

This directory is to help General Practitioners, Community Nurses, Podiatrists and Secondary Care Doctors to access Vascular Services.

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www.nbt.nhs.uk/vascular
Nbn-tr.bbvwvascularnetwork@nhs.net
 0117 414 0798 (Mon-Fri, 8 am to 5 pm)
referapatient.org





The aim of this directory is appropriate and timely access to vascular care for people living in BNSSG. Our pathways have been designed to deliver excellent clinical outcomes, provide patients a positive experience of care and be sustainable by effective use of resources. We aim to reduce

Death from aneurysm, dissection, mesenteric ischaemia or trauma

Stroke from extra-cranial carotid artery stenosis

Amputation from peripheral arterial disease and diabetic foot problem

Morbidity from venous disease, leg swelling and thoracic outlet syndrome

EMERGENCY ADMISSION

For immediately life threatening condition (page 3) **telephone call** to the 'on call' vascular registrar via NBT Switchboard (0117 950 5050). If no immediate response ask switchboard to telephone the on call vascular consultant.

For all other emergencies please use the website **referapatient**[®] (www.referapatient.org)

Select 'Southmead Hospital, North Bristol NHS Trust' then 'Vascular Surgery'. You will be prompted through the referral. Enter '0000' for bleep number. You will receive an email when the referral has been received, read and updated (with a link to read the advice). *To avoid frequent text and phone updates enter '00000000000' (11 zeros) as mobile phone number.* The response can be saved as a PDF and added to the primary care record.

Please do not to send patients direct to ED (unless requested).

URGENT REVIEW or ELECTIVE REVIEW or SPECIALIST ADVICE

Refer new patients using the e-Referral Referral Assessment Service (**e-RS RAS**)

[7951044](#) Vascular Surgery RAS – Southmead/Cossham

[7951045](#) Vascular Surgery RAS – Royal United Hospital Bath

[7951046](#) Vascular Surgery RAS – Weston General Hospital

[7951047](#) Vascular Surgery RAS – Bristol Royal Infirmary

E-referrals are triaged within one working day by a consultant. Patients triaged as urgent will be seen within **2 working days** in the **vascular hot clinic** (Gate 5) or in a **clinic** at the patient's local hospital (when capacity). Patients triaged as routine will be seen in a clinic close to where they live or be contacted by a patient pathway coordinator to discuss choice of clinic location.

Consultants will also respond with advice if requested.

*If a patient is known to the vascular or diabetic foot service they should be re-escalated using **referapatient**[®] (as above). Photographs can be securely attached.*

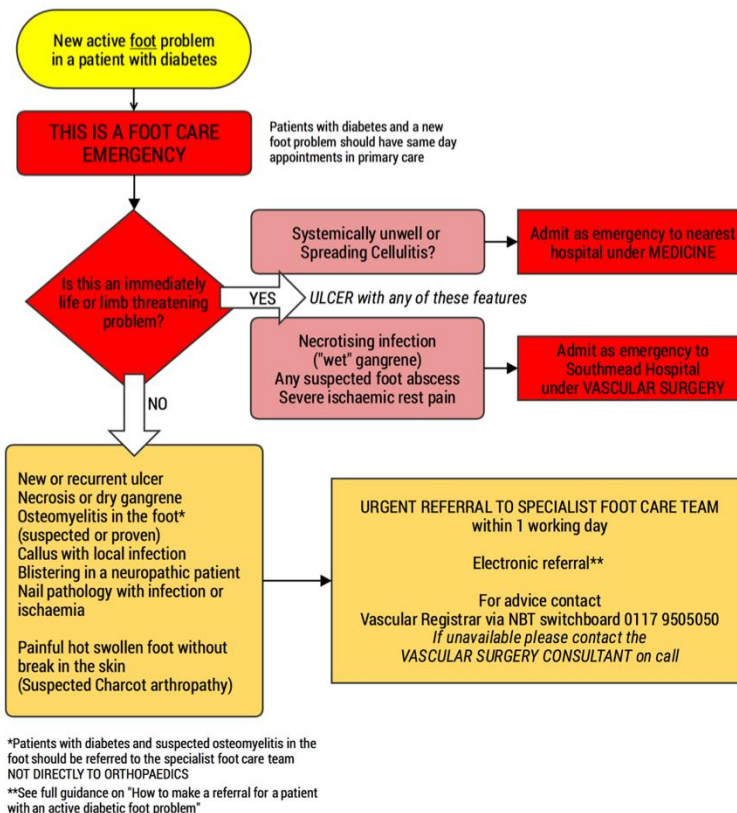
Please note that ABPI measurement can be booked using 'ICE' without requiring a vascular referral. This should be done when the diagnosis of PAD is uncertain.

NEW ACTIVE FOOT PROBLEM IN PERSON WITH DIABETES

All such patients require **URGENT** input from the BNSSG specialist foot service. Patients with life or limb threatening sepsis or ischaemia (See **red flags**, page 14) require **EMERGENCY** hospital admission under the vascular service (telephone call or use **referapatient®**). All other patients require **same day** referral to the community podiatry team via the current pathway (this varies from practice to practice at present). This referral will be triaged by community foot care team within **1 working day**. They will escalate referral for review in NBT diabetic foot clinic with **2 working days** if required. E-Referral service (**e-RS RAS**)

7952085 Diabetic Foot Service RAS – Southmead Hospital

If a patient expresses a preference to be seen at WGH or BRI, and there is capacity, the referral will be redirected by the NBT foot care team; please state on the initial referral.



EXCLUSIONS

The vascular service manages disorders of the arteries, veins and lymphatics **EXCEPT**

- Intra-cranial** refer to neuro-surgery or neuro-radiology (NBT)
- Aortic root** and **aortic arch** refer to cardiac surgery or cardiology (Bristol Heart Institute)
- Renal access for dialysis** refer to renal transplant team (NBT)
- Paediatric**, <16 years old, refer to paediatric surgeons (Bristol Royal Hospital for Children)

Directory of Services

EMERGENCY Immediate referral
<i>TELEPHONE for immediate life/limb threatening REFERAPATIENT for other emergencies</i>
Ruptured or symptomatic AAA Major vascular injury Including trauma/post procedure/IVDU <i>If no immediate threat to life use referapatient®</i>
Asymptomatic AAA > 9cm in diameter Acute aortic dissection Acute limb ischaemia Chronic limb threatening ischaemia (CLTI) with Acute diabetic foot problem with <i>Uncontrolled pain, deep tissue injury and/or infection (septic)</i>
Conditions that are primarily managed by other specialists with input from vascular surgery
Mesenteric ischaemia <i>Refer to local general surgery team</i> Crescendo (multiple) TIAs <i>Refer to local TIA/stroke service</i> Bleeding from varicose veins <i>Refer to local emergency department and NHS eRS RAS</i> Leg ulceration with sepsis <i>Refer to local medical department and NHS eRS RAS</i> IVDU with groin sepsis <i>Refer to local general surgery team</i>

URGENT Same day referral
<i>NHS e-referral RAS for new GP referrals REFERAPATIENT for inter-hospital referrals and treatment escalation from primary care</i>
Consider referapatient® for advice/admission - Post intervention complication - Foot wound/ulcer deterioration - Ilio-femoral DVT meeting criteria thrombolysis ¹ - Upper limb DVT
Large aortic aneurysm 5.5-8.9cm in diameter Critical limb threatening ischaemia with Minor tissue injury (foot ulcer or necrotic toe) and/or rest pain Peripheral aneurysm Venous leg ulcer Digital ischaemia Refer to renal team if dialysis fistula in that limb Refer to rheumatology if suspected Raynaud syndrome
Conditions with specific pathways for urgent referrals in conjunction with vascular surgery
New active diabetic foot problem ² Refer to BNSSG specialist foot service (page 3) Refer to local urgent access stroke/TIA clinic Superficial vein thrombosis Manage in community (page16) Vasculitis / Connective tissue disease Refer to local rheumatology team by NHS e-referral

ELECTIVE
<i>NHS e-referral RAS</i>
<u>Symptomatic</u> Intermittent claudication Varicose veins ³ Leg swelling Hyperhidrosis ³ <u>Asymptomatic</u> Small aortic aneurysm 3.0-5.5cm in diameter Chronic aortic dissection Asymptomatic carotid stenosis <u>Specialist Regional Services</u> Complex aortic Lead: Paul Bevis Thoracic outlet syndrome Lead: Rebecca Winterborn Vascular malformation Lead: Timothy Beckitt Endointimal fibrosis / Popliteal entrapment Lead: Rob Hinchliffe Post thrombotic syndrome Lead: Baris Ozdemir

¹ If meets NICE guideline criteria for venous thrombolysis ([page 17](#))

² New or recurrent foot (below malleoli) ulceration, Charcot arthropathy, necrosis, osteomyelitis, callus or nail pathology with local infection, blistering with neuropathy OR ischaemia

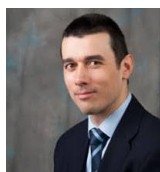
³ Only if funding in place for referral – see [BNSSG INNFP policies](#)

AAA Abdominal aortic aneurysm; DVT Deep vein thrombosis; TIA Transient ischaemic attack; IVDU Intra-venous drug abuse; NBT North Bristol Trust

Bristol Bath Weston Vascular Network is commissioned by NHS England Specialised Services to provide vascular services for the populations of Bristol, South Gloucestershire, North Somerset, Bath and North East Somerset, and parts of Wiltshire. The network arterial centre is at Southmead Hospital, this is where all **inpatient surgery** and **endovascular therapy** take place. The network provides vascular services at four acute hospital Trusts

North Bristol Trust
UH Bristol Foundation Trust

RUH Bath Foundation Trust
Weston Area Health Trust



Professor Rob Hinchliffe
Clinical lead



Mr Andy Weale
Governance Lead



Mr Devan Thavaragan
AAA Screening Director



Sam Brown
Network Manager



Maureen Simpson
Network Manager



Shona Marriage
AAA Screening Coordinator

Outpatient clinics and Diagnostic imaging

Vascular outpatient clinics offer a ‘one-stop’ duplex ultrasound service. Access to CT and MR angiography is available at all networked hospitals.

Ankle brachial index

Vascular scientists provide ankle brachial index (ABI), toe brachial index (TBI), and treadmill test for diagnosis of PAD. **These can be requested using ICE.**

Vascular Science		
Southmead Hospital	0117 515 5300	Mon-Fri, 8 am to 5 pm
Bristol Royal Infirmary	0117 342 2836/7	Mon-Fri, 8 am to 5 pm
RUH Bath	01225 824 440/1	Mon-Fri, 8.30 am to 4.30 pm

The following are offered by the vascular service at networked hospitals

Day case angioplasty	RUH Bath
Endovenous therapy	RUH Bath
Supervised exercise therapy	Bristol Royal Infirmary

The network submits outcome data to the [National Vascular Registry](#).

