
STANDARDS FOR LEG ULCER CARE IN WALES

PRODUCED BY THE ALL WALES TISSUE VIABILITY NURSE FORUM



All Wales Tissue
Viability Nurse Forum
Fforwm Nyrsys Hyfywedd
Meinwe Cymru Gyfan



Standards for Leg Ulcer Care in Wales

This document was written by the All Wales Tissue Viability Nurse Forum (AWTVNF). The AWTVNF was formed in September 2003 and has the following aims that form part of the six key principles from the Institute of Medicine (Welsh Assembly Government, 2005):

Safety, Effectiveness, Patient Centred, Timely, Efficient and Equitable

1. To raise awareness of Tissue Viability in order to improve patient outcomes
2. To raise awareness of the impact of Tissue Viability in health economics
3. To promote evidence-based practice in Tissue Viability and influence appropriate policy across Wales
4. To be recognised by the Welsh Assembly Government as a knowledgeable and valuable resource
5. To contribute to the body of knowledge by initiating and participating in Tissue Viability research and audit
6. To improve patient outcomes by maintaining links with academia and disseminating knowledge relating to Tissue Viability to all healthcare providers
7. To work in partnership with industry in order to improve patient care
8. To provide peer support to all Tissue Viability nurses working in Wales.

CONTRIBUTING CLINICIANS

Sub-group chairs:

[Lucy McIlldowie](#), Lead nurse, complex leg ulcer clinics, Betsi Cadwaladr University Health Board

[Rachel Govier-Williams](#), Lead specialist tissue viability nurse [TVN], Swansea Bay University Health Board

Sub-group members:

[Karen Kembery](#), Lead specialist TVN, Swansea Bay University Health Board (at time of writing; now retired)

[Jane James](#), TVN, Welsh Wound Innovation Centre (at time of writing; now retired)

[Kirsty Mahoney](#), Senior TVN, Welsh Wound Innovation Centre

[Julie Evans](#), TVN, Swansea Bay University Health Board (at time of writing)

[Helen Dawkins](#), Lead TVN, Hywel Dda University Health Board

[Evelyn Frowen](#), TVN Primary Care, Cardiff and Vale University Health Board

[Iris Reardon](#), TVN, Cwm Taf Morgannwg University Health Board

[Jayne Warren](#), TVN, Aneurin Bevan University Health Board

[Faye Campbell](#), TVN, Powys Teaching Health Board

This document was developed and published by WCP (2024). It is supported by:



www.essity.com



www.lohmann-rauscher.co.uk



www.sigvaris.com



www.hadhealth.com



www.mediuk.co.uk

The views presented in the document are the work of the AWTVNF and do not necessarily reflect those of WCP or the providers of educational grants as listed opposite.



WOUND CARE PEOPLE

@ Wound Care People 2024.
WCP, Unit G, Wixford Park,
Bidford on Avon,
Alcester, B50 4JS. tel: 01789 582000
www.woundcarepeople.com



CONTENTS

Introduction **Page 5**

Standards for Leg Ulcers in Wales **Page 7**

Initial contact **Page 8**

2 weeks **Page 9**

4 weeks **Page 11**

8 weeks **Page 12**

Compression therapy selection guide for leg ulcer treatment **Page 13**

Glossary of terms **Page 15**

References **Page 70**

Continued overleaf



CONTENTS *CONTINUED*

Page 20	Appendix A. Initial contact assessment form — untreated leg wound/ulcer
Page 23	Appendix B. Supported self-care document
Page 32	Appendix C. Leg ulcer core care plan
Page 34	Appendix D. Leg ulcer/wound pain guidance — management of wound pain
Page 38	Appendix E. Leg ulcers and compression therapy, patient leaflet
Page 45	Appendix F. Exercises to promote healthy legs, patient leaflet
Page 48	Appendix G. Formal leg assessment form — leg ulcer/non-healed leg wound after 2 weeks
Page 52	Appendix H. Guide to touch the toes test
Page 56	Appendix I. Caring for your legs once your leg ulcer has healed, patient leaflet
Page 60	Appendix J. Skin and wound cleansing guide for patients with lower limb leg ulcers
Page 64	Appendix K. Guide to Bueger's test
Page 66	Appendix L. A step-by-step approach to identifying and managing wound infection
Page 68	Appendix M. Taking a wound swab for culture — the 'Levine' technique



INTRODUCTION

A leg ulcer is defined by NICE (2023) as: 'a break in the skin below the knee which has not healed within 2 weeks'. Leg ulcers can develop due to a number of underlying causes, but over 60% are due to venous insufficiency and are classified as venous leg ulcers (VLUs) (NICE, 2023). VLUs are the most common chronic wounds in the lower leg, affecting 0.1–0.3% of the adult population, increasing to 3% in those aged over 80 years (NICE, 2023). VLUs often occur as a result of minor trauma to the leg that fails to heal normally as the patient has risk factors for their development (Figure 1). VLUs commonly take many months or even years to heal and they frequently recur (SIGN, 2010; Nelson and Bell-Syer, 2014). Often patients are sub-optimally managed, with the gold standard of compression therapy not being initiated or used correctly. This leads to an avoidable increase in morbidity and reduced quality of life for patients (Guest et al, 2017; 2020).

The number of people with VLUs is set to rise significantly due to an ageing population, increasing number of chronic conditions such as cardiovascular disease and diabetes, and sedentary lifestyle resulting in an increasingly overweight population (Kerr et al, 2020). VLUs are also known to incur a significant cost to the health service. Phillips et al (2020) estimated that managing VLUs cost 1.2% of the total Welsh healthcare budget, with 80% of spend being on nurse visits. By reducing unwarranted variation in the care of people with VLUs, outcomes can be improved and costs reduced (Guest et al, 2017).

Figure 1: Risk factors for venous leg ulceration include:



- Increasing age
- Obesity or being overweight
- Issues with mobility and/or walking
- Limited range of ankle function
- Previous ulcer
- Personal/family history of varicose veins or venous ulceration
- History of deep vein thrombosis (DVT)
- Female sex
- Multiple pregnancies
- Arteriovenous fistula
- History of leg fracture/trauma or surgery to leg
- History of intravenous drug use
- Chronic oedema
- Sedentary lifestyle
- Prolonged standing.

(Wounds UK, 2022; NICE, 2023)

PURPOSE

This document has been developed by a sub-group of the All Wales Tissue Viability Nurse Forum (AWTVNF) using the best evidence available and expert opinion from AWTVNF members [see p. 2]. The purpose of the document is to set minimum standards for leg ulcer prevention and management. This will promote consistent clinical practice and prompt intervention in the assessment and management of leg wounds and

ulcers. This will help to optimise outcomes and healing rates for patients in Wales. The standards outlined in this document apply to all individuals with active leg ulcers or those who present with lower limb wounds, and is intended for use by all healthcare professionals involved in the delivery of care to patients with leg wounds and ulcers. The best practice standards provided in this document promote effective, early

intervention that is the key to prevention of disease progression, reducing the risk of cellulitis, and improving patient outcomes and healthcare delivery (Wounds UK, 2022; NICE, 2023). It acknowledges the benefits of appropriate, immediate first-line, reduced compression therapy even in the absence of overt signs of venous insufficiency (Wounds UK, 2022; NICE, 2023).

As a result, this document recommends that compression therapy delivering pressure up to 20mmHg should be considered at the start of care for all adults, in the absence of significant arterial risk factors, red flags or contraindications (NWCSP, 2023) (Figure 2).



The document will also help guide patients and carers to the standards they should expect and the range of care strategies that are available, including self-care options. There is substantial evidence that strategies to strengthen patient engagement are effective (Coulter and Ellins, 2007) and it is well recognised that many patients and carers can play a proactive role in self-care leg ulcer management including changing dressings and applying and removing compression bandages, hosiery or wraps (EWMA, 2016). Where appropriate, healthcare professionals should aim to enable self-supported leg ulcer management and enhance patients' self-care activities.

Following the standards set out in this document may help to reduce the time to healing, minimise recurrence and improve quality of life for people with leg ulcers and lead to major financial savings for the Welsh NHS. This will be achieved by reducing variability in care, improving the timeliness and accuracy of initial diagnosis and ensuring evidence-based treatment is delivered by healthcare professionals and, when appropriate, by patients through supported self-care.

Figure 2: Arterial risk factors/red flags



Myocardial infarction;
transient ischaemic attack (TIA);
diabetes; renal disease; rheumatoid
arthritis (RA); lupus; arterial surgery
(leg/heart); smoking; pain on leg
elevation; intermittent claudication;
pale, cool, hairless leg; capillary refill
time (CRT) >3 secs; suspected or
untreated deep vein thrombosis (DVT)

Caution in groin-injecting drug users,
where pseudoaneurysm may be present

Coulter A, Ellins J (2007) Effectiveness of strategies for informing, educating, and involving patients. *Br Med J* **335(7609)**: 24–27

EWMA (2016) *The Management of Patients with Venous Leg Ulcers. Challenges and Current Best Practice*. Available at: https://ewma.org/fileadmin/user_upload/EWMA.org/Project_Portfolio/EWMA_Documents/Management_of_patients_with_venous_leg_ulcers_FINAL_2016.pdf accessed 22/03/2024

Guest J, Vowden K, Vowden P (2017) The health economic burden that acute and chronic wounds impose on an average clinical commissioning group/health board in the UK. *J Wound Care* **26(6)**: 292–303

Guest JF, Fuller GW, Vowden P (2020) Cohort study evaluating the burden of wounds to the UK's National Health Service in 2017/2018: update from 2012/2013. *BMJ Open* **10(12)**: e045253

Kerr J, Devane D, Ivory J, Weller C, Gethin G (2020) Effectiveness of implementation strategies for venous leg ulcer guidelines: A systematic review. *J Tissue Viability* **29(3)**: 161–168

National Institute for Health and Care Excellence (2023) *Leg Ulcers – Venous*. Available at: <https://cks.nice.org.uk/topics/leg-ulcer-venous/> accessed 02/02/2021

National Wound Care Strategy Programme (2023) *Leg ulcer recommendations*. Available at: www.nationalwoundcarestrategy.net/wp-content/uploads/2024/02/NWCSP-Leg-Ulcer-Recommendations-v2-1.8.2023.pdf

Nelson EA, Bell-Syer SEM (2014) Compression for preventing recurrence of venous ulcers. *Cochrane Database Syst Rev* **(9)**: CD002303

Phillips CJ, Humphreys I, Thayer D, Elmessary M, Collins H, Roberts C, et al (2020) Cost of managing patients with venous leg ulcers. *Int Wound J* **17(4)**: 1074–82

Scottish Intercollegiate Guidelines Network (2010) *Management of chronic venous leg ulcers*. SIGN, Edinburgh

Wounds UK (2022) *Holistic management of venous leg ulceration*. Available at: <https://wounds-uk.com/best-practice-statements/holistic-management-venous-leg-ulceration-second-edition/>




INTRODUCING THE STANDARDS FOR LEG ULCER CARE IN WALES





HEALTH BOARD/TRUST DOCUMENTATION SHOULD BE USED WHERE THERE IS NO DOCUMENT PROVIDED WITHIN THIS PATHWAY

Timeline	Assessment	Management
<p>INITIAL CONTACT</p> <p>Patient with an untreated leg wound: initial contact with a healthcare professional</p> <p><i>This guidance is to be followed for all adults who present with a wound or skin breakdown that originates on or above the malleolus but is below the knee (NWCSP, 2023).</i></p> <p>Figure 2: Arterial risk factors/red flags</p>  <p>Myocardial infarction; transient ischaemic attack (TIA); diabetes; renal disease; rheumatoid arthritis (RA); lupus; arterial surgery (leg/heart); smoking; pain on leg elevation; intermittent claudication; pale, cool, hairless leg; capillary refill time (CRT) >3 secs; suspected or untreated deep vein thrombosis (DVT)</p> <p>Caution in groin-injecting drug users where pseudoaneurysm may be suspected</p>	<p>At first presentation:</p> <ul style="list-style-type: none"> - Complete <i>initial contact assessment form for untreated leg wound/ulcer</i> and <i>All Wales Leg Ulcer Standards Quick Guide</i> (Appendix A) - Complete local wound assessment form - Take relevant past medical history and ulcer history - Determine patient goals, quality of life/pain management issues, educational needs and self-management capabilities (Harding et al, 2015) - If patient is self-caring complete <i>Supported self-care document</i> (Appendix B) and provide copy to patient - Identify any arterial risk factors or red flags that may prevent reduced compression being instigated without full Doppler ABPI studies (Figure 2) - Complete Leg ulcer core care plan (Appendix C) 	<p>At each visit follow: <i>Topical Management Guidance</i> (page 14)</p> <p>If no arterial risk factors/red flags present (Figure 2)</p> <p>Up to 20mmHg compression can be applied without Doppler ABPI with product selection dependent on clinical presentation and/or patient preference</p> <p>If normal leg shape/exudate is contained easily within dressings:</p> <ul style="list-style-type: none"> • Apply Class 1 hosiery/garment (14–20mmHg) <p>OR</p> <p>If leg shape is unsuitable for hosiery and exudate is not contained easily within dressing:</p> <ul style="list-style-type: none"> • Apply reduced multicomponent compression system delivering up to 20mmHg compression (consider ankle circumference in selection) <p>OR</p> <p>If excessive exudate/wetness or oedema is present:</p> <ul style="list-style-type: none"> • Apply a superabsorbent dressing • One layer of blue/yellow/beige tubular stockinet according to limb size • Three rolls of wool padding • Apply 10cm width short-stretch (inelastic) bandage in a spiral application from the base of the toes with a 50% overlap up to the knee as per level 2 recommendation from <i>Chronic Oedema Wet Leg Pathway V8.0</i> (Lymphoedema Wales Clinical Network [LWCN], 2022) <p>If arterial risk factors/red flags present (Figure 2):</p> <ul style="list-style-type: none"> • Follow <i>Topical Management Guidance</i> and refer <p>If arterial risk factors and excessive exudate/wetness is present:</p> <p>Do not apply compression therapy (follow level 1 <i>Chronic Oedema Wet Leg Pathway</i>) (LWCN, 2022)</p> <ul style="list-style-type: none"> • Apply a superabsorbent dressing • One layer of blue/yellow/beige line tubular stockinet • One or more roll/s of wool • One layer of blue/yellow/beige line tubular stockinet toe to knee (LWCN, 2022) <p>Patients with pain</p> <p>Refer to <i>Leg ulcer/wound pain guidance</i> (Appendix D)</p> <p>Patient information and education:</p> <p>Provide <i>Leg ulcers and compression therapy</i> leaflet (Appendix E) and <i>Exercises to promote healthy legs</i> leaflet (Appendix F)</p>
<p>Referral: Immediate referral to appropriate healthcare professional/service for a full leg ulcer assessment, diagnosis and management plan: ■ If arterial risk factors, red flags or contraindications for compression are present refer to tissue viability nurse, leg ulcer nurse specialist, vascular services or drug dependency services as appropriate ■ If oedema is present, refer to lymphoedema service</p>		

**HEALTH BOARD/TRUST DOCUMENTATION SHOULD BE USED WHERE THERE IS NO DOCUMENT PROVIDED WITHIN THIS PATHWAY**

Timeline	Assessment	Management
<p>2 WEEKS</p> <p>Formal leg ulcer assessment by appropriately trained professional within 2 weeks of initial contact</p> <p><i>This guidance is to be followed for adults who present with a leg wound/s where there are no signs of healing within two weeks or more after occurring (NICE, 2023).</i></p> <p>Figure 3: Addressing skin tone bias</p> <p>In order to accurately perform assessment, diagnosis and optimise treatment, it is important that every clinician is aware of how signs and symptoms can vary across skin tones (Wounds UK, 2021). Users of these standards are referred to <i>Best Practice Statement: addressing skin tone bias in wound care: assessing signs and symptoms in people with dark skin tones</i> (Wounds UK, 2021) to familiarise themselves with these variations.</p>	<p>Complete <i>Formal Leg Ulcer Assessment Form</i> (Appendix G) and include:</p> <ul style="list-style-type: none"> - Local wound assessment - Ulcer measurement length/width/depth in cm or area measurement in cm² - Vascular assessment to include ABPI/TBPI. NB: TBPI recommended for patients with diabetes or grossly oedematous limb (IWDF, 2021) - Test for neuropathy – <i>Ipswich touch technique/‘Touch the Toes Test’</i> (Diabetes UK, 2012) (Appendix H) - Review pain assessment - Review core care plan - Review patient self-management as required <p>Determine probable diagnosis based on the clinical presentation and vascular assessment, being aware that some signs and symptoms on the limb may be impacted by the patient’s skin tone (Figure 3).</p> <p>Consider factors that may delay healing (Figure 4).</p> <p>Figure 4: Factors that may delay wound healing</p> <ul style="list-style-type: none"> • Inadequate blood supply i.e. ABPI outside of 0.8-1.3 range • Ulcers greater than 100cm² • Ulcers present for more than 6 months • Infection • Presence of foreign body • Age • Obesity • Smoking • Malnutrition • Malignancy • Immunosuppressant medication • Corticosteroids 	<p>At each visit follow: <i>Topical Management Guidance</i> (page 14)</p> <p><u>VENOUS ULCER</u></p> <p>Healing target = 12 weeks</p> <p>ABPI = 0.8 –1.3; Select compression from guidance (page 13) to provide 40mmHg at the ankle</p> <p>If ABPI range not within normal range (0.8–1.3) seek specialist advice about compression.</p> <p><u>MIXED AETIOLOGY ULCER</u></p> <p>ABPI=0.51–1.3; ABPI >1.3 or TBPI= 0.65–0.69</p> <p>Select dressing based on assessment of the wound; follow local formulary/protocol to meet wound bed needs</p> <p>Discuss compression/management with TVN, leg ulcer specialist or vascular services</p> <p><u>SEVERE ARTERIAL DISEASE WITH ULCER</u></p> <p>Follow <i>Topical Management Guidance</i> (page 14)</p> <p><u>SEVERE ARTERIAL DISEASE AND EXCESSIVE EXUDATE/WETNESS</u></p> <p>Do not apply compression therapy (follow <i>Level 1 Chronic Oedema Wet Leg Pathway</i>) (LWCN, 2022)</p> <ul style="list-style-type: none"> • Apply a superabsorbent dressing • One layer of blue/yellow/beige line tubular stockinet • One or more roll/s of wool • One layer of blue/yellow/beige line tubular stockinet toe to knee (LWCN, 2022) <p>Aim to keep limb as warm and well perfused as possible.</p> <p><i>(Continued overleaf)</i></p>



