GETTING CONFIDENT IN VASCULAR ASSESSMENT FOR MSK PODIATRY.

Chair: Emily Haworth. Vice chair: Patrick McGill

Secretary: Sheryl Braidwood

Jean Mooney, Jane Lewis, George Flanagan, Jayne Robbie

WORKSHOP SPEAKER & DEMO TEAM:

Nick Knight.

Martin Fox, Joanne Casey, Beth Lillico,

Michelle Miskell, Emily Haworth.

Vascular pathology in the MSK setting

About me

MSK Pod

Run’s a MSK Rehab and Podiatry clinic

Based in Private sector

NOT a vascular specialist

Meet Bob

About

64 year old male

Smokes 5 a day

Drinks 21 units alcohol a week

No Meds , GGH

Director

Meet Bob

Presenting complaint

5 years pain within the feet around the arch region.
Last 6 months started to get some cramping sensation and noticed a change in colour in his feet over last 12 months.
Seen a physiotherapist for massage and Podiatrist and had multiple set orthoses not helpful.

Aim:

I'd like to be able to walk and cycle reasonable distances. Ideally, I'd like to get back to squash

History

Cramping sensation which tends to occur within minutes of doing some form of exercise. This can be walking, running or cycling.

Pain settles straight away after stopping exercise

No reported pain at rest, gets small amount of cramping sensation at night

Pain is 8/10 on the VAS pain scale.

Pain not impacting QOL

Clinical observations

No tenderness on palpation threatening the muscles throughout the foot and ankle region, bob pointed toward medial calf for source of pain

Good RoM in feet
Mild calf tightness
Strength slightly reduced

Examination

Posterior tibial pulse, monophasic on doppler, Dorsalis Pedis non palpable.
Automatic ABPI indicated PAD
Manual ABPI 0.42
Capillary refill time 3 seconds, feet dusky in colour

Working diagnosis

Chronic Exertional compartment syndrome

OR

DVT

Popliteal artery entrapment syndrome

Calf strain

Vascular Examination

Posterior tibial pulse, monophasic on doppler, Dorsalis Pedis non palpable.
Automatic ABPI indicated PAD
Manual ABPI 0.42
Capillary refill time 3 seconds, feet dusky in colour
No constant or severe pain in the foot at rest
No wounds

The NICE PAD diagnostic assessment

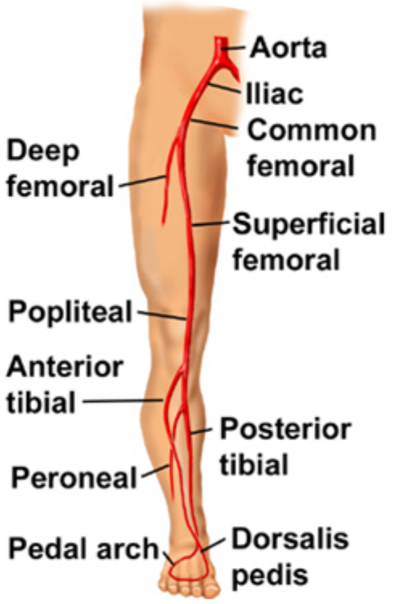
Everyone stand please…

Remain standing if:

- You provide leg or foot treatment to people aged 40+
  You assess your patient <u>before you treat</u>, by:
- Palpating foot pulses *(and if non palpable…)*
- Listening with a doppler *(and if monophasic …)*
- Performing an ABPI *(and if > 1.3 or if tissue loss…)*
- Taking systolic toe pressures (and if PAD / CLTI is confirmed…)
- *Checking popliteal and femoral pulses*

(NICE CG147 2012, IWGDF 2019 & CLTI 2019 Guidelines)

The 3Ps of peripheral arterial disease assessment



1. **Pulse palpation** (foot to femoral)
2. **Phases** (doppler waveforms)
3. **Pressures** (mmHg arms, ankles, toes)