Referral advice

Please provide the following information when referring a patient
(most are mandatory on referapatient®)

1. Patient's name, date of birth, address and NHS Number
2. Your name and contact details (telephone number/email)
3. History, examination and investigations
4. Past medical history, medications and allergies
5. Patient's contact details with daytime telephone number
6. Cross-infection risk (i.e. recent admission to another hospital or travel abroad)
7. Whether patient needs an interpreter or has any special needs
8. Safeguarding concerns

Useful investigations

1. FBC, U&E, eGFR, random Glucose and Lipid profile
2. HbA1c - if diabetic or suspected diabetic
3. Suspected PAD – ABI, TBI or Treadmill test
4. Imaging

Abdominal aortic aneurysm	Ultrasound
Carotid artery disease	Duplex

Interpreting **Ankle Brachial Index** and **Toe Brachial Index**

ABI <0.8 or TBI <0.7 are diagnostic for peripheral arterial disease. **ABI < 0.4 or TBI < 0.2 indicates critical limb threatening ischaemia (CLTI)**. ABI may be **"incompressible"** when there is arterial wall stiffening, common in diabetes and renal failure, or when there is significant calf oedema. A **'monophasic'** signal indicates PAD. A **'biphasic'** signal that PAD is absent or mild.

ABI < 0.4 TBI < 0.2 TP < 30 mmHg Probable CLTI	ABI 0.4-0.59 TBI 0.2-0.44 TP 30-44 mmHg Severe PAD	ABI 0.6-0.79 TBI 0.45-0.69 TP 45-59 mmHg Moderate PAD	ABI 0.8-1.4 TBI > 0.7 TP ≥ 60 mmHg Normal	ABI > 1.40 N/A N/A Likely PAD ¹
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TP, Toe pressure. ¹ 60-80% of people with 'incompressible' ABI have PAD.

Useful telephone numbers



Southmead Hospital

Patient pathway coordinators
0117 414 0798
Vascular network manager
0117 414 0766

Vascular secretaries

RUH Bath
01225 825491
Weston General Hospital
01934 647178 Ext. 3828

Aortic aneurysm

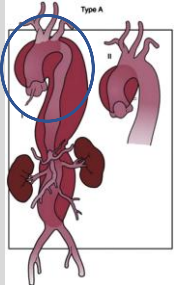
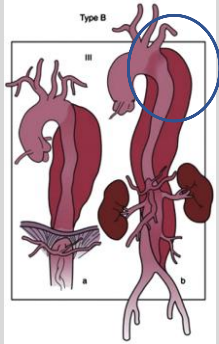
<p>Background Aneurysm rupture must be suspected in patient ≥ 50 years old presenting with sudden onset back pain and/or collapse.</p>	
<p>Primary care Symptomatic immediate telephone referral Asymptomatic follow pathway to right \rightarrow</p>	<p>ASYMPTOMATIC AAA $\geq 9.0\text{cm}$ DIAMETER <i>Refer immediately by referapatient®</i></p> <ul style="list-style-type: none"> • Inpatient repair if fit
<p>Secondary care Suspected, or confirmed, AAA rupture 1. Analgesia as per College EM guidance 2. Imaging by CT aorta ('neck to groins') 3. Referral to vascular registrar 4s. Surgery - accepted for surgery <ul style="list-style-type: none"> • Time critical transfer to Southmead ED • Endovascular aneurysm repair (EVAR) • Open surgical repair (OSR) 4p. Palliation - turned down for AAA surgery <ul style="list-style-type: none"> • End of life care at local hospital </p>	<p>5.5-8.9 cm DIAMETER <i>Refer via e-RS RAS for <u>urgent</u> appointment</i></p> <ul style="list-style-type: none"> • Surgeon assessment • CT aorta • CPET¹ • CCA² • Repair ≤ 8 weeks if fit
<p>Red flags Connective tissue disease (i.e. Marfan's) Rapid expansion ($\geq 5\text{mm}$ in 6 months) Tender AAA or hypotension</p>	<p>3.0-5.4cm DIAMETER <i>Refer via e-RS RAS for <u>routine</u> appointment</i></p> <ul style="list-style-type: none"> • Nurse assessment • Address CVD (page 26) • Ultrasound surveillance
<p>Patient pathways Symptomatic AAA pathway (EDs) e-RS RAS (GPs)</p>	<p>$\leq 3.0\text{cm}$ DIAMETER Normal aortic diameter</p>
<p>Contact for advice Vascular registrar vascularnurses@nbt.nhs.uk BBW AAA Screening Programme Office</p>	<p>ASYMPTOMATIC ILIAC ARTERY ANEURYSM $\geq 3.5\text{cm}$ DIAMETER <i>Refer via e-RS RAS for <u>urgent</u> appointment</i></p>
<p>Research and Audit NVR, COMPASS-UK, EXCel Registry</p>	

¹ CPET cardio-pulmonary exercise test; ² CCA Complex medical care assessment.
 NG156 Abdominal aortic aneurysm: diagnosis and management (2020)



Tel: 0117 414 8610
 Email: aaascreening@nbt.nhs.uk
 Office 4, Gate 38, Brunel Building
 Southmead Hospital, Bristol
 BS10 5NB

Aortic dissection

<p>Background Aortic dissection must be considered in any patient ≥ 40 years presenting with sudden onset 'tearing' chest, abdominal or back pain. Transient neurology and vomiting are common.</p>	<p>CHRONIC Refer via e-RS RAS for <u>routine</u> appointment</p> <ul style="list-style-type: none"> • Address CVD (page 26) • Control hypertension • CT or MR surveillance
<p>Primary care Symptomatic immediate referral <i>referaapatient</i>[®] Asymptomatic follow pathway to right →</p>	
<p>Secondary care Suspected, or confirmed, acute dissection</p> <ol style="list-style-type: none"> 1. Analgesia as per College EM guidance 2. Diagnosis by CTA whole aorta ('neck to groins') 3. Stabilise IV blood pressure & pulse rate control 4. Referral to BHI cardiac surgery registrar (TAAD) or to Southmead vascular surgery registrar (TBAD) 4. Time critical transfer to BHI CICU (TAAD) or Southmead ED or ICU (TBAD) 5. Management <ul style="list-style-type: none"> • TAAD emergency aortic root replacement • TBAD blood pressure control and CTA 48 hrs or aortic stent graft +/- bypass 	<p>TYPE A (TAAD) Dissection flap in aortic root and/or arch Risk of rupture, coronary ischaemia and/or tamponade → Cardiac surgery</p>  <p>TYPE B (TBAD) Dissection at, or distal to, left subclavian artery Risk of rupture or malperfusion or rapid expansion → Vascular surgery</p> 
<p>Red flags Hypotension Malperfusion (renal, spinal cord, intestine, lower limbs) Rapid expansion</p>	
<p>Pathways Acute aortic dissection pathway (EDs) e-RS RAS (GPs)</p>	
<p>Contact for advice Vascular surgery registrar (NBT) Cardiac surgery registrar (BHI)</p>	
<p>Research and Audit Local aortic syndrome registry NVR</p>	

RCEM <https://www.rcemlearning.co.uk/reference/aortic-dissection/>

ADUK <https://thinkaorta.org/>

Carotid artery stenosis

'Dizziness and Vertigo' is not a vascular diagnosis; therefore there is no indication to perform a carotid duplex scan. See 'Dizziness and Vertigo' guidance on BNSSG REMEDY.

<p>Background Carotid stenosis is a cause of TIA, stroke and monocular visual loss. Carotid stenosis can cause painful ocular ischaemia.</p>	<p>MAJOR STROKE <i>Admit under stroke service</i></p>
<p>Primary care 1. Address CVD (page 26) ¹ 2. Immediate referral to local TIA/stroke service (rapid access TIA clinic or stroke unit)</p>	<p>TIA or MINOR STROKE <i>Same day referral to local rapid access TIA clinic or stroke service</i></p>
<p>Secondary care 1. Confirm diagnosis exclude seizure, bleed etc 2. CT brain if indicated i.e. stroke, atypical symptoms or on anti-coagulation (higher risk bleed) 3. MRI/DWI if indicated i.e. confirmation of TIA diagnosis and/or side of event and/or timing 4. Carotid duplex scan 6. If $\geq 50\%$ ipse-lateral stenosis CTA of aortic arch, carotids & Circle of Willis Referral telephone vascular registrar 7. Intervention</p> <ul style="list-style-type: none"> • Carotid endarterectomy • Carotid artery stent (rarely) 	<p>AMAROSIS FUGAX <i>Same day referral to local rapid access TIA clinic or Bristol Eye Hospital</i></p> <p>ASYMPTOMATIC DISEASE <i>Refer via e-RS RAS for <u>routine</u> appointment</i></p> <p>ONLY IF Stenosis $\geq 70\%$ <u>and</u> age ≤ 75 years <u>and</u> in good health</p>
<p>Red flags Recurrent TIAs or ABCD₂ 4+ (high-risk TIA ¹) Intra-luminal thrombus</p>	
<p>Pathways Referral via local TIA/stroke service (GPs)</p>	
<p>Contact for advice Stroke or Medical registrar (Local hospital) Vascular registrar (NBT)</p>	
<p>Research and Audit NVR</p>	

1. Standard risk TIA or Major stroke – 2 weeks Aspirin 300mg. High-risk TIA or Minor Stroke – 1 month Aspirin 75mg + Clopidogrel 75mg. Long term Clopidogrel 75mg OD. Approved AGWS Cardiac & Stroke Network. NG128 Stroke and transient ischaemic attack in over 16s: diagnosis and initial management (2019)

Peripheral arterial disease

<p>Background PAD presents with intermittent claudication, foot ulcer*, necrotic ('black') toe* and/or ischaemic rest pain* * CLTI - Chronic limb threatening ischaemia ¹</p>	<p>DEEP TISSUE INJURY or INFECTION or UNCONTROLLED PAIN <i>Immediate refer patient® Telephone if severe sepsis</i></p> <ul style="list-style-type: none"> • Surgeon assessment • Debride < 24 hours • Revascularisation ≤ 5 days ² • Amputation, or end of life care <p>MINOR TISSUE LOSS CONTROLLED REST PAIN <i>Refer via e-RS RAS for <u>urgent</u> appointment</i></p> <ul style="list-style-type: none"> • Surgeon assessment • Revascularisation ≤ 14 days ² <p>INTERMITTENT CLAUDICATION <i>Refer via e-RS RAS for <u>routine</u> appointment</i></p> <ul style="list-style-type: none"> • Nurse assessment • Exercise / Supervised exercise • Angioplasty or bypass • Rarely, Naftidrofuryl oxalate (NICE TA223) <p><i>40% of patient's symptoms will improve over 2 years with exercise. ONLY 2% of patients progress to CLTI.</i></p> <p>ASYMPTOMATIC <i>Manage in primary care</i></p> <ul style="list-style-type: none"> • Assessment (GP or Nurse) • Exercise advice (see link below)
<p>Primary care</p> <ol style="list-style-type: none"> 1. Address CVD (page 27) 2. Analgesia (if required) 3. Follow pathway to right → 	
<p>Secondary care</p> <ol style="list-style-type: none"> 1. Patient assessment and optimisation 2. Wound dressings, antibiotics and/or debridement (SVN, TVN or Podiatry) 3. Perfusion measure API, TBI or TcPO₂ 4. Imaging Duplex and/or CT angiogram 5. MDT decision and intervention <ul style="list-style-type: none"> • Exercise ² or supervised exercise • Angioplasty • Arterial bypass • Major amputation Or, end of life care 	
<p>Red flags See symptoms & signs in red to the right →</p>	
<p>Patient pathway e-RS RAS (GPs) Acute limb ischaemia pathway (EDs/GPs)</p>	
<p>Contact for advice Vascular registrar (NBT) vascularnurses@nbt.nhs.uk</p>	
<p>Research and Audit NVR NESIC, Basil II and Basil III</p>	