HEALTH BOARD/TRUST DOCUMENTATION SHOULD BE USED WHERE THERE IS NO DOCUMENT PROVIDED WITHIN THIS PATHWAY

Timeline	Assessment	Management
2 WEEKS (continued)		<p>If recommending elevation of legs to manage oedema, ensure heels are offloaded. This is especially important in patients with arterial disease</p> <p>Severe arterial disease: <i>Refer urgently to vascular team and continue management in accordance with vascular team advice</i></p> <p><u>Patients with pain</u></p> <p>Review pain and update plan as required</p> <p><u>Patient information and education</u></p> <p>Review patient self-management plan and provide further advice as required</p>
<p>Referral: ■ If oedema is present refer to lymphoedema service but also continue with the management set out in this pathway ■ Refer appropriately if any of the following are present or suspected: malignancy, autoimmune conditions, arterial disease, diabetes, dermatological conditions, cardiac failure or need for podiatry</p> <p>■ Seek advice from specialist if patient unable to tolerate recommended treatment</p>		

**HEALTH BOARD/TRUST DOCUMENTATION SHOULD BE USED WHERE THERE IS NO DOCUMENT PROVIDED WITHIN THIS PATHWAY**

Timeline	Assessment	Management
<p>4 WEEKS</p> <p>Reassessment at 4 weeks following formal leg ulcer assessment and instigation of management</p>	<ul style="list-style-type: none"> - Record local wound and pain assessment - Ulcer measurement length/width/depth in cm or area measurement in cm² - Calculate reduction in ulcer size and consider outcome measures (<i>Figure 5</i>) - Review core care plan <p>Confirm progress as below:</p> <p><u>VENOUS/MIXED AETIOLOGY OR HARD-TO-HEAL LEG ULCER</u></p> <p>Ulcer has reduced in size</p> <p>Ulcer has failed to reduce in size or deteriorated</p> <div> <p>Figure 5: Outcome measures for healing</p> <p>Check the following outcome measures for healing progression:</p> <ul style="list-style-type: none"> • Reduction in size • Pain • Oedema • Exudate • Surrounding skin integrity • Quality of life. </div>	<p>At each visit follow: <i>Topical Management Guidance</i> (page 14)</p> <p><u>VENOUS LEG ULCER</u></p> <p>Continue current management if wound reducing in size and/or outcome measures improving</p> <p>Reassess in a further 4 weeks to determine outcome measures. This will be undertaken on an 8-week pathway</p> <p>If healed: ensure appropriate compression therapy (at least 30mmHg) is continued for life</p> <p><u>MIXED AETIOLOGY OR HARD-TO-HEAL VENOUS LEG ULCER</u></p> <p>Continue current management if wound reducing in size and/or outcome measures improving</p> <p>If venous leg ulcers have become hard to heal, or if mixed/hard to heal ulcers have deteriorated, address all factors that may be delaying healing (where possible) (<i>Figure 4</i>), e.g. optimise management of co-morbidities and healing environment. Consider leg ulcer specialist referral</p> <p><u>Patients with pain</u></p> <p>Review pain and update plan as required</p> <p><u>Patient information and education</u></p> <ul style="list-style-type: none"> - When healed, provide <i>Caring for your legs once your leg ulcer has healed</i> leaflet (<i>Appendix I</i>)
<p>Referral: ■ Refer to additional specialty/service if wound not reduced by week 4 ■ Seek advice from specialist if patient unable to tolerate recommended treatment</p>		



HEALTH BOARD/TRUST DOCUMENTATION SHOULD BE USED WHERE THERE IS NO DOCUMENT PROVIDED WITHIN THIS PATHWAY

Timeline	Assessment	Management
<p>8 WEEKS</p> <p>Reassessment at 8 weeks following formal leg ulcer assessment and instigation of management</p>	<ul style="list-style-type: none"> - Record local wound and pain assessment - Ulcer measurement length/width/depth in cm or area measurement in cm² - Calculate reduction in ulcer size and consider outcome measures (<i>Figure 5</i>) - Review core care plan <p>Confirm progress as below:</p> <p><u>VENOUS LEG ULCER</u></p> <p>Ulcer has reduced in size and outcome measures have improved</p> <p>Ulcer has failed to reduce in size since week 4: manage as hard-to-heal venous leg ulcer</p> <p><u>MIXED AETIOLOGY OR HARD-TO-HEAL VENOUS LEG ULCER</u></p> <p>Ulcer has reduced in size and outcome measures have improved</p> <p>Ulcer not reducing in size or is deteriorating</p> <div> <p>Figure 5: Outcome measures for healing</p> <p>Check the following outcome measures for healing progression:</p> <ul style="list-style-type: none"> • Reduction in size • Pain • Oedema • Exudate • Surrounding skin integrity • Quality of life. </div>	<p>At each visit follow: <i>Topical Management Guidance</i> (page 14)</p> <p><u>VENOUS LEG ULCER</u></p> <p>Continue current management if ulcer has reduced in size and/or outcome measures have improved</p> <p>Reassess in a further 4 weeks to determine reduction in ulcer size and consider outcome measures (<i>Figure 5</i>)</p> <p>If healed: ensure appropriate compression therapy (at least 30mmHg) is continued for life</p> <p><u>MIXED AETIOLOGY OR HARD-TO-HEAL VENOUS LEG ULCER</u></p> <p>Continue current management if ulcer is reducing in size and/or outcome measures have improved</p> <p>If venous leg ulcers have become hard-to-heal or if mixed/hard-to-heal ulcers have deteriorated, address as far as possible all factors delaying healing and consider leg ulcer specialist referral. Reassess in a further 4 weeks to determine reduction in ulcer size</p> <p><u>CONTINUE TO ASSESS AND MANAGE AS ABOVE AT 4 WEEKLY INTERVALS</u></p> <p><u>Patients with pain</u></p> <p>Review pain and update plan as required</p> <p><u>Patient information and education</u></p> <ul style="list-style-type: none"> - If healed, provide <i>Caring for your legs once your leg ulcer has healed</i> leaflet (<i>Appendix I</i>)
<p>Referral: ■ Refer to additional speciality/service as required. ■ All VLU not healed within 12 weeks refer to vascular services (NWCSP, 2023) ■ Seek advice from specialist if patient unable to tolerate recommended treatment</p>		

**COMPRESSION THERAPY SELECTION GUIDE FOR LEG ULCER TREATMENT**

Always consider applying toe support using bandaging or toe caps, where there is risk or presence of toe oedema in patients with no clinical signs of arterial disease

No clinical signs of arterial disease ABPI= 0.8–1.29 or TBPI > 0.7	No clinical signs of arterial disease ABPI= 0.8–1.29 or TBPI > 0.7	No clinical signs of arterial disease ABPI= 0.8–1.29 or TBPI > 0.7	No clinical signs of arterial disease ABPI= 0.8–1.29 or TBPI > 0.7
<ul style="list-style-type: none"> Exudate is contained within dressing and Leg shape is 'normal' or 'near normal' and Skin on leg is otherwise healthy and There is no reducible oedema 	<ul style="list-style-type: none"> Exudate is contained within dressing and Leg shape is 'normal' or slightly distorted and Reducible oedema is minimal Applying hosiery kit is difficult 	<ul style="list-style-type: none"> Exudate is not contained well within dressing and/or Oedema needs reducing and/or Leg shape is poor and/or Skin on leg is in poor condition and Trained healthcare professionals are available to reapply as needed 	<ul style="list-style-type: none"> Exudate is contained within dressing and Leg shape is distorted and/or Oedema has been reduced as much as practicable and/or Skin condition on leg needs improving and/or Circular knit hosiery kit is not comfortable Seek specialist advice if needed
Offer compression hosiery kit (40mmHg)	Offer inelastic compression wrap (40mmHg)	Offer compression bandage system (40mmHg)	Offer flat-knit hosiery or inelastic compression wrap (40mmHg)

NB: The criteria above for selecting different types of compression, i.e. hosiery, wraps or bandages, can also be applied if using reduced compression of 20mmHg

(Continued overleaf)



FUNDAMENTALS OF LEG CARE:

- Promote co-production with patient and identify shared goal(s)
- Provide patient information in an appropriate format
- Address factors delaying healing (if possible)
- Provide health promotion advice
- Optimise pain management and nutrition
- Promote movement and leg and foot exercises
- Encourage leg elevation when resting and avoidance of chair sleeping
- Provide application aid for hosiery if required
- Record local wound assessment weekly
- Ulcer/symptom deterioration requires full re-assessment to identify the reason for deterioration and to enable appropriate management

TOPICAL MANAGEMENT GUIDANCE

At each dressing change:

- Cleanse ulcer and wash skin (see *Skin and Wound Cleansing guide*) (*Appendix J*)
- Remove loose skin scales and dried exudate
- Moisturise skin after drying – provide Skin Creams Alert information leaflet on risk of fire
- Treat venous eczema
- If black eschar is present in ischaemic/severe arterial ulcers, keep it dry
- Apply simple non-adherent contact layer/dressing
- For mixed ulcers, select dressing according to wound bed tissue type and aims of management (refer to Health Board/Trust)
- If a small volume of exudate is present, apply a simple absorbent pad or for moderate-to-high exudate volume, select a superabsorbent dressing
- An adhesive dressing may be considered if hosiery is used and exudate can be contained within the dressing
- Secure non-adhesive dressings with tubular stockinet applied toe to knee or a leg ulcer hosiery kit liner if using a kit
- Respond to local infection (*Infection continuum guidance; Appendix I*): cleanse with antimicrobial solution and select appropriate antimicrobial dressing (refer to Health Board/formulary), review effectiveness after 2/52 treatment
- Respond to spreading infection; take wound swab (use Levine technique, see *Appendix M*), commence antibiotics (refer to Evidence Based Procurement Board, 2018; NICE, 2020), screen for sepsis, manage topically as for local infection



GLOSSARY OF TERMS

Ankle brachial pressure index (ABPI)	The ratio of the blood pressure at the ankle to the blood pressure in the upper arm (brachium). Compared to the arm, lower blood pressure in the leg (ABPI <0.8) suggests peripheral artery disease (PAD).
Arterial ulcer	Ulcer due to inadequate blood supply to the affected area (ischaemia).
Biofilm	Classic definitions often describe biofilms as bacteria attached to surfaces, encapsulated in a self-produced extracellular matrix and tolerant to antimicrobial agents (this includes antibiotics and antimicrobials) (World Union of Wound Healing Societies, 2016).
Cellulitis	An acute, spreading inflammation of the skin and subcutaneous tissues characterised by pain, warmth, swelling and erythema (BLS and LSN, 2017).
Cleaning solution	Fluid used to remove debris from surrounding skin and wound bed.
Chronic venous insufficiency (CVI)	Venous wall and valves in the leg are ineffective, so blood pools in the legs. May be caused by high blood pressure in the leg veins, lack of exercise or smoking.
Compression hosiery	Specialised <i>hosiery</i> designed to help prevent the occurrence of, and guard against further progression of, venous and lymphatic impairment.

Compression hosiery kit	A manufactured compression hosiery kit supplied with two layers consisting of an inner layer (liner) delivering approximately 10–18mmHg to the limb (depending on manufacturer). A higher-pressure stocking is then applied over the top to increase the pressure to the limb.
Compression therapy	Application of compression bandaging, compression garments, compression wraps or other supportive materials to enhance venous and lymphatic return. Applied by a competent practitioner using bandages, compression wraps or hosiery. Peripheral vascular disease must be excluded before application.
Concordance	The degree to which the relationship and treatment regimen decision-making between patient and provider results in the desired treatment outcomes.
Severe arterial disease	Severe form of peripheral arterial disease, which leads to tissue loss or arterial rest pain due to markedly reduced arterial blood flow. Can lead to amputation if left untreated.
Dressing	Material used to promote the ideal wound healing environment for the wound bed.
Emollient	A substance that helps soothe, soften, and increase moisture levels in the skin. Emollients may be used in a lotion, cream, ointment, or gel.



GLOSSARY OF TERMS

Exudate	Fluid, which is discharged from the wound. Colour, viscosity and amount is variable, e.g. pus, blood, serum.
Venous eczema	Acute or chronic inflammation of the skin common in individuals with varicose veins. Appearance and symptoms may be: redness, irritation, and /or vesicles that may weep, crust and scale.
Flat-knit hosiery	Hosiery that is knitted in rows as a flat piece of material which is stitched together to produce a stiffer garment. Used for distorted or oedematous limbs as less likely to cut into skin folds.
Granulating	Delicate buds of new capillaries and tissue that form on the surface and edges of an open wound. 'Beefy', red, shiny, moist, granular in appearance.
Inelastic compression bandage	Inelastic, short-stretch bandages are applied at full stretch to create a rigid casing around the limb, which creates resistance when the leg is moved from the horizontal position (when elevated), to the dependent position (when legs are lowered), or walking (Wounds UK, 2012).
Inflammation	Biological response of body tissues to harmful stimuli, such as pathogens, damaged cells, or irritants, and is a protective response involving immune cells, blood vessels, and molecular mediators.

Intermittent claudication	Cramping/aching leg pain usually in the calf on walking/exercise which resolves following a period of rest. Caused by narrowing or blocked arteries limiting oxygen supply to leg muscles.
Ipswich touch technique	Simple test to detect loss of foot sensation in patients with diabetes.
Lymphoedema	Swelling that develops because of a build-up of lymph fluid in the body's tissues.
Mixed aetiology ulcer	Caused by a combination of both venous and arterial disease.
Black eschar	Dead, black tissue. Can be hard and dry; or soft and moist.
Oedematous	Abnormal accumulation of fluid in the tissue. Skin swollen, shiny, tense.
Peripheral vascular disease	Arterial narrowing or obstruction which reduces blood flow to the limb.
Sepsis	Serious complication of an infection. Without rapid and aggressive treatment, sepsis can lead to multiple organ failure and death.



GLOSSARY OF TERMS

Surrounding skin	Skin and tissue immediately surrounding the wound.
Toe bandage	A small retention bandage used to apply support around each individual toe.
Toe brachial pressure index (TBPI)	Similar procedure to ABPI but cuff is applied to great/first toe to obtain hallux pressure. This may be useful/reliable in patients where the limbs are too large to compress, the patient has diabetes or where there is presence of arterial calcification (ABPI >1.3).
Toe garments (for support)	A toe garment is a specialised medical sock designed to cover and protect the toes. Toe garments can provide additional targeted compression over the toes and in the forefoot area.
Venous leg ulcer	A break in the skin that usually occurs on the medial side of the lower leg between the ankle and the knee as a result of chronic venous insufficiency (CVI) and ambulatory venous hypertension, and that shows little progress within 2 weeks of initial occurrence (NICE, 2023).

Wound infection	Invasion, establishment and growth of microorganisms in the soft tissue.
Local Infection	<ul style="list-style-type: none">Healing is not progressing normally or the wound is deteriorating, and the wound exhibits two or more of the following characteristics: redness, pain, swelling, increased exudate, malodour, sudden deterioration, dark granulation tissue, friable or bleeding granulation tissue, change in pain levels in or around the wound.
Spreading infection	<ul style="list-style-type: none">When the wound is deteriorating with signs of local infection plus one or more of the following characteristics: extending in duration, with or without erythema; lymphangitis, crepitus, wound breakdown/dehiscence with or without satellite lesions. Malaise/lethargy or non-specific general deterioration, loss of appetite, inflammation, swelling of lymph glands (IWII, 2016)
Wound margin	The type of tissue seen at the edges of the wound also known as peri-wound.
Wound measurement	Measurement of the wound should include the greatest wound length, greatest wound width, and greatest wound depth. The surface area can be calculated by multiplying the length and width of the wound.





APPENDICES





INITIAL CONTACT ASSESSMENT FORM – UNTREATED LEG WOUND/ULCER

NB: Use this document in conjunction with the All Wales Leg Ulcer Standards Pathway and Local Health Board wound assessment form

Name: _____ Site of wound/s or ulcers: _____

Address: _____

Duration of current wound/s or ulcers: _____ Cause: ☐ Trauma ☐ Blister ☐ Spontaneous breakdown ☐ Skin tone*

☐ Other (specify) _____ DOB: _____ ID Number: _____ Previous history of leg ulceration? ☐ Yes ☐ No

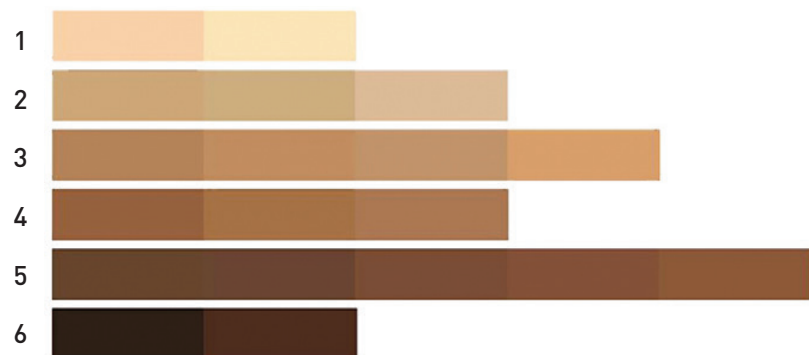
Allergies: _____ Sensitivities: _____

Wound/ulcer impact on patient & patient goals: _____

_____ Can patient be involved in self-management? ☐ Yes ☐ No Advice leaflets given? ☐ Yes ☐ No

*Skin tone image









Assessment should include awareness of skin tone in order to monitor skin changes to patient skin.



