NHS

Bath and North East Somerset
Community Services

LEG ULCER PATHWAY

Any concerns at all, please contact the Tissue Viability Service
Holly Pollock - 07967 837356 **Lauren Mitchard** – 07568 130521 **Rachel Porton** - 07718 696157

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DIFFERENTIAL DIAGNOSES FOR DIFFERENT LEG ULCER TYPES

Leg ulcer	Typical location	Important factors in patient assessment	Important factors in leg assessment	Important factors in wound assessment	Further investigations	Treatment
Venous	Lower gaiter/ malleolus	• Deep vein thrombosis (DVT) • Varicose veins • Previous surgery or trauma • Obesity	• Previous ulceration • Skin staining • Inverted 'champagne bottle' shaped leg • Lipodermatosclerosis • Eczema • Oedema • Suboptimal ankle movement	• Tissue may be granulating or sloughy, usually with shallow, sloping edges	Referral to vascular team Duplex scan of venous system	• Compression • Radiofrequency ablation of superficial varicose veins
Arterial	Foot or ankle / lower shin	• History of cardiac disease, intermittent claudication, diabetes, rest pain, smoking, hypertension	• Reduced ankle brachial pressure (ABPI) • Pale, poorly perfused limb • Limb may be hairless	• Sloughy and necrotic or pale wound base • Minimal exudate from ulcer • Punched-out appearance with deep wound edges	Urgent referral to vascular team Duplex scan of arterial system CT angiogram	• Angioplasty with stenting • Bypass surgery • Antiplatelet therapy • Statin therapy
Pyoderma gangrenosum	Anywhere on body	• Inflammatory bowel disease • Rheumatoid arthritis	• Significant pain • Spreads rapidly	• May have purple halo around ulcer • Necrotic tissue may be evident	Often a diagnosis by elimination	• Referral to dermatology • Steroid therapy, topical and/or systemic
Small vessel vasculitis	Lower legs	• Recent infection • Antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis (a group of conditions associated with the destruction of small blood vessels	• Painful, non-blanching palpable purpura	• Multiple purpura, which may ulcerate	Ulcer biopsy Blood tests as per specialists	• Referral to dermatology/ rheumatology • Reduced compression • Steroid therapy

Reference – Todhunter, J. (2019) Understanding the differential diagnosis of leg ulcers: focus on atypical ulcer. Wound Care Today.

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Leg ulcer	Typical location	Important factors in patient assessment	Important factors in leg assessment	Important factors in wound assessment	Further investigations	Treatment
Rheumatoid	Lower gaiter/ ankle	• Rheumatoid arthritis • Immunosuppressant medication	• Multifactorial aetiology • Foot deformity	• Tissue may be sloughy or granulating • Ulcers may be deep or shallow	Depends on underlying aetiology	• Reduced compression • Liaise with rheumatology regarding medication
Calciphylaxis	Distal: lower gaiter Proximal: inner thighs	• Renal failure on dialysis • Warfarin	• Extremely painful • Rapid spread	• Necrotic tissue • Prone to infection	Ulcer biopsy Bone metabolism bloods coagulation	• Pain relief • Debridement of necrosis • Wound care
Calcinosis cutis	Any site on legs	• Varicose veins with ulceration	• May have venous skin changes	• Sharp pieces of calcium can be felt in the ulcer		• Removal of calcium • Compression
Drug-induced ulcers	Usually lower leg	• Medication, such as nicorandil • Hydroxurea	• Oedema • Pain • Exclude vascular cause • Ulcer does not respond to wound care and compression alone	• May resemble a venous ulcer		• Reduction in dose of offending drug, or alternative medication
Basal cell carcinoma (BCC)	Sun-exposed lower leg, often front of shin	• History of sun exposure • Usually in fair complexions	• Duration: slow growth • Lack or response to standard wound treatment	• Ulcer may resemble overgranulation tissue • Rolled edges	Ulcer biopsy	• Surgical excision with wide margin plus skin graft • Compression
Squamus cell carcinoma (SCC)	Lower leg	• History of chronic venous leg ulcers • History of trauma burns to site of ulcer • Immunosupression • Actinic keratosis	• Scar tissue • Venous skin changes	• Rapid changes in appearance of ulcer • Raised edges • Uneven wound base • Sloughy • Malodorous • Friable	Ulcer biopsy	• Surgical excision • Compression • Radiation • Possible amputation

Reference – Todhunter, J. (2019) Understanding the differential diagnosis of leg ulcers: focus on atypical ulcer. Wound Care Today.

