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ROYAL COLLEGE of PODIATRY

Position statement

The importance of access for all podiatrists to handheld Doppler and manual sphygmomanometers

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ROYAL COLLEGE of PODIATRY

Version control

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ROYAL COLLEGE of PODIATRY

Position statement

All podiatrists, working in any clinical setting where they assess and treat adults who are at risk of peripheral arterial disease or chronic limb threatening ischaemia, should have individual easy access to a handheld Doppler and manual sphygmomanometer.

Introduction

The Royal College of Podiatry (RCPod) has been informed by a significant number of members that their place of work does not enable them timely access to a working handheld Doppler and manual sphygmomanometer (sphyg). Podiatrists generally see people with multiple health conditions, complex needs and vascular risks, in community clinics, hospital services, domiciliary settings and independent practice. Lack of immediate access to handheld Doppler and manual sphygs puts people with potential lower limb arterial disease, and the podiatrists who see them, at risk.

The RCPod has developed this position statement to recommend that podiatrists in all clinical settings are provided with these medical devices. This is to enable them to work safely, in line with national and international clinical guidance, for their own professional integrity, and to ensure patient, clinician, and employer safety[1,2,3].

ROYAL COLLEGE of PODIATRY

Background

Peripheral Arterial Disease (PAD) is a common condition in the general population (occurs in 20% of people aged over 60), particularly among those with diabetes or other cardiovascular associated conditions, e.g., ischaemic heart disease, chronic kidney disease, connective tissue disorders and risk factors such as smoking, hypertension, and hyperlipidaemia. If undiagnosed or untreated PAD can result in heart attacks, strokes, chronic wounds, amputation and early death. Podiatrists, who see people with a broad range of foot and lower limb health pathologies, play a pivotal role in the early detection and cardiovascular management of PAD. As well as the detection, treatment, and urgent referral of people with chronic limb threatening ischaemia (CLTI), i.e., risk of ulceration, infection, and amputation[2,3,4].

Handheld Doppler and sphyg assessment provide immediate, non-invasive, haemodynamic information, that can detect the presence and severity of PAD, guiding clinical decision-making, such as important referrals to GPs for cardiovascular management of PAD, the urgency of referrals to vascular teams for CLTI, the safe provision of treatment for foot and lower limb conditions and individually tailored patient education and interventions.

It is recommended that handheld Doppler and manual sphyg and appropriately sized cuffs are available to be used together, to help accurately diagnose or exclude PAD or CLTI, as one clinical test in isolation is less accurate[5]. Where uncertainty or suspicion around arterial status remains following initial assessment, clinicians are recommended to refer people on for further arterial diagnostic assessments, with their initial test results and the clinical picture cited[2,3,9].

Clinical risk management

A recent national thematic analysis of NHS litigation and trends in 90 people with diabetes, foot

ROYAL COLLEGE of PODIATRY

ulcers, and other complications, preceding amputations, found deficiencies in first line vascular assessments and timely urgent referrals, before their amputations. Only 19% of clinician notes audited had any evidence of handheld Doppler being used and overall thematic trends identified that vascular assessments were brief, potentially inaccurate and delayed[1]. This is a sobering and concerning report, 10 years after NICE guidance (CG147) had first been published, identifying what initial vascular assessment should include: pulse palpation, plus handheld Doppler and manual sphyg assessment[2]. Handheld Doppler devices, when used alongside clinical observations and other diagnostic tests, such as the ankle-brachial pressure index (ABPI), significantly improve diagnostic accuracy[6]. The ability to assess and document Doppler findings, including waveform characteristics and systolic pressures, can strengthen clinical reports and referrals to multidisciplinary teams, including vascular surgeons and multidisciplinary foot clinics,
for people seen by podiatrists who may present with multiple medical long term conditions affecting the lower limb[7].

Access to handheld Dopplers and manual sphygs should also be linked to ongoing training and education in use and interpretation of results using both devices, as reliability, particularly of audio-only Dopplers, can be low[8]. The reproducibility and sensitivity of Doppler waveform is shown to be good, when used by trained clinicians, particularly when utilised together with systolic blood pressures in the lower limb[9].