Skin tone tool (adapted from Ho and Robinson, 2015; Wounds UK, 2021)



INITIAL CONTACT ASSESSMENT FORM – UNTREATED LEG WOUND/ULCER - CONTINUED

Does the patient have any arterial risk factors or RED FLAGS  OR CAUTIONS  (tick all that apply)	
Ischaemic heart disease/myocardial infarction (MI)	<input type="checkbox"/>
Cerebrovascular accident/transient ischaemic attack (CVA/TIA)	<input type="checkbox"/>
Diabetes	<input type="checkbox"/>
Renal disease	<input type="checkbox"/>
Previous arterial surgery	<input type="checkbox"/>
Smoker/ex-smoker	<input type="checkbox"/>
Rheumatoid arthritis or lupus	<input type="checkbox"/>
 Intermittent claudication (cramping in calf when walking or leg pain on elevation that's relieved by lowering leg)	<input type="checkbox"/>
 Cool leg with pallor on elevation (Use Buerger's test, see <i>Appendix K</i>)	<input type="checkbox"/>
 Capillary refill time >3 secs (test great toe with room at ambient temperature)	<input type="checkbox"/>
 Absence of palpable or audible foot pulses	<input type="checkbox"/>
 Patient is a groin-injecting drug user (people who inject drugs/intravenous drug user (PWID/IVDU))	<input type="checkbox"/>
 Patient has suspected or untreated deep vein thrombosis (DVT)	<input type="checkbox"/>

YES

- Avoid compression
- Complete wound assessment
- Complete *Formal Leg Assessment* form ASAP or within 2 weeks
- Follow *Topical Management Guidance*
- Consider referral
- NB: If only risk factor and no red flags please discuss with specialist

NO

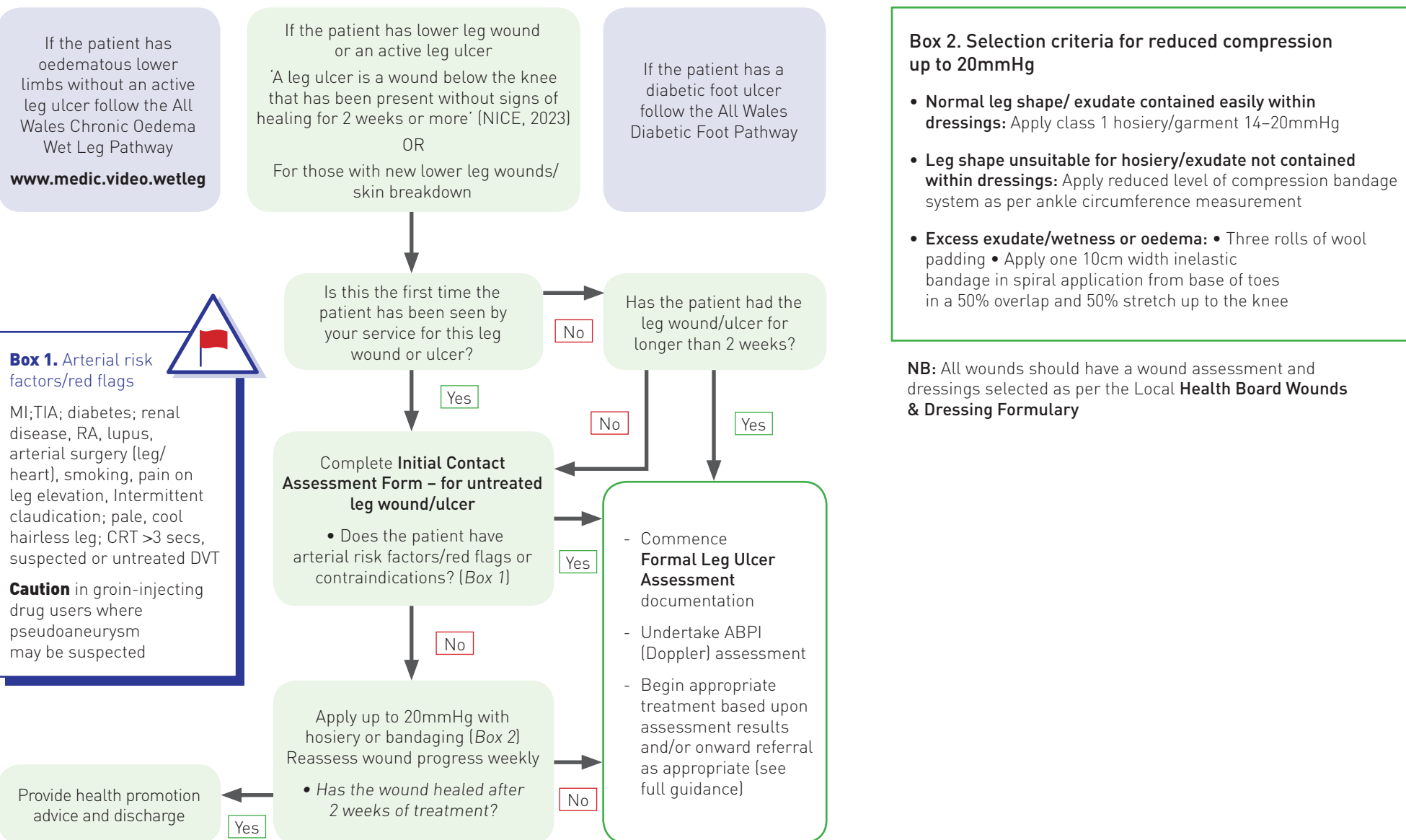
- Proceed to reduced compression using either class 1 hosiery (14-20mmHg) or reduce compression/light support bandaging as per All Wales Leg Ulcer Standards Quick Guide (see overleaf)
- Complete wound assessment
- Follow *Topical Management Guidance*
- Complete *Formal Leg Assessment* form within 2 weeks or refer immediately to appropriate HCP/service to complete further assessment

Name of assessor: _____ Designation: _____

Signature: _____



INITIAL CONTACT ASSESSMENT FORM – UNTREATED LEG WOUND/ULCER - CONTINUED





SUPPORTED SELF-CARE DOCUMENT

Throughout the healing process there may be opportunities to empower your patient to take on part of their treatment. One of the principles of prudent healthcare in Wales is to 'achieve health and well-being with the public, patients and professionals as equal partners through coproduction' (www.gov.wales/sites/default/files/publications/2019-04/securing-health-and-well-being-for-future-generations.pdf). This can have a positive effect and the National Wound Care Strategy Programme (2023) noted that supporting patients to manage their own wounds is likely to improve their self-confidence and quality of life while reducing pressure on the NHS. Self-care can offer a means to maintain or even improve the capacity to live well over time (Legs Matter, 2023). Indeed, supported self-care is one of the six evidence-based components of personalised care in the NHS Long Term Plan (NHS England, 2019) which aims to give people more choice and control over the way their care is planned and delivered.

However, before supported self-care is agreed and implemented, the HCP must assess the patient for ability and appropriateness and the following conditions must be fully considered and met:

- Best interest, agreement and preferences of the patient must be at the heart of all decision making and care delivery
- The issue of patient safety is always paramount
- Clear explanation should be given to the patient about what a supported self-care agreement means for them and why it is an option for their ongoing treatment
- The patient and carer should have the opportunity to ask questions and explore other options if they do not feel confident that the arrangement will work for them
- Patients should be able to decline supported self-care if, after due consideration of the options, they decide it is not in their best interests
- The patient needs to have mental capacity to give willing and informed consent to undertake supported self-care
- The patient should be physically able to change their own wound dressings and compression therapy
- If the patient is not physically able or is not able to make an informed decision, they need to have someone else (e.g. a carer) that is physically able and willing to undertake supported care of the leg ulcer and act in the patient's best interests
- The procedure must be discussed in detail with the patient and/or carer so that they fully understand what is expected
- The patient and/or carer needs to be observed undertaking the procedure which provides further opportunity for the patient to demonstrate understanding and that they are physically and mentally capable of self-care
- The patient is required to demonstrate competencies in hand hygiene, changing of the dressing (and compression therapy if using), understanding the signs and symptoms of wound deterioration and knowing when and where to report any problems



SUPPORTED SELF-CARE DOCUMENT - CONTINUED

Management for those patients who are identified as appropriate for supported self-care:

- The patient has consented to a supported self-care arrangement at this time
- All treatment decisions have been made in collaboration with the patient to achieve the patient's preferred outcomes
- The patient or carer has been assessed and is considered to have mental capacity and physical ability to self-care with support
- Provide the patient with the following 4 documents:
 1. **My Leg Ulcer Treatment Plan:** A simple written treatment plan that lists the required dressings and the order in which they are to be applied and any other treatment or advice to follow. This is signed by both the patient and HCP
 2. **How to Care for Your Leg Ulcer at Home:** Written practical instructions on how to change their dressing at home
 3. **My Leg Ulcer Care Journal:** A record sheet for the patient/ carer to document when dressings were changed, the progress of the wound and any possible concerns or deterioration
 4. **Patient Information Leaflet:** Provides additional practical advice and health education
- It must be ensured that the patient has the necessary wound dressings and compression therapy that are needed for the length of time required
- Follow-up appointments (via phone or in person) must be arranged and agreed with the patient and/or carer to review the wound, to ensure that they remain able and motivated to continue self-care and to prescribe any additional or alternative supply of dressings
- Ensure that the patient/carers are aware of possible **Red Flags** to look out for which are all listed in the *How to Care for Your Leg Ulcer at Home* leaflet
- Ensure that the patient has details of a HCP that they can contact should they have any concerns or questions.



**MY LEG ULCER TREATMENT PLAN**

Name: _____

Dressing to be changed on:	Nurse signature	Review date

Clean leg ulcer with:	
Clean surrounding skin with:	
Cream to be applied to skin:	
Dressing to be placed directly onto ulcer (wound contact layer):	
Secondary dressing to be placed on top of the wound contact layer:	
Tapes or bandages to hold dressing in place:	
Compression therapy:	
Nurse signature: _____ Date: _____	Patient signature: _____ Date: _____

Other healthcare advice:

Any concerns or questions about your leg ulcer or if you need further dressings, please contact your HCP:

[illegible]



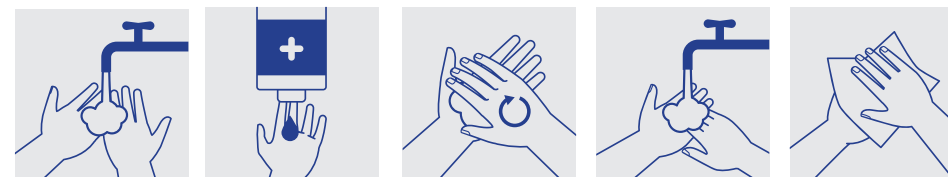
HOW TO CARE FOR YOUR LEG ULCER AT HOME

You will need:

1. A basic dressing procedure pack which will include gauze, a paper towel, a plastic tray for water and a waste bag
2. Two pairs of gloves
3. Wound dressings provided by your HCP
4. Cream for your surrounding skin provided by your HCP
5. Compression sock or garment if provided by your HCP
6. Drinking quality warm tap water or saline
7. Kitchen roll or clean towel
8. Alcohol hand gel

How to change the dressing:

- Wash hands thoroughly using soap for 20 seconds



- Dry hands with a clean towel or kitchen roll
- Open basic procedure pack onto a clean dry surface
- Open new wound dressings and put onto the surface of the procedure pack
- If not showering your leg and ulcer, pour warm tap water into the plastic tray
- Apply gloves
- Open the waste bag ready for your old dressings

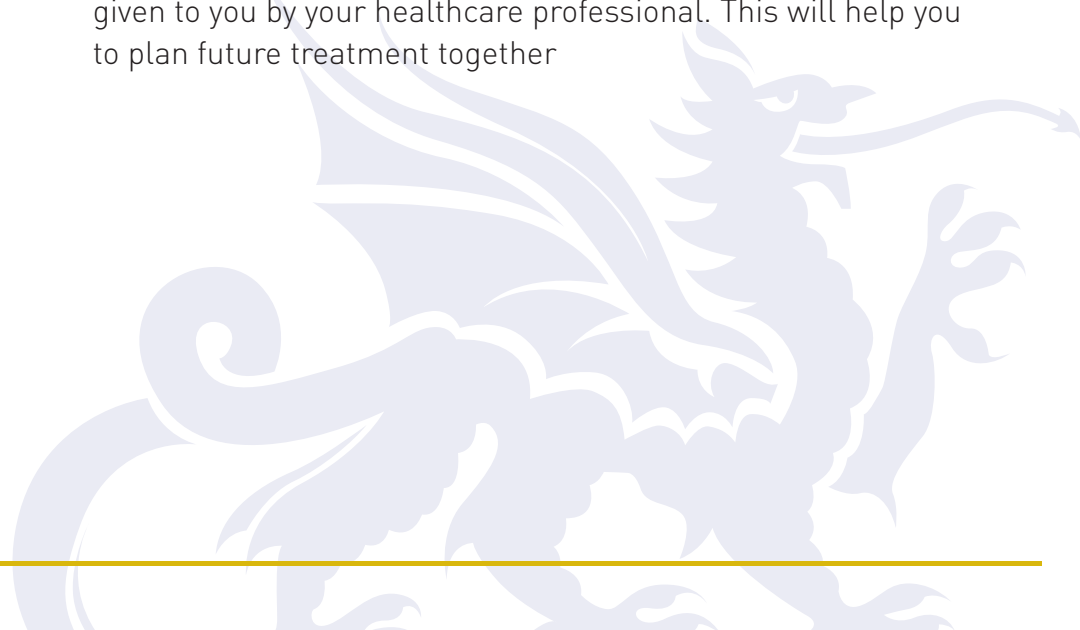


HOW TO CARE FOR YOUR LEG ULCER AT HOME - CONTINUED

- Carefully remove the old dressing from your leg without touching your ulcer or the part of the dressing that has touched your wound
- If your dressing is stuck, wet the dressing with warm tap water to help remove it
- Place dirty dressings into the waste bag provided
- Sanitise hands with alcohol gel and put on a new set of gloves
- With your gloved hands, gently wipe across the ulcer by dipping the gauze in the water from the plastic tray. Wipe your wound only once and then throw the gauze away. Use another gauze swab if you need to wipe again
- Clean your surrounding skin separately. Use appropriate gauze for wound cleansing
- Dry your leg, foot and around the ulcer edge with the paper towel in your pack, kitchen roll or clean towel. Do this by patting your skin gently, rather than rubbing
- Apply your moisturiser cream supplied by your healthcare professional liberally in a downwards direction to your leg and foot, avoiding your ulcer
- Remember, emollients can transfer from the skin onto clothing, bedding, etc. If fabric with emollient dried on it comes into contact with an ignition source, it can catch fire more easily.

It is vital to be aware of this risk and take appropriate precautions (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904956/Emollients_A5_leaflet_290720.pdf)

- Cover your ulcer with the dressing(s) provided. Check your 'Leg Ulcer Treatment Plan' for names of dressings and the order they should be applied, if more than one
- Reapply your compression therapy if included in your 'Leg Ulcer Treatment Plan'
- Seal and throw away the waste bag in your general black rubbish bag unless you have been advised otherwise
- Wash your hands again for 20 seconds
- You may find it useful to complete the 'Wound Care Journal' given to you by your healthcare professional. This will help you to plan future treatment together





HOW TO CARE FOR YOUR LEG ULCER AT HOME - CONTINUED

Look at your leg ulcer at every dressing change for any red flags that may be a sign of infection or other problems:

RED FLAGS

- Increased redness to the skin surrounding your ulcer
- Increase in pain
- Increased wetness and leakage from the ulcer
- A change of colour in the fluid/discharge coming from your ulcer
- Your leg feels hot with inflamed and tender skin
- Your leg is swelling more than normal
- Numbness or pins and needles that does not ease with movements
- Offensive or unusual new smell from the ulcer
- Your ulcer looks worse or looks bigger or deeper
- A new wound appears
- You suddenly feel generally unwell and have a high temperature
- You experience chills, you might be shivering and feel like you need to wrap up warm but be sweating with a high temperature

If you see any of the above red flags please contact your Healthcare Professional immediately or NHS 111





MY LEG ULCER CARE JOURNAL

Your journal is designed to help you and your HCP to identify if your ulcer is progressing as it should be and to help plan future treatment. Answer the questions below at each dressing change.

