

Livewell Southwest
**Peripheral Arterial Disease (PAD) Protocol
for Podiatrists**

Version No 2.5
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Notice to staff using a paper copy of this guidance

The policies and procedures page of Intranet holds the most recent version of this guidance. Staff must ensure they are using the most recent guidance.

Author: Podiatry Services Manager

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	<p>Health and Care Professions Council (2012) <i>Chiropodists/Podiatrists</i> [online] available at http://www.hpc-uk.org/aboutregistration/professions/index.asp?id=3#profDetails [accessed 26/0912]</p> <p>Kroenke, K. (1998) Patient Expectations for care: How hidden is the agenda? <i>Mayo Clinic Proceedings</i> vol. 73 p.191-193</p> <p>Lyden, SP Joseph D (2006) <i>The Clinical Presentation of Peripheral Arterial disease and guidance for early recognition</i> <i>Cleveland Clinic Journal of Medicine</i> vol. 73(S4) pp s15-21</p> <p>National Institute for Health Clinical Excellence (2012) <i>Lower Limb Peripheral Arterial Disease: diagnosis and Management-Clinical Guideline 147</i> Issued August 2012</p> <p>Ray, SE Srodon, PD Taylor, RS Dormandy, JA (1994) <i>Reliability of ankle:brachial pressure index measurement by junior doctors</i> <i>British Journal of Surgery</i> vol. 81(2) pp. 188-90</p> <p>Ruff D (2003) <i>Doppler Assessment: Calculating the Ankle Brachial Pressure Index</i> <i>Nursing Times</i> vol. 99(42) pp 62</p> <p>Sontheimer, DL (2006) <i>Peripheral Vascular Disease: Diagnosis and Treatment</i> <i>American Family Physician</i> vol. 73(11) pp. 1971-76</p> <p>Vowden, P (2001) <i>Doppler assessment and ABPI: Interpretation in the management of leg ulceration</i> <i>World Wide Wounds</i></p> <p>Vowden, P (2012) <i>Understanding the ankle brachial pressure index to treat venous ulceration</i> <i>Wounds UK</i> vol. 8(1) pp. S10-S15</p>
<p>Associated documentation</p>	<p>Podiatry Assessment and Intervention Protocol for Adult Patients with Diabetes V1:1"- copy on Intranet</p> <p>Minor Surgery in Podiatric Practice V1:1"- copy on Intranet</p> <p>Podiatry Assistants (Role and Scope) Protocol V2.2- copy on Intranet</p>
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Document review history

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0.1	textural	24 th June 2009	Diabetes Podiatry Lead	Minor textual and addition of section on training of staff
0.2	textural	2 nd July 2009	Diabetes Podiatry Lead	Minor textual changes
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2.2	Edit of first draft	08/11/12	Podiatry Services Manager	Comments in light of staff feedback
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2.4	Textural changes	December 2013	Podiatry Clinical Lead	Extended section 5.4, and removed section 5.11
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Peripheral Arterial Disease (PAD) Protocol for Podiatrists

1. Introduction

- 1.1 Peripheral Arterial Disease (PAD) is a range of arterial syndromes characterised by atherosclerotic obstruction of the lower extremity arteries (BMJ 2011), and is a marker of patients who are at increased risk of cardiovascular events, even when it is asymptomatic (NICE CG 147).
- 1.2 Patients will commonly present to the Podiatry Service of Livewell Southwest (LSW) with this condition already diagnosed or will present undiagnosed but with symptoms that are characteristic of this disease.
- 1.3 The evidence taken from this document is adapted from the National Institute of Health and Clinical Excellence's Guideline 147 (Lower Limb Peripheral Arterial Disease: diagnosis and management) and the British Medical Journal's Best Practice Guidelines. Information from other sources is referenced accordingly.

2. Purpose

The purpose of this document is to provide an evidence based approach to the diagnosis and podiatric management of PAD and in particular to identify monitoring and onward referral triggers thus ensuring high quality care which is appropriate, effective and equitable across the Service.

