

Arterial Leg Ulcers



This guidelines summary has been developed for health professionals caring for people with arterial leg ulcers. Assessment, management and prevention of arterial leg ulcers should be undertaken by health professionals with expertise in the area.

For this summary, all recommendations have had their levels of evidence classified as follows:

Level I	Evidence from a systematic review or meta-analysis of at least two level II studies
Level II	Evidence from a well-designed randomised controlled trial (for interventions), or a prospective cohort study (for prognostic studies)
Level III	Evidence from non-randomised studies with some control or comparison group
Level IV	Evidence from studies with no control or comparison group
EO	Consensus statements provided by a national or international panel of experts in the area.

This is a summary of guidelines from the following sources, which may be accessed as required:

1. Beaumier M, et al. Best practice recommendations for the prevention and management of peripheral arterial ulcers. Foundations of Best Practice for Skin and Wound Management Wound Care Canada. 2020; www.woundscanada.ca/
2. Wounds UK. 2019. Best Practice Statement: Ankle brachial pressure index (ABPI) in practice: Wounds UK. <http://www.wounds-uk.com/>.
3. Chuter V, et al. Australian guideline on diagnosis and management of peripheral artery disease: part of the 2021 Australian evidence-based guidelines for diabetes-related foot disease. Journal of Foot and Ankle Research. 2022;15:51
4. Abramson B, et al. Canadian Cardiovascular Society 2022 Guidelines for Peripheral Arterial Disease. Canadian Journal of Cardiology. 2022; 38:560-87
5. Crawford F, et al. Ankle brachial index for the diagnosis of lower limb peripheral arterial disease. Cochrane database of systematic reviews. 2016; 2016(9):CD010680-CD
6. Fitridge R, et al. The intersocietal IWGDF, ESVS, SVS guidelines on peripheral artery disease in patients with diabetes mellitus and a foot ulcer. IWGDF. 2023; www.iwgdfguidelines.org
7. Schaper N, et al. IWGDF guidelines on the prevention and management of diabetes-related foot disease. IWGDF. 2023; <https://iwgdfguidelines.org/guidelines-2023/>
8. Bayuo J. Evidence Summary. Leg Ulcers - Arterial (Older People): Management The JBI EBP Database. 2021: JBI-ES-2627-2
9. Broderick C, et al. Dressings and topical agents for arterial leg ulcers. Cochrane database of systematic reviews. 2020; 2020 (1): CD001836-CD



Assessment

1. Undertake a comprehensive assessment, including medical and psychosocial history, and pain assessment.¹ (EO)
2. All persons with a leg ulcer should be screened for peripheral arterial disease,² including:
 - examining pedal pulses³ (IV)
 - assessing medical history and signs and symptoms of peripheral arterial disease³ (EO)
 - a Doppler Ankle Brachial Pressure Index (ABPI) or Toe Brachial Index (TBI)^{1,3} (I)

An ABPI <0.9 or a TBI <0.7 is indicative of possible peripheral arterial disease.^{3,4} (I)

An ABPI >1.3 is unreliable and could indicate arterial calcification, requiring referral for further investigation³ (I)

3. Leg ulcer and Doppler ABPI /TBI assessments should be undertaken by health professionals with training in the area,⁵ using validated risk assessment tools.¹ (EO)
4. Signs of peripheral arterial disease (PAD) include loss of hair, shiny or dry skin, thin or atrophied skin, purpura, devitalised soft tissue with dry or wet crust, thickened toe nails, purple colour of limb in dependent position, or cool skin.¹ (EO)
5. Assess the ulcer, including size, site, wound bed tissue, exudate, periwound tissue and any signs of infection.¹ (EO)

6. Referral to a vascular specialist is needed for:
 - ABPI <0.9 or >1.3, or TBI less than 0.7^{3,6}
 - lack of progress in wound healing¹
 - ischemic rest pain, intermittent claudication⁴
 - unrelieved pain¹
 - clinical signs of infection¹
 - absent pedal and posterior tibial pulses¹
 - symptoms of acute limb ischemia (e.g., severe pain, absent pulses, pallor, cold, numbness)⁴
 - gangrene¹ (EO)

Management

7. Restoration of blood flow by revascularisation is the intervention most likely to heal arterial leg ulcers. However, surgery should be considered in light of individual context.⁴ (II)
8. Develop an appropriate pain management plan, considering individual needs, and appropriate specialist intervention as required.¹ (I)
9. Removal of necrotic and/or devitalised tissue may be undertaken through sharp debridement.⁷ (II) (*sharp debridement should only be undertaken by health professionals with expertise in the area*)
 - * If stable, dry gangrene or eschar is present, however, debridement should **not** be undertaken and the eschar left dry.¹ (I)
10. There is insufficient evidence that the choice of any specific topical agent or wound dressing influences healing of arterial leg ulcers.^{8,9} (I)



11. There is inadequate evidence that:
 - ultrasound therapy¹ (IV)
 - hyperbaric oxygen therapy⁸ (II) or
 - topical oxygen therapy¹ (III)speeds healing of arterial leg ulcers.
12. Use of prostanoids may lower the risk of amputation in persons with PAD.⁸ (II)
13. Provide education on wound management and aetiology.¹ (EO)

Prevention

14. Provide education on reducing risk factors for PAD, e.g., controlling diabetes, hypertension, cholesterol, ceasing smoking.¹ (EO)
15. Structured exercise programmes may improve pain levels and walking distance in people with PAD, however there is inadequate evidence on arterial leg ulcer outcomes.¹ (I)
16. Lower extremity protection is important for all people with known or suspected PAD, including:
 - foot care
 - leg protection to avoid injury
 - regular foot checks
 - podiatry care
 - assessment of need for off-loading footwear or pressure relief devices.¹ (II)
17. Address psychosocial factors influencing health-related quality of life as appropriate, involving a multidisciplinary care team.¹ (EO)