	Date:	Date:	Date:	Date:
Did you change the dressing on the date it was planned to be changed? Yes/No				
If you changed your dressing before the planned date, please say why (e.g. leaking)?				
Does your ulcer appear to be the same size, bigger or smaller?				
Was the fluid coming from your ulcer the same amount as usual, or more or less?				
Is the pain in your ulcer and/or leg the same? If not, what is your pain score from 0 to 3? (0 = no pain, 1 = mild pain, 2 = moderate pain, 3 = unbearable pain)				
Was the smell from your ulcer the same, worse or less?				
Did you take a photo? Yes/No				
List any 'Red Flags' you may have. See list on leaflet 'Caring for your leg ulcer at home'				
HCP signature:				



MY LEG ULCER CARE JOURNAL - CONTINUED

Questions to ask my HCP:





Name: _____ Address: _____
 _____ DOB: _____

LEG ULCER CORE CARE PLAN

Ward/Practice: _____

Leg ulcer assessment completed on _____

Identified problem (after completion of a leg ulcer assessment form)	Desired outcomes/goals: To be discussed with patient	Action plan/intervention
The patient has a leg ulcer/s to their (state location) _____	Promote optimum wound healing environment Reduce risk of infection In addition tick all that apply and add any goals not captured below:	Complete Local Health Board wound assessment and record on wound assessment chart. Re-assess monthly or if wound deteriorates/improves Dressing frequency: _____
The aetiology of the leg ulcer is <input type="checkbox"/> Venous leg ulcer <input type="checkbox"/> Mixed leg ulcer <input type="checkbox"/> Arterial ulcer <input type="checkbox"/> Other (please state) _____	<input type="checkbox"/> Improve venous return <input type="checkbox"/> Minimise wound pain <input type="checkbox"/> Control exudate <input type="checkbox"/> Protect arterial limb at risk <input type="checkbox"/> Reduce oedema <input type="checkbox"/> Manage dry skin/scales to leg <input type="checkbox"/> Treat varicose eczema <input type="checkbox"/> Support patient self-care <input type="checkbox"/> Other	<i>Cleansing regimen:</i> Cleanse leg using: _____ Cleanse wound using: _____ NB: do not moisten or hydrate a leg with dry necrosis on digits or foot without seeking advice from specialist eg.TVN/Podiatrist.
A/TBPI Results (LT) ABPI: _____ (RT) ABPI: _____ (LT) TBPI: _____ (RT) TBPI: _____ Date of most recent A/TBPI _____	Patient priorities/goals (in their own words) _____ _____ _____ _____	<i>Skin care:</i> Maintain skin hydration with _____ emollient.
Next ABPI assessment due in: <input type="checkbox"/> 6 months <input type="checkbox"/> One year NB: do not wait for date if concern or deterioration noted		Primary dressing _____ Secondary dressing _____ Retention bandage, stockinet or compression therapy (please state):
Name of assessor: _____ Signature: _____ Designation: _____ Signature of patient: _____ Date: _____ Planned review date: _____		

**EVALUATION/REVIEW OF CARE PLAN**

Date	Evaluation of care plan	Rationale	Sign/designation/ print name
	Dressing frequency: _____ Cleansing solution: _____ Emollient: _____ Primary dressing: _____ Secondary dressing: _____ Retention/compression therapy: _____		
	Dressing frequency: _____ Cleansing solution: _____ Emollient: _____ Primary dressing: _____ Secondary dressing: _____ Retention/compression therapy: _____		
	Dressing frequency: _____ Cleansing solution: _____ Emollient: _____ Primary dressing: _____ Secondary dressing: _____ Retention/compression therapy: _____		
	Dressing frequency: _____ Cleansing solution: _____ Emollient: _____ Primary dressing: _____ Secondary dressing: _____ Retention/compression therapy: _____		



LEG ULCER/WOUND PAIN GUIDANCE — MANAGEMENT OF WOUND PAIN

Indicator/descriptor	Symptoms	Management and treatment	Other considerations
<p>The experience of pain is commonly cited as an issue in the management of leg ulcers and one that can have a significant effect on a patient's quality of life. It is therefore vital as part of management that pain is assessed and managed accordingly. Chronic leg ulceration can have an all-encompassing effect on quality of life, impacting all aspects of daily living. The effects can range from sleep disturbance, reduced mobility, pain, altered body image, a reduced level of independence, and a feeling of anger and resentment regarding communication with healthcare professionals.</p> <p>Operative pain</p> <p>Cutting of tissue or prolonged manipulation. Normally requiring anaesthetic, e.g. debridement, cutting of tissue or major burns dressings.</p>	<p>Pain is an individualised experience and differences in personal, familial and cultural backgrounds can lead to variations in a person's experience and expression of pain. Negative experiences can also influence a person's pain experience.</p> <p>Nociceptive pain may be defined as an appropriate physiological response to painful stimulus. Acute nociceptive pain is a result of tissue damage and is usually time-limited; prolonged inflammatory response may cause heightened sensitivity in the wound and the surrounding skin. Often described as sharp, gnawing, aching, throbbing and tender.</p> <p>Neuropathic pain has been defined as an inappropriate response caused by a primary lesion or dysfunction in the nervous system and is a major factor in the development of chronic pain. It is often associated with allodynia whereby sensory stimuli that are usually non-painful such as light touch, pressure or changes in temperature can produce intense pain. Neuropathic pain is often described as shooting or stabbing, burning, stinging and tingling.</p>	<p>Assessment of pain should be ongoing as an integral part of wound assessment.</p> <p>Pain measurement tools can be used to help the patient to communicate their own pain experience.</p> <p>Involve and empower patients to optimise pain management.</p> <p>For patients with alternated cognitive function, e.g. dementia, the Abbey Pain Scale can be used to assess pain.</p> <p>Abbey Pain Scale</p> <p>http://howis.wales.nhs.uk/sites3/docopen.cfm?orgid=926&id=321600</p>	<p>Pain scales</p> <p>The use of pain scales will assist in measuring and comparing the level of pain and discomfort an individual will experience. The Wong-Baker FACES® Pain Rating Scale is recommended.</p> <p>Wong-Baker FACES® Pain Rating Scale</p> <p>www.wongbakerfaces.org</p> <p>The experience of pain has an impact on a number of psychological processes such as reduced self-belief, isolation, loss of identity and many patients with chronic wound pain may experience sleep disturbance which will further impact on their tolerance of pain affecting their quality of life.</p>
<p>Background pain</p> <p>This is the pain felt at rest; it may be intermittent or continuous and is related to the underlying cause of the wound.</p>		<p>Strategies for pain management</p> <p>Correct underlying cause and carry out appropriate wound management to achieve healing.</p> <p>Treat any concurrent problems, e.g. varicose eczema, maceration, infection.</p>	<p><i>(Continued overleaf)</i></p>

LEG ULCER/WOUND PAIN GUIDANCE — MANAGEMENT OF WOUND PAIN - *CONTINUED*

Indicator/descriptor	Symptoms	Management and treatment	Other considerations
Persistent underlying pain due to wound aetiology, local wound factors e.g. ischaemia, infection	<p>Psychogenic pain can arise from fear and anxiety.</p> <p>Assessment of symptoms should include when:</p> <p>Patients experience pain and discomfort for example, before during or after a dressing or procedure.</p> <p>What increases or decreases pain levels (e.g. some dressings may increase pain initially, such as honey).</p> <p>Some patients may associate with this when suggesting compression therapy.</p>	<p>Follow local wound management protocols.</p> <p>Analgesic options to be considered and co-analgesic medication may be considered for relief of neuropathic pain (e.g. Gabapentin, Amitriptyline).</p> <p>Procedural pain can be anticipated and can be managed with appropriately timed analgesia (including Entonox).</p> <p>Some wounds may also require topical pain control (topical morphine gel).</p> <p>THE WHO Analgesic Pain Ladder</p> <p>STEP 1 - non-opioid + or - adjuvant</p> <p>STEP 2 - Opioid for mild to moderate pain</p> <p>STEP 3 - Opioid for moderate to severe pain</p>	<p><i>For management of chronic pain support</i></p> <p>http://howis.wales.nhs.uk/sites3/docmetadata.cfm?orgid=926&id=472214</p> <p>http://howis.wales.nhs.uk/sites3/docopen.cfm?orgid=926&id=288555</p> <p><i>Analgesic Ladder</i></p> <p>http://howis.wales.nhs.uk/sites3/docmetadata.cfm?orgid=926&id=472211</p> <p>Key points for pain assessment</p> <p>It is fundamental to appreciate that pain from wounds is multidimensional, and the patient's psychosocial environment will affect the physiological experience of pain.</p>
<p>Incident pain</p> <p>This can occur during day to day activities. It may be related to slippage, friction or rubbing of the bandage or dressing.</p>			
<p>Procedural pain</p> <p>Routine basic interventions, at dressing change such as dressing removal, cleansing or dressing application.</p>	<p>Claudication pain can also be referred to as intermittent claudication caused by reduced blood flow, generally in the legs and is associated with PAD (peripheral arterial disease). Severity depends on the extent of PAD.</p> <p>Pain symptoms often occur in feet, calves, legs, hip and buttocks. Please refer to vascular surgeon for consideration of interventions.</p>	<p>Pain at dressing change can be managed by preparing and planning to prevent pain.</p> <ul style="list-style-type: none"> • Reduce stressors in the environment such as closing windows, turning off mobile telephones. • Involving patient in procedure. • Communicate explanation of procedure to patient. • Analgesia before dressing change if required. 	

(Continued overleaf)



LEG ULCER/WOUND PAIN GUIDANCE — MANAGEMENT OF WOUND PAIN - *CONTINUED*

Indicator/descriptor	Symptoms	Management and treatment	Other considerations
<p><u>Psychosocial</u></p> <p>Factors such as age, gender, culture, educational level and mental state, such as anxiety, depression, fear, loss/grief should be considered (Mullins et al, 2022). A previous negative experience of pain and dressing can have an impact on the patient's pain experience, perception and coping strategies.</p>	<p><i>Score Symptoms</i></p> <p>0 No pain, no tightness or no tenderness</p> <p>0.5 No pain, but some tightness or tiredness</p> <p>1 Slight pain, but very minimal, very tolerable</p> <p>2 Moderate pain, more than slight, but still tolerable</p> <p>3 Severe pain, it really hurts, it is barely tolerable</p> <p>4 Intolerable pain, exercise must cease immediately</p> <p>(adapted from Martinez et al, 2009)</p>	<ul style="list-style-type: none"> • Comfortable positioning of patient. • Encourage coping strategies, e.g. distracting activities. • Avoid any unnecessary stimulus to the wound. Ensure gentle handling of wound, warm irrigation fluid. • Select a dressing which: <ul style="list-style-type: none"> - is appropriate for the wound type, maintains moist wound healing and reduces friction at the wound surface. - minimises pain of trauma on removal (read manufacturer's instructions for removal of dressing). - can remain in situ for a longer time period thus reducing the need for frequent dressing changes. • Reconsider dressing choice if the patient experiences: <ul style="list-style-type: none"> - Pain, bleeding or trauma to the surrounding skin or wound bed on removal of the dressing. - Dressing adherence to the wound bed requiring soaking for removal. - Increase in discomfort. 	<ul style="list-style-type: none"> - Assume that all wounds are painful. - Remember that over time wounds may become more painful. - Consider that the skin surrounding the wound can become sensitive and painful. - Consider that for some patients the lightest touch or simply air moving over the wound can be intensely painful. - If pain cannot be managed, please refer to specialist pain team.
<p><u>Environmental factors</u></p> <p>Environmental factors such as noise level, positioning of patient and timing of the procedure can have an impact on the patient's pain experience, perception and coping strategies.</p>			



LEG ULCERS AND COMPRESSION THERAPY PATIENT LEAFLET

Why do I need to wear compression therapy for the legs?

Compression therapy

A leg ulcer can develop when any cut on the lower leg doesn't heal within 2 weeks. Venous leg ulcers are the most common type of leg ulcer. They mainly occur in the ankle area or middle of leg. They can affect anyone, but are more common in adults.

Most leg ulcers are caused by problems with the veins in the leg. This means that blood backflows down the veins, and fluid can leak into tissues. This damages the tissue and makes it more prone to ulcers. There are many studies that show that compression therapy helps the veins in the legs work more effectively by:

- Improving blood return to your heart by applying pressure to the lower leg. It is very effective at helping leg wounds heal faster, reducing swelling and preventing ulcers coming back.

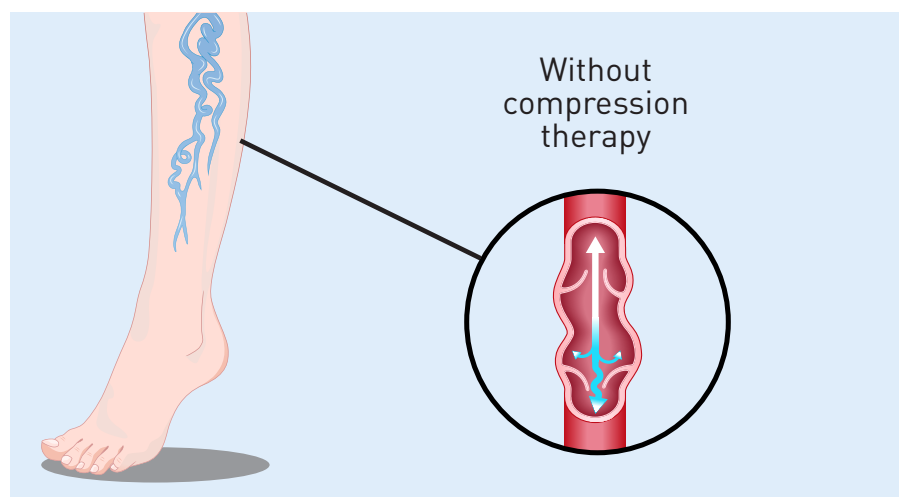
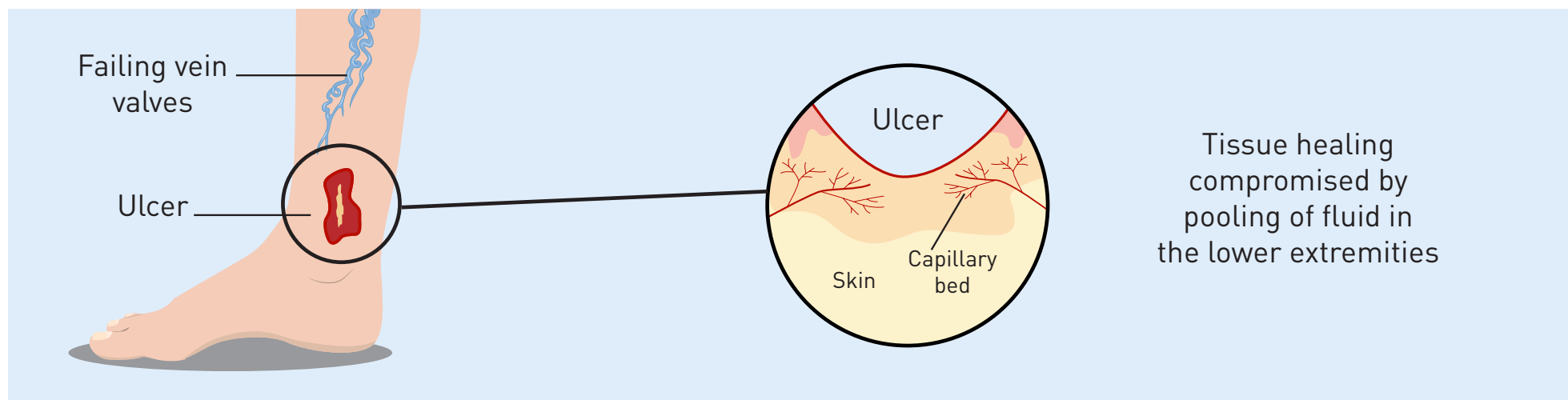
Compression should only be worn if you have adequate blood supply to your lower leg.

- To assess for adequate blood supply your HCP will need to assess that you have no circulation concerns with your arteries.
- Light to moderate compression can still be used in most cases.