- 2.1 This document has been produced to support the clinical practice of Podiatrists within LSW in the assessment and management of patients presenting with Peripheral Arterial Disease.
- 2.2 The information and standards will support and promote the following principles:
 - Evidence based clinical practice.
 - High quality patient care.
 - Continuity of assessment techniques across the Service.
 - Continuity of decision making across the Service.
 - Supporting clinical discretion where required.

3. Definitions

Podiatrist	A registered health profession who diagnoses and treats disorders, diseases and deformities of the feet (HCPC 2012).
Podiatry Assistant	Non-registered staff who undertake a variety of delegated podiatric clinical activities within a defined framework as laid down in the Podiatry Assistants (Role and Scope) Protocol V2.2.
PAD	Peripheral Arterial Disease.
ABPI	Ankle Brachial Pressure Index.

4. Duties and Responsibilities

- 4.1 The Deputy Locality Manager (City Wide Services) will be responsible for the implementation and monitoring of this protocol.
- 4.2 This protocol applies to all Podiatrists and Podiatry Assistants employed by the Podiatry Service of LSW.
- 4.3 The academic staff and students of the Plymouth University's Podiatry Programme working under honorary contracts within the LSW are also governed by this and allied documents. Qualified staff (HPCPC Registered Podiatrists) will retain responsibility and accountability for the actions of students in their supervision.
- 4.4 The terms "staff" and "podiatrist(s)" are used in this document to encompass all those individuals detailed in paragraphs 4.2 and 4.3. All such persons are responsible for engaging with and implementing the content of this document in their clinical practice.

5. Podiatric Assessment and Management of Peripheral Arterial Disease

Assessment and Diagnosis

- 5.1 A holistic assessment of all patients presenting to the Service must be undertaken. This assessment must include at a minimum:

Standard	Rationale
Establish and record the patient's chief complaint/reason for referral to the Service.	The establishment of the patient's chief complaint is a vital part of history taking. Neglecting to focus upon it can lead to non-compliance and dissatisfaction from the patient (Kroenke 1998).
Establish and record current symptoms (if present).	To determine the nature of the presenting problem, and to identify and 'red flag symptoms' that may indicate a serious underlying pathology.
Record a complete medical and surgical history, including current medication.	To establish any potential risks, and to determine the effect of this history on lower limb health, function and performance.
Record and assess key personal information, including social status, activity types and levels, smoking status, diet and nutrition.	To determine if any of these factors have a role in the presenting problem, or present as barriers to improving foot health/function or future attendance with the Service.

5.2 Patients must be assessed for the presence of peripheral arterial disease if they:

- Have symptoms suggestive of peripheral arterial disease, which include:
 - Intermittent Claudication.
 - Rest Pain.
 - Ischaemic Pain.
 - Lower limb ulceration.
 - Non-healing wounds.
 - Tissue Loss.
 - Gangrene.

(Lyden *et al* 2006; NICE CG147)

- Have risk factors for developing lower limb peripheral arterial disease. The majority of patients with lower limb peripheral arterial disease are asymptomatic, and may not present with 'classic symptoms' of intermittent claudication (Lyden *et al* 2006). Therefore, it is vital that risk factors for peripheral arterial disease are considered (Bartholomew *et al* 2006). These include:

- Smoking.
- Diabetes Mellitus.
- Hypertension.
- Hyperlipidaemia.
- Chronic kidney disease.
- Elevated inflammatory markers.
- Thrombophilia.
- Older age.
- History of coronary artery disease.
- History of cerebrovascular disease.
- Family history of PAD.

- A patient must also be assessed for peripheral arterial disease when:

- They are being considered for interventions to the leg/foot, e.g. minor surgery (NICE CG147).
- They have unexplained leg pain (NICE CG 147). Information regarding differential diagnoses of lower limb peripheral disease can be found in Appendix A. These should be considered when assessing a patient with suspected peripheral arterial disease.

5.3 All patients with Diabetes Mellitus must be assessed for peripheral arterial disease in accordance with the current version of the "Podiatry Assessment and Intervention Protocol for Adult Patients with Diabetes" protocol.