¹ Global Vascular Guidelines (2019)

² Vascular Society of Great Britain and Ireland Quality Improvement Framework (2019)

<https://www.circulationfoundation.org.uk/sites/default/files/Exercise%20for%20Claudication%20Infographic%20-%202019%20-%20FINAL.pdf> (Infographic on exercise for intermittent claudication)

CG147 Lower limb peripheral arterial disease (2012) <http://cks.nice.org.uk/peripheral-arterial-disease>

Acute limb ischaemia

<p>Background Most presentations are atherosclerotic (PAD). Other causes are embolic (AF), popliteal aneurysm and vessel trauma.</p>	<p>ACUTE EMBOLUS <i>Atrial fibrillation, rarely proximal arterial stenosis or aneurysm</i></p> <ul style="list-style-type: none"> Embolectomy Anticoagulation <p>SALVAGABLE LIMB</p> <ul style="list-style-type: none"> Admission to arterial centre Revascularisation < 6 hours Anticoagulation <p>NON-SALVAGABLE LIMB</p> <ul style="list-style-type: none"> Analgesia Primary amputation <p><i>Or End of life care</i></p>
<p>Primary care</p> <ol style="list-style-type: none"> Analgesia (if required) Immediate referral via <i>referapatient</i>[®] 	
<p>Secondary care</p> <ol style="list-style-type: none"> Imaging with CTA Anticoagulation if embolus or if delay Revascularisation <ul style="list-style-type: none"> Embolectomy or thrombectomy Thrombolysis, stent or bypass 	
<p>Red flags</p> <p>Motor or sensory loss Deep calf tenderness</p>	
<p>Patient pathway</p> <p>Acute limb ischaemia pathway (EDs/GPs)</p>	

Clinical Practice Guidelines on the Management of Acute Limb Ischaemia (ESVS, 2020)

Acute digital ischaemia

Digital ischaemia related to a dialysis access fistula is managed by the Renal Transplant team

<p>Background Commonly due to dialysis access, connective tissue disease or vasculitis.</p>	<p>DIGITAL ISCHAEMIA <i>Refer via e-RS RAS for <u>urgent</u> appointment</i></p> <ul style="list-style-type: none"> Address CVD (page 27) Anticoagulation or Antiplatelet (embolic) Angioplasty (atherosclerotic) Vasodilator (vasospastic) <p>May be related to arterial thoracic outlet syndrome</p>
<p>Primary care</p> <ol style="list-style-type: none"> Aspirin 75mg OD if no contra-indication Follow pathway to right → 	
<p>Secondary care</p> <ol style="list-style-type: none"> Exclude embolic Duplex, CTA or ECHO Blood tests for vasculitis or CTD (page 26) Revascularisation (if indicated) 	
<p>Red flags</p> <p>Severe ischaemia of one or more digits Severe pain or ulceration</p>	
<p>Contact for advice</p> <p>Vascular registrar (NBT) or Rheumatology registrar (Local hospital)</p>	

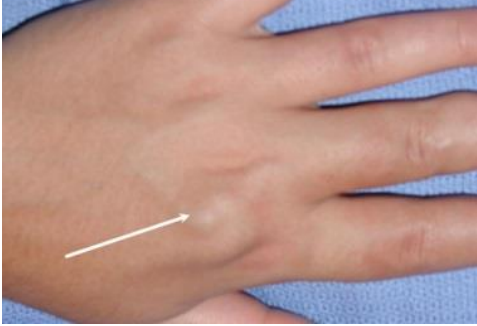
Peripheral 'true' aneurysm

<p>Background Risk of rupture is higher in young women, especially in pregnancy.</p>	<p>SYMPTOMATIC <i>Immediate via referapatient®</i></p> <p>ASYMPTOMATIC <i>Refer via e-RS RAS</i></p> <p>SPLENIC, SMA and RENAL</p> <ul style="list-style-type: none"> • Aneurysms < 20mm are watched *, more so if calcified <u>or</u> in an elderly patient. • If repair is complex, may defer to diameter ≥ 30mm. <p>POPLITEAL</p> <ul style="list-style-type: none"> • Aneurysms <25mm are watched * • Larger aneurysm or those with thrombus are indication for ligation and bypass. <p>* Annual ultrasound surveillance</p>
<p>Primary care 1. Address CVD (page 27) Follow pathway to right →</p>	
<p>Secondary care 1. Imaging duplex and/or CTA 2. MDT decision and intervention</p> <ul style="list-style-type: none"> • Surveillance • Endovascular stent or coiling • Open surgery 	
<p>Red flags Pain or rapid expansion</p>	
<p>Patient pathway e-RS RAS (GPs)</p>	
<p>Contact for advice Vascular registrar (NBT)</p>	
<p>Research and Audit None</p>	

Peripheral 'pseudo' aneurysm

<p>Background Pulsatile swelling over course of artery due to injury (i.e. post medical intervention or IDVU)</p>	<p>MAJOR HAEMORRHAGE <i>immediate telephone referral</i></p> <p>INFECTED FALSE ANEURYSM RAPID EXPANSION <i>Immediate via referapatient®</i></p> <p>ARTERIO-VEINOUS FISTULA SINUS TRACK <i>Refer via e-RS RAS for <u>routine clinic</u> appointment</i></p> <p><i>Groin arteries in IDVU must be imaged prior to I+D of an abscess</i></p>
<p>Primary care 1. Analgesia and antibiotics (if required) 2. Follow pathway to right →</p>	
<p>Secondary care 1. Imaging Arterial duplex and/or CTA</p> <ul style="list-style-type: none"> • Fibrin injection • Open surgical repair 	
<p>Red flags Bleeding, rapid expansion or infection</p>	
<p>Patient pathway e-RS RAS (GPs)</p>	

Vascular malformation

<p>Background Classified as low flow (venous or lymphatic) or high flow (arterial). High flow VM more likely to cause pain, ulceration or high-output cardiac failure.</p>	<p>RAPID GROWTH SEVERE PAIN Need to exclude malignancy <i>Refer via 2WW pathway to sarcoma service for imaging and/or biopsy</i></p>
<p>Primary care Most are small, management is conservative</p> <ol style="list-style-type: none"> 1. Reassurance 2. Analgesia 3. Skin care 4. Compression (page 31) 	<p>HAEMORRHAGE Apply direct pressure to bleeding point for 5 minutes If bleeding persists, send to local ED for pressure dressing. <i>Refer via e-RS RAS for <u>urgent</u> appointment</i></p>
<p>Secondary care Review in specialist clinic with ultrasound and/or MRI helpful to establish extent of the malformation & site of nidus</p> <ul style="list-style-type: none"> • Reassurance • Sclerotherapy • Particulate or coil embolisation • Excision 	<p>ULCERATION If infected, treat with antibiotics <i>Refer via e-RS RAS for <u>urgent</u> appointment</i></p>
<p>Red flags See symptoms & signs in red to right →</p>	
<p>Patient pathway e-RS RAS (GPs)</p>	
<p>Patient information Child www.butterflyavmcharity.org.uk</p>	
<p>Contact for advice Tim.Beckitt@nbt.nhs.uk Graham.Collin@nbt.nhs.uk</p>	
<p>Research and Audit None</p>	

Aligned vascular malformation services

Plastic surgery	Miss Emily West (NBT)
Head and neck surgery	Mr Ali Cobb (UHB)
Paediatric surgery	Mr Fergal Monsel (BRHC)

Diabetic foot problem

<p>Background 30-40% of people with diabetes develop a foot ulcer, main cause of lower limb loss in UK. Neuro-ischaemic foot ulcers have a particularly poor prognosis.</p>	<p>SYSTEMICALLY UNWELL <i>Ulceration with fever or signs of sepsis</i></p>
<p>Primary care</p> <ol style="list-style-type: none"> 1. Analgesia (if required) 2. Address CVD (page 27) 3. Antibiotics if indicated 3. Optimise diabetic control 4. Same day referral, page 3, via agreed diabetic foot pathway unless red flags → 	<p>SPREADING CELLULITIS DEEP ULCER WITH INFECTION SUSPECTED DEEP ABSCESS SEVERE PAIN</p> <p><i>Immediate via referapatient® or telephone is severe sepsis</i></p> <ul style="list-style-type: none"> • IV antibiotics • Debridement ≤ 24 hours • Revascularisation ≤ 5 days ¹ • Amputation (unsalvageable)
<p>Specialist care</p> <ol style="list-style-type: none"> 1. Assessment by community podiatry team 2. 'SWOMP' bundle instituted <ul style="list-style-type: none"> • Sepsis control antibiotics & pus drainage • Wound care dressings & debridement • Off-loading foot ware & orthotics (page 30) • Mechanical correction tendon releases • Perfusion correction see PAD (page 9) 3. Diabetes control review by DSN or consultant 	<p>ULCER, BLISTER or TISSUE LOSS 'BLACK' TOE or 'SAUSAGE' TOE <i>Suspected ischaemia or osteomyelitis</i></p> <p>CALLUS with INFECTION NAIL INFECTION PAINFUL HOT FOOT</p> <p><i>Same day referral to community foot care team</i></p> <ul style="list-style-type: none"> • Community podiatry ² • Escalate to secondary care ³ • Revascularisation ≤ 14 days ¹
<p>Red flags</p> <p>See symptoms & signs in red to the right →</p>	
<p>Patient pathways BNSSG Diabetes Foot Pathway</p>	<p>People with diabetes should have regular foot review</p>
<p>Patient information https://briscomhealth.org.uk/our-services/podiatry/</p>	<p>HIGH RISK ⁴</p>
<p>Contact for advice On-call vascular registrar (NBT) Podiatry Service, Sirona Care and Health</p>	<p><i>Routine referral to community specialist foot care team</i></p>
<p>Research and Audit National Diabetes Foot Care Audit</p>	<p>MODERATE or LOW RISK <i>Practice nurses</i></p> <ul style="list-style-type: none"> • Minimum annual review • Foot ware advice (page 31)

1. 50% of people with a diabetic foot ulcer will have underlying peripheral arterial disease (PAD)

2. Podiatry Services, Sirona Care and Health

3. Southmead Diabetic Foot Clinic unless patient preference for BRI or WGH.

4. Past foot ulcer. minor amputation. Two or more of; neuropathy, deformity, peripheral arterial disease, callus or struggles to manage own foot care.