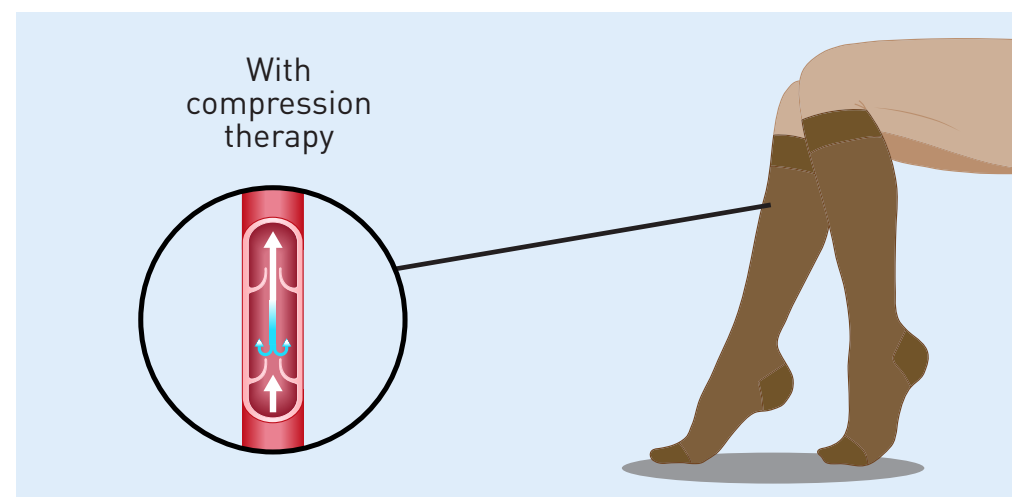




LEG ULCERS AND COMPRESSION THERAPY PATIENT LEAFLET - CONTINUED



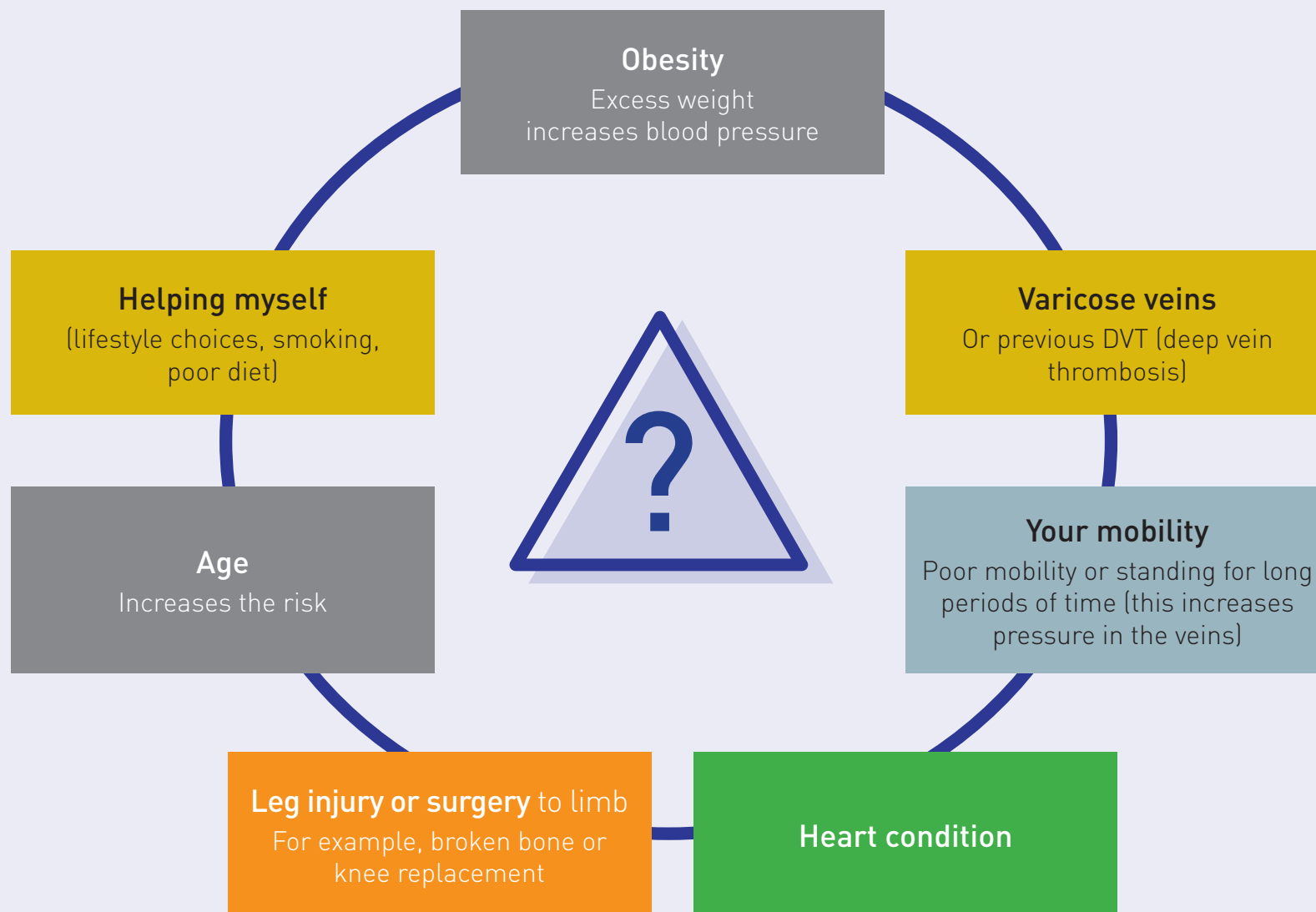
This means blood back flows down the veins, fluid can leak into tissues. This damages the tissue and makes it more prone to ulcers.



Walking around using the calf muscle pump helps squeeze the vein encouraging it to pump blood back towards the heart



WHAT FACTORS WILL INCREASE THE RISK OF LEG ULCERATION?





GETTING DIAGNOSED WITH A LEG ULCER

If you have a 'wound' or 'sore' that isn't healing on your leg:

- Make an appointment at your GP practice as it could become a leg ulcer. They will do an initial assessment.
- You may then be given an appointment to see a nurse or attend a wound clinic as often these are responsible for caring for patients with leg problems.

Your nurse may refer you to a specialist nurse or service, such as a tissue viability nurse, lymphoedema service, dermatology or a vascular surgeon, for further advice if your leg or foot wound is failing to improve.

Alternatively, there might be a Leg Club or specialist leg clinic in your area. You can attend these without having to be referred by your GP.

Note: You may hear different words to describe your wound such as ulcer, leg ulcer, sore, laceration, chronic wound and maybe others. Ask your HCP to explain their choice of word and what this may mean for you.





WHAT WILL MY ASSESSMENT INVOLVE?

When you see the HCP, they will:

- ✓ Ask about your symptoms and how long you have had problems.
- ✓ Examine your lower legs.
- ✓ Do a simple test called a Doppler ultrasound. This test compares blood flow in your ankle with that in your arm to find out if there are blood flow problems in your lower leg. This test is to rule out any problems with your arteries and circulation, known as peripheral arterial disease.
- ✓ You may also be offered other tests to check for health problems that can affect your legs such as diabetes or other conditions. If you have swelling in your legs you may be assessed for lymphoedema.
- ✓ If you have problems with your veins or arteries, you may be referred for more tests at your local hospital or specialist clinic.

WHAT TREATMENT WILL I BE OFFERED FOR MY LEG ULCER?

Compression therapy can be delivered using compression hosiery, bandages or wraps.

Compression therapy is the most effective treatment for venous leg ulcers. Compression therapy works by helping push the blood in your leg veins back up to your heart. The type of compression you wear will be decided by your HCP following discussion with you.

- ✓ Different strengths are available and your HCP will help select the best one for you, with the aim of finding the strongest pressure that you are able to wear. A dressing is worn under the compression therapy. This will be changed when required, usually once a week, by your HCP. There are lots of different types of compression therapy so ask your HCP to find something that is right for you.



Note: Compression can be a little uncomfortable when you first start treatment but should not cause you any pain. Any discomfort should reduce as the swelling goes down. If you do experience discomfort, talk to your HCP about it and they will advise you on ways of alleviating this.

In addition to the compression, your HCP should also advise you on wound care and dressings to keep your wound healthy.



WHAT WILL MY TREATMENT INVOLVE?

HOW LONG WILL I HAVE COMPRESSION THERAPY?

This will vary and can be anything between weeks and months.

Normally you will require a dressing change between 1 to 3 times weekly.

Compression is important but there are other factors that will impact your leg ulcer improving and healing.

WHAT ELSE IS IMPORTANT IN MY LEG CARE?

Washing the ulcer and the limb — it is important that the ulcer and skin on your leg is kept clean and your HCP will advise you on options that are suitable for you.

Moisturisers and creams (emollients) — will be used to help to protect and rehydrate the skin as compression can dry your skin.

Specialised creams — some people with leg ulcers can also develop rashes with scaly and itchy skin, which can be treated with specialist creams or ointments.

RISK FACTORS FOR ME

My ulcer is infected — an ulcer sometimes produces a large amount of discharge and becomes more painful. There may also be redness around the ulcer. If you have darker skin tone, you may see changes in tone. If you have black skin tone, you may not have skin colour changes but will have other symptoms such as feel hot or appear swollen, skin will feel tight or appear shiny, and/or increased pain.

These symptoms and feeling unwell are signs of infection.

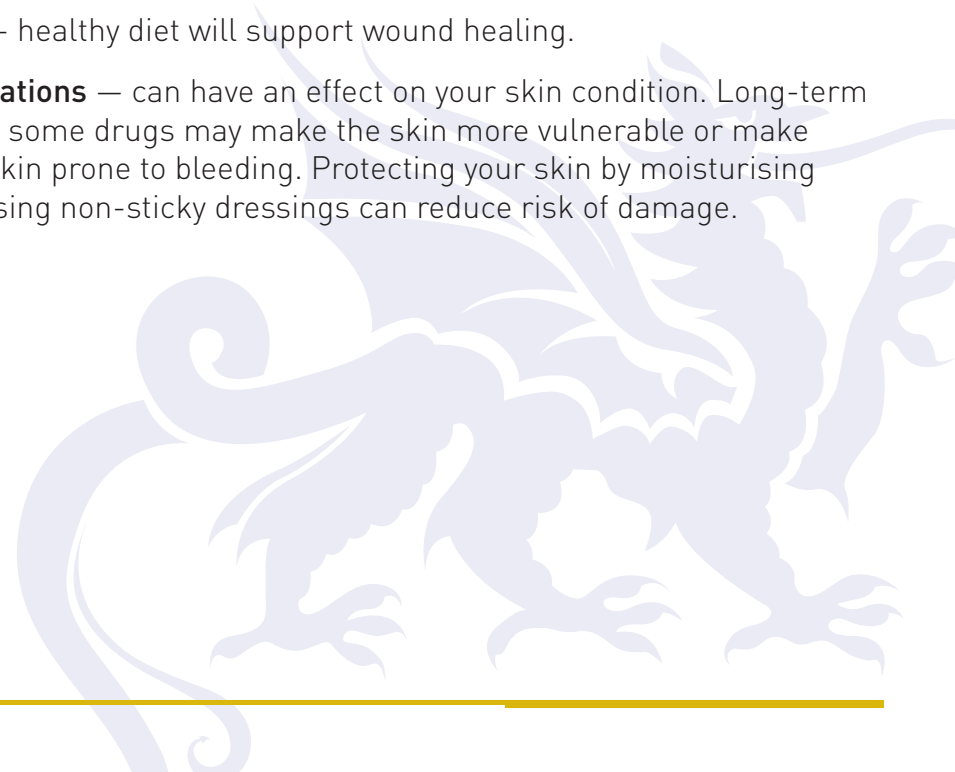
If your ulcer becomes infected, it should be cleaned and dressed with dressings that treat infection. You sometimes require an antibiotic if you have a spreading infection.

You should also elevate your leg most of the time. You'll be prescribed a minimum of a 7-day course of antibiotics, or treatment with an antimicrobial dressing for 14 days (you may not need antibiotics).

The aim of antibiotic treatment and antimicrobial dressings is to clear the infection. But, antibiotics do not heal ulcers and should only be used in short courses to treat infected ulcers.

Diet — healthy diet will support wound healing.

Medications — can have an effect on your skin condition. Long-term use of some drugs may make the skin more vulnerable or make your skin prone to bleeding. Protecting your skin by moisturising and using non-sticky dressings can reduce risk of damage.





HOW WILL I KNOW IF MY ULCER HAS HEALED?

HOW LONG WILL MY ULCER TAKE TO HEAL?

This will differ depending on the extent of ulcers and your underlying health conditions.

Compression will significantly speed up healing times.

WHY MIGHT A WOUND ON THE LEG NOT HEAL?

Lower limbs may take longer to heal if you have a condition such as diabetes, stroke, kidney disease, heart disease, rheumatoid arthritis or if you smoke. Certain medications such as corticosteroids and immunosuppressants may also slow down the healing of your wound.

- Spending periods of time on your feet may cause swelling, which will also interfere with healing.
- Obesity; carrying excess weight can put pressure on the circulation in the lower limbs, making healing more difficult.
- Not wearing compression. Venous leg ulcers, except those caused by arterial disease, will benefit from some form of compression therapy.
- Walking or gentle ankle exercises will help your circulation.

AFTER THE ULCER HAS HEALED

- Once you have had a venous leg ulcer, you are at risk of developing another.
- The most effective method of preventing this is to wear compression stockings at all times when you are out of bed and ensure that you maintain good skin care.

Your HCP will help you find a stocking that fits correctly and that you can manage to apply and remove yourself. Various accessories are available to help you put them on and take them off.

Find out more and request one of the following leaflets from your HCP

- Find out more [caring for healed venous leg ulcers leaflet](#)
- Find out more [self-care leaflet](#)
- Find out more [caring for healed legs leaflet](#)

Maintain a healthy weight

Eat a well-balanced diet of fruit, vegetables and protein

Moderate exercise three times a week such as walking or cycling

Avoid standing or sitting for long periods of time

Exercise your ankles - move your feet around in circles, then up and down. This helps blood circulate and get back to your heart

Don't smoke. Contact your nearest smoking cessation for support

Put your feet up - elevate your legs above your heart



EXERCISES TO PROMOTE HEALTHY LEGS, PATIENT LEAFLET

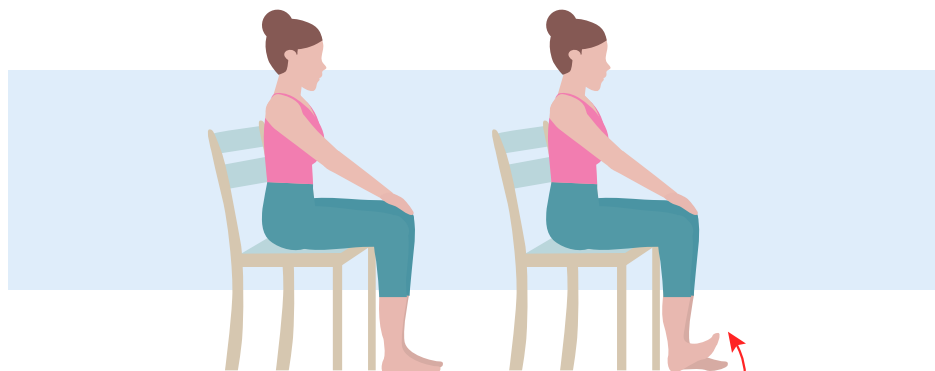
GENERAL EXERCISE

As well as keeping you physically active, these specific exercises can improve the health of your legs. Moving your feet and legs regularly is good for the circulation and helps reduce swelling.

- Avoid standing for long periods of time.
- It is important to get a good balance between exercise and resting.
- When resting in a chair elevate your legs; ideally your feet should be higher than your bottom.
- If walking is difficult some exercises can be done sitting or lying down (see below).

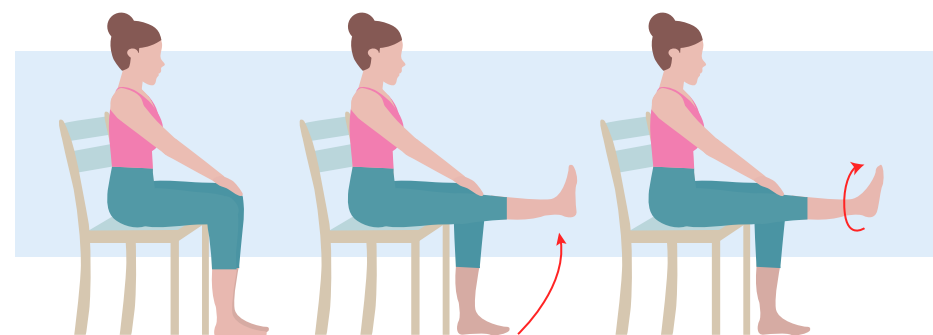
TOE RAISES

- Sit up straight on a chair with your feet flat on the ground.
- Raise your toes upwards, while keeping your heels on the floor.
- Lower your foot back to the ground.



KEEP YOUR ANKLES MOVING

- Sit up straight on a chair with your feet flat on the ground.
- Raise your leg up and roll your feet in a circle as demonstrated in the picture.
- With your leg up, point your toes down and then pull your toes towards your chest.

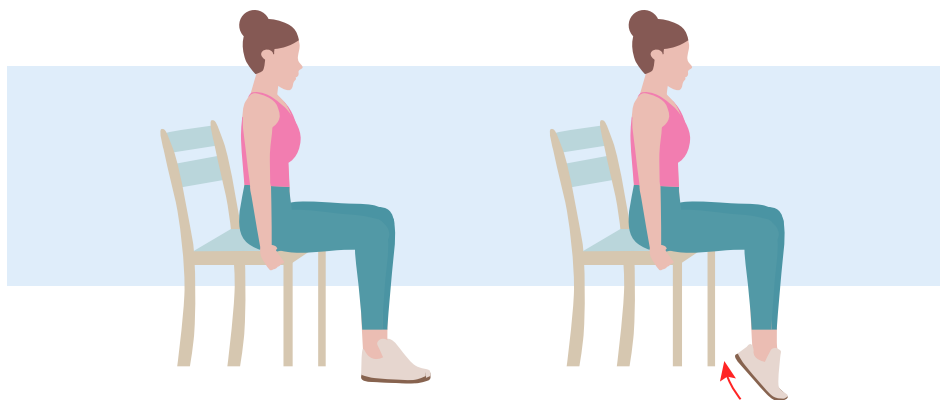




EXERCISES TO PROMOTE HEALTHY LEGS, PATIENT LEAFLET - CONTINUED

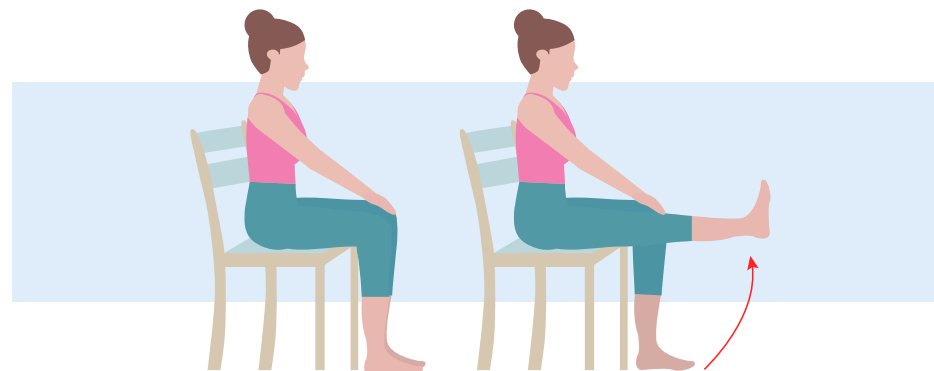
HEEL RAISES

- Sit up straight on a chair with your feet flat on the ground.
- Raise your heels upwards, while keeping your toes on the floor.
- Lower your heels back to the ground.
- Once comfortable doing this exercise press down onto your knees and bring your leg up against the resistance of your hands.



KNEE RAISES

- Sit up straight with your back well supported and your feet flat on the ground.
- Straighten your leg out.
- Lower your leg back down in a controlled way, do not just let it drop.
- Once comfortable doing this exercise press down onto your knees and bring your leg up against the resistance of your hands.



LEG RAISES

- Sit up straight on a chair, with your feet flat on the ground.
- Raise one knee at a time up towards your chest.
- Lower your foot back down to the ground.



