRAFT

## 1. Organisation of Vascular Services

National guidance on the organisation of vascular services identifies that clinical outcomes will be improved if patients are cared for by an appropriately staffed and equipped specialist vascular service. This service should comprise a single hospital with in-patient facilities supported by day case and out-patient care in appropriate locations closer to patients' homes. For some patients, especially those needing care in an emergency, this will involve transfer to a hospital with appropriate facilities. There are, however, significant benefits of maintaining local out-patient and day case vascular services and supporting links with local acute and rehabilitation services. A minimum population of 800,000 is considered necessary for a vascular service. This is based on the population required for an aortic aneurysm screening service, the number of patients needed to maintain competence among vascular specialists and nursing staff and the most efficient use of specialist equipment, staff and facilities.

The expected improvements to the quality of vascular services following implementation of the Quality Standards can be summarised as:

Access	<ul style="list-style-type: none"> <li>• Reduction in access for in-patient services as some patients will need to travel further.</li> <li>• Access to out-patient, day case and rehabilitation services will be unchanged (and quality improved).</li> </ul>
Patient experience	<ul style="list-style-type: none"> <li>• Reduced length of hospital stay for vascular surgery patients</li> <li>• AA repair is carried out by a specialist vascular surgeon</li> </ul>
Clinical outcomes	<ul style="list-style-type: none"> <li>• Reduction in mortality rates for Aortic Aneurysm (AA) repair</li> <li>• Vascular surgery is carried out by a "high volume" surgeon at a "high volume" centralised hospital in a hybrid theatre</li> <li>• The vascular surgeon is supported by a vascular specialist team including radiologists</li> <li>• Specialist radiologists are available 24 hours per day for AAA repair</li> <li>• Increased endovascular aneurysm repair rate</li> </ul>

Service Outcomes	<ul style="list-style-type: none"><li>• Vascular Surgery patients should be treated in a centre with appropriate co-dependencies i.e.<ul style="list-style-type: none"><li>- (1) coronary vascularisation facilities,</li><li>- (2) interventional radiology,</li><li>- (3) specialist anaesthetists,</li><li>- (4) dedicated vascular specialist nursing care,</li><li>- (5) dedicated vascular specialist PAM staff e.g. Physiotherapists, Occupational therapists and Social Workers</li><li>- (6) specialist neurology staff and facilities</li><li>- (7) interventional cardiology,</li><li>- (8) interventional radiology,</li><li>- (9) specialist intensive care unit,</li><li>- (10) specialist anaesthetics,</li><li>- (11) diabetic and neurology specialists,</li><li>- (12) cardiac surgery,</li><li>- (13) step down intensive care facility,</li><li>- (14) renal unit that includes dialysis facilities</li></ul></li></ul>
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## 2. Introduction to Quality Standards

These Quality Standards are based on the Vascular Society's guidance 'The Provision of Services for Patients with Vascular Disease 2009' and other relevant national guidance. The Quality Standards reflect the guidance in a form that is suitable for use in service specifications and in quality reviews. The Quality Standards aim to follow the patients' pathway and to ensure that the highest possible quality of care is available at each stage of the patients' journey. The Quality Standards help to answer the question "If I walk into a vascular service today, how I will know that best-practice guidance has been implemented?" They should be achievable by all services in two to five years. They concentrate on the structure and process aspects of quality and should be seen alongside indicators of outcomes.

## 3. Responsibilities

Responsibilities for achieving the quality standard are as follows

Quality Standard	Responsibility
1 – 2	TBA
3 - 52	Lead consultant and lead nurse with the support of the Chief Executives of all Trusts within which the vascular service provides care for patients.

## 4. Definitions and Abbreviations

**Vascular service:** A vascular service provides specialist care for people with vascular disease. Services for patients will be provided in several different locations by staff with specialist expertise in the care of patients with vascular disease who work together and link closely with support staff and other local services. The service may work across more than one Trust, although one Trust should host the service and take overall responsibility for its governance.