CG10 Type 2 diabetes footcare (2004)

NG19 Diabetic foot problems: prevention and management (2015)

Mesenteric ischaemia

<p>Background Mesenteric ischaemia is a cause of 'acute abdomen' in the elderly. Chronic mesenteric ischaemia can cause postprandial pain, fear of eating and weight loss.</p>	<p style="text-align: center;">ACUTE</p> <p style="text-align: center;"><i>Immediate telephone referral for admission under local GI surgery team</i></p> <ul style="list-style-type: none"> • Laparotomy +/- resection • Revascularisation • Re-look laparotomies • Stoma care (if required) • Nutritional support <p style="text-align: center;">CHRONIC</p> <p style="text-align: center;"><i>Refer via e-RS RAS for <u>routine</u> appointment</i></p> <ul style="list-style-type: none"> • Nutritional assessment • Consider revascularisation
<p>Primary care</p> <ol style="list-style-type: none"> 1. Address CVD (page 27) 2. Exclude other causes for abdominal pain i.e. Endoscopy and biliary USS 3. Follow pathway to right → 	
<p>Secondary care</p> <ol style="list-style-type: none"> 1. Patient assessment 2. Imaging CT angiogram <p>Acute IV Heparin Stent and/or thrombolysis</p> <p>Chronic Angioplasty with stent Bypass (rare)</p>	
<p>Red flags</p> <p>Acute abdomen 'Pain out of keeping with clinical signs'</p>	
<p>Patient pathway</p> <p style="color: red;">Statement of clinical advice on mesenteric ischaemia (EDs)</p> <p>e-RS RAS (GPs)</p>	
<p>Contact for advice</p> <p>GI surgery registrar (Local hospital) Vascular registrar (NBT)</p>	
<p>Research and Audit</p> <p>None</p>	

Clinical Practice Guidelines on Management of Diseases of Mesenteric Arteries & Veins (ESVS, 2017)

Non-atherosclerotic causes of acute mesenteric ischaemia

<p>Non-occlusive (NOMI)</p> <p>Develops in critically ill patients. Exclude mesenteric artery stenosis (CTA) and</p> <ul style="list-style-type: none"> • Laparotomy +/- resection • Improve perfusion with ICU support • Treat underlying causes 	<p>Venous (VAMI)</p> <p>Develops in hyper coagulable patients i.e. cirrhosis, pancreatitis, thrombophilia, oral contraceptive or hormone replacement (HRT).</p> <ul style="list-style-type: none"> • Laparotomy +/- resection • Treat with systemic anti-coagulation for a minimum of 6 months
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Superficial vein thrombosis

<p>Background Superficial vein thrombosis (SVT) presents as a painful, tender, red cord. Up to one in 10 people with SVT progress to DVT.</p>	<p style="text-align: center;">SVT ≥ 5CM IN LENGTH SIGNIFICANT SWELLING</p> <ul style="list-style-type: none"> • Duplex ultrasound scan <ul style="list-style-type: none"> - Lower limb by GP Care - Upper limb by vascular science <p>Treat as DVT if SVT < 3cm from SFJ or SPJ (3 months).¹ Otherwise, compression and consider 6 weeks of therapeutic LMWH (SIGN guidelines). ¹ refer to vascular if recent varicose veins treatment (RFA or EVLA) or if unable to anticoagulate (for ligation)</p> <p style="text-align: center;">SVT < 5CM IN LENGTH</p> <ul style="list-style-type: none"> • Re-assess 7 to 10 days, or sooner if symptoms progress • No improvement, or signs of extension, manage as above <p style="text-align: center;">MIGRATORY SVT or DOES NOT RESOLVE ON ANTICOAGULATION or RECURRENT EPISODES</p> <p style="text-align: center;"><i>Refer via e-RS RAS for triage and appointment</i></p> <p style="text-align: center;">IF VARICOSE VEINS</p> <p style="text-align: center;"><i>INNf application for treatment only after multiple SVT episodes</i></p>
<p>Primary care</p> <ul style="list-style-type: none"> • Topical anti-inflammatory (NSAID) • Oral analgesia • Compression (page 31) • Antibiotics <u>only</u> if cannula site infection • Follow pathway to right → 	
<p>Secondary care</p> <ul style="list-style-type: none"> • Investigation of underlying cause <i>Superficial venous reflux – Duplex scan</i> <i>Hypercoagulability (thrombophilia ≤ 40 years)</i> <i>Malignancy (≥ 40years) – See below</i> • Superficial venous reflux ablation (Requires INNf submission) 	
<p>Red flags Significant swelling Migratory or recurrent SVT No improvement on anticoagulation</p>	
<p>Patient pathway BNSSG thrombosis pathway</p>	
<p>Contact for advice Thrombosis team (local hospital) Vascular registrar (NBT) GPCare.DVT@nhs.net</p>	
<p>Research and Audit None</p>	

¹ SFJ, Sapheno-femoral junction; SPJ, Sapheno-popliteal junction. Based on study by Tait (2012).
NICE <https://cks.nice.org.uk/thrombophlebitis-superficial#!scenario>

Screening for cancer in patients with apparently unprovoked DVT or SVT
BCSH² does not recommend routine investigation for cancer, even in patients > 40 yrs. NBT thrombosis committee recommends³ physical examination, Urinalysis, FBC, U&Es, LFTs, Calcium and CXR (if lower limb DVT). Abdominal-pelvic CT scan, plus mammogram for women, reserved for patients with abdominal or pelvic symptoms (unless other test indicated), bilateral DVT, very high D-dimer or early recurrence of VTE.

² British Committee for Standards in Haematology (2015) ³ Study showed <3% occult malignancy.

Deep vein thrombosis

<p>Background Anti-coagulation can prevent pulmonary emboli and VTE recurrence.</p>	
<p>Primary care</p> <ol style="list-style-type: none"> Duplex ultrasound scan <ul style="list-style-type: none"> - Lower limb by GP Care - Upper limb by vascular science Anticoagulation Elevation of affected limb and consider compression if pain/swelling (page 31)¹ If unprovoked, consider occult cancer² Management as pathway to right → 	<p>PHLEGMASIA</p> <p><i>Immediate via referapatient®</i> Associated with malignancy or serious pro-thrombotic illness.</p> <p>SUBCLAVIAN VEIN</p> <p><i>Immediate via referapatient®</i> <i>for consideration of</i> thrombolysis / rib resection</p> <p>ILIAC VEIN</p> <p><i>Immediate via referapatient®</i> <i>consideration of</i> thrombolysis / stent ONLY IF</p> <ul style="list-style-type: none"> ▪ Aged 18-75 years ▪ DVT onset < 21 days ▪ No significant co-morbidity or increased bleeding risk
<p>Secondary care</p> <p>CT or MR venogram prior to thrombolysis, or screening for occult cancer (see page 16)</p> <ul style="list-style-type: none"> • Limb elevation, intermittent pneumatic compression (Flowtron™) & Compression • Catheter directed thrombolysis • Pharmaco-mechanical thrombectomy 	
<p>Red flags</p> <p>Phlegmasia (rare)</p>	<p>Thrombolysis for subclavian and iliac DVT improves symptoms and may prevent or lessen post thrombotic syndrome (PTS).</p>
<p>Patient pathway</p> <p>Local thrombosis committee guidelines e-RS RAS (GPs)</p>	
<p>Contact for advice</p> <p>Thrombosis team (Local hospital) Vascular registrar (NBT)</p>	<p>CALF (BELOW KNEE) RADIAL or ULNAR (FOREARM) <i>Manage in primary care</i></p>
<p>Patient information</p> <p>https://www.nhs.uk/conditions/deep-vein-thrombosis-dvt/</p>	<p>Not always treated; provided low VTE risk and early follow up (GP Care do anticoagulate.)</p>
<p>Research and Audit</p> <p>Deep venous intervention local registry</p>	

¹ Compression provides symptom relief; there is low grade evidence it may reduce incidence of PTS if applied early. Evidence of benefit from long-term use less certain.

² Suspected cancer recognition and referral (NICE)
<https://pathways.nice.org.uk/pathways/suspected-cancer-recognition-and-referral#path=view%3A/pathways/suspected-cancer-recognition-and-referral/suspected-cancer-recognition-and-referral-symptoms-and-findings.xml&content=view-index>

CG144 Venous thromboembolic diseases: diagnosis, management and thrombophilia (2012)
<https://cks.nice.org.uk/deep-vein-thrombosis>

Post thrombotic syndrome (PTS)

<p>Background 30-40% of people develop post-thrombotic syndrome after a DVT. PTS more common after a proximal DVT or recurrent DVT.</p>	<p>MILD PTS¹ <i>Manage in primary care</i> Pain and/or minor swelling</p> <ul style="list-style-type: none"> • Simple analgesia • Lifestyle advice • Compression (page 31) • Skincare <p>MODERATE or SEVERE PTS¹ <i>Refer via e-RS RAS for routine appointment</i> <i>Severe pain or swelling, ulceration or venous claudication</i></p> <ul style="list-style-type: none"> • Pain management • Compression (page 31) • Psychosocial support <p>¹ scored using the Villalta scale</p>
<p>Primary care</p> <ol style="list-style-type: none"> 1. Pain management (if needed) 2. Management as pathway to right → 	
<p>Secondary care</p> <p>Venous duplex and/or MR venogram</p> <ul style="list-style-type: none"> • Deep venous recanalization & stent 	
<p>Red flags</p> <p>Sepsis - infected ulcers or cellulitis</p>	
<p>Patient pathway</p> <p>e-RS RAS (GPs)</p>	
<p>Contact for advice</p> <p>Vascular nurses (NBT) Baris.ozdemir@nbt.nhs.uk</p>	
<p>Research and audit</p> <p>Deep venous intervention local registry</p>	

Leg swelling

<p>Background</p> <p>Lower limb oedema is common, with an increasing prevalence with advancing age.</p>	<p>DIFFERENTIAL DIAGNOSIS</p> <p>Superficial venous reflux Post thrombotic syndrome Congestive cardiac failure Hepatic or renal dysfunction</p> <p>Immobility Obesity Hypoproteinaemia Hypothyroidism</p> <p>Lymphoedema (malignancy) Lipoedema Pregnancy / Premenstrual Drug induced Amlodipine, Steroid or NSAIDs</p>
<p>Primary care</p> <ol style="list-style-type: none"> 1. Diagnosis of underlying cause → 2. Compression (page 31) 	
<p>Secondary care</p> <p>Venous duplex scan CT or MR venogram</p>	
<p>Red flags</p> <p>Progressive unilateral swelling, malignancy?</p>	
<p>Patient pathway</p> <p>e-RS RAS (GPs)</p>	
<p>Contact for advice</p> <p>Vascular nurses (NBT)</p>	