Exercises based on a document created by Accelerate CIC

For other useful information and support for people with leg ulcers or healed legs visit: [Legsmatter.org](https://legsmatter.org)



Date referral received _____ Date /Time assessment _____

Referred by _____

FORMAL LEG ASSESSMENT FORM — LEG ULCER/NON-HEALED LEG WOUND AFTER 2 WEEKS**NB:** Use this document in conjunction with the All Wales Leg Ulcer Standards Pathway and Local Health Board wound assessment form

Name: _____ Site of wound/s or ulcers: _____

Address: _____

Duration of current wound/s or ulcers: _____ Cause: ☐ Trauma ☐ Blister ☐ Spontaneous breakdown ☐ Skin tone☐ Other (specify) _____ DOB: _____ ID Number: _____ Previous history of leg ulceration? ☐ Yes ☐ No

Allergies: _____ Sensitivities: _____

Wound/ulcer impact on patient and patient goals:

_____ Can patient be involved in self-management? ☐ Yes ☐ No Advice leaflets given? ☐ Yes ☐ No**Possible arterial indicators (Tick all that apply)****Predisposing/contributory factors:**Ischaemic heart disease/MI ☐CVA/TIA ☐Diabetes ☐Renal disease ☐Previous arterial surgery ☐Smoker/ex-smoker ☐Rheumatoid arthritis or lupus ☐**Possible venous indicators (Tick all that apply)****Predisposing/contributory factors:**Reduced mobility/sedentary lifestyle ☐Obesity/raised body mass index (BMI) ☐Sleeping in chair/lack of leg elevation ☐Trauma/ surgery /fracture to limb R ☐ L ☐Venous thrombosis/ DVT/ phlebitis R ☐ L ☐History of cellulitis
(✓ which leg and number of episodes for each leg) R ☐ L ☐

**FORMAL LEG ASSESSMENT FORM — LEG ULCER/NON-HEALED LEG WOUND AFTER 2 WEEKS - CONTINUED**

Possible arterial indicators (Tick all that apply)		
<i>Clinical signs and symptoms on leg</i>	Right	Left
Positive Buerger's sign - pallor on elevation and duskiness on dependency (see guidance)	<input type="checkbox"/>	<input type="checkbox"/>
Capillary refill time >3 secs (test great toe with room at ambient temperature)	<input type="checkbox"/>	<input type="checkbox"/>
Absence of palpable or audible foot pulses	<input type="checkbox"/>	<input type="checkbox"/>
Intermittent claudication (cramping in calf when walking or leg pain on elevation that's relieved lowering leg)	<input type="checkbox"/>	<input type="checkbox"/>

Possible venous indicators (Tick all that apply)		
<i>Clinical signs and symptoms on leg</i>	Right	Left
Oedema/lymphoedema	<input type="checkbox"/>	<input type="checkbox"/>
Haemosiderin staining (brown staining/or darker pigmentation)	<input type="checkbox"/>	<input type="checkbox"/>
Atrophy blanche (small white atrophy scars)	<input type="checkbox"/>	<input type="checkbox"/>
Varicose veins or ankle flare (small prominent veins to ankle/foot)	<input type="checkbox"/>	<input type="checkbox"/>
Dry/wet eczema (irritation of skin)	<input type="checkbox"/>	<input type="checkbox"/>

Does the patient have other health conditions that might be causing/contributing to leg ulceration?

(If you suspect any conditions below to be a direct cause of ulceration please refer to appropriate specialist)

Any autoimmune disorder, e.g. ulcerative colitis, RA, lupus, etc. ☐ Previous skin cancers or Bowen's disease ☐**Pain assessment NB:** Tick all that apply for when pain is experienced and described. Complete pain score on local Health Board wound assessment form and complete a pain care plan if required

<input type="checkbox"/> No pain	<input type="checkbox"/> During exercise	<input type="checkbox"/> Constant	<input type="checkbox"/> Intermittent	<input type="checkbox"/> Day	<input type="checkbox"/> Night	<input type="checkbox"/> Dressing change
<input type="checkbox"/> Throbbing <i>Nociceptive</i>	<input type="checkbox"/> Aching <i>Nociceptive</i>	<input type="checkbox"/> Heavy <i>Nociceptive</i>	<input type="checkbox"/> Burning <i>Neuropathic</i>	<input type="checkbox"/> Shooting <i>Neuropathic</i>	<input type="checkbox"/> Stabbing <i>Neuropathic</i>	<input type="checkbox"/> Tingling <i>Neuropathic</i>
Other pain description:				Action taken/comments (see guidance):		



LEG MEASUREMENTS:

Right Leg: Ankle: _____ cms Calf: _____ cms Left Leg: Ankle: _____ cms Calf: _____ cms

FORMAL LEG ASSESSMENT FORM — LEG ULCER/NON-HEALED LEG WOUND AFTER 2 WEEKS - CONTINUED

NEUROPATHY ASSESSMENT/IPSWICH ('TOUCH THE TOES') TEST*

*NB: Refer to All Wales Leg Ulcer Standards Pathway for more detailed guidance

- Touch the tip of each toe just once lightly and briefly (for 1–2 seconds) using your index finger in the order shown on the diagram. On the diagram circle for each toe **Y** (yes) if the patient responds correctly or **N** (no) if they do not
- If they do not feel 2 or more of the 6 toes when touched they are likely to have reduced sensation and further testing should be considered

2	Y	N
5	Y	N
1	Y	N



3	Y	N
6	Y	N
4	Y	N

Does the patient have reduced sensation?

Yes ☐ No ☐
Not tested ☐

Subject's right foot, your left side

Subject's left foot, your right side (see Appendix H)

Right systolic/waveforms

*Circle as appropriate

Brachial = _____ mmHg/*tri/bi/mono

*DP/ AT = _____ mmHg/*tri/bi/mono

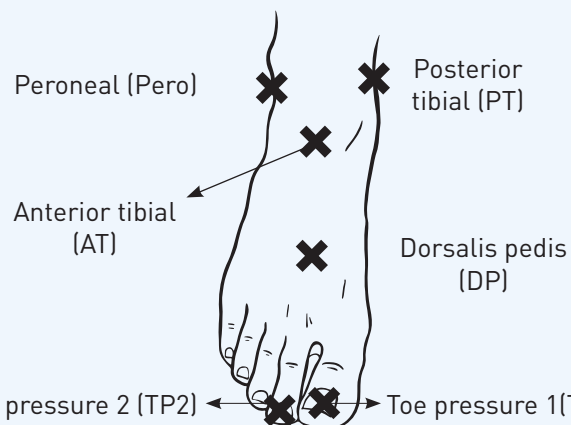
PT = _____ mmHg/*tri/bi/mono

Pero = _____ mmHg/*tri/bi/mono

*TP1/ TP2 = _____ mmHg/*tri/bi/mono

Arterial screening

Perform ABPI using minimum of 2 foot pulses or TBPI if required



Left systolic/waveforms

*Circle as appropriate

Brachial = _____ mmHg/*tri/bi/mono

*DP/AT = _____ mmHg/*tri/bi/mono

PT = _____ mmHg/*tri/bi/mono

Pero = _____ mmHg/*tri/bi/mono

*TP/TP2 = _____ mmHg/*tri/bi/mono

Highest right ankle pressure:

And/or

Right toe pressure:

Highest brachial pressure:

Highest left ankle pressure:

And/or

Left toe pressure:

Right ABPI =

Right TBPI =

Left ABPI =

Left TBPI =

**FORMAL LEG ASSESSMENT FORM — LEG ULCER/NON-HEALED LEG WOUND AFTER 2 WEEKS**

Doppler procedure comments (e.g. patient position, probe size, pain during procedure):

ABPI/TBPI	Interpretation	Action	Suitable for compression
ABPI >1.3	Medial wall calcification from PAD/Diabetes	Discuss with TVN or LU specialist/ Toe pressures	<i>Only under guidance of vascular/ TVN/ LU specialist</i>
ABPI =1.0–1.3/TBPI >0.7 ABPI =0.8–0.99	No indication of PAD Mild PAD	Follow All Wales Leg Ulcer Standards Pathway	<i>High compression up to 40mmHg in absence of other contraindications</i>
ABPI =0.51–0.79/TBPI =0.65–0.69	Moderate PAD	Refer to vascular service and discuss with TVN/LU specialist	<i>May be suitable for reduced compression up to 20mmHg with specialist advice</i>
ABPI <0.5/TBPI <0.64	Severe PAD	Urgent referral to vascular service	No compression

Name of assessor: _____ Designation: _____

Signature: _____



GUIDE TO TOUCH THE TOES TEST

ABOUT THE TEST

The **Touch the toes test*** is quick and easy, designed to assess sensitivity in your feet, and can be done in the comfort of your own home.

WHY IS SENSITIVITY IMPORTANT?

Sensitivity is an important way that the body can alert you to other problems. Sensations, like sharp pain or throbbing, can tell you when you may have damage to a part of your body. In the case of feet, pain could be due to a burn, blister or cut and because you feel it you can take prompt action and appropriate treatment.

If sensation is impaired you may not realise if minor damage has occurred and left unknown and untreated the risk of infection is increased. Infections and ulcers are also painful – but not if that part of the foot also lacks sensation.

Knowing if you have impaired sensitivity requires you to rely more on regular visual checking for discolouration or swelling, for instance.

It is important to remember that impaired sensation itself **does not cause infection** and ulceration.

Please note that the **Touch the toes test** is not a substitute for your annual foot review by an appropriately trained person.

HOW TO PERFORM THE TEST

The test simply involves very lightly touching six toes, three on each foot as shown, to find out how many of the touches are felt. Importantly the touch must be gentle, light as a feather and brief.

REFERENCE GUIDE



*Officially known as the Ipswich Touch Test which was designed by Gerry Rayman and the team at Ipswich Hospital. Diagrams and text adapted from Diabetes UK patient leaflet



GUIDE TO TOUCH THE TOES TEST - CONTINUED

VERY IMPORTANT

- The touch must be light as a feather and brief (1–2 seconds): do not press, prod, poke, tap or stroke the skin.
- If the person did not respond do not attempt to get a reaction by pressing harder. They did not feel; this should be recorded as not felt.
- You must not touch each toe more than once. If not felt do not repeat the touch, there is no second chance.

- 1 Remove socks and shoes and rest the subject with their feet laying on a sofa or bed.
- 2 Remind them which is their RIGHT and LEFT leg, pointing this out by firmly touching each leg, saying '**this is your right**' when the right leg is touched and '**this is your left side**' when the left is touched. If you face the soles of their feet their right is on your left (see reference guide, page 52).
- 3 Ask them to close their eyes and keep them closed until the end of the test.
- 4 Inform them that you are going to touch their toes and ask them to say right or left as soon as they feel the touch and depending on which foot was touched.
- 5 Perform the touch, using your index (pointing) finger as shown in the diagrams.
- 6 The diagrams also show which six toes should be touched and the sequence.
- 7 So, start by lightly touching the tip of the toe marked 1 (right big toe) with the tip of your index finger. The patient will respond by saying '**right**' if they feel the touch.
- 8 Record the result by circling '**Y**' on the record sheet. If they did not respond, circle '**N**'.
- 9 Now move to the toe marked 2, the right little toe, record the result, followed by the toe marked 3, the left big toe etc.
- 10 Continue until all the six toes have been checked.





GUIDE TO TOUCH THE TOES TEST — RECORDING THE RESULTS

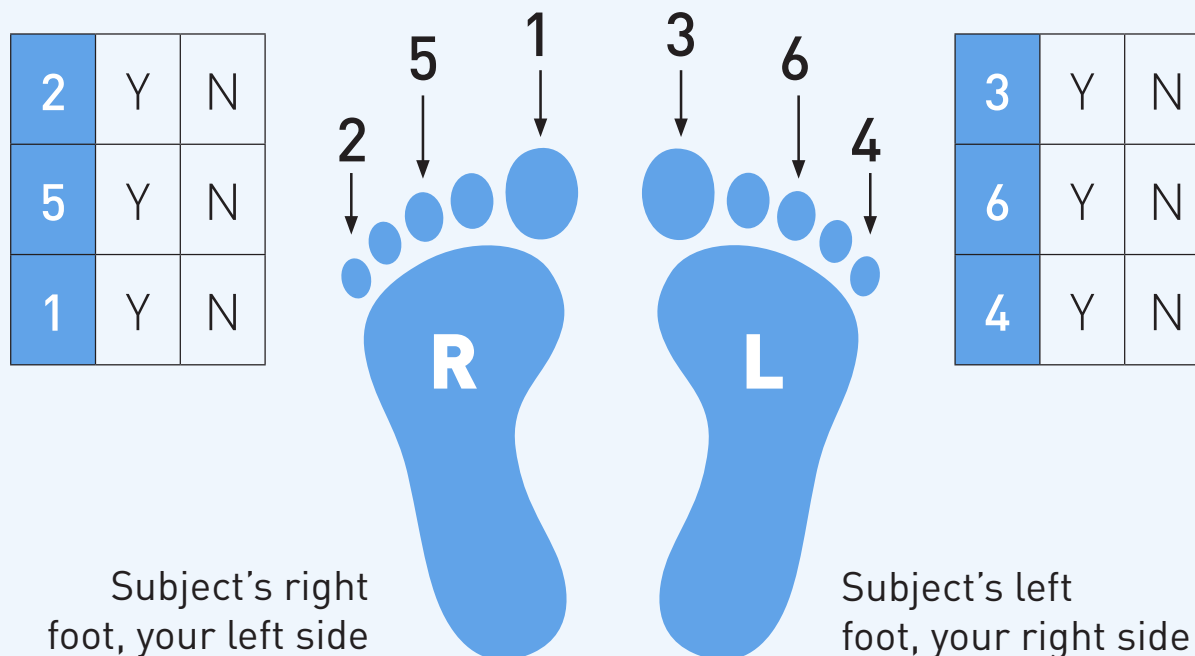
REMINDER

Using the index finger, **touch the tips of toes following the sequence** from 1 to 6 shown in drawings shown on page 53.

The touch must be **light as a feather**, and very brief (1–2 seconds): **DO NOT** press, prod or poke.

Remember: If the touch has not been felt do not press harder, and **DO NOT** try again. You can only touch each toe **ONCE**; if not felt this must be recorded by circling 'N' on the diagram right. **There is no second chance.**

If the subject correctly says right or left, circle 'Y' on the diagram right.

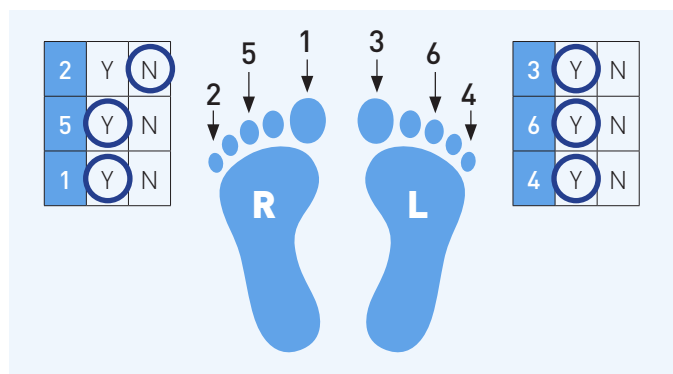
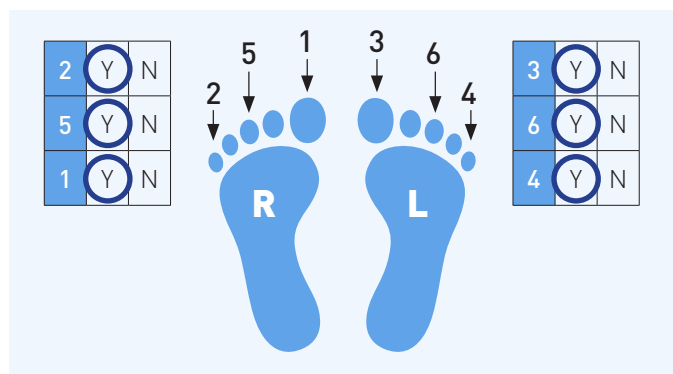




GUIDE TO TOUCH THE TOES TEST GUIDE — WHAT THE RESULTS MEAN AND WHAT TO DO

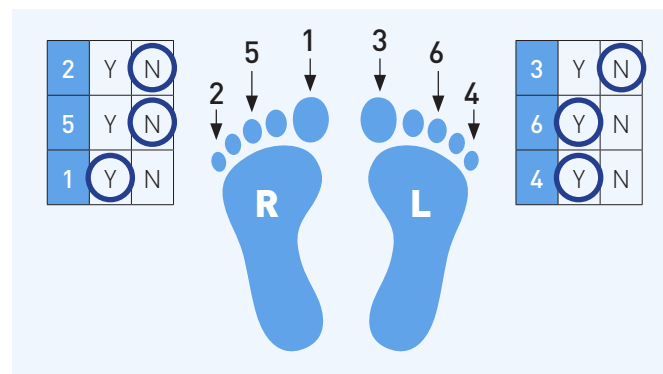
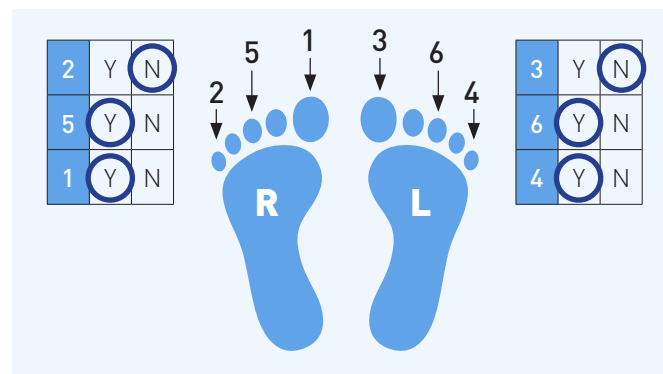
NORMAL SENSATION

If you felt the touch at all six or five of the six toes, as shown in the example below, then your sensation is normal and you are not at increased risk of developing a foot problem because of lack of sensation. However, you must continue having the more detailed foot checks that you should be receiving annually.