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DIAGNOSTIC PATHWAY

Complete a full holistic leg ulcer assessment

The patient should have a doppler within 28 days of identification of a non healing wound
If you get an inaccurate result with an automated doppler, reassess using a handheld doppler.
At all times listen and document arterial sounds using hand held doppler

If ABPI is less than 0.6

Arterial Aetiology

Refer to Vascular

ABPI 0.6 - 0.8

Mixed Aetiology – Biphasic Sounds

If monophasic sounds - discuss with TVN

Reduced (mild) compression
UrgoKTwo Reduced according to ankle circumference

ABPI 0.8 - 1.3

Venous Aetiology – Biphasic and Triphasic Sounds

If monophasic sounds - discuss with TVN

Full (strong) compression
UrgoKTwo according to ankle circumference

If ABPI is more than 1.3

Refer to TVN

BOX A **CO-MORBIDITIES**

- Diabetes
- Rheumatoid Arthritis
- Immunosuppressed
- Lymphoedema
- Factor 5 Leiden (Thrombophilia)
- Moderate to Severe Renal Disease
- Heart Failure
- COPD
- PAD

Potential for self care
Consider hosiery kits or for Juxta Cures refer to TVN

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COMPRESSION THERAPY SELECTION GUIDE

Commence UrgoKTwo bandaging for 2 weeks – Assess suitability for supported self-care application every week thereafter

Does the patient have any of the following?

- Exudate not contained within the dressing for duration of wear time.
- Abnormal leg shape – if very misshapen contact TVN
- Chronic leg and ankle oedema not reduced by elevation – if legs/feet very oedematous contact TVN
- Skin on leg very fragile or in poor condition
- Fixed ankle joint
- Large wound size

→ **Yes**
Continue in **UrgoKTwo** Bandaging

NO ↓

Discuss treatment options with patient/carer, are they able, willing and suitable for supported self-care. Consider -

Physical Ability – Has the patient/carer the mobility and dexterity to apply self-care compression?

Mental Ability – Does the patient understand signs of infection and problems?

Motivation – Are you confident the patient will keep the compression garment on?

→ **No**
Continue in **UrgoKTwo** Bandaging

YES ↓

Suitable for self-care. Select HOSIERY KITS first choice unless has following

Slightly distorted leg shape
Moderate reducible oedema
Hosiery Kit difficult to apply – consider hosiery application aid

→ **Yes**
If unsuitable for hosiery kit refer to TVN for compression wrap

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WOUND BED PREPARATION/BIOFILM MANAGEMENT

Definition: Biofilm-a complex microbial community in which microorganisms synthesize and secrete a protective matrix that attaches itself to a surface.

All high risk patients to commence biofilm management regime

High risk are patients with the following risk factors:

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- Lymphoedema
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- Moderate to Severe Renal Disease
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Low risk of infection

No co-morbidities

Clean with tap water

High risk of infection

With co-morbidities (see above)
OR wound present for more than 4 weeks

Use Octenilin to moisten Debrisoft and use on the wound bed and peri wound skin to disrupt and prevent biofilm.

Octenilin can alter or inhibit the antimicrobial effect of Iodoflex.
In this case UCS wipes are recommended for bacterial biofilm management.