Superficial venous disease

<p>Background Eight out of ten leg ulcers are due to venous disease. Superficial venous disease may also cause bleeding, skin changes, throbbing, itching and swelling.</p>	<p>HAEMORRHAGE</p> <p>Apply direct pressure for 5 minutes, if bleeding persists, send to local ED <i>Also refer via e-RS RAS for vascular review & complete INNF</i></p>
<p>Primary care</p> <ol style="list-style-type: none"> 1. Optimise wound care, nutrition, exercise and diabetes (if present) 2. Antibiotics if infection present ¹ 3. ABI measurement (exclude PAD) 4. Compression (page 31) 5. Management as pathway to right → 	<p>ULCERATION</p> <ul style="list-style-type: none"> • Vascular referral if recurrent, based on restricted policy (INNF) • Dermatology referral, if non-vascular, contact dermatitis, or not responding to wound care
<p>Secondary care</p> <ol style="list-style-type: none"> 1. Imaging Duplex scan and/or CTA 2. Treat superficial reflux to improve quality of life, speed ulcer healing, and reduce rate of recurrence <ul style="list-style-type: none"> • Endothermal ablation (INNF) • Foam sclerotherapy (INNF) • Open surgery (INNF) • Deep venous stent • Debridement and skin graft ulcer 	<p>Referral criteria (BNSSG)</p> <ul style="list-style-type: none"> • Deep ulcer • Arterial element (ABI < 0.8 or >1.4, TBI < 0.7) • Suspected malignancy • Suspected contact dermatitis • Diabetes or Rheumatoid • Not progressing at 3 months • Not healed at 12 months
<p>Red flags</p> <p>Haemorrhage Deep ulcer or Suspected malignancy Sepsis and/or rapid deterioration</p>	<p>VENOUS ECZEMA</p> <p><i>Manage in community</i></p> <ul style="list-style-type: none"> • Skin emollients • Short course topical steroids
<p>Patient pathway</p> <p>BNSSG leg ulcer pathway e-RS RAS (GP)</p>	<p>SYMPTOMATIC VEINS</p> <p><i>Vascular referral, based on restricted policy (INNF)</i></p>
<p>Contact for advice</p> <p>vascularnurses@nbt.nhs.uk Nursing, Sirona Care and Health</p>	<ul style="list-style-type: none"> • Advice on weight loss • Compression (page 31)
<p>Research and audit</p> <p>None</p>	<p>ASYMPTOMATIC VEINS</p> <ul style="list-style-type: none"> • Advice on weight loss

CG168 Varicose veins: diagnosis and management (2013)

¹ Leg ulcer infection: antimicrobial prescribing in development (GID-NG10133)

Lymphoedema and Lipoedema

<p>Background Lymphoedema develops from primary or secondary lymphatic damage. Lipoedema is triggered by puberty, pregnancy or menopause in some women.</p>	<p>LYMPHOEDEMA <i>Pitting oedema, aching, cellulitis and skin changes</i></p>
<p>Primary care</p> <ol style="list-style-type: none"> 1. Early antibiotics for infection 2. Skin, including leg ulcer, care 3. Movement and exercise 4. Healthy diet and lifestyle 5. Psychosocial support (page 21) 5. Compression (page 31) 	<ul style="list-style-type: none"> • Custom compression • Treat cellulitis early • Manual lymphatic drainage <p>LIPOEDEMA <i>Bilateral abnormal fat deposition Swelling - cuffing at ankles Pain and bruising</i></p>
<p>Secondary care</p> <p>Venous duplex and/or MRI Lymphoscintigram</p> <ul style="list-style-type: none"> • Liposuction • Bariatric surgery • Lymphatic drainage procedure (rare) 	<ul style="list-style-type: none"> • Psychosocial support • Weight management • Pain management • Manual lymphatic drainage
<p>Red flags</p> <p>Sepsis (cellulitis or infected ulcer)</p>	<p>LIPO-LYMPHOEDEMA</p>
<p>Patient pathway</p> <p>Local lymphoedema service e-RS RAS</p>	<p>Someone with lipoedema may eventually get fluid retention (lymphoedema) in their legs.</p> <ul style="list-style-type: none"> • Manage as above
<p>Contact for advice</p> <p>BNSSG lymphoedema Service Vascular nurses (NBT) http://www.mlduk.org.uk/about/ https://thebls.com/directory/south-west www.lipoedema.co.uk www.talklipoedema.org</p>	
<p>Research and audit</p> <p>None</p>	

Lymphoedema service, Sirona Health and Care

<https://remedy.bnssgccg.nhs.uk/adults/nursing/lymphoedema/>

Marina Healthcare Centre, Second Floor, 2 Haven View, Portishead, North Somerset, BS20 7QA.

Tel: 01275 547573 Mon to Fri 8am to 4pm

Email: nscpc.lymphoedemateam@nhs.net

Thoracic outlet syndrome

<p>Background Thoracic outlet syndrome is caused by cervical rib or first rib neuro-vascular bundle compression.</p>	
<p>Primary care</p> <ol style="list-style-type: none"> 1. Assessment of upper limb pulses 2. Differential upper limb blood pressure 3. Advice (i.e. posture, avoiding repetitive movements and ergonomic work station) 	<p>ARTERIAL (A-TOS) Pain and/or Digital ischaemia <i>Refer via e-RS RAS for <u>urgent</u> review</i></p> <ul style="list-style-type: none"> • Rib resection • Bypass
<p>Secondary care</p> <ol style="list-style-type: none"> 1. Arterial and venous duplex scan 2. Plain films thoracic inlet 3. Further imaging CTA and MRA 4. Nerve conduction studies <ul style="list-style-type: none"> • Physiotherapy • Surgical decompression and/or bypass and/or neurolysis • Venous thrombolysis and rib resection • Muscle release (Botox® or tenotomy) 	<p>VENOUS (V-TOS) Pain, swelling and discoloration <i>Refer via e-RS RAS for <u>urgent</u> review</i></p> <ul style="list-style-type: none"> • Thrombolysis • Rib resection <p>NEUROLOGICAL (N-TOS) Pain and/or Numbness <i>Refer via e-RS RAS for <u>routine</u> review</i></p> <ul style="list-style-type: none"> • Confirm with nerve studies • Rib resection
<p>Red flags</p> <p>Digital ulceration Upper limb DVT</p>	
<p>Patient pathway e-RS RAS (GPs)</p>	<p>SUBCLAVIAN STEAL <i>Subclavian artery stenosis causing dizziness/collapse on arm exertion</i></p> <ul style="list-style-type: none"> • Mainly conservative • Angioplasty if symptomatic
<p>Contact for advice</p> <p>Vascular registrar (NBT) Frank.a.c.smith@bristol.ac.uk Rebecca.winterborn@nbt.nhs.uk Timothy.beckitt@nbt.nhs.uk</p>	

Aligned services managing TOS

Chronic pain	Dr Sarah Love-Jones (NBT)
Neurophysiology	Dr Nick Kane (NBT)
Orthopaedic surgery	Mr Mark Crowther (NBT)
Neurosurgery	Mr Rick Nelson (NBT)
Physiotherapy	Mr Rob Patterson (The Cherrington Practice) ¹

¹ Only accepts private patient referrals.

Chilblains

<p>Background Small, painful, itchy swellings on finger, heel or toe from exposure to cold or wet.</p>	<p><i>Most lesions heal within a few weeks With simple advice</i></p> <p>DOES Avoid cold and damp Wear warm gloves and/or socks Use skin care (calamine, witch hazel)</p> <p>DON'TS Scratch or pick at skin Use hot water or radiator to warm Drink too much tea, coffee or cola Smoke (constricts blood vessels)</p>
<p>Primary care Follow pathway to right → Nifedipine can help if severe</p>	
<p>Secondary care Patients with PAD or CTD (page 24)</p>	
<p>Patient information https://www.nhs.uk/conditions/chilblains/</p>	

Raynaud's

<p>Background Primary, in young women. Secondary, thoracic outlet, scleroderma, rheumatoid arthritis and myositis.</p>	<p>PATIENT ADVICE</p> <ul style="list-style-type: none"> • Triggers as for chilblains above • Manage stress (page 21) • Eat a healthy diet <p>MEDICATION</p> <ul style="list-style-type: none"> • Avoid NSAIDs • Analgesia • Anxiolytics • Vasodilators <ul style="list-style-type: none"> ▪ Immediate Nifedipine ¹ ▪ Other CCBs (off label) ▪ Lorsartan (off label) <p>¹ Side effect in 3 out of 4 patients include headache and facial flushing.</p>
<p>Primary care Follow pathway to right →</p>	
<p>Secondary care Refer to rheumatology to exclude CTD if aged >30 years at Raynaud's onset</p> <ul style="list-style-type: none"> • IV Iloprost infusion • Bosantan (for systemic sclerosis) 	
<p>Red flags Severe ischaemia of one or more digits Ulceration</p>	
<p>Patient pathway e-RS RAS (GPs)</p>	
<p>Patient information https://www.sruk.co.uk</p>	

1. BNSSG Formulary advice in view of supply problems.
NICE <https://cks.nice.org.uk/raynauds-phenomenon>

<p>Specialist rheumatology clinics Dr Harsha Gunawardena Dr Sam Patel Dr Sarah Emerson Dr John Pauling Dr Joanna Robson</p>	<p>Southmead - CTD and Vasculitis Southmead - Behcet's disease Southmead - GCA Bath: RNHRD and RUH Bristol Royal Infirmary</p>
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Hyperhidrosis

<p>Background Limited evidence supports the benefit of Botox® for severe axillary sweating.</p>	<p style="text-align: center;">SELF CARE</p> <ul style="list-style-type: none"> • Commercial antiperspirants • Loose clothing • Natural fibers • Leather shoes • Moisture-wicking socks <p style="text-align: center;">IONTOPHORESIS (INNF) Suitable for palms and soles Mean duration 1-4 weeks</p> <p style="text-align: center;">BOTOX® (INNF) Mean duration 30 weeks <i>Treatment stops if no response</i> Mean sweat reduction of up to 80% by 4 weeks with <5% compensatory sweating.</p>
<p>Primary care 1. Antiperspirant 20% aluminium salts applied in evening. Note: skin irritation in 50% of patients, need to wash off salts in morning. 2. Stress management 3. Dermatology or vascular referral, based on restricted policy (INNF)</p>	
<p>Secondary care</p> <ul style="list-style-type: none"> • Botox injections (INNF) • Iontophoresis (INNF) • Thoracic sympathectomy (rare) 	
<p>Red flags None</p>	
<p>Patient pathway e-RS RAS (GPs)</p>	
<p>Contact for advice vascularnurses@nbt.nhs.uk</p>	
<p>Research and Audit None</p>	

NICE <https://cks.nice.org.uk/hyperhidrosis#!scenario>

Stress and anxiety management

Many long-term vascular conditions cause psychological and social challenges. Engagement in self-care and improved self-esteem improve outcomes.