**Vascular specialist:** A consultant vascular specialist is a consultant vascular surgeon or a consultant interventional radiologist. A consultant vascular surgeon is a consultant who has undertaken a minimum of two years final stage training in a recognised vascular unit or who has equivalent experience and who regularly manages patients with aortic aneurysm disease and its associated conditions. A consultant interventional radiologist is a consultant radiologist who has developed a range of skills in interventional techniques and has maintained these skills through Continuing Medical Education, such as that provided by the British Society for Interventional Radiology, and, if necessary, by spending time in larger departments<sup>3</sup> *The Royal College of Radiologists 'Standards for providing a 24 hour interventional radiology service'*

### **Policies, Protocols, Guidelines and Procedures**

The Quality Standards use the words policy, protocol, guideline and procedure based on the following definitions:

**Policy:** A course or general plan adopted by a Trust, which sets out the overall aims and objectives in a particular area.

**Protocol:** A document laying down in precise detail the tests/steps that must be performed.

**Guidelines:** Principles which are set down to help determine a course of action. They assist the practitioner to decide on a course of action but do not need to be automatically applied. Clinical guidelines do not replace professional judgement and discretion.

For simplicity, some standards use the term 'guidelines and protocols' which should be taken as referring to policies, protocols, guidelines and procedures. All clinical guidelines should be based on national guidance, including NICE guidance where available. Local guidelines and protocols should specify the way in which national guidance will be implemented locally and should show consideration of local circumstances.

### **Abbreviations:**

AAA Abdominal Aortic Aneurysm  
CT Computer Tomography  
DVLA Drivers and Vehicle Licensing Agency  
HCA Health Care Assistant  
HES Hospital Episode Statistics  
MDT Multi-Disciplinary Team

NSF National Service Framework  
PCT Primary Care Trust  
TIA Transient Ischaemic Attack

<b>Hospital Name:</b>		<b>Date action plan last amended:</b>			
Lead Surgeon accountable for delivery of service standards:					
Lead Nurse accountable for delivery of service standards:					
Lead Manager accountable for delivery of service standards:					
<b>Quality Standard</b>	<b>Demonstration of Compliance</b>	<b>Base RAG</b>	<b>Action Plan</b>	<b>Completion date</b>	
<b>SERVICE CONFIGURATION</b>					
1	<p>All service providers in North Central London should meet the commissioning requirements as outlined by NHS London. The current commissioning standards are for units to complete</p> <ul style="list-style-type: none"> <li>• X number (e.g. 50) or more abdominal aortic aneurysms (AAAs).</li> <li>• X number (e.g. 40) or more lower extremity bypass procedures</li> <li>• X number (e.g. 30) or more carotid endarterectomies</li> </ul>	<p>Catchment area for the service agreed by the Acute Commissioning Unit.</p> <p>Activity Data</p>			

2	The service should have defined the locations on which in-patient, day case and outpatient vascular services are provided and the locations for the treatment of varicose veins. Each vascular service should normally have only one in-patient service. Outpatient vascular services should take place on, at least, all hospital sites accepting general medical and surgical emergency admissions.	Locations of services agreed by Acute Commissioning Unit. Notes: <i>1: In hospitals without complex on-site in-patient vascular services, outpatient and day surgery may be provided by local vascular specialists or by specialists visiting from another hospital – usually the hospital with complex in-patient vascular services.</i>			
<b>SUPPORT FOR PATIENTS AND CARERS</b>					
	<b>Quality Standard</b>	<b>Demonstration of Compliance</b>	<b>Base RAG</b>	<b>Action Plan</b>	<b>Completion date</b>
3	Information should be offered to all patients covering at least: <ul style="list-style-type: none"> <li>• Vascular disease, including its causation and physical impact,</li> <li>• Treatment options available</li> </ul>	Examples of information available Notes: <i>1 Information should be available in formats and languages appropriate to the needs of the patients. This may include large</i>		1. Enlist patient Advisory Panel representative to ensure appropriate communication link with service users	

	<ul style="list-style-type: none"> <li>• Promoting good health, including smoking cessation.</li> <li>• Symptoms and action to take if become unwell and who to contact with queries or for advice.</li> <li>• Where to go for further information, including useful websites.</li> <li>• Support groups available</li> <li>• Vascular service staff and facilities available, including facilities for relatives</li> </ul>	<p><i>print and or CD / DVD information.</i></p>			
4	<p>All patients should be offered:</p> <ul style="list-style-type: none"> <li>• A copy of the letter sent to their GP</li> <li>• A permanent record of consultations at which changes to their treatment plan are discussed.</li> <li>• The GP should receive a copy of the consultation letter within 5 days.</li> </ul>	<p>Discussion with patients. Review of case notes.</p> <p><i>Note: Patients should receive a copy of their letter within a week of the consultation at which it was discussed or less as per local performance standards</i></p>			
<b>STAFFING AND SUPPORT SERVICES</b>					