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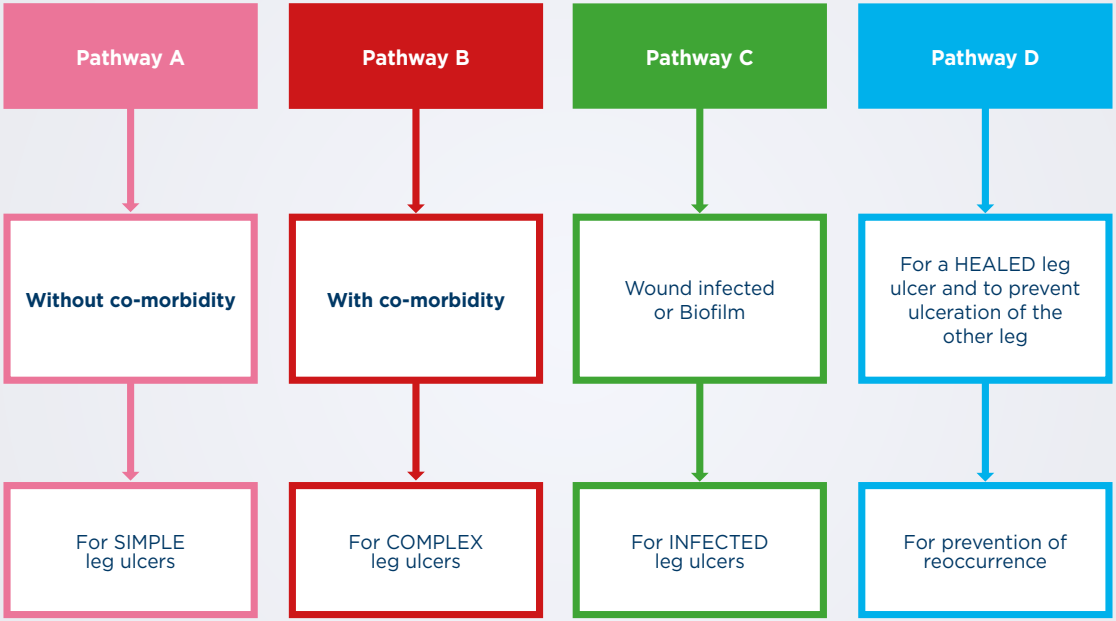
DRESSING SELECTION PATHWAY



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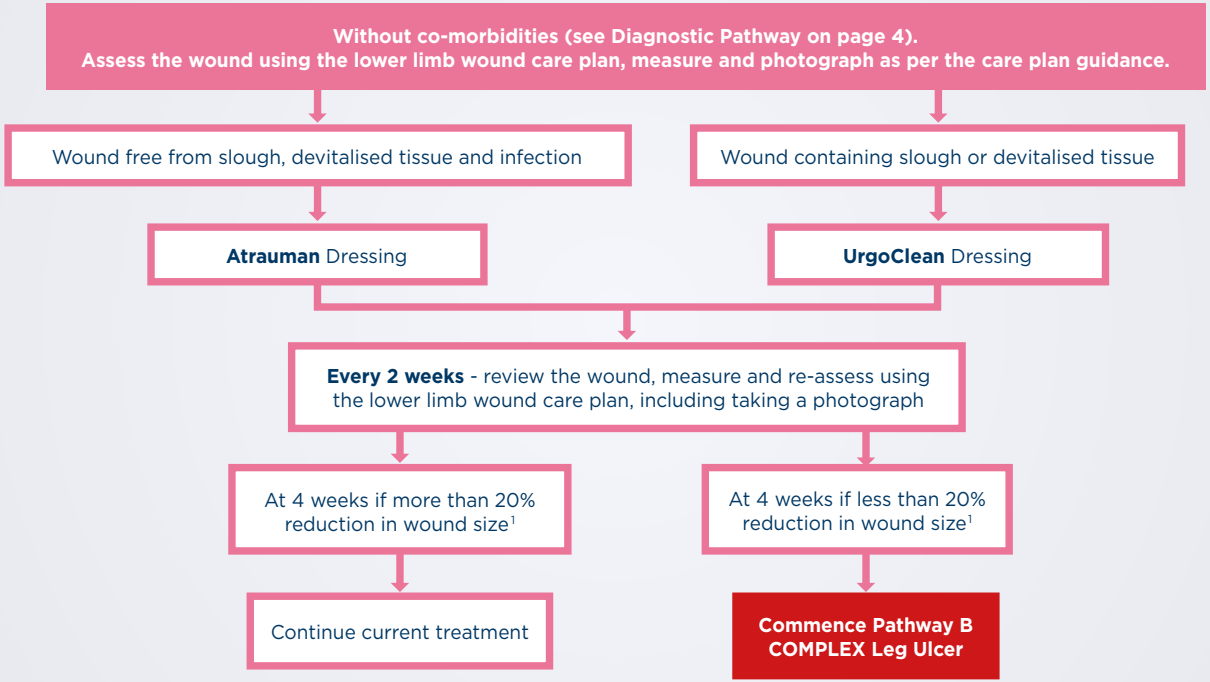
PATHWAY A: FOR SIMPLE LEG ULCERS