See [improving access to psychological therapies](#).

Psychological therapies

- Mindful living
- Healthy diet and engagement in physical activity/exercise
- Group or individual counselling
- Cognitive behavioural therapy (CBT)
- Mental health issues such as anxiety or depression may need treating.

CG91 Depression in adults with a chronic physical health problem (2009)

Vasculitis and Connective tissue disease (CTD)

<p>Background Auto-immune disorders that can cause arterial wall inflammation or weakness.</p>	<p>AUTOIMMUNE CTD</p> <p>Systemic sclerosis <i>Raynaud's, skin change, digital ulceration, infection and calcium deposition. (fibrosis & calcinosis)</i> ANA screen (centromere or DCL70 or nucleolar pattern)</p> <p>Systemic Lupus and other CTDs <i>Raynaud's, cutaneous features and musculoskeletal changes.</i> ANA screen, Complement (C3/C4)</p> <p>Antiphospholipid syndrome <i>VTE, TIA, livido reticularis, migraine, thrombocytopaenia, recurrent foetal loss or miscarriage.</i> Lupus anticoagulant, Anticardiolipin</p> <p>LARGE VESSEL VASCULITIS</p> <p>Giant cell ('temporal') arteritis <i>Age > 50 years, cranial or non-specific symptoms or arterial compromise.</i> 50% GCA patients have sub-clinical aortitis PV and CRP (No markers)</p> <p>Takayasu's arteritis <i>Age < 40 years, reduced upper limb pulses, bruits and malaise.</i> PV and CRP (No markers)</p> <p>MEDIUM VESSEL VASCULITIS</p> <p>Polyarteritis Nodosa <i>Fever, abdominal pain, high blood pressure and renal failure.</i></p> <p>MEDIUM/SMALL VESSEL VASCULOPATHY</p> <p>Buerger's disease <i>Limb ischaemia.</i> Smoking related</p>
<p>Primary care</p> <ol style="list-style-type: none"> 1. Check for rheumatological signs →, BP difference in arms, and bruits 2. ANA & ANCA (neg. does not exclude) 3. Refer to rheumatology <u>except</u> for visual disturbance in suspected GCA, refer immediately to ophthalmology. 	
<p>Secondary care</p> <ol style="list-style-type: none"> 1. Duplex ultrasound, CTA and/or PET 2. Treat cause and complications <ul style="list-style-type: none"> • Steroids • Anticoagulation or Antiplatelet • Antibiotics • CCB / ACEI (i.e. Losartan) • Iloprost or Sildenafil or Bosentan • Immunosuppression / Biologics • Digital sympathectomy (rare) 	
<p>Red flags Visual disturbance (see above) Weight loss, anaemia, night sweats, limb pain or persistent inflammation. Organ failure or limb ischaemia.</p>	
<p>Patient pathway Specialist rheumatology CTD vasculitis clinic (Southmead)</p>	
<p>Patient information www.versusarthritis.org www.vasculitis.org.uk</p>	
<p>Contact for advice Rheumatology registrar (local hospital) Dr Harsha Gunawardena (NBT)</p>	
<p>Research and Audit None</p>	

NICE <https://pathways.nice.org.uk/pathways/musculoskeletal-conditions>

Post intervention complications

<p>Background Infection and ischaemia* are common cause of early hospital readmissions. * After aortic surgery consider colonic or spinal cord</p>	<p>SURGICAL SITE INFECTION ³</p>
<p>Primary care</p> <ol style="list-style-type: none"> 1. Analgesia and reassurance 2. 'Surgical' follow advice to the right → 3. 'Medical' i.e. cardiac, respiratory ¹ or renal ² refer to medical team at local hospital <u>and</u> inform vascular registrar of readmission. 	<p>Superficial infection <i>Same day via referapatient®</i> <i>For urgent review</i></p> <ul style="list-style-type: none"> • Treat with oral antibiotics
<p>Secondary care Follow up within 6 weeks for most procedures Superficial infection wound care clinic (below) Deep infection IV antibiotics +/- drainage Acute ischaemia urgent revascularisation</p>	<p>Deep, Organ OR Cellulitis >2cm from wound edge <i>Immediate via referapatient®</i></p> <ul style="list-style-type: none"> • Hospital readmission • IV antibiotics • Incision and drainage
<p>Red flags Haemorrhage Severe ischaemia</p>	<p>BYPASS GRAFT, STENT, OR ANGIOPLASTY OCCLUSION <i>Immediate refer via referapatient®</i></p>
<p>Patient pathway e-RS RAS (GPs)</p>	<p>SUSPECTED COLONIC OR SPINAL CORD ISCHAEMIA <i>Immediate refer via referapatient®</i></p>
<p>Patient information Hospital discharge summary</p>	
<p>Contact for advice Vascular registrar (NBT)</p>	
<p>Research and Audit NVR</p>	

¹ CG191 Pneumonia in adults: diagnosis and management (2014)

² NG148 Acute kidney injury: prevention, detection and management (2019)

³ NG125 Surgical site infections: prevention and treatment (2019)

Wound Care

<p>Hospital@Home NBT H@H nurses Up to twice daily Patient's home</p>	<p>Complex Wound Clinic Sister Silvia Rubino Wednesday and Friday PM Gate 24, Southmead</p>	<p>Vascular Hot Clinic Consultant on Call Monday to Friday AM Gate 5, Southmead</p>
<p><i>Booked by ward on transfer or discharge home</i></p>		<p><i>Booked via e-Referral RAS</i></p>

Amputee care

<p>Background Ischaemia and diabetic foot problems main causes of lower limb loss. Risk is 1% per annum for person with PAD.</p>	<p style="text-align: center;">REHABILITATION</p> <ul style="list-style-type: none"> • Physical and mental recovery • Reintegration into community <p>The patient's involvement is crucial to managing their recovery and rehabilitation.</p> <p style="text-align: center;">PHANTOM LIMB PAIN</p> <ul style="list-style-type: none"> • Amitriptyline 10mg nocte increased by 10mg weekly to a max of 50mg • Add gabapentin if no response, start 100mg TDS increasing each week by 100mg to a max 900mg <p style="text-align: center;">PROTECTION REMAINING LIMB</p> <ul style="list-style-type: none"> • Foot ware (page 30) • Regular foot checks • Address CVD (page 27) • Diabetic control (if diabetic) • Immediate referral if ulceration
<p>Primary care</p> <ol style="list-style-type: none"> 1. Address CVD (page 27) 2. Pain management 3. Protect remaining limb 	
<p>Secondary care</p> <ul style="list-style-type: none"> • Functional recovery • Counselling • Limb fitting (prosthetics) 	
<p>Red flags</p> <p>Non-healing or broken down stump Deep infection Foot ulcer on contra-lateral limb</p>	
<p>Patient information</p> <p>Bristol Centre for Enablement</p>	
<p>Contact for advice</p> <p>Vascular registrar at NBT Bristol Centre for Enablement 0117 3404610 or prosthetics@nbt.nhs</p>	
<p>Research and Audit</p> <p>NVR</p>	

BACPAR Evidence based clinical guidelines for the physiotherapy management of adults with lower limb prostheses (2017)

All our patients are encouraged to take part in vascular research



Vascular research nurse
Helen Cheshire
Research leads
Professor Rob Hinchliffe
Mr Chris Twine
Academic Clinical Lecturers
Mr Graeme Ambler
Ms Mahim Qureshi

Cardiovascular disease

PAD, AAA, CAS, DM, eGFR < 60, and BMI \geq 40 increase the risk of MI, CVA, and other cardio-vascular (CVD) death.

Primary prevention use [QRISK-3 2018](#) to assess CVD risk in people < 85 years of age. Anyone with a predicted risk of CVD events \geq 20% at 10 years requires interventions to reduce this risk.

<https://www.nice.org.uk/ph25>

Smoking cessation reduces the risk of CVD events and death. Behavioural counselling with medication (i.e. Nicotine patch or Varenicline) are the most effective strategies ([NICE NG92](#)).

<https://cks.nice.org.uk/smoking-cessation>
Smoking cessation BNSSG

Antiplatelet agent people with PAD or multi-vascular disease should be prescribed Clopidogrel 75mg daily, unless CI, intolerant or taking **oral anti-coagulation**. Second line is Aspirin 75mg OD or Rivaroxaban 2.5mg BD plus 75mg Aspirin OD (Compass Trial). <https://cks.nice.org.uk/antiplatelet-treatment>
BNSSG formulary provides advice on anti-platelet therapy for TIA/Stroke.

Lipid modification patients with CVD should be offered high intensity statin, if tolerated ([BNSSG Guideline](#)). Prior to starting, identify and treat causes of secondary hyperlipidaemia; high alcohol consumption, obesity, liver disease, hypothyroidism, nephrotic syndrome and diabetes.

Patients should be counselled about side effects, including muscle pains.

The serious adverse events of statins are myopathy -5- and rhabdomyolysis - 2- cases per 100,000-person years respectively.

NICE recommends baseline lipid profile (TC, HDL-C, Non-HDL and TG) and CK, LFTs, renal function, LFT and HbA1c. Repeat Lipids and LFTs at 3 months. Thereafter, annually check lipids and review for side effects of statins.

CVD: reduce non-HDL-C by 40% (50%).
Primary prevention: Aim TC < 5 mmol/L, non-HDL C < 3 mmol/L and fasting Triglycerides <1.7mmol/L.

<https://cks.nice.org.uk/lipid-modification-cvd-prevention>

Weight management If BMI $>25\text{kg/m}^2$, provide weight goal, diet and exercise advice ([Tier 1&2](#)). If BMI $\geq 40\text{kg/m}^2$, or 35-40 with T2DM or HTN, and tried to lose weight for 2 years, consider CBA referral to [WAMS team](#). If BMI $\geq 50\text{kg/m}^2$ refer to WAMS ([NICE CG189](#)). Prevention www.nice.org.uk/cg43

Atrial fibrillation anticoagulation reduces risk of stroke (CHA₂DS₂-VASC) and should be prescribed provided risk of bleeding is acceptable (HAS-BLED).

Diabetes risk of CVD complication increased 2-2.5 times. Aim for HbA1c <53 mmol/L (higher target if older). In Type 2 diabetes Metformin is the first line treatment. Therapy added if target not reached in 3-6 months.

<https://cks.nice.org.uk/diabetes-type-1>
<https://cks.nice.org.uk/diabetes-type-2>

Hypertension In patients < 80 years, clinic BP >140/90 mmHg or ambulatory BP >135/85 mmHg should prompt assessment and treatment. In patients > 80 years, clinic BP > 150/90 mmHg or ambulatory BP >145/85 mmHg.

Advise smoking cessation; reduced caffeine, alcohol and salt intake; and increase exercise and relaxation.