No one of the 3Ps is reliable enough in isolation to exclude or confirm peripheral arterial disease

As lower limb clinicians, if we learn to use these simple clinical assessment tools together…

WE WILL play a key role in early diagnosis and … #savinglivesandlimbs

PAD & intermittent claudication - ‘angina of the leg’

Known cardiovascular risks (circle)

Smoking	No cardiovascular exercise	Overweight / obese
Diabetes	Ischaemic heart disease	Hypertension / high cholesterol

Edinburgh Intermittent Claudication Questionnaire (Leng & Fowkes, 1992)

1. Do you get pain or discomfort in your legs when you walk? (If ‘no’ you do not need to continue with questions 2 - 5)	**Yes**	No
2. Does the pain ever begin when you are standing still or sitting?	Yes	**No**
3. Do you get this pain if you walk uphill or when you hurry?	**Yes**	No
4. Do you get this pain when you walk at an ordinary pace on the level?	**Yes**	No
5. Does this pain disappear when you rest for less than 10 minutes?	**Yes**	No

The responses ‘Yes, No, Yes, Yes, Yes’ indicate likely intermittent claudication.

Working Dx

Symptomatic PAD

Plan

Same day call with GP

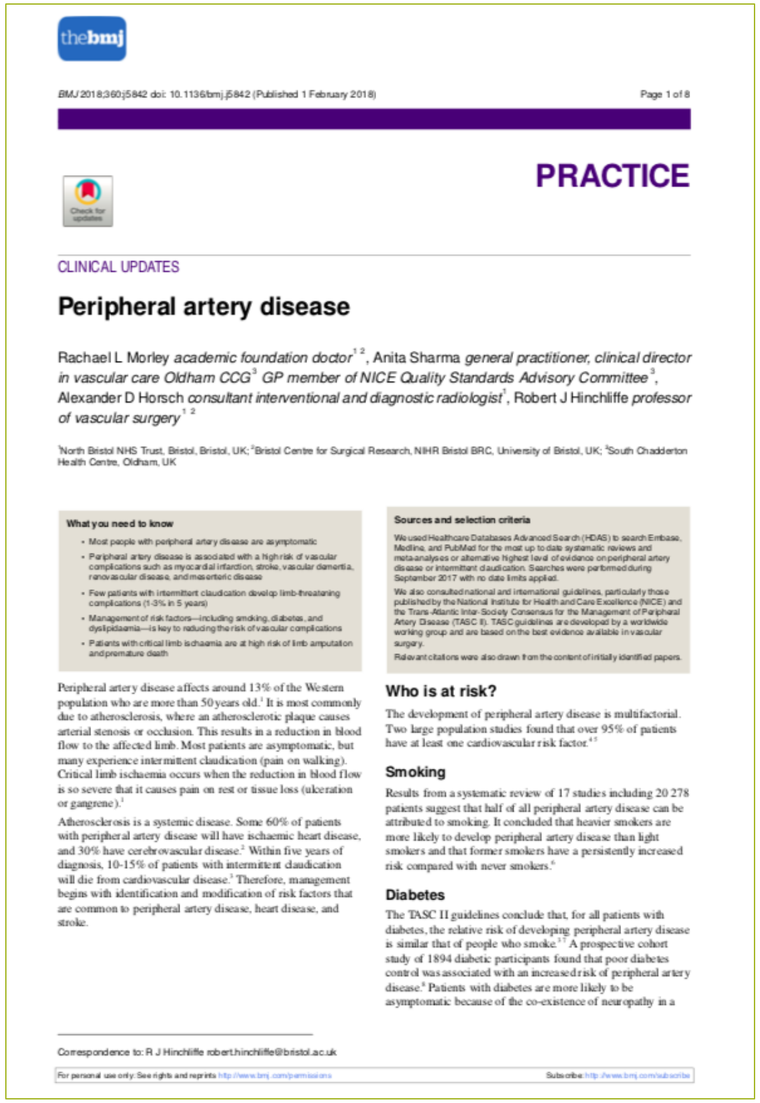
Then referral to Vascular from GP

Prescribed Praxilene and aspirin

Imaging showed multiple blockages, surgery scheduled

Smoking advice - Patient stopped smoking

Effective PAD interventions (medicines, exercise, smoking cessation)