5.4 Patients presenting with symptoms of acute or critical limb ischaemia must be referred to the Surgical Assessment Unit without delay. The clinician must contact the SAU (via Derriford Switchboard), discuss the case, and if the referral is accepted by the SAU, the patient should be sent there immediately

with an accompanying note outlining the reasons for the referral. This should be ideally typed, but may be hand written on headed paper where the time taken to type the letter would cause the patient undue delay in reaching the SAU.

The symptoms of acute limb ishaemia may include (the 6Ps; BMJ 2011):

- Pain.
- Pallor.
- Pulselessness.
- Parasthesia.
- Paralysis.
- Perishing Cold.
- Necrosis/gangrene.
- Tissue loss.

5.5 If a patient is suspected to have peripheral arterial disease based on the symptoms and risk factors identified in 5.1 and 5.2, the patient must be assessed by:

5.5.1 Asking the patient about the presence and severity of possible symptoms of intermittent claudication. Staff must record:

- Claudication Distance.
- Time taken for symptoms to subside.
- Effect of walking on an incline or stairs.
- The leg and muscle group(s) affected.

5.5.2 Palpating the dorsalis pedis and posterior tibial pulses. The popliteal and anterior tibial pulse can also be palpated.

5.5.3 Using Doppler Ultrasound using an 8 MHz probe. If the patient has significant ankle oedema, a 5MHz probe can be used if available. As a minimum, staff must record the audible characteristics produced by the Dorsalis Pedis and Posterior Tibial arteries. Where possible, staff may also record the audible characteristics produced by the digital, anterior tibial and popliteal arteries.

5.5.4 Recording sub capillary refill time at the apex of the hallux of both feet (where absent, the next available digit should be used).

5.6 An ABPI must be considered in all cases of suspected PAD. Podiatrists must justify in the patient's clinical record any reasons for not undertaking one. An ABPI must be undertaken in the following circumstances unless contraindicated (**see 5.7**) or the patient meets the conditions in **5.8**:

- The patient is a non-traumatic amputee. Any non-traumatic amputees receiving long term care from the Podiatry Service must have an ABPI completed annually.
- The patient develops an ulcer, **and** has known PAD.

- The patient has a non-healing wound on their foot.
- A differential diagnosis of PAD is required is being considered.
- The patient reports a significant deterioration in symptoms, but is not showing signs of acute limb ischaemia.

This is not an exhaustive list, and ABPI should be considered for use in the differential diagnosis of any lower limb condition as clinically indicated.

Patients with diabetes related sensory neuropathy are more likely to have calcified vessels and about 40% of patients with diabetes will have PAD, and as such, the ABPI may be falsely elevated or unobtainable readings if the arteries are not compressible.

If a previous duplex scan has shown that calcification is present, the ABPI should not be attempted. If it has not, staff should try to compress an ankle artery in the first instance, and if it is not compressible, the procedure must be discontinued. The ABPI, if obtained for this group of patients should be treated with significant caution and the issue clearly stated in any correspondence regarding the patient's condition.

5.7 An Ankle Brachial Pressure Index (ABPI) is contraindicated when/if the patient:

- Has had a Deep Vein Thrombosis (DVT) in the last six months (Ruff 2003).
- Has acute cellulitis (Ruff 2003).
- Has Reflex Sympathetic Dystrophy Syndrome/ Complex Pain Syndrome.
- Is suspected to have severe ischaemia, as there is a risk of further tissue damage (Ruff 2003).
- Has cautions for measuring blood pressure, e.g. fistulae for dialysis, removal of lymph glands.

5.8 An ABPI does not need to be undertaken when:

- The patient has non-audible pulses on the Doppler.
- The patient is currently receiving assessments and/or interventions from the Vascular Team.
- The patient has had an Arterial Duplex Scan or angiography in the last 12 months. Staff should check WebPACS for details, and put a copy of the report (where available) into the patient's records for reference. Staff who are unable to access WebPACS must ask another member of staff who has access to the system to check for these results.
- If the patient has been discharged from the Vascular Team, and a significant deterioration is suspected, this should be highlighted to the patient's GP so that they can be re-referred.