Handheld Dopplers and Sphygs

A handheld Doppler is a handheld medical device with a live battery, a working probe and an inbuilt speaker, with a quality that allows the clinician to be able to distinguish between multiphasic (triphasic and biphasic) and monophasic signals. An 8Mhz probe is most appropriate for detecting pedal pulses. An additional 5Mhz probe can aid in locating deeper pulses, i.e., popliteal, femoral, or pedal pulses when there is excess oedema[10]. A manual sphyg is a medical device that allows manual, controlled inflation and deflation of appropriately sized limb cuffs, to help measure systolic blood pressures in the arteries of the limbs, when used together with a handheld Doppler. A manual sphyg

ROYAL COLLEGE of PODIATRY

should include a minimum of two cuff sizes, to fit a range of limb sizes. Use of handheld Doppler and manual sphyg together, alongside clinical history and visual presentation, supports the detection of abnormal arterial waveforms, diminished or absent flow in the peripheral arteries and excessively low or high systolic blood pressures; all of which are key indicators of PAD or CLTI[3].

Cost and clinician time considerations

A basic handheld Doppler and manual sphyg with cuffs can be purchased for under £500. A minimum vascular assessment using these devices to help identify or exclude CLTI in a limb of concern can be performed in under 10 minutes[9]. An amputation can cost the NHS £65,000 or more; particularly if litigation occurs. Chronic wounds can cost over £3,000 per wound. Clinical time of healthcare professionals working with chronic wounds and pre/post-amputation care can amount to hundreds of hours per year.

Whilst initial investment in handheld Doppler and sphyg devices may appear significant, the long-term benefits including timely and appropriate treatment, reduced unplanned hospital admissions, fewer lower limb and cardiovascular complications, and improved outcomes for patients, can translate to cost effectiveness for healthcare systems[11].

Conclusion

The RCPod believes that every podiatrist should have personal access to a working handheld Doppler and manual sphyg in all clinical settings. This will enhance patient and clinician safety, aligning clinicians and teams with key national clinical guidelines and responding proactively to the NHS Resolution report findings[1]. Access to a working handheld Doppler and manual sphyg will support all podiatrists in practising and maintaining capabilities to detect or exclude significant arterial disease in patient caseloads, ensuring the delivery of high-quality podiatric, vascular and cardiovascular care. Early diagnosis, timely referral and appropriate clinical management of PAD and CLTI, in line with national guidance, will help reduce avoidable associated early deaths, amputations and litigation.

ROYAL COLLEGE of PODIATRY

References

1) Mottolini, N. (2022). Diabetes and lower limb complications: A thematic review of clinical negligence claims. NHS Resolution. **resolution.nhs.uk/resources/diabetes-and-lower-limb-complications-a-thematic-review-of-clinical-negligence-claims/**
2) National Institute for Health and Care Excellence - NICE (2020). Peripheral arterial disease: diagnosis and management (CG147). **www.nice.org.uk/guidance/cg147**
3) Conte, MS, Bradbury, AW, Kohl, P, White, JV, Dick, F, Fitridge, R, Mills, JL, Ricco, JB, Suresh, KR, Murad, MH, Aboyans, V. (2019). Global vascular guidelines on the management of chronic limb-threatening ischaemia. European Journal of Vascular and Endovascular Surgery, 58(1), pp,S1-S109
4) International Working Group on the Diabetic Foot - IWGDF (2023). IWGDF Guidelines on the prevention and management of diabetic foot disease. **iwgdfguidelines.org**
5) Tehan P, Sebastian M, Barwick A, Chuter V. (2018). How sensitive and specific is continuous wave Doppler for detecting peripheral arterial disease in people with and without diabetes? A cross-sectional study, Diabetes & Vascular Disease Research 1–6 doi.org/10.1177/1479164118782887
6) Crawford, F, Welch, K, Andras, A, Chappell, FM. (2016). Ankle brachial index for the diagnosis of lower limb peripheral arterial disease. Cochrane Database of Systematic Reviews, (9). **https://doi.org/10.1002/14651858.CD010680.pub3**
7) Scottish Intercollegiate Guidelines Network - SIGN (2010). Management of chronic venous leg ulcers. SIGN publication no. 120. **https://www.sign.ac.uk**
8) Tehan P, Chutner V. (2015). Use of hand-held Doppler ultrasound examination by podiatrists: a reliability study, Journal of Foot and Ankle Research, 8:36 **onlinelibrary.wiley.com/doi/epdf/10.1186/s13047-015-0097-2**
9) National Wound Care Strategy Programme (2022). 'Lower Limb – Recommendations for Clinical Care'

ROYAL COLLEGE of PODIATRY

10) Tehan P, Sommerset J, Rounsley R, Fox M. (2022). Commentary: Demystifying Doppler - revisiting a vital diagnostic tool. J Foot Ankle Res. Mar 26;15(1):24. doi: 10.1186/s13047-022-00530-x. PMID: 35346290; PMCID: PMC8962088

11) National Institute for Health and Care Excellence - NICE (2015). Diabetic foot problems: prevention and management (NG19). **www.nice.org.uk/guidance/ng19.**