5	The service should have a nominated lead consultant vascular specialist to support audit and governance. The service should have a nominated lead nurse with responsibility for ensuring implementation of the Quality and Governance Standards. The nurse should also act as a patient advocate.	Name of lead consultant and lead nurse. <i>Note: The lead consultant and nurse may be supported by senior clinicians who take a lead role on particular aspects of the service, for example, screening or training.</i>			
6	All emergency and elective vascular surgery should be undertaken by consultant vascular surgeons or by staff under their supervision. All vascular surgeons should undertake sufficient operations per annum to maintain competence.	Details of staffing available. Including consultant job plans junior Drs job plans and on call rotas.  Audit results.  Details of up to date MDT training and education programmes <i>Note: 1 For the purpose of considering operations to maintain competence, activity undertaken in hospitals outside the vascular service under review may be included as part of surgeons' activity.</i>			
7.	A nurse with specialist expertise in the following areas should be available:	Staffing details, including cover arrangements <i>Notes:</i>			

	<ul style="list-style-type: none"> <li>• Wound and diabetic foot management.</li> <li>• Explanation and lifestyle advice</li> <li>• Amputation and liaison with rehabilitation</li> </ul> <p>These nurses should have responsibility for leadership and service development for their area of specialist expertise. There should be arrangements for cover during absences. As well as working with the MDT to support and develop acute nursing skills at ward level to ensure safe management of care 24/7</p>	<p><i>1 The nurse with specialist expertise in vascular access may be managed by the renal service or by the vascular service</i></p> <p><i>2 These specialist roles may or may not be undertaken on a full-time basis and may include, for example, senior ward nurses with additional responsibilities. Sufficient time should, however, be allocated for the leadership and service development aspects of the roles.</i></p> <p><i>3 Specialist expertise should be available to all patients across the network. The roles may, however, be undertaken by different people in different localities.</i></p> <p><i>4 A system should be in place to support and train new members of staff working on the unit.</i></p>			
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8	Endovascular aneurysm repair and carotid stenting should be undertaken only by vascular specialists with competences in these procedures.	<p>List of vascular specialists with competences in endovascular aneurysm repair and carotid stenting. Audit results.</p> <p><i>Note: Trust processes for introduction of new procedures should also be applied to the introduction of these procedures. Outcome data on performance of each specialist should be readily available via the Vascular data base and a case audit should be annually reviewed by peers within the network</i></p>			
9	A vascular specialist and support staff with competences in interventional radiology should be available for all elective vascular radiology procedures.	<p>Staffing details</p> <p>Notes:</p> <p><i>1 In hospitals without on-site in-patient vascular services, the vascular specialist and support staff may be based in the local hospital or may travel from another hospital – usually the one where in-patient services are located.</i></p> <p><i>2 These services should comply with The Royal College of Radiologists, the British Society of Interventional Radiology 'Achieving Standards for Vascular Radiology' (2007) (or subsequent</i></p>			

		<i>updates of this guidance).</i>			
	<b>Quality Standard</b>	<b>Demonstration of Compliance</b>	<b>Base RAG</b>	<b>Action Plan</b>	<b>Completion date</b>
10	Sufficient administrative and clerical support should be available for data collection and timely discharge summaries.	<p>Discussion with staff Staff Job descriptions Rotas etc</p> <p><i>Note: 'Sufficient' is not strictly defined. Clinical staff should not be spending unreasonable amounts of time on administrative duties, including data collection, which detracts from their ability to provide patient care.</i></p>			
<p><b>STAFFING: HOSPITAL SITES ACCEPTING VASCULAR EMERGENCY ADMISSIONS</b>  <b>QS11 to QS17 apply only to hospitals accepting vascular emergency admissions and having in-patient services.</b></p>					
11	A consultant vascular surgeon should be available at all times.	<p>Staffing details <i>Note: A minimum of a X (E.g. 1:5) on call rota is required to achieve this QS.</i></p>			
12.	An interventional radiology service should be available on-site at all times.	<p>Details of service available: <i>Note: A minimum of a X (E.g. 1:5) on call rota is required to achieve this QS. This service should meet The Royal College</i></p>			