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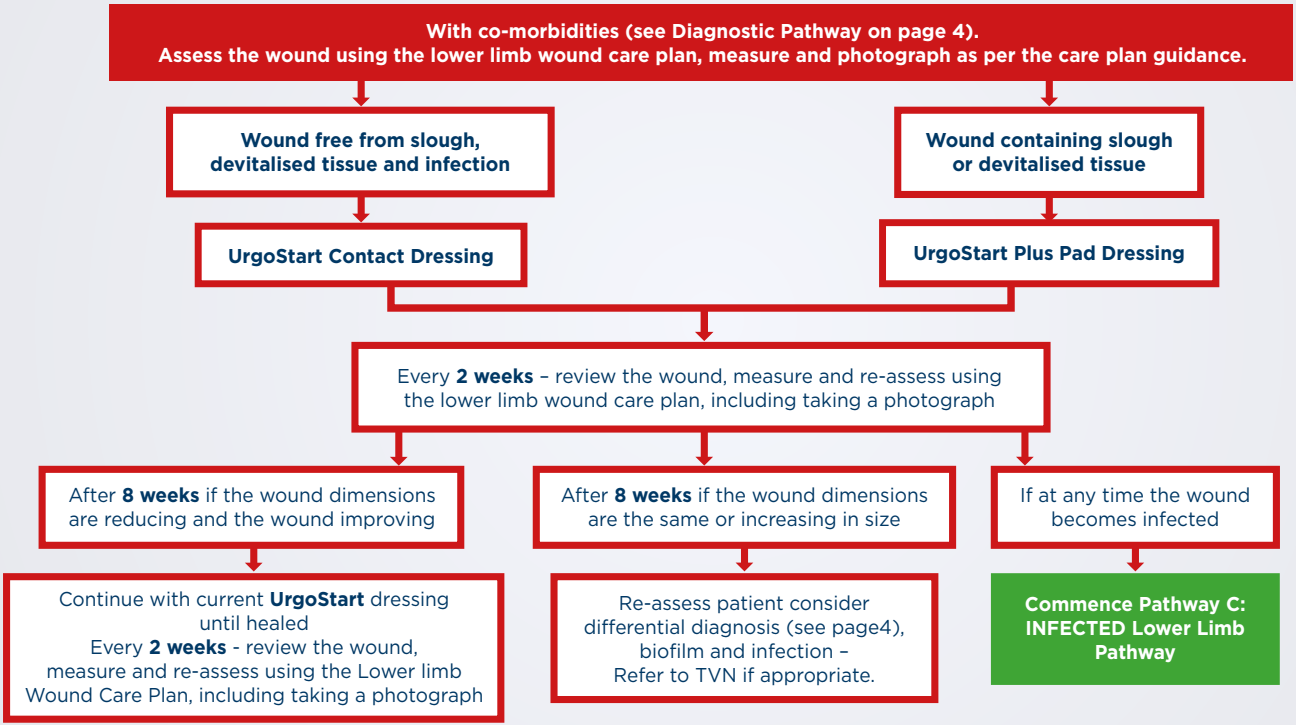
Reference: 1. Flanagan, M. (2003) Wound measurement: can it help us to monitor progression to healing? Journal of Wound Care: 10(5).

PATHWAY B: FOR COMPLEX LEG ULCERS



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