Consider causes for secondary hypertension. Resistant hypertension should prompt referral to specialist service, low dose Spironolactone or Alpha/Beta-blocker.

First choice for older adults and Afro-Caribbean patients is Dihydropyridine CCB (e.g. Amlodipine or Lercardapine). First choice in people aged < 55 years is ACE I or ARB (e.g. Ramipril) *unless contra-indicated*. If in need of 2nd or 3rd line therapy, combine CCB+ACE and add thiazide diuretic (e.g. Indapamide), or if renal function impaired, a loop diuretic (e.g. Furosemide).

<https://cks.nice.org.uk/hypertension-not-diabetic>

Nutrition diet should broadly be in line with healthy eating recommendations: Five portions of fruit and vegetables each day, meals based on starchy foods such as pasta, bread, rice or potatoes, moderate amounts of dairy products and protein-rich foods. Low fat, low sugar and low sodium.

<https://cks.nice.org.uk/obesity#!scenario>

Alcohol maximum recommended weekly limit is 14 units. To cut down people should have several alcohol-free days each week.

Activity advise at least 150 minutes of moderate aerobic* activity every week (* gets out of breath) and strength exercises on 2 or more days a week that work legs, hips, back, abdomen, chest, shoulders and arms i.e. brisk walking, swimming, cycling, gardening or playing with children. Avoid long periods sitting - active break at least every 30 minute.

Consider [exercise on referral](#) scheme.

Patient advice

www.nhs.uk/live-well

NHS Health Check

<https://www.nhs.uk/conditions/nhs-health-check/>

Circulation Foundation Checker

<https://www.circulationfoundation.org.uk/checkers>

NICE Overview

<https://www.nice.org.uk/cg181>

ACE I Angiotension converting enzyme inhibitor

ARB Angiotension receptor blocker

CCB Calcium channel blocker



Anticoagulation, Antiplatelet and Statin

<https://remedy.bnssgccg.nhs.uk/formulary-adult/local-guidelines/2-cardiovascular-system-guidelines/>

Hypertension

<https://www.bhf.org.uk/information-support/publications/heart-conditions/blood-pressure>

<https://www.bda.uk.com/foodfacts/hypertension.pdf>

<http://www.bloodpressureuk.org/BloodPressureandYou/Medicines>

Superficial venous disease

Lower limb venous disease is caused by an increase in venous pressure. This can result from failure of one-way valves ('reflux') and/or by blocked veins ('thrombosis').

Varicose veins are superficial veins that have become tortuous, widened and 'bulge' due to exposure to high venous pressure. **Spider, thread and reticular veins** are within, not deep to, the skin.

Varicose veins are common (1 in 7 women and 1 in 10 men). They often appear during pregnancy. Increasing age, being overweight and lack of exercise are risk factors. Often there is a family history.

Varicose veins can get slowly worse over time. The worry that '*my veins might get worse*' is not a good reason for treatment. Over a lifetime only 3-6% of people with varicose veins will develop a venous ulcer.

Most people undergo treatment because of symptoms of pain, aching, itching, swelling or cramps, or because they do not like the appearance of the veins in their leg.

The more serious problems that can result from venous disease are:

Skin change, damage to the skin near the ankle, often brown in colour, sometimes with scarred white areas.
Venous eczema, red, dry and scaly skin.

Superficial venous thrombosis, veins red, hard and tender.

This is not the same as deep vein thrombosis and it is not an infection (don't give antibiotics).

Bleeding from a varicose vein that has been knocked or scratched.

Leg ulcer a break in the skin which lasts for more than 2 weeks.

A simple ultrasound scan shows which valves are working and which valves have failed. In studies, 1 in 10 people with spider or thread veins also have superficial venous reflux.

Urgent treatment is indicated after a **significant bleed** from a varicose vein.

A **venous ulcer** will heal quicker with a combination of compression and varicose vein treatment (EVRA trial). Treating reflux also reduces the risk of ulcer recurrence (ESCHAR trial).

Similarly, treatment following an episode of **superficial venous thrombosis** will reduce the risk of a recurrence.

Symptoms such as pain, aching, tightness, heaviness and itching are all reasons to consider treatment, as studies have shown this is more effective than compression stockings and exercise (it has to be noted, however, that most of these studies were small and uncertainty remains over the effectiveness of treatment).

Patients should be advised to consider the following carefully when making the decision regarding treatment

- **The risks of treatment**
- **That veins recur in up to 1 in 5 people within 4 years**
- **That recurrence rates are higher again for subsequent treatments**

Except in exceptional circumstances, it is unsafe to undertake treatment during **pregnancy and breast feeding**. Management is conservative with advice regarding activity, compression stockings and leg elevation.

The reasons why veins progress to cause complications in some people but not others are unknown. Common sense advice is for weight loss, regular light to moderate exercise and avoid activities that make symptoms worse. Men may benefit from stopping smoking.

NHS Choice

<https://www.nhs.uk/conditions/varicose-veins/>

Circulation Foundation

<https://www.circulationfoundation.org.uk/help-advice/veins>

NICE

<https://www.nice.org.uk/guidance/cg168/iffp/chapter/Questions-to-ask-about-varicose-veins-in-the-legs>

Most venous procedures are now ‘minimally invasive’ - performed under local anaesthetic as a day case.

Thermal ablation radiofrequency and laser ablation both use heat to seal the vein. Both require the injection of dilute local anesthetic along the vein (‘tumescence’) to protect the surrounding tissues.

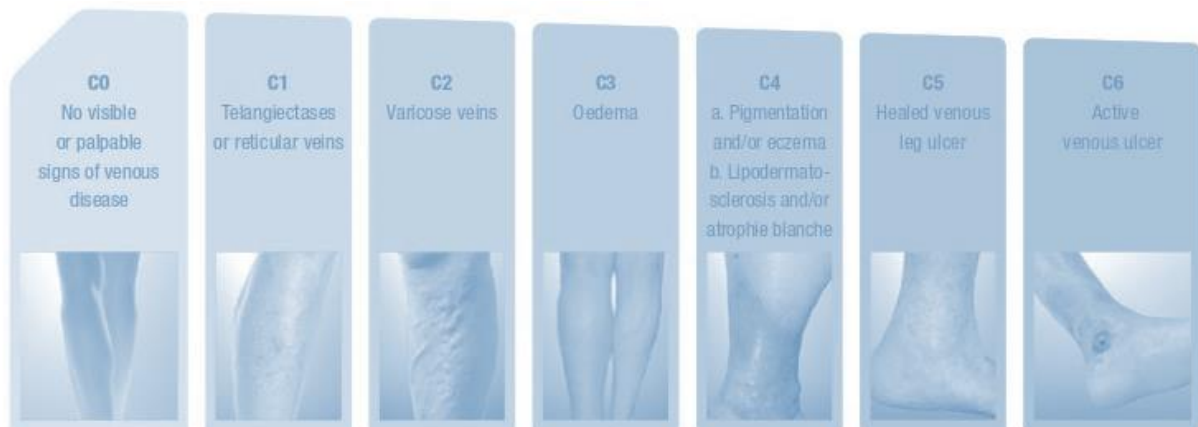
Injection sclerotherapy ‘injections’ work well for small veins (< 3mm).

Ultrasound guided foam sclerotherapy is used to treat larger veins. The same chemicals as for sclerotherapy, however, they are mixed with air to create a foam and injected under ultrasound guidance.

Phebectomies removing tortuous visible veins through small incisions.

Clarivein™ and **Sapheon™** use Sclerotherapy with mechanical abrasion and Glue respectively.

Compression stockings can relieve swelling and discomfort. Four-layer compression (or equivalent) is first line therapy for ulceration.



Compression

Standard compression garments are available via pharmacy prescription. The class of compression is determined by the condition being treated and patient tolerance.

'Liner'	10mmHg ¹	Prescribing advice
Class I	14-17mmHg ¹	Exclude arterial insufficiency (Safe to use if ABI 0.8 – 1.3)
Class II	18-24mmHg ¹	Specify if stocking is 'above knee' or 'below knee'.
Class III	25-35mmHg ¹	Two pairs washed <40°C should last for 6 months daily use.

Adjustable wraps may be useful for patients who find applying compression garment difficult or painful (i.e. **JuxtaCures** for leg ulcer and **JuxtaFit** for oedema).

¹ Pressure listed is exerted at the ankle (British Standard BS6612:1985).

NICE <https://cks.nice.org.uk/compression-stockings>

Orthotics

<p>Background Custom pressure offloading foot ware and custom compression garments are available from the Bristol Centre for Enablement.</p>	<p>REMOVABLE WALKERS¹ (Aircast™)</p> <p>FOOTWEAR¹ Made to accommodate abnormal foot shape or protect following surgery.</p> <p>CUSTOM COMPRESSION Flat knit custom-made garments are less likely to 'dig in' if there is limb distortion.</p>
<p>Contact for advice Bristol Centre for Enablement Tel: 0300 3000110 Email: orthotics@nbt.nhs</p>	

¹ Occasionally a total contact cast will be needed for pressure off loading in the acute setting.

Foot care

It's important that people with CLTI, diabetic foot problems or contra-lateral amputation wear shoes that fit to distribute pressure evenly. Advise

1. Only wear shoes that are properly fitted - have feet measured in the afternoon.
2. Shoe must be long enough, deep enough, and wide enough (i.e. Cosyfeet™).
3. Natural materials (i.e. soft leather) tend to be the best materials to wear.
4. Laces or straps give feet the best support; avoid slip-on shoes or slippers.
5. Custom insoles are important for adequate pressure offloading.
6. Shoes need replacing when worn, particularly if the lining become rough or torn.
7. Socks are important; buy with non-elasticated cuff, no prominent seams, warm in winter and breathable in summer. Natural fibers are better than man-made.
8. Wear new shoes for short periods (20 minutes) around your home at first, checking for discomfort or redness caused by rubbing or pressure.

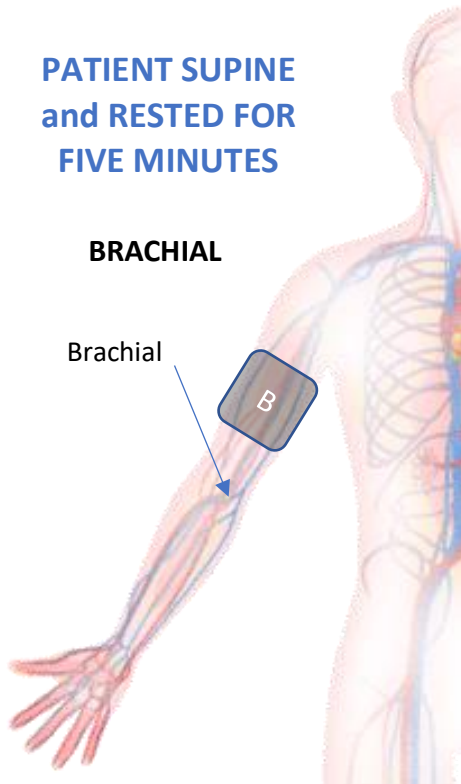
In addition, check feet every day, take care with cutting toenails and attend for an annual foot review with a specialist (practice nurse or community podiatrist).