5.9 An approved method for conducting an ABPI is detailed in Appendix B. The ABPI should be recorded on the appropriate SystemOne Questionnaire.

Reporting Requirements

5.10 Podiatrists must inform the patient's GP in writing of the presence of peripheral arterial disease to support the GP in managing the patient's risk factors for further deterioration. The presence of the following signs and symptoms must be described:

- The patient reports symptoms of intermittent claudication, despite the presence of 'good foot pulses'.
- The patient has an ABPI of 0.5-0.9 in one or both legs, regardless of symptoms or ulcerations.
- Any significant increase in ischaemic pain.
- Any significant deterioration in an ulcer.
- When the patient reports a deterioration in symptoms in a short period of time (i.e. 2-3 weeks) detailing the nature of these changes.
- There is a 10 mmHg difference in the systolic pressure in the brachial arteries of each arm, or 15 mmHg for those with diagnosed hypertension. Differences of these magnitudes are potential indicators of increased risk of cardiovascular episodes, increased mortality, aortic arch and subclavian stenosis (Clark *et al* 2012).

Patients who present with Intermittent Claudication do not necessarily need to be referred to secondary care for a more detailed examination. A GP will in the first instance advise the patient about the importance of exercise, will look to manage any cardiovascular risks (e.g. by prescribing aspirin or statins), and embark on vasoactive drug treatments. A referral into secondary care may be sought by the GP when the symptoms do not resolve or deteriorate further. (NICE CG147 2012).

5.11 Patients can only receive ongoing monitoring and/or treatment for the Service if they meet the current Service Access Criteria for ongoing care. If a patient does not meet the criteria for ongoing care, it must be made clear to the GP that the Service will not continue to monitor the patient's lower limb arterial supply. The letter must contain the caveat that the GP can re-refer the patient to the Service if their clinical needs or medical risk status increases.

Podiatric Management

5.12 Patients with peripheral arterial disease must receive written and verbal education from Podiatry staff to empower them to manage their condition, and to self-monitor for signs of deterioration. It is vital to make patients aware that making changes to their lifestyle will have a positive impact on disease outcomes (NICE CG 147).

5.13 Patients with suspected Peripheral Arterial Disease should be given a Service Leaflet (Appendix C), and the content of the leaflet explained.

5.14 All patients with peripheral arterial disease who are smokers should be signposted to the LSW's Livewell Stop Smoking Service, and the health benefits of not smoking reinforced.

- 5.15 Any patient with suspected PAD and obesity (measured using the Body Mass Index) should be encouraged to speak to their GP about weight management strategies, which could include a referral by the GP to the Weight Management Service (See Appendix A for referral criteria).
- 5.16 Patients with peripheral arterial disease should receive regular evaluation of their symptoms if they meet the Service criteria for ongoing care. At each follow-up appointment, they must be questioned to see if there has been a change (either an improvement or deterioration), or whether their symptoms are stable.
- 5.16.1 If a patient reports a significant deterioration in symptoms, the Podiatrist must undertake a thorough assessment of the patient's lower limb arterial supply. If a patient is receiving care from a Podiatry Assistant, the patient must be delegated back to a Podiatrist for review. The Podiatry Assistant must seek advice from a Podiatrist as to the timeliness of this review.
- 5.16.2 As a minimum, a Podiatrist must palpate the patient's pulses, listen to them on a 5 or 8 MHz Doppler, and check the patient's sub capillary refill time. An ABPI must also be considered as per **5.6**.
- 5.16.3 The results of this assessment of the patient should be communicated to the patient's GP as per **5.4 and 5.10**.

6. Training

- 6.1 Podiatry staff will receive annual training sessions delivered by an appropriate person. Individual staff development needs may also be addressed as part of their annual appraisal and line management supervision.
- 6.2 The staff will be informed of up-to-date changes in policies and guidelines and be provided with hands-on vascular/ABPI training.
- 6.3 Competencies regarding vascular assessment will be developed, and all staff will be assessed for such competency as part of the package of training.
- 6.4 The Head of Podiatry Programme at the University of Plymouth is to ensure that the academic staff and students are provided with appropriate level of training and updating relating to this policy as advised by the service and have achieved the required level of competency.