		<p>of Radiologists 'Standards for providing a 24-hour interventional service' (2008) and The R.C.R British Society of Interventional Radiology 'Achieving Standards for Vascular Radiology' (2007) (and updates to these Standards).</p> <p>The network will agree formal contingency plans to provide cross cover in case of emergencies as part of A2 sign off</p>			
13.	<p>An anaesthetist with up to date experience dealing with major complex surgical cases such a acute trauma vascular and other emergencies should be available at all times.</p>	<p>Detail of services available including rotas and job plans</p>			
14.	<p>An in-patient ward should be available, staffed by nurses and HCAs with appropriate competences in care of patients with vascular disease. The competence framework should cover at least:</p> <ul style="list-style-type: none"> <li>•Acute Life-threatening Events</li> </ul>	<p>Staffing details, competence framework showing expected competences and summary of competence assessments.</p>			

	<p>Recognition and Treatment (ALERT)</p> <ul style="list-style-type: none"> <li>• Tissue viability and wound care</li> <li>• Pain management</li> <li>• Care of patients with diabetes</li> <li>• High Dependency Care</li> </ul>				
15.	<p>A member of staff with competences in vascular ultrasound should be available during normal working hours. At weekends there should be a system for identifying patients needing vascular ultrasound and providing scanning, if required, on a daily basis.</p>	<p>Staffing details including 7/7 working schedules</p> <p><i>Note: The member or staff may be a vascular technologist, radiographer, nurse or radiologist.</i></p>			
16.	<p>In hospitals providing in-patient vascular services, the following facilities and services should be available at all times:</p> <ul style="list-style-type: none"> <li>• Emergency theatre</li> <li>• Vascular angiography suite</li> <li>• Critical care (at least level 3)</li> <li>• Haematology (for urgent cross-match and blood products)</li> <li>• Facilities for electronic transfer of imaging from, or ability remotely to view imaging at, other acute hospitals within the Network.</li> <li>• Cardiac surgery</li> </ul>	<p>Details of facilities and staffing available</p>			

	<ul style="list-style-type: none"> <li>• Renal unit that includes dialysis facilities</li> </ul>				
17.	<p>All vascular surgery should take place in a theatre with:</p> <ul style="list-style-type: none"> <li>• Theatre staff trained in vascular instruments, prosthetics and techniques and in the use of cell salvage devices for blood conservation</li> <li>• Stocks of grafts, instruments and sutures required for patients with vascular disease</li> <li>• Hand-held Doppler ultrasound machine and portable duplex devices</li> <li>• Access to blood and blood products</li> </ul> <p>See Separate List (SO to complete)</p>	<p>Viewing facilities</p> <p><i>Note: This QS applies to all vascular surgery, including day case surgery on hospital sites other than that where in-patient vascular services are based.</i></p>			
18	<p>In hospitals providing in-patient vascular services, the following facilities and services should be available at all times:</p> <ul style="list-style-type: none"> <li>• Dedicated vascular specialist PAM staff e.g.</li> <li>• Physiotherapists,</li> <li>• Occupational therapists and</li> <li>• Social Workers</li> </ul>	<p>Details of facilities and staffing available</p>			

	<ul style="list-style-type: none"> <li>Specialist Neurology staff and facilities</li> </ul>				
<b>GUIDELINES AND PROTOCOLS</b>					
19	<p>Clinical guidelines should be agreed with LAS covering the clinical indications for transferring patients from Accident and Emergency Departments of hospitals without inpatient vascular services to the hospital/s providing in-patient vascular services.</p>	<p>Written guidelines agreed with the ambulance service.</p>			



21	<p>Clinical guidelines covering referral to the vascular service should be in use in all Emergency Departments and General Surgery services. These guidelines should cover:</p> <ul style="list-style-type: none"> <li>• Investigation and management of emergency vascular patients</li> <li>• Management of haemodynamically unstable vascular patients</li> <li>• Indications for seeking advice from the vascular service</li> <li>• Indications and arrangements for emergency transfer</li> <li>• Indications and arrangements for non-urgent referral.</li> </ul>	<p>Written guidelines Notes: <i>The network will provide a structure and process to support clinical engagement.</i></p> <p><i>1 This QS applies to all Emergency Departments and general surgery services within the catchment area of the vascular service.</i></p> <p><i>2 Guidelines should be explicit about the arrangements for transfer of cross-matched blood.</i></p>			
22	<p>A protocol for EVAR/TVAR graft surveillance should be in place.</p>	<p>Written protocol Note: <i>The protocol may be that no surveillance is undertaken unless further evidence of effectiveness becomes available.</i></p>			