thebmj

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PRACTICE

CLINICAL UPDATES

Peripheral artery disease

Rachael L Morley *academic foundation doctor*[1 2], Anita Sharma *general practitioner, clinical director in vascular care Oldham CCG*[3] *GP member of NICE Quality Standards Advisory Committee*[3], Alexander D Horsch *consultant interventional and diagnostic radiologist*[1], Robert J Hinchliffe *professor of vascular surgery*[1 2]

[1]North Bristol NHS Trust, Bristol, Bristol, UK; [2]Bristol Centre for Surgical Research, NIHR Bristol BRC, University of Bristol, UK; [3]South Chadderton Health Centre, Oldham, UK

What you need to know

- Most people with peripheral artery disease are asymptomatic
- Peripheral artery disease is associated with a high risk of vascular complications such as myocardial infarction, stroke, vascular dementia, renovascular disease, and mesenteric disease
- Few patients with intermittent claudication develop limb-threatening complications (1-3% in 5 years)
- Management of risk factors—including smoking, diabetes, and dyslipidaemia—is key to reducing the risk of vascular complications
- Patients with critical limb ischaemia are at high risk of limb amputation and premature death

Sources and selection criteria

We used Healthcare Databases Advanced Search (HDAS) to search Embase, Medline, and PubMed for the most up to date systematic reviews and meta-analyses or alternative highest level of evidence on peripheral artery disease or intermittent claudication. Searches were performed during September 2017 with no date limits applied.

We also consulted national and international guidelines, particularly those published by the National Institute for Health and Care Excellence (NICE) and the Trans-Atlantic Inter-Society Consensus for the Management of Peripheral Artery Disease (TASC II). TASC guidelines are developed by a worldwide working group and are based on the best evidence available in vascular surgery.

Relevant citations were also drawn from the content of initially identified papers.

Peripheral artery disease affects around 13% of the Western population who are more than 50 years old.[1] It is most commonly due to atherosclerosis, where an atherosclerotic plaque causes arterial stenosis or occlusion. This results in a reduction in blood flow to the affected limb. Most patients are asymptomatic, but many experience intermittent claudication (pain on walking). Critical limb ischaemia occurs when the reduction in blood flow is so severe that it causes pain on rest or tissue loss (ulceration or gangrene).[1]

Atherosclerosis is a systemic disease. Some 60% of patients with peripheral artery disease will have ischaemic heart disease, and 30% have cerebrovascular disease.[2] Within five years of diagnosis, 10-15% of patients with intermittent claudication will die from cardiovascular disease.[3] Therefore, management begins with identification and modification of risk factors that are common to peripheral artery disease, heart disease, and stroke.

Who is at risk?

The development of peripheral artery disease is multifactorial. Two large population studies found that over 95% of patients have at least one cardiovascular risk factor.[4 5]

Smoking

Results from a systematic review of 17 studies including 20 278 patients suggest that half of all peripheral artery disease can be attributed to smoking. It concluded that heavier smokers are more likely to develop peripheral artery disease than light smokers and that former smokers have a persistently increased risk compared with never smokers.[6]

Diabetes

The TASC II guidelines conclude that, for all patients with diabetes, the relative risk of developing peripheral artery disease is similar that of people who smoke.[1 7] A prospective cohort study of 1894 diabetic participants found that poor diabetes control was associated with an increased risk of peripheral artery disease.[8] Patients with diabetes are more likely to be asymptomatic because of the co-existence of neuropathy in a

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Box 3: Key aspects of managing peripheral artery disease in primary care

All patients should receive the following (where applicable) before referral to secondary care