7. Monitoring Compliance and Effectiveness

- 7.1 The Deputy Locality Manager (City wide) will retain overall accountability and responsibility for the content, monitoring and implementation of this policy document.
- 7.2 Periodic clinical audit, patient satisfaction surveys and an annual peer review of staff compliance and competency will be included in the ongoing process to monitor quality, compliance and effectiveness.

- 7.3 Responsibility for undertaking the various review processes will be devolved by the Deputy Locality Manager (City and Corporate) to appropriate and capable members of staff as required.
- 7.4 Audits and patient satisfaction surveys will be registered, published and actions addressed in line with current LSW policy whilst peer reviews will be subject to internal scrutiny and a part of the KSF and annual appraisal processes.

All policies are required to be electronically signed by the Lead Director. Proof of the electronic signature is stored in the policies database.

The Lead Director approves this document and any attached appendices. For operational policies this will be the Locality Manager.

The Executive signature is subject to the understanding that the policy owner has followed the organisation process for policy Ratification.

Signed: Director of Operations

Date: 22nd April 2015

Appendix A

Differential Diagnoses of Peripheral Arterial Disease

The symptoms of the following conditions may mimic those of peripheral arterial disease. These should be considered when tests for peripheral arterial disease (Doppler, ABPI etc) are negative for PAD.

The table below, taken from Sontheimer (2006) shows the differential diagnoses of PAD the characteristics associated with these conditions.

Differential Diagnosis of Claudication				
<i>Condition</i>	<i>Pain location</i>	<i>Characteristics of pain</i>	<i>Does exercise cause pain?</i>	<i>Effect of rest on pain</i>
Baker cyst, symptomatic	Behind knee and down calf	Tender to touch, associated swelling	Yes	None; pain is present at rest
Calf claudication	Calf muscles	Cramping	Yes	Subsides quickly
Chronic compartment syndrome	Calf muscles	Tight, throbbing	Yes	Subsides slowly
Foot arthritis	Foot and arch	Aching	Yes, with varying degree	Subsides slowly
Foot claudication	Foot and arch	Severe, deep; associated numbness	Yes	Subsides quickly
Hip arthritis	Hip, thigh, and gluteal region	Aching	Yes, with varying degree	Subsides slowly
Hip claudication	Hip, thigh, and gluteal region	Aching, associated weakness	Yes	Subsides quickly
Nerve root compression	Down one leg and posterior	Sharp, stabbing	Yes, almost immediately	Subsides slowly
Spinal stenosis	Hip, thigh, and gluteal region	Some pain, but weakness predominates	Yes, after some time, includes standing	Subsides after some time; accompanied by position change (e.g., sitting down)
Venous claudication	Entire leg, but worse in thigh and groin	Tight, throbbing	Yes	Subsides slowly

Appendix B

Standard Operating Procedure for the undertaking of an Ankle Brachial Pressure Index

Equipment Required:

- Manual Sphygmomanometer. Cuffs for small, medium and large limbs should be available.
- 5 or 8 MHz Doppler with Ultrasonic Gel.
- Tissue to clean the foot/arm.
- Couch/bed for patient to lie on.

Method (Vowden 2012):

1. Ensure that there are no cautions or contraindications for undertaking the test.
2. Explain the procedure and gain verbal consent from the patient.
3. The patient must be placed in a supine position for 20 minutes to minimise hydrostatic pressure and shut down collateral flow. Failing to do this may result in a 10-20 mmHg increase in systolic pressure.
 - i. If the patient cannot stay in this position for this long, it must be documented, and considered when interpreting the result.
4. Apply the cuff of the sphygmomanometer on the required limb with the indicator arrow pointing over the artery that is to be tested. Ensure that the gauge reads '0'.
 - i. Ensure that the cuff is the correct size for the patient. If the cuff is too small, the systolic pressure may be increased by 10-40 mmHg, and decreased by 5-25 mmHg if it is too small.
5. Apply the Aquasonic gel and angle the Doppler probe at 45-60° towards the blood flow. Find the optimum sound, ensuring that the vessel is not compressed.
 - i. Measure both brachial pressures first, and use the highest value to obtain the ABPI.
 - ii. Measure the dorsalis pedis and posterior tibial pressures on each limb. Use the highest pressure of each limb when calculating the ABPI for each limb.
6. Inflate the cuff until the sound is blocked.
 - i. STOP and deflate if pain reported.
 - ii. Do not inflate the cuff over 200 mmHg. If the artery is still audible at this pressure, check that the cuff is in the correct position. If it is, it is likely that the vessel is calcified.
7. Deflate the cuff slowly and note the pressure at which the sound returns – this is the resting systolic pressure.