23	<p>Discharge planning guidelines should be in use covering, at least:</p> <ul style="list-style-type: none"> <li>• Discharge to rehabilitation facilities</li> <li>• Discharge home with support from local rehabilitation facilities</li> <li>• Referral to limb-fitting service</li> <li>• Communication with the patient's General Practitioner.</li> <li>• Primary care nurses for the support of long term conditions</li> </ul>	<p>Written guidelines</p> <p>Will include clear referral process and protocols for transferring care back to local units and clinicians</p> <p>Local steering groups will be in place as part of A2 standards to monitor and manage the referral process and identify risks</p>			
24	<p>The vascular service should be aware of local guidelines for end of life care.</p>	<p>Availability of guidelines relating to end of life care that are used by specialist palliative care services in the local area.</p>			
<p><b>SERVICE ORGANISATION AND LIAISON WITH OTHER SERVICES</b></p>					

25	<p>A multi-disciplinary team meeting to review the care of patients with vascular disease should be held at least weekly involving at least:</p> <ul style="list-style-type: none"> <li>• Vascular specialists</li> <li>• Radiologists regularly involved with the care of patients with vascular disease</li> <li>•</li> </ul>	<p>Notes of meetings held. Notes: Meetings will have records of attendance. Recommendation/plan will be formally recorded in the medical notes 10 notes to be audited for quality assurance</p> <p>1 All interventional radiologists and surgeons providing vascular services should attend the MDT meeting regularly. 2 Other staff, for example, ward manager, may also attend the MDT meetings.</p>			
<b>GOVERNANCE</b>					
	<b>Quality Standard</b>	<b>Demonstration of Compliance</b>	<b>Base RAG</b>	<b>Action Plan</b>	<b>Completion date</b>
26	A ward-based multi-disciplinary team meeting to discuss the care of patients with complex rehabilitation and discharge needs should be held at least weekly involving at least:	Notes of meetings held Note: This QS applies only to hospitals with in-patient vascular services.			

	<ul style="list-style-type: none"> <li>• Ward manager</li> <li>• Nurse with specialist expertise in care of patients with amputations (QS7)</li> <li>• Physiotherapy (QS34)</li> <li>• Occupational therapy (QS35)</li> <li>• Social work (QS35)</li> </ul>				
27	The service should be collecting and submitting data on all index procedures to the National Vascular Database.	<p>National Vascular Database reports showing risk-adjusted comparative outcomes for the service.</p> <p><i>Note: Data should cover all parts of the vascular service including activity in hospitals without on-site in-patient services.</i></p>			
28.	<p>The service should have an annual programme of audits covering at least:</p> <ul style="list-style-type: none"> <li>• Number of vascular operations undertaken by surgeon across the service's catchment area.</li> </ul>	<p>Details of audit programme.</p> <p><i>Note: Audits should cover all parts of the vascular service including activity in hospitals without on-site in-patient services and should include comparison of HES data and National Vascular Database numbers. Audits of operations by surgeon should include all vascular operations, including any undertaken by general surgeons.</i></p>			

29.	All policies, procedures and guidelines should comply with Trust document control procedures.	Policies, procedures and guidelines meeting reasonable document control quality requirements of monitoring, review and version control.			
30	The in patient service must have detailed business continuity plan to ensure that in the event of technical break down, theatre unavailability or other emergency situation, a formal protocol and back up service arrangements are available for the management of emergency and urgent patients. This may include formal transfer protocols within or outside NC London Vascular service	Business continuity plans for Imaging Theatre Services Emergency Transfers, with clear links to LAS Others			
<b>TRUST AND COMMUNITY STAFFING AND SUPPORT SERVICES</b>					
31.	In-patient and community-based rehabilitation services with expertise in the care of patients with vascular disease, including amputees, should be available, including at least: <ul style="list-style-type: none"> <li>• Physiotherapy</li> <li>• Occupational therapy</li> <li>• Social Work</li> </ul>	Description of services available and the local arrangements for patients being discharged back to a referring hospital without a complex vascular service. <i>Notes: These services should be available for the whole of</i>			