IMPAIRED SENSATION

If you did not feel when touched at two or more of the six toes, as shown in the examples below, then you are very likely to have reduced sensation and may be at risk of a diabetic foot ulcer. This needs to be confirmed by further testing. We suggest you visit your surgery and ask for a full examination of your feet. After that examination you should ask for the results of the assessment and then if it is abnormal you should be referred to a diabetes specialist podiatrist, foot protection team, or the diabetes foot clinic depending on the severity.





CARING FOR YOUR LEGS ONCE YOUR LEG ULCER HAS HEALED, PATIENT LEAFLET



Garment details:	
Frequency garments need to be replaced:	
Moisturiser:	
Soap substitute:	

HOW YOU CAN REDUCE THE RISK OF YOUR LEG ULCER RETURNING

Fantastic, your leg ulcer has healed! Despite this the problem with your veins and the risk of developing another ulcer remains. To reduce this risk you need to:

1. TAKE CARE OF YOUR SKIN

Keeping your skin in good condition can help soothe and protect your legs:

- ✓ Wash your feet and legs daily in warm water with the soap-free product recommended by your healthcare professional (soap can dry the skin out) and pat dry with a clean towel.
- ✓ Keep skin between your toes and under skin folds clean and dry.
- ✓ Moisturise your legs with an unscented moisturiser every day in a downwards direction (at night is best to avoid damage to hosiery).
- ✓ Allow the moisturiser to soak into the skin before applying your garment or consider washing and moisturising your legs before bed.
- ✓ Although washing and moisturising daily is best, it can be done less often if this is difficult (no less than once a week).
- ✓ Avoid sitting too close to a fire or radiator. The heat can dry out your skin and is also a fire hazard, as some moisturisers can be flammable.

2. WEAR YOUR COMPRESSION GARMENT

Wearing your compression garment is essential to your lifelong leg management and will help reduce the risk of getting another leg ulcer:

- ✓ You need to wear it EVERY day.
- ✓ Apply your garment when you get up in the morning and remove it at bedtime.
- ✓ When wearing, ensure the material is smooth with no wrinkles and that the top of the garment remains just below your knee at all times.
- ✓ Your garment should be firm fitting and comfortable, but not painful. If painful ask your HVP for a different option/style.



CARING FOR YOUR LEGS ONCE YOUR LEG ULCER HAS HEALED, PATIENT LEAFLET - CONTINUED

3. KEEP HEALTHY AND ACTIVE

Healthy lifestyle habits and staying active will support healthy skin, improve your circulation and reduce the risk of your ulcer coming back:

- ✓ Maintain a healthy weight by eating a well-balanced diet and being physically active each day.
- ✓ Any physical day-to-day activity will help your legs to stay healthy as well as benefit your overall health, e.g. gardening, cleaning and walking the dog.
- ✓ Walk as much as possible (30 minutes at least 3 times per week is recommended). If walking is difficult some exercises can be done sitting or lying down – see *Exercises to Promote Healthy Legs leaflet*.
- ✓ If standing or sitting for long periods, help keep your circulation going by moving your feet and legs regularly, either by walking on the spot or following the *Exercises to Promote Healthy Legs leaflet*.
- ✓ If you can't move your feet and legs a family member or friend may be able to move your legs and feet through a set of exercises.
- ✓ Smoking can reduce the blood supply to your legs and increase leg ulcer risk. Contact your GP for support to stop smoking.
- ✓ When resting in a chair or sofa, elevate your legs, ideally your feet should be higher than your bottom.
- ✓ Sleeping in bed at night is one of the best ways to prevent leg problems occurring. Seek help from your HCP if you can't sleep in bed, as sleeping in a chair will undo all the good work that healed your ulcer.

4. WHAT TO LOOK OUT FOR AND WHEN TO SEEK ADVICE

It is important that you get to know what is normal for you. Check your legs daily and if you notice any of the following, contact your HCP:

- Increase in swelling.
- Any new sores or wounds.
- Cramp or pain after walking.
- Excessive itching, eczema or athlete's foot.
- Any tingling or numbness.
- Your garment becomes uncomfortable, rolls down or does not fit well.
- Any new marks on your skin from your garment.

If you have one or more of the following, contact your HCP URGENTLY

- Hot, red, inflamed and tender skin.
- If you have darker skin tone, you may see changes in tone. If you have black skin tone, you may not have skin colour changes but will have other symptoms, such as heat or swelling, the skin feels tight or appears shiny, and/or increased pain.
- Significant change in foot colour, temperature, sensation or pain.



CARING FOR YOUR LEGS ONCE YOUR LEG ULCER HAS HEALED, PATIENT LEAFLET

5. YOU AND YOUR GARMENT: HINTS AND TIPS

- To keep the garment working at its best follow the instructions for washing and drying provided in the packaging.
- The garment is measured specifically for you, don't wear a garment that hasn't been prescribed for you.
- There are a variety of different garment options and if your circumstances or needs change, seek advice from your HCP.
- If your leg shape or size changes through losing or gaining weight, you will need to be remeasured for a new garment.
- If your garment becomes damaged it will be less effective, you will need to order a replacement garment.
- If it becomes difficult to apply and remove your garment there are applicators that can assist you.
- Washing up or new gardening gloves are a useful tool to help with getting your garment on and off.
- All garments need to be replaced regularly, you will have been advised how frequently to request new garments.
- Older garments may feel more comfortable but they will not be as effective. When you have new garments throw away the old ones.
- If you become unable to put on or take off your garment consider asking a family member or close friend to help you.
- If you have no one to help you, contact your HCP for advice.

- It may be possible to wear the garment day and night for up to 7 days if there are difficulties with removing the garment, especially if you rely on help from someone else.
- Ensure your legs are washed and emoliated prior to garment application to prevent drying of skin.
- Always mention that you wear a leg garment when attending medical appointments as this can affect the treatment decisions made.
- Remember, contact a HCP if you have any concerns about your leg while the garment is in place.

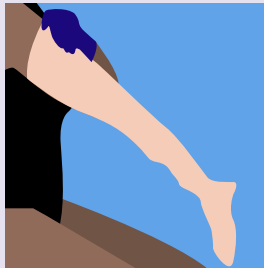
HCP contact:	
--------------	--

For other useful information and support for people with leg ulcers or healed legs visit: [Legsmatter.org](https://legsmatter.org)

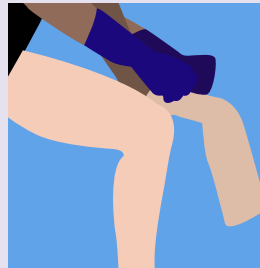




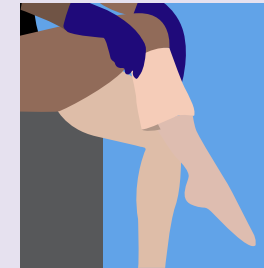
HOW TO APPLY YOUR COMPRESSION HOSIERY



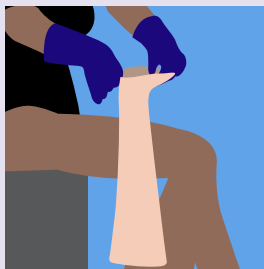
1. Reach into the compression hosiery and grasp the heel



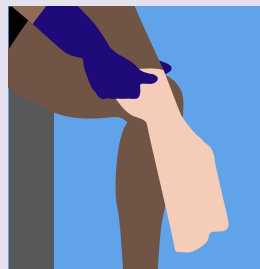
4. Hold the fabric at the outer layer at the middle of the foot



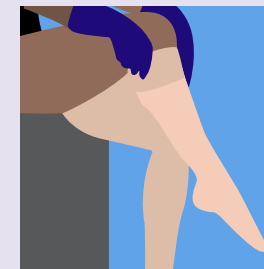
7. Distribute the fabric evenly over your calf up to your knee, ensuring it is smooth over your lower leg



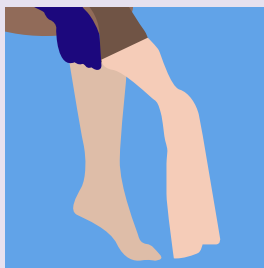
2. Turn the compression stocking inside out to the heel



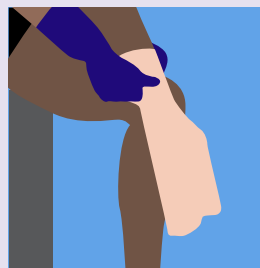
5. Lift the fabric over your heel



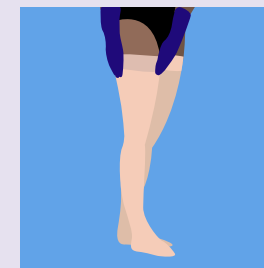
8. Now lift the fabric over your knee (only if you have thigh-length stockings, otherwise stop below knee)



3. Pull the compression stocking over the foot to the heel



6. Use both hands to grasp the material that is hanging down



9. Pull the stocking up to the top of the thigh ensure the material is smooth and wrinkle free



SKIN AND WOUND CLEANSING GUIDE FOR PATIENTS WITH LOWER LIMB LEG ULCERS

This skin and wound cleansing guidance has been produced by the All Wales Tissue Viability Nurse Forum and is based on current evidence and expert opinion.

The purpose of limb and wound cleansing is to improve patient comfort and optimise wound healing by: reducing bacterial load, removing loose material, excess exudate, wound debris, previously applied emollients and dry skin scales (Fletcher and Ivins, 2015).

For the patient living with a leg ulcer, good skin and wound hygiene can greatly improve their quality of life and clinical condition. Additionally, failure to cleanse a wound and skin appropriately may compound the negative effects of leg ulcers, prolong healing time and increase the risk of infection and associated complications (McLain and Moore, 2015).

Wound and skin cleansing requires effective infection prevention using standard infection control precautions. These include: good hand hygiene; the wearing of personal protective equipment (PPE) based on the assessment of risk to the patient and carer; safe disposal of waste; management of the patient's environment; and maintaining comprehensive documentation (Wounds UK, 2020). Refer to your local policies for further information.

At each wound care intervention any signs of infection such as: increasing skin redness, pain, swelling, increased exudate volume or deterioration of the wound bed, should be acted on immediately following local guidance.





LOWER LIMB AND LEG ULCER CLEANSING

1. Cleanse the ulcer bed and wound margins using the principles of aseptic non touch technique (ANTT) and the contents of the sterile dressing pack (refer to your organisation's guide).
2. To cleanse the ulcer and margins, use gauze from the dressing pack moistened with drinking quality tap water and apply light pressure to remove debris.
3. Wash the skin of the lower leg and foot using a simple emollient as a soap substitute and warm drinking quality tap water or saline.
 - ◆ Use gauze from the wound pack, moistened with drinking quality tap water to gently remove loose skin scales, exudate and previously applied emollients. Extra gauze can be sourced if required.
 - ◆ The emollient used as a soap substitute can be applied directly to the limb then rinsed off or added to water. Emollients should be supplied in a patient-specific pump-action container to avoid the potential for cross-infection.
 - ◆ If appropriate, a dedicated clean bowl or container lined with a clear single use plastic bag may be used when washing the leg (excluding patients with diabetic foot ulcers or arterial foot ulcers, refer to local guidance for further information).
 - ◆ Use a clean paper towel from the wound pack to dry skin and apply a leave on emollient to intact skin.
4. Redress the wound and limb following the treatment plan and complete the appropriate documentation.
5. Dispose of cleansing water in a toilet, drain or sink not used for hand washing.
6. Decontaminate equipment used following local policy and ensure equipment is dry before storing.

Additional products are available such as debridement pads and debridement wipes where removal of wound debris and excess skin scales is indicated.

In some circumstances specific cleansing products or solutions may be prescribed, see table on page 62 for guidance.





SKIN AND WOUND CLEANSING GUIDE FOR PATIENTS WITH LOWER LIMB LEG ULCERS - CONTINUED

First-line cleansers for wound hygiene		Why use them?	How to use them	Comments
Non-antimicrobial cleaning agents	Drinking quality tap water	<p>Non-toxic to human cells</p> <p>Cost effective</p> <p>Can be used for chronic wound and skin cleansing</p> <p>Helps to remove dry skin used in combination with soap substitute</p>	<p>Can be delivered in a variety of ways, e.g. patient showering or washing leg using a lined bowl or bucket</p> <p>Aim for water to be at body temperature</p> <p>Cleanse wound bed using drinking quality tap water and gauze swabs</p> <p>Emollient soap substitute can be added - useful for removing dry skin scales and for rehydrating skin</p>	<p>Can be a moving and handling risk if using large volumes – requires risk assessment</p> <p>Do not use for wounds requiring sterile procedure</p> <p>Limited ability to reduce bacterial load</p> <p>Taps can become colonised transmitting infection if not flushed regularly</p> <p>Some emollients are flammable and should be used with caution</p>
	Sterile normal saline	<p>Should be used if drinking quality water is not available</p> <p>Low toxicity</p>	<p>Aim for saline to be at body temperature</p> <p>Available in a sachet, spray can or ampule</p> <p>Cleanse wound bed using saline and gauze swabs</p> <p>Emollient soap substitute can be used if removing debris, dry skin scales and for rehydrating skin</p>	<p>Need to protect surrounding environment if using a spray saline</p> <p>Limited ability to reduce bacterial load</p> <p>Must be used for wounds that require a sterile procedure</p>



SKIN AND WOUND CLEANSING GUIDE FOR PATIENTS WITH LOWER LIMB LEG ULCERS - CONTINUED

First-line cleansers for wound hygiene		Why use them?	How to use them	Comments
ANTISEPTIC, ANTIMICROBIAL AND ASTRINGENT AGENTS The following solutions are not for routine use. They are used in specific circumstances and may reduce potential for infection. They are prescribed individually for the patient and are for short-term use. Refer to Local Health Board/Trust specific guidance for use.	Potassium permanganate 0.01% (1:10,000)	Wet and infected eczema <i>Pseudomonas aeruginosa</i> infection	Dissolve 1x 400mg tablet in 4 litres of body temperature water Make sure tablet is fully dissolved before use Use solution immediately it is made up to prevent oxidation Soak gauze swabs and apply to wound or soak leg in a plastic bag lined bucket for 15 minutes Review use following local guidance	Must not be taken orally Possible harm and death if ingested Staining of skin and clothes and ceramic basins Can be irritant Caution in patients with raised potassium levels/renal failure Patient information leaflet to be given to explain storage and use
	Acetic acid	Effective against <i>Pseudomonas aeruginosa</i> infection Skin and soft tissue infection Low toxicity	Product made up ready for use by pharmacist Soak gauze swabs in solution and apply to affected area for 15 minutes Review use following local guidance	Can cause irritation
	Antimicrobial emollient, e.g. Oilatum® Plus, Dermol® 600 Bath, Dermol® 500, Emulsiderm®	Eczematous or pruritic skin conditions At risk from infection (Oilatum Plus)	Some formulations can be used direct to skin as soap substitute, others will require dilution – follow manufacturer's instructions. Emollient in tubs should be removed using a clean spoon or spatula to reduce bacterial contamination	Care should be taken as these preparations will make skin and surfaces slippery
	Antimicrobial cleansers containing surfactants, e.g. Polyhexamethylene biguanide (PHMB) Ocenidine dihydrochloride	Cleansing and decontamination of Infected wounds Loosens devitalised tissue Disrupts biofilm	Use at room temperature Apply gauze swabs soaked in the solution to the affected area for manufacturer's recommended period of time Wipe wound with soaked gauze to facilitate removal of surface debris and contaminants, biofilm, and devitalised tissue	Does not promote bacterial resistance Shelf life of 8 weeks after opening bottle No refrigeration required Mixing product with other wound cleansing soaps, lotions, ointments, oils or enzymes may lower efficacy



GUIDE TO BUEGER'S TEST

Peripheral artery disease (PAD) of the lower limb is a common cause of lower extremity wounds and amputations. Patients with early PAD or critical limb ischaemia (CLI) who have an inadequate blood supply will experience symptoms the severity of which depends upon the degree of arterial narrowing, number of arteries affected, and the activity level of the patient. PAD can present with pain of one or more, lower extremity muscle groups often associated with activity

(i.e. intermittent claudication), atypical pain, pain at rest or elevation, or with non-healing wounds, ulceration, or gangrene. A non-invasive vascular assessment should be considered to evaluate patients suspected of having reduced circulation, to help inform diagnosis and decision-making about treatment options going forward. One such non-invasive vascular assessment is the Buerger's test outlined below.

BUERGER'S TEST

- The patient should be lying supine (flat on back).
- Raise the patient's legs to about 45° and hold for 2–3 minutes; you may see blood draining from leg and it turning pale. Venous guttering which can look like all the blood has drained from the veins may become visible (*Figure 1*). In venous guttering, the veins in the foot become dipped like gutters and do not promptly return to normal when the foot is placed in a dependent position again.
- If there is significant peripheral arterial disease, the foot becomes pale after a few seconds of elevation.
- Ask the patient to sit up and hang their legs over the edge of the bed.
- Watch the patient's legs and feet for colour changes for 2–3 minutes.
- There will be no colour change on elevation or dependency with a normal peripheral circulation.
- With dependency, the blood can reach the foot with the aid of gravity and turns from white to a deep red (brick red) colour (dependent rubor) due to the blood filling the vasodilated microcirculation (*Figure 2*).
- If this test is positive, it indicates the presence of severe peripheral arterial disease and when the changes are marked the patient is likely to be complaining of short distance claudication or rest pain (if this is present make an urgent referral to vascular service).

GUIDE TO BUEGER'S TEST - CONTINUED

Figure 1.