Analysis:

To obtain the ABPI, the following equation must be used. A separate ABPI for each limb must be calculated:

$$ABPI = \frac{P_a}{P_b}$$

P_a = Highest pressure obtained from the ankle vessels of the leg being tested.

P_b = Highest pressure obtained from the two brachial arteries.

The ABPI is unitless, as both pressures are measured in mmHg. Therefore, these units cancel each other out.

Evaluation

Once the ABPI for each limb has been obtained, staff should follow the indicators in the table below to determine the required course of action.

Result	Indication
>1.2	Likely vessel calcification.
>1.0	Normal range.
≤0.9	Peripheral Arterial Disease present.
>0.5 <0.9	Write to the patient's GP requesting a review of the patient to ensure that all risk factors are being controlled. If controls are already in place but the patient's symptoms have now become unstable, the GP may wish to refer to the Vascular Team.
<0.5	Indicates severe arterial disease and may be associated with gangrene, ischaemic ulceration or rest pain and warrants a request for an urgent referral for a vascular opinion to the patient's GP if one has not been previously obtained.

A 10 mmHg difference in the systolic pressure in the brachial arteries of each arm, or 15 mmHg for those with diagnosed hypertension are potential indicators of increased risk of cardiovascular episodes and mortality (Clark et al 2012).

Points to note on the validity and reliability of an ABPI:

- The ABPI will not show any vessel occlusion distal to the cuff or give any indication of micro vascular disease e.g. Raynaud's.
- ABPIs cannot detect the presence of distal micro emboli and/or atherosclerotic plaques, which are potential causes of tissue breakdown, ulceration and thus amputation.
- Inconsistent readings may be due to the lack of clinical experience/human error- the experience of the practitioner may have an influence on the readings obtained (Ray et al 1994).
- Irregular pulses, such as those seen when the patient is in atrial fibrillation will result in the variation of systolic pressure may from beat to beat.
- Repeatedly inflating and releasing the cuff, or sustaining the pressure for a prolonged period may cause an unreliable result as it will trigger a hyperaemic response, which will result in a decrease in ankle pressure.

1. Lie flat on a bed with your legs raised on pillows to a 45° - 60° angle. If you have back or hip problems, angle your leg(s) as high as you comfortably can

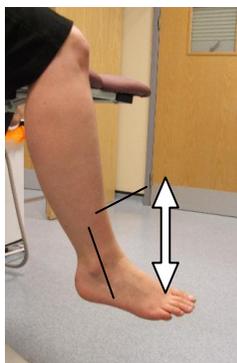
Do this for 2 minutes.



2. Sit upright as quickly as you can and drop your leg(s) over the side of the bed.

Move your foot up and down flexing at your ankle continuously.

Do this for 2 minutes.



3. Lie flat with your legs out straight and rest.

Do this for 2 minutes.



Repeat the exercise another 2-3 times and do this each day and continue doing these exercises until you are able to begin walking exercises.

Having a Problem or Want to Speak to Someone?

If you have any problems or concerns please contact the Podiatry Clinic you attended. Their details will be on your appointment card or letter. However, you can also contact our Service office:

 0845 155 8059 (Monday to Friday 08:30-16:30)

 Nuffield Clinic, Baring Street, Plymouth, PL4 8NF

 LSW.Plymouth-Podiatry@nhs.net

Appendix C: Patient Information Leaflet



Podiatry Services
Patient Information

Peripheral Arterial Disease



Advice for patients with peripheral arterial disease on improving the circulation in their legs

**This information is also available in
large print and other formats
Please ask for a copy**

Everyone is different, but regardless of why, your Podiatrist has identified that you have poor circulation in your legs and feet and that these easy to do measures may help improve this for you.