		<i>the vascular service's usual catchment population but may be organised in different ways in different locations.</i>			
<b>A2 Standards to be completed 6 months after original sign off.</b>					
<b>A2 SUPPORT FOR PATIENTS AND CARERS</b>					
	<b>Quality Standard</b>	<b>Demonstration of Compliance</b>	<b>Base RAG</b>	<b>Action Plan</b>	<b>Completion date</b>
32.	<p>The following support services should be available:</p> <ul style="list-style-type: none"> <li>• Interfaith and spiritual support</li> <li>• Interpreters</li> <li>• Bereavement support</li> <li>• Information about these services should also be available.</li> </ul>	<p>Support services and relevant information available.</p> <p><i>Note: 'Availability' of support services is not defined but should be appropriate to the case mix and needs of the patients.</i></p>			
33.	<p>The vascular service should have:</p> <ul style="list-style-type: none"> <li>• Mechanisms for receiving feedback from patients and carers about the treatment and care they receive.</li> </ul>	<p>Description of current arrangements.</p> <p>Examples of changes made as a result of feedback from patients and carers.</p> <p><i>Note: Arrangements for feedback from patients and carers should involve surveys, focus groups &amp; or other arrangements. If they are part of Trust-wide arrangements they must clearly identify</i></p>			

		vascular services issues			
<b>A2 STAFFING: HOSPITAL SITES ACCEPTING VASCULAR EMERGENCY ADMISSIONS</b>					
34.	Physiotherapy services should be available with time allocated for their work with in-patients with vascular disease on weekdays and an on-call service at weekends.	Details of services available			
35.	Access to the following services should be available for in-patients <ul style="list-style-type: none"> <li>• Occupational therapy</li> <li>• Social Work</li> </ul>	Details of services available  <i>Note: These services may be provided by staff who provide the post-discharge service (QS13) or by different staff.</i>			
36.	In hospitals providing in-patient vascular services, magnetic resonance angiography should be available during normal working hours.	Viewing facilities  <i>Note: This QS is applicable only to hospitals with in-patient vascular services.</i>			

37	<p>The Vascular Outpatient Service should have access to</p> <ul style="list-style-type: none"> <li>• Vascular ultrasound</li> <li>• Facilities to perform ankle brachial pressure tests</li> <li>• Portable duplex scanner</li> </ul> <p>All staff will be expected to evidence a competence framework for assessing, scanning and reporting carotid duplexes.</p>	<p>Observation of facilities and equipment</p> <p>Staffing details</p> <p>Summary of competence assessments.</p> <p>Note: <i>1 The service may be available within the outpatient clinic or imaging department. The service may be provided by a vascular technologist, radiographer, nurse or radiologist.</i></p>			
38.	<p>In-patient vascular wards should have:</p> <ul style="list-style-type: none"> <li>• Hand-held Doppler ultrasound machine</li> </ul>	Viewing facilities			
39.	<p>Guidelines on lifestyle advice for all patients should be in use covering, at least:</p> <ul style="list-style-type: none"> <li>• Support for smoking cessation</li> <li>• Dietary advice</li> <li>• Programmes of physical activity and weight management.</li> </ul>	<p>Written guidelines</p> <p>Evidence of secondary health promotion protocols for patients; follow up advice including contact details of key worker.</p> <p>Audit of numbers of patients</p>			



		referred to primary care smoking cessation teams			
		Review 10 sets of notes.			
<b>A2 GUIDELINES AND PROTOCOLS</b>					
40	Clinical guidelines should be in use covering indications for involvement of cardiology services in the care of patients with vascular disease.	Written guidelines agreed with cardiology service and pre-assessment.			
41	Clinical guidelines should be in use covering indications and arrangements for referral for psychological support.	Written guidelines			
42	<p>Guidelines, agreed with the specialist palliative care services serving the local population, should be in use covering, at least:</p> <ul style="list-style-type: none"> <li>• Arrangements for accessing advice and support from the specialist palliative care team.</li> <li>• Indications for referral of patients to the specialist palliative care team.</li> <li>• Arrangements for shared care between the vascular service and palliative care services.</li> </ul>	Written guidelines, agreed with specialist palliative care service/s serving the local population.			