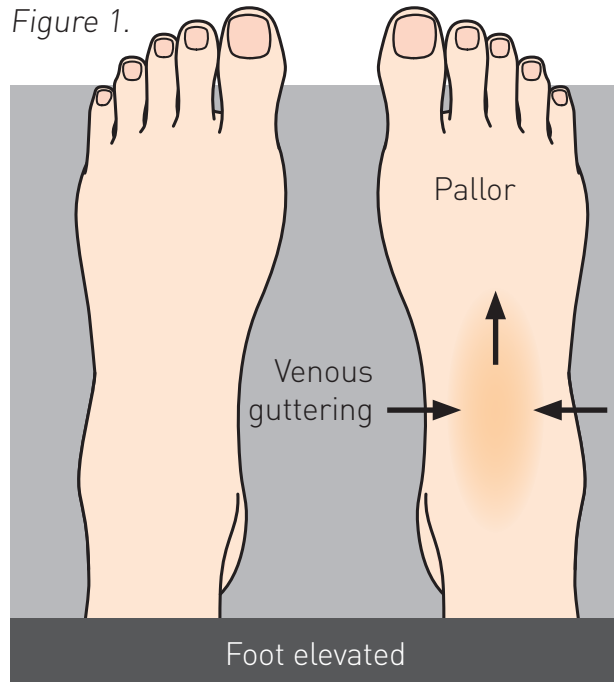


Figure 2.

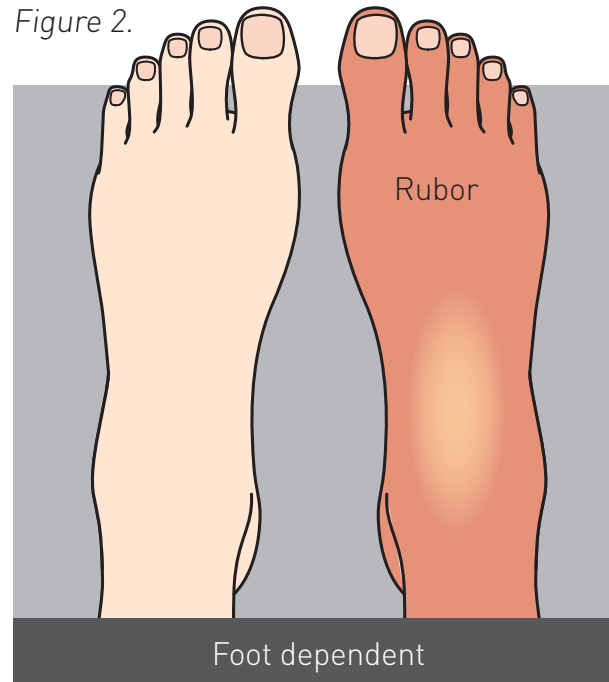
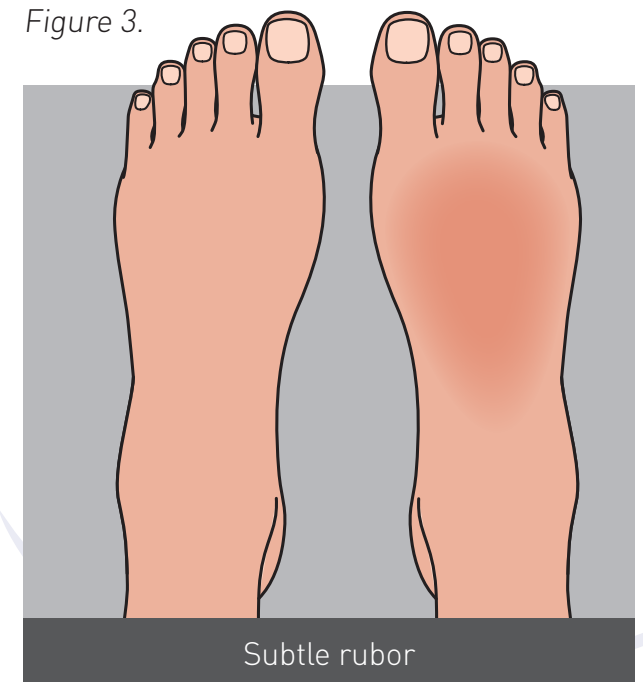


Figure 3.



SUMMARY

Placement of a healthy foot in the dependent position below the heart level decreases capillary blood flow and elevation produces no changes in flow. However, the same manoeuvre in a patient with PAD results in increased capillary blood flow when the patient is seated with the foot below the level of the heart and decreased blood flow when the foot is elevated — see *Figures 1 and 2*, with *Figure 3* showing subtle rubor (Eder et al, 2020).



1. Contaminated or Colonised Wound

OBSERVATION

Healing is progressing normally with the following wound characteristics:

- Exudate - low to moderate volume
- Slough and necrosis may be present
- Odour - minimal
- Pain - minimal

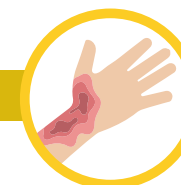
NB: wounds heal in the presence of microorganisms, at this stage they are not causing damage to the host.

* WBP: International Wound Infection Institute (IWII) Wound Infection in Clinical Practice. Wounds International. 2022: 26

DO NOT SWAB!

ACTION

- Assess wound and identify aetiology. Ensure any contributing comorbidities have been treated (e.g. diabetes, vascular supply, malignancy, inflammatory causes).
- Optimise wound healing through wound bed preparation (WBP)*.
 - Consider cleansing of the wound with tap water or saline to remove debris from the wound bed.
- Consider the use of non-antimicrobial dressings and apply emollients to surrounding skin.
- If wound healing progressing continue treatment plan and review in 2 weeks.
- If the wound is not progressing after 2 weeks (4 weeks for some treatment plans), or deteriorating, review the wound aetiology and diagnosis and re-assess treatment plan. Seek further specialist advice (e.g. TVN, podiatry, dietician).
- Complete nutritional risk screening (e.g. MUST or WAASP screening tool) and implement. If signs of localised infection are present progress to **STEP 2**



2. Localised Wound Infection (contained within wound and peri-wound <2cm)

OBSERVATION

When healing is not progressing normally or the wound is deteriorating, and the wound exhibits two or more of the following characteristics:

OVERT (CLASSIC):

- Erythema/redness[#]
- Local warmth
- New/increasing pain
- Swelling/oedema
- New or increasing pain in or around the wound
- Increasing malodour
- Wound breakdown and enlargement

COVERT (SUBTLE):

- Hypergranulation
- Bleeding, friable granulation
- Epithelial bridging and pocketing in granulation tissue
- Delayed healing beyond expectations

DO NOT SWAB!

ACTION

- Optimise wound healing through appropriate wound bed preparation (WBP)*
 - Consider an antiseptic cleanser or surfactant soak as per local guidelines to cleanse and mechanically debride the wound.
- Select an antimicrobial wound dressing (AWD) to manage bioburden, exudate, malodour etc. as required (refer to local policy for primary/secondary choice).
- Wound infection review: (initially at 2 weeks, then every 7 days).
 - If no signs of infection, STOP using AWD and return to **STEP 1**
 - If improving, but there are still signs of infection, continue with AWD and review weekly until no signs of infection.
 - If static or deteriorating, review the wound aetiology, diagnosis and AWD choice, consider seeking further advice from a wound specialist (e.g. TVN, podiatry, dietician).
 - If signs of spreading infection, go to **STEP 3**

[#] Consider darker skin tones, e.g. skin may appear darker than usual

3. Spreading Wound Infection



OBSERVATION

When the wound is deteriorating with signs of local infection as defined in stage 2 above plus one or more of the following characteristics:

- Extending induration, with or without erythema
- Lymphangitis (swelling of lymph glands)
- Spreading erythema (>2cm from wound edge)
- Crepitus (palpable grating between tissues)
- Wound breakdown/dehiscence with or without satellite lesions

ACTION

Take a wound swab using the 'LEVINE' technique: CLEAN - DEBRIDE - SWAB

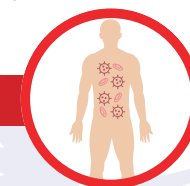
DO NOT use antimicrobial cleaners before taking a swab.

Review swab results as soon as possible.

- **IMPORTANT:** If there is spreading infection or surrounding tissue involvement, consider starting oral or intravenous antibiotics in accordance with your local antimicrobial policy.
- Consider taking bloods for full blood count and C-reactive protein (CRP) testing.
- Apply/continue topical AWD and review weekly.
- If the wound is deteriorating, review wound aetiology, diagnosis and AWD choice and consider seeking further specialist advice regarding other treatment options.
- If the wound is improving consider returning to **STEP 1** or **STEP 2** depending on assessment.

NOTE: If patient is systemically unwell progress immediately to **STEP 4**

4. Systemic Infection



OBSERVATION

When 1 or more signs, or symptoms of systemic infection are present including some of the following symptoms and/or wound characteristics, this may lead to sepsis if not treated:

- Increasing NEWS2 score
- Systemic markers of infection (e.g. raised white cell count/CRP)
- Pus/abscess
- Patient systemically unwell
- Malaise/lethargy or non-specific general deterioration

ACTION

- If rapid deterioration or suspected sepsis refer for urgent medical/surgical advice and if indicated start the local sepsis screening tool.
- Whilst AWD should not be used routinely at this stage, they may continue to have a role in dealing with local wound issues such as malodour and exudate.
- After treatment of the systemic infection is complete, if a wound is still present, review the wound aetiology and diagnosis, consider seeking further specialist advice regarding other treatment options, and consider returning to a previous step (**STEPS 1–3**).

NOTE: Interpretation of inflammatory markers may require careful interpretation by an experienced clinician.

Adapted with permission from International Wound Infection Institute (IWII), Wound infection in Clinical Practice. International Consensus Update 2022., together with the Evidence Based Procurement Board (EBPB) Antimicrobial Wound Dressings (AWDs) Statement, Recommendations and Guidance Version 3 2023. This document sets out the recommendations for evidence based best practice of wound assessment, and is intended to be used as a guide. The guidance should be used in conjunction with professional clinical judgement, and local wound care guidance. Please refer to International Wound Infection Institute (IWII), Wound infection in Clinical Practice. Wounds International 2022 for aseptic-wound dressing procedure (p38-40). Greg Williams Clinical Liaison BMS PHW greg.williams2@wales.nhs.uk. November 2023.



TAKING A WOUND SWAB FOR CULTURE - THE 'LEVINE' TECHNIQUE



1. Cleanse and debride the wound

- Inform the patient of the procedure, that it may cause discomfort and gain consent. Cleanse the wound using warm sterile saline (or clean tepid potable water).
 - Suggested guidance: 50-100ml per cm of wound length.
- Debride non-viable tissue as required, in line with local policy.
 - The aim is to remove contaminating material such as non-viable tissue, dressing residue, dried exudate, etc.
- Repeat wound cleansing using warm sterile saline.

Please ensure any swabs taken can be delivered within 24hrs.



2. Select the sample location

- Obtain the sample from the cleanest area of the wound bed.
 - Where possible, do not obtain the sample from superficial pus, slough or necrotic tissue.
 - Especially where this has been residing beneath a dressing, or exposed to external environment.
 - Ensure a 1cm² area of viable wound bed tissue is visible in order to continue with the procedure.
 - If the wound is probing (e.g. a sinus) in nature, consider taking a deep sample and make a note of this on the request form.
 - If there is <1cm² of wound bed visible do not take the swab.
- Consult with a wound specialist to discuss clinical presentation or concerns.



3. Use the correct sample technique

- Ensure the swab is within the expiry date.
- Moisten the swab tip with sterile normal saline.
- Using an aseptic technique, firmly press the swab down into the selected area of 1cm wound bed and rotate the swab for 5 seconds to express fluid from the tissue.
- Use a separate swab for each wound.
- Once the swab has been taken, place the swab into the tube with the transport medium.

TAKING A WOUND SWAB FOR CULTURE - THE 'LEVINE' TECHNIQUE - CONTINUED



4. Label the sample appropriately

- Label the sample correctly with patient's details, date and time sample was taken, an accurate location, and type, of wound.
- Include additional detail on the request form:
 - Clinical history;
 - Underlying cause of the wound (e.g. diabetes or peripheral disease);
 - Duration the wound has been present;
 - Current antibiotic therapy and other relevant medication (e.g. steroids or other immunosuppressant);
 - Appearance, size and depth (especially if probing).



5. Organise sample delivery

- Dispose of infectious waste and sharps appropriately.
- Document the wound assessment, measurements and procedure performed.
- Package swab and transfer to microbiology department as per local policy.

Adapted with permission from IWII wound infection in clinical practice 2022. This document sets out the recommendations for evidence based best practice of wound swab sampling, and is intended to be used as a guide. The guidance should be used in conjunction with professional clinical judgement, and local wound care guidance. Greg Williams Clinical Liaison BMS PHW greg.williams2@wales.nhs.uk. November 2023.





REFERENCES

- BLS/LSN (2022) *Guidelines in the management of cellulitis in lymphoedema*. www.lymphoedema.org
- Diabetes UK (2012) *Testing for sensitivity in your feet*. Available at: <https://diabetes-resources-production.s3-eu-west-1.amazonaws.com/diabetes-storage/migration/pdf/Touch-the-toes-test.0812.pdf>
- Eder S, Dissemmond J, Vanscheidt W, Lauchli S, Partsch H, Stucker M (2020) Buerger's Test/Pole Test: simple clinical tests to screen the arterial perfusion before compression therapy. *Phlebologie* **49(02)**: 108–10
- Evidence Based Procurement Board (2018). *Advice Statement: Topic – Antimicrobial Wound Dressings (AWDs)*. EBPB, 2018. Retrieved March 28, 2024. Available at: www.weds-wales.co.uk/wp-content/uploads/2021/06/PT011-EBPB-Advice-Statement-and-Recommendations-Anti-Microbial-Dressings-October-2018.pdf
- Fletcher J, Ivins N (2015) is it time to review how we clean leg ulcers. *Wounds UK* **11(4)**: 42–4
- Harding K et al (2015) *Simplifying venous leg ulcer management*. Consensus recommendations. Wounds International Harding K
- Ho BK, Robinson JK (2015) Color bar tool for skin type self-identification: a cross-sectional study. *J Am Acad Dermatol* **73(2)**: 312–3
- International Working Group on the Diabetic Foot (2021) *IWGDF Guidelines*. Available at: <https://iwgdfguidelines.org/>
- International Wound Infection Institute (2016) *Wound infection in clinical practice. Principles of best practice*. Wounds International. Available at: <https://woundsinternational.com/consensus-documents/wound-infection-in-clinical-practice-principles-of-best-practice/>
- Legs Matter (2023) *Is your patient able to self manage?* <https://legsmatter.org/resources/advice-for-how-patients-can-care-for-a-leg-ulcer-at-home/>
- Lymphoedema Wales Clinical Network [LWCN] (August, 2022). *The Chronic Oedema Wet Leg Pathway V10.0*. Available at: <https://learning.nhs.wales/mod/resource/view.php?id=9312>
- McLain NEM, Moore ZEH (2015) Wound cleansing for treating venous leg ulcers. *Cochrane Database Syst Rev* **3(3)**: CD011675
- Martinez CA, Carmeli E, Barak S, Stopka CB (2009) Changes in pain-free walking based on time in accommodating pain-free exercise therapy for peripheral arterial disease. *J Vasc Nurs* **27(1)**: 2–7
- Mullins S, Hosseini F, Gibson W, Thake M (2022) Physiological changes from ageing regarding pain perception and its impact on pain management for older adults. *Clin Med J*. Available at: www.rcpjournals.org/content/clinmedicine/22/4/307#:~:text=Although%20it%20is%20recognised%20that%20pain%20is%20extremely,and%20also%20demonstrating%20less%20concordance%20with%20medications.%20
- NHS England (2019) NHS Long Term Plan. Available at: www.longtermplan.nhs.uk/
- National Institute for Health and Care Excellence (2020) *Leg ulcer infection: antimicrobial prescribing*. NICE guideline [NG152]. Available at: www.nice.org.uk/guidance/ng152
- National Institute for Health and Care Excellence (2023) *Leg Ulcers – Venous*. Available at: <https://cks.nice.org.uk/topics/leg-ulcer-venous/> accessed 02/02/2021
- National Wound Care Strategy Programme (2023) *Leg ulcer recommendations*. Available at: www.nationalwoundcarestrategy.net/wp-content/uploads/2024/02/NWCSP-Leg-Ulcer-Recommendations-v2-1.8.2023.pdf
- Wound Union of Wound Healing Societies (2016) *Position document. Management of biofilm*. Available at: <https://woundsinternational.com/wp-content/uploads/sites/8/2023/02/bb521d75b67202a92f18078becfa5389.pdf>
- Wounds UK (2020) *Best Practice Statement: Antimicrobial stewardship strategies for wound management*. Available at: <https://wounds-uk.com/best-practice-statements/best-practice-statement-antimicrobial-stewardship-strategies-wound-management/>
- Wounds UK (2021) *Best Practice Statement: Addressing skin tone bias in wound care: assessing signs and symptoms in people with dark skin tones*. Available at: <https://wounds-uk.com/best-practice-statements/addressing-skin-tone-bias-wound-care-assessing-signs-and-symptoms-people-dark-skin-tones>
- Wounds UK (2022) *Holistic management of venous leg ulceration*. Available at: <https://wounds-uk.com/best-practice-statements/holistic-management-venous-leg-ulceration-second-edition/>

NOTES

A decorative background featuring a light blue, stylized dragon or mythical creature on the right side, set against a white background with horizontal ruling lines. The dragon is depicted in a dynamic, leaping pose, with its wings spread and tail curled. The overall design is clean and modern, suitable for a notebook or stationery.

STANDARDS FOR LEG ULCER CARE IN WALES

PRODUCED BY THE ALL WALES TISSUE VIABILITY FORUM