You may have been experiencing cramp-like pain in your legs or feet when you have been walking, particularly up an incline or the stairs and which is called intermittent claudication. You may have also had “night cramps” which are also referred to as, rest pain. Some patients however, do not experience any of the usual symptoms.

Smoking:

If you smoke and have not already thought about it, seriously consider quitting. Smoking is one of the main causes of peripheral vascular disease. The good news is that it is never too late to stop and doing so will also improve your general health and well-being.

The LSW’s Livewell Stop Smoking Service can provide free support and advice to people who want to quit smoking. You can contact them directly for an appointment or get a referral from a health professional such as your doctor or nurse:

 01752 314040

 www.smokefreeplymouth.com

Diet:

A balanced diet with plenty of fresh fruit and vegetables is good for everyone. If you have circulation problems a diet which is low in saturated fat may also help you. Speak to your doctor or nurse for more advice about what is right for you.

Exercise:

Although these exercises are aimed at people with poor mobility those persons who can walk will benefit from simple exercise such as walking. If you have internet access, log on to www.whi.org.uk for information on exercise. You should always seek the advice of doctor before starting any exercise routine.

Keep your Cholesterol Levels Down

Having high cholesterol levels can double your risk of developing symptoms in your legs associated with poor circulation. If you are concerned about your cholesterol, you should speak to your GP.

People who are obese may be able to receive help from the Weight Management Service to help them to lose weight in a safe, controlled and effective manner, and is usually delivered in a supportive group setting. You will need a referral from your GP to access this Service.

Undertake these simple exercises

This simple 3-stage exercise regime is designed to help improve the arterial blood supply, or circulation as it is commonly called, to your legs and feet by developing what is called the collateral circulatory system. These exercises are particularly useful if you are bed or wheelchair bound.

What is collateral circulation?

The collateral circulation is an alternative route by which your blood can circulate when the vessels which normally carry it have become narrowed or even blocked.

Why do these exercises help my circulation?

Buerger-Allen exercises promote the process by which small arteries (blood vessels) in your leg, which are normally closed, are opened up and connect to a larger artery or different parts of the same artery, creating the collateral circulation. They can then act as the alternative routes for your blood to circulate, particularly if there is any blockage in the vessels which usually do this.

How do I do the exercises?

Start these exercises gently and only do what you can do comfortably – do not strain yourself. You can do this for each leg separately or both at the same time

Appendix D

Weight Management Referral Criteria

The referral criteria are:

Conditions Treated

>BMI 40 no co-morbidities
>BMI 35 with co-morbidities (diabetes, infertility, benign intracranial hypertension, cardiovascular disease)

Exclusions

Non Plymouth PCT patients, i.e. not registered with a Plymouth PCT GP.
Under 18 years (referrals can be made to the SHINE program on 01752 435129)
Pregnant women
Non-mobile patients
Patients who are unwilling or unable to participate in group program (please assess suitability of Mental Health and Learning Disability patients and contact a member of WM Nursing team if required)

Outcomes

25.8% lose the recommended 10% in weight

Procedures Performed

Group based lifestyle intervention including physical activity, dietary changes, behaviour change with individual medical and specialist nurse review.

Referral for bariatric surgery if criteria met (please note this is only referral pathway for bariatric surgery for Plymouth patients)

Required Investigation

Height, weight, BMI, BP, HbA1C, U&E, FB|C, TSH, LFT, Cholesterol

Referral to Surgery

Discussed with all patients at end of phase 1 review appointment (nurse or Dietitian), 4 months into treatment program

Patients have to phone and book into Bariatric Info session run bi-monthly 25 patients per session, 150 patients per year, i.e. **40% of patients seek info**

MDT with Paddy English re each attendee

2011 referral rate 24%

Information taken from LSW News, Issue 40, 07/08/12