43	A meeting with local rehabilitation services (QS13) should be held at least annually to review the links with the vascular service and address any problems identified.	Notes of meetings held.			
<b>A2 GOVERNANCE</b>					
44	The service should produce an annual report summarising activity, compliance with quality standards and clinical outcomes. The report should identify actions required to meet expected quality standards and progress since the previous year's annual report.	Annual report/s. <i>Note: The National Vascular Database reports will provide much of the data for the annual report.</i>			

## 6. Outcome Indicators (To discuss....)

Indicator	Unsafe	Acceptable	Achievable	Monitored by AAA Screening?
1. 30 day mortality following elective AAA surgery	>10%	<8%	<6%	Yes
<b>Domain of practice:</b>	<b>Data Source</b>	<b>Rationale</b>	<b>Target/norms/tolerance level</b>	
2. Stroke rate (self-reported, 30 day) Disabling Non-disabling	NVD/HES	Key indicator	Target 2%, less than 3% acceptable 5%	
3. 30 day mortality for Carotid Endarterectomy	HES	Key indicator	Target 1% (from UK carotid interventions audit 5)	
4. Elective open infrarenal aneurysm mortality rate: Crude Case-Mix adjusted	HES/ NVD	Key indicator	Target – 3.5% (Vascular Society, 10) Demonstration of mortality within Vascular society funnel plots	
5. Ruptured infrarenal aneurysm repair mortality rate Crude Case-Mix adjusted	HES/ NVD	Key indicator	Demonstration of mortality within Vascular society funnel plots	
6. EVAR – mortality rate Crude Case-mix adjusted	HES/NVD	Key indicator	< 3%	
7. Amputation for critical limb ischaemia 30 day mortality – casemix adjusted	HES	Key indicator	Demonstration of mortality within Vascular Society risk-adjusted funnel plots	
8. 30 day mortality rate following infrainguinal bypass  • Crude • Case mix adjusted	HES	Key indicator	Target: Demonstration of mortality within Vascular Society funnel plot National average 4.2% (Fourth National Vascular Database Report,	

			Vascular Society report 2004, 12)
9. In hospital graft occlusion rate Diabetic Non-diabetic	NVD	Marker of technical success of operation	Norms and benchmarks need to be established.
10. In-hospital surgical site infection rate	HES/ NVD	Key indicator	Norms and benchmarks need to be established
11. Readmission rate-stratified as: Directly Related to vascular admission Indirectly related Not related	HES	Appropriate rates indicates good quality care with low complication rates and good discharge planning	Norms and benchmarks need to be established by the ACU.

### Process Indicators (To discuss....)

Domain of practice:	Data Source	Rationale	Target/norms/tolerance level
<b>Carotid endarterectomy:</b>			
12. Time from first event (stroke or TIA) to carotid endarterectomy (percentage of appropriate symptomatic cases operated on within 2 weeks) Change to London stroke standard	NVD	Maximum benefit of operation derived from early intervention 1,2	100% (tolerance 90% to allow for patient choice)
13. Pre-operative length of stay	HES/N VD	Shorter stay indicates good use of resources	< 24 hours – target 100% (tolerance level 95% to account for emergency surgery)

<b>Domain of practice:</b>	<b>Data Source</b>	<b>Rationale</b>	<b>Target/norms/tolerance level</b>
14. Post-operative length of stay	HES/ NVD	Shorter stay indicates good use of resources	< 3 days (median from UK Carotid interventions audit 5)
15. Carotid endarterectomy rate per 100,000 population	HES	Appropriate rate indicates good referral mechanisms and access to recommended treatment	12 per 100,000 population ( <a href="http://www.nice.org.uk">www.nice.org.uk</a> 6)
16. Number of carotid endarterectomies performed per unit per year	HES	Higher volumes associated with improved outcomes 7,8	Minimum threshold – 30 cases per year 7,8
<b>Aortic surgery:</b>			
17. Length of pre-operative stay (elective repair)	HES	Shorter stay indicates good use of resources	< 1 day
18. Length of stay (elective and emergency)	HES	Shorter stay indicates good use of resources	Elective - <9 days –median from HES Emergency -< 10 days- median from HES
<b>Amputation for critical limb ischaemia:</b>			
19. Below knee to above knee revision rate	NVD/H ES	Low rate indicates good decision making	Revision of amputation to higher level < 13.5% when compared to below knee amputation rate (HES)
20. Post-operative length of stay – casemix adjusted	HES/N VD	Shorter stay indicates good use of resources and appropriate discharge to rehabilitation facilities	Median 25 days (HES)
21. Amputation rate per 100,000 population – casemix adjusted	HES	Appropriate figures demonstrate good limb salvage rates and adequacy of care for patients with diabetes or CLI	Range 10-76 per 100,000 depending on casemix 11
<b>Lower limb ischaemia: infrainguinal bypass</b>			