Ankle brachial index

**PATIENT SUPINE
and RESTED FOR
FIVE MINUTES**

BRACHIAL

Brachial

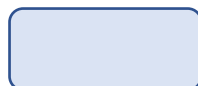
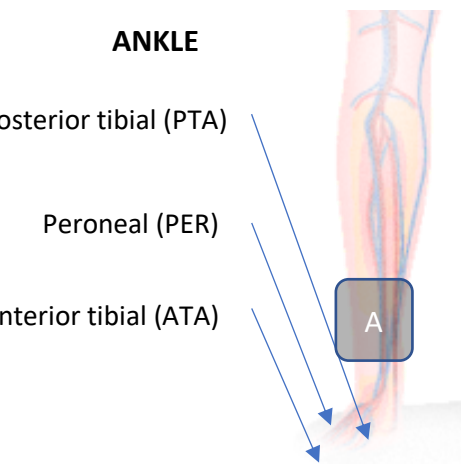


ANKLE

Posterior tibial (PTA)

Peroneal (PER)

Anterior tibial (ATA)



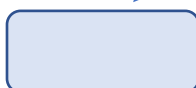
Strongest at ankle



Divided by



Right brachial



ABI¹⁻³

Equipment

Hand-held doppler probe (5-10 MHz)

Manual sphygmomanometer

Correct sized cuff(s) for patient

Ultrasound gel

Clingfilm (use over skin breakdown or ulceration)

Technique

1. Sphygmomanometer cuff (A) placed just above the ankle (i.e. above malleolus).
2. PTA, PER and ATA assessed with Doppler.
 - Patient should be warned that inflating the cuff can be uncomfortable
 - Use plenty of ultrasound gel
 - Hold probe like a pencil, rest the palm of the hand on the skin, angle 45-60 degrees to the artery and keep still

'Triphasic' three sounds heard very quickly together (duh...duh...dum) as blood flows rapidly through a healthy 'elastic' artery.

'Biphasic' two sounds heard together (duh, dum ... duh, dum). This may be because of the probe angle. Indicates a healthy artery.

'Monophasic' single, almost 'banging' sound (...pooosh! ...) indicates poor blood flow within a diseased or calcified artery.

3. The strongest signal is chosen, cuff inflated until it disappears, then slowly release cuff listening for its return. The **pressure at which it returns** is recorded. If signal remains with cuff above 220mmHg then deflate and record as '**incompressible**'.
4. The same technique is used for measuring the right brachial artery pressure (Cuff B).
 - Damped right brachial signal indicates a subclavian or axillary stenosis and the left brachial artery pressure is then measured.
5. ABI is calculated, as shown to the left, by dividing the highest ankle pressure with the highest brachial pressure. A normal resting ABI in a healthy person is 1.0-1.3.

1. Greenland P, et al. Prevention conference V. Circulation 2000; 101: E16-22.
2. Norgren L, et al. Inter-society consensus for the management of peripheral arterial disease (TASC II). J Vasc. Surg. 2007; 45 (Suppl. S): S5-67.
3. American Diabetes Association. Peripheral arterial disease in people with diabetes. Diabetes Care 2003; 26: 3333-41.

Network standards

INWARD REFERRALS

Referapatient® urgent referrals will be responded to immediately by the on call vascular registrar. NHS e-RS referrals will be triaged by Consultant within 2 working days.

OUTPATIENT LETTERS

Letters will highlight actions for primary care and the secondary care follow up planned. *Letters will be sent to GP and patient within 7 days of outpatient consultation.*

SUPPLIED MEDICATION

Medication will be supplied when immediate need (i.e. antibiotics) with sufficient medication given until the time GP will have received letter and can prescribe (*14 days*).

DID NOT ATTEND (DNA) POLICY

Rebooking of patients who did not attend will be by their Consultant on a case by case basis.

ONWARD REFERRALS

These will be made only when onward referral is directly related to the condition for which GP referral was made *or* immediate need for investigation/treatment (i.e. cancer).

RESULTS OF TESTS

Most vascular clinics are 'one-stop' with access to duplex scanning. Other tests results will be communicated by telephone or in writing to GP and patient.

PATIENT QUERIES

These should be directed to the vascular secretaries either at Southmead hospital or at network Trusts. The vascular network office number is 0117 414 0798.

INPATIENT ADMISSIONS

Patients are admitted under the named care of their Consultant. They will be reviewed day to day by the Consultant of the Week; this is usually not their admitting Consultant.

DISCHARGE SUMMARIES

A discharge summary will be sent to GP within 24 hours of discharge for inpatient, day case or emergency department care. The discharge summary gives both the patient's named Consultant and their consultant on discharge, the Consultant of the Week.

SAEs related to **anticoagulant prescribing**: If a patient has been discharged on a new anti-coagulation or anti-platelet agent without a clear treatment plan, please raise this with their vascular consultant.

WARD FOLLOW UP

Where possible, patients are followed up by their own Consultant in their local hospital.

FIT NOTES

Fit notes will be issued to patients on discharge when required.

SHARED CARE PATHWAYS

Within the network these apply to patients with diabetic foot problems, stroke, thoracic aortic pathology, vasculitis and deep venous thrombosis.

Patients will ideally be seen at their local hospital by a local team, who can then refer to vascular surgery for inpatient review, or transfer to the arterial centre if emergency treatment required.

PATIENT EXPERIENCE

Vascular surgery records 'Friends and Family' feedback from admitted patients to monitor their experience.

Please feedback to the network managers when a service has been particularly good or when a service has proven inconvenient or ineffective.

Pathway timescales

The NHS England ‘GIRFT’ process has identified the need for vascular services to reconfigure to provide urgent access to care. Unlike cancer services, there are no commissioned two weeks wait pathways (2WW). These timelines represent consensus best practice

Condition	Presentation	Referral	Assessment	Treatment
Aortic aneurysm	Symptomatic Diameter > 9cm Diameter 5.5-8.9cm ¹	Immediate Same day One day	Immediate Same day 2 weeks	Immediate 5 days 8 weeks
Aortic dissection	Acute	Immediate	Immediate	Immediate
Carotid artery stenosis	Symptomatic ²	Same day	2 working days	2 weeks
Acute limb ischaemia	Threat of limb loss No-threat of limb loss	Immediate Same day	Immediate 2 working days	Immediate 2 weeks
Chronic limb threatening ischaemia (CLTI)	Sepsis, pain or deep tissue injury Ulceration or Digital necrosis	Immediate Same day	Immediate 2 working days	5 days 2 weeks
Diabetic foot problem	Sepsis, pain or deep tissue injury Other new active foot problem	Immediate Same day	Immediate 2 working days	Immediate 2 weeks
Venous leg ulcer	Sepsis <i>Ulceration</i> ⁴	Immediate Same day	Immediate 2 working days	Immediate 2 weeks
Vascular malformation	Rapid expansion or severe pain	Same day	2 working days	2 weeks
Deep vein thrombosis (DVT)	Phlegmasia For consideration thrombolysis ⁵	Immediate Same day	Immediate 2 working days	Immediate 2 weeks

¹ National aneurysm screening programme standard is for intervention within 8 weeks
² NICE standard is for carotid intervention within 14 days
³ Vascular Society of Great Britain and Ireland PAD QIF
⁴ This is best practice based on recently published EVRA trial – this pathway not routinely commissioned
⁵ This only applies to ilio-femoral or upper limb DVT in patients who meet NICE criteria for thrombolysis

Vascular surgery

Mr Tim Beckitt	NBT, BRI	Timothy.Beckitt@nbt.nhs.uk
Mr Paul Bevis	NBT	Paul.Bevis@nbt.nhs.uk
Mr Marcus Brooks	NBT	Marcus.Brooks@nbt.nhs.uk
Prof. Rob Hinchliffe	NBT	Robert.Hinchliffe@nbt.nhs.uk
Miss Bee Martin	WGH	BeeMartin@nhs.net
Mr Bill Neary	NBT, BRI	William.neary@nbt.nhs.uk
Mr Baris Ozdemir	NBT, WGH	Baris.Ozdemir@nbt.nhs.uk
Mr Mahesh Pai	NBT, RUH	Mahesh.Pai@nhs.net
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Mr Devan Thavarajan	NBT, RUH	Devan.Thavarajan@nbt.nhs.uk
Mr Chris Twine	NBT, RUH	Christopher.Twine@nbt.nhs.uk
Mr Andy Weale	NBT	Andy.Weale@nbt.nhs.uk
Ms Rebecca Winterborn	NBT, RUH	Rebecca.Winterborn@nbt.nhs.uk

Vascular Interventional Radiology

Dr Graham Collin	NBT	Graham.Collin@nbt.nhs.uk
Dr Neil Collin	NBT	Neil.Collin@nbt.nhs.uk
Dr Peter Mezes	NBT	Peter.Mezes@nbt.nhs.uk
Dr John Hardman	NBT, RUH	JohnHardman2@nhs.net
Dr Nathan Manghat	BRI	Nathan.Manghat@uhbristol.nhs.uk
Dr Dominic Fay	RUH	Dominic.Fay@nhs.net

Vascular specialist nurses

Jude Day	Clinical Specialist Nurse	Jude.Day@nbt.nhs.uk
Generic email	Clinical Specialist Nurse	VascularNurses@nbt.nhs.uk

Vascular pre-operative assessment and optimisation

Dr Dragos Dragnea	Anaesthetic Consultant	Dragos.Dragnea@nbt.nhs.uk
Dr Stephen Tolchard	Anaesthetic Consultant	Stephen.Tolchard@nbt.nhs.uk
Dr David Shipway	Elderly Care Consultant	David.Shipway@nbt.nhs.uk
Dr Mark Devine	Elderly Care Consultant	Mark.Devine@nbt.nhs.uk

Vascular rehabilitation – including amputee care

<i>Currently unfilled</i>	Rehabilitation Consultant	
Louise Hitchens	Physiotherapist	Lousie.Hitchens@nbt.nhs.uk
Claire Waggett	Occupational therapist	Claire.Waggett@nbt.nhs.uk
Jackie Biggs	Discharge coordinator	Jackie.Biggs@nbt.nhs.uk

Useful numbers

Southmead switchboard	0117 950 5050	
Southmead referrals hub	0117 414 0700 (<i>admissions</i>)	
Vascular 'on call' registrar	Bleep 9641	Mon-Fri, 8 am to 5 pm
	Via switchboard	Out of hours
Specialist nurses and Hot clinic	0117 414 5302/3/4	Mon-Fri, 8 am to 5 pm
Vascular ward (Gate 33B)	0117 414 2630	
Vascular network office	011 414 0798	Mon-Fri, 8 am to 5 pm
Vascular MDT coordinator	0117 414 0779	Mon-Fri, 8 am to 5 pm