Risk factor modification

- Smoking cessation therapy
- HbA_{1c} control (target value <48 mmol/mol)
- Blood pressure control (target <140/90 mm Hg*)
- Clopidogrel (or aspirin) 75 mg lifelong
- Atorvastatin 80 mg† lifelong

Symptom control

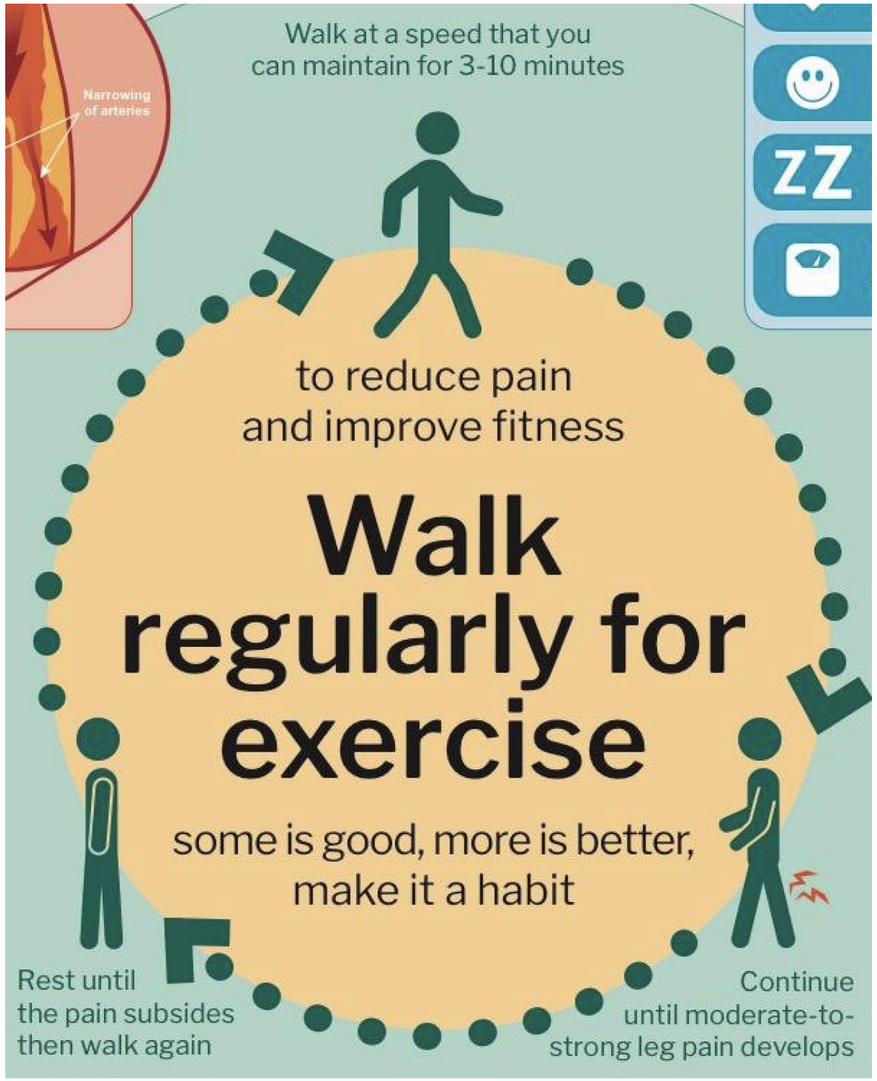
- Supervised exercise therapy for 3 months

*Target blood pressure is for patients <80 years old. If >80 years, target is 150/90 mm Hg.

†Dose for secondary prevention of cardiovascular disease.[24]

(Morley et al, BMJ 2018)

Permission to push into PAD pain



https://www.circulationfoundation.org.uk/news/new-infographic-intermittent-claudication

Take aways

From a MSK view point

Vascular issues can come up in MSK

Refer when needed

It’s all in the history

Vascular checks don’t take long, but can save limbs

Get comfortable in doing vascular assessment and ABPI

Hands-on demo workshop – Brief vascular assessment

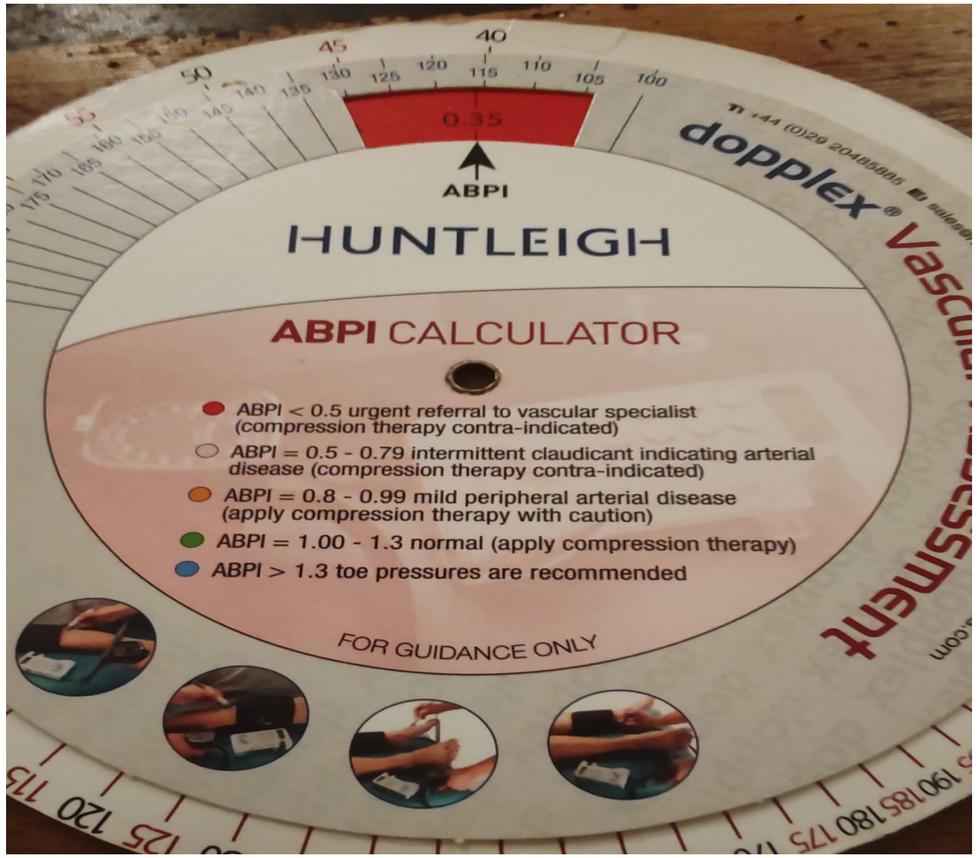
A quick 3Ps limb of concern assessment in less than 10 mins.

1. Feel for pulses – post tibial + dorsalis pedis — Easily palpable or Not?
2. Listen to pulses – post tibial + dorsalis pedis/ popliteal — Monophasic or multi-phasic

3. Take the systolic ankle pressures — Pressure high or low or in-between

   or systolic toe pressures, if kit available .

ABPI Values


0.35
ABPI
HUNTLEIGH
ABPI CALCULATOR
ABPI < 0.5 urgent referral to vascular specialist (compression therapy contra-indicated)
ABPI = 0.5 - 0.79 intermittent claudicant indicating arterial disease (compression therapy contra-indicated)
ABPI = 0.8 - 0.99 mild peripheral arterial disease (apply compression therapy with caution)
ABPI = 1.00 - 1.3 normal (apply compression therapy)
ABPI > 1.3 toe pressures are recommended
FOR GUIDANCE ONLY
dopplex® Vascular Assessment


HUNTLEIGH
dopplex

MSK PODS: Throw away the Tractograph (Simon Bartold) and Get a Doppler