<b>Domain of practice:</b>	<b>Data Source</b>	<b>Rationale</b>	<b>Target/norms/tolerance level</b>
22. Rate of operative revascularisation per 100,000 population (casemix adjusted)	HES	Appropriate figures demonstrate a proactive approach to revascularisation	Range 22-83 per 100,000 depending on casemix 11
23. Rate of endovascular revascularisation per 100,000 population (casemix adjusted)	HES	Appropriate figures demonstrate a proactive approach to revascularisation	Range 10-91 per 100,000 depending on casemix 11
24. Pre-operative length of stay (infrainguinal bypass)- -Case mix adjusted	HES	Shorter stay indicates good use of resources, timely imaging and decision making	Target: Elective - <1 day Emergency - < 3 days
25. Post-operative length of stay (infrainguinal bypass) -Casemix adjusted	HES	Shorter stay indicates less complications, good use of resources and appropriate rehabilitation	Norms: Elective – median 8 days Emergency – median 14 days (HES)
26. Ratio of prosthetic to vein grafts used	HES/ NVD	Vein graft associated with better outcomes	Target: Prosthetic graft rate 0% (Tolerance up to 25%) (Based on rate of 35% in Fourth National Vascular Database Report, Vascular Society report 2004, 12)
<b>Global measures:</b>			
27. 18 weeks compliance	Trust Dashb oard	Key indicator Indicates efficient working, good practices and ease of access to services	National targets: Admitted pathways > 90% Non-admitted pathway >95%
28. Completeness of data submission to NVD (percentage)	NVD / HES	Indicates engagement with clinical governance and quality improvement	Target 100% completion

## 7. Relevant Guidance

Year	Title	Published by
July 2010	UK Audit of Vascular Surgical Services & Carotid Endarterectomy	The Vascular Society of Great Britain and Ireland
November 2009	Interventional Radiology: Improving Quality and Outcomes for Patients.	Department of Health. Gateway Ref: 12788
September 2009	At a Glance Guide to the current Medical Standards of Fitness to Drive	Drivers Medical Group, DVLA, Swansea
August 2009 (Version 2.1)	Essential Elements in Developing an Abdominal Aortic Aneurysm (AAA) Screening and Surveillance Programme	UK National Screening Committee/ NHS Screening Programmes Abdominal Aortic Aneurism
August 3rd 2009, (Version 1.1)	NHS Abdominal Aortic Aneurysm Screening Programme - Quality Standards and Service Objectives	UK National Screening Committee/ NHS Screening Programmes Abdominal Aortic Aneurism
July 2009 (Version 2.0)	NHS Abdominal Aortic Aneurysm Screening Programme – Guidance for Public Health and Commissioners	UK National Screening Committee/ NHS Screening Programmes Abdominal Aortic Aneurism
May 2009 (Final Version)	Framework for improving the results of elective AAA repair	Council of the Vascular Society of Great Britain and Ireland
November 2008	The Provision of Services for Patients with Vascular Disease 2009 – “Patients with a vascular emergency should have rapid access to a specialist vascular team in all parts of the UK”	The Vascular Society of Great Britain and Ireland
2007	The Provision of Emergency Vascular Services 2007	The Vascular Society of Great Britain and Ireland
August 2006	The Organisation and Delivery of the Vascular Access Service for Maintenance Haemodialysis Patients – Report of a Joint Working Party	The Renal Association The Vascular Society British Society of Interventional Radiology

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3. Intercollegiate Stroke Working Party, College of Physicians. National Clinical Guidelines for Stroke Available at <http://www.rcplondon.ac.uk/CLINICAL-STANDARDS/CEEU/CURRENT-WORK/Pages/Stroke-programme.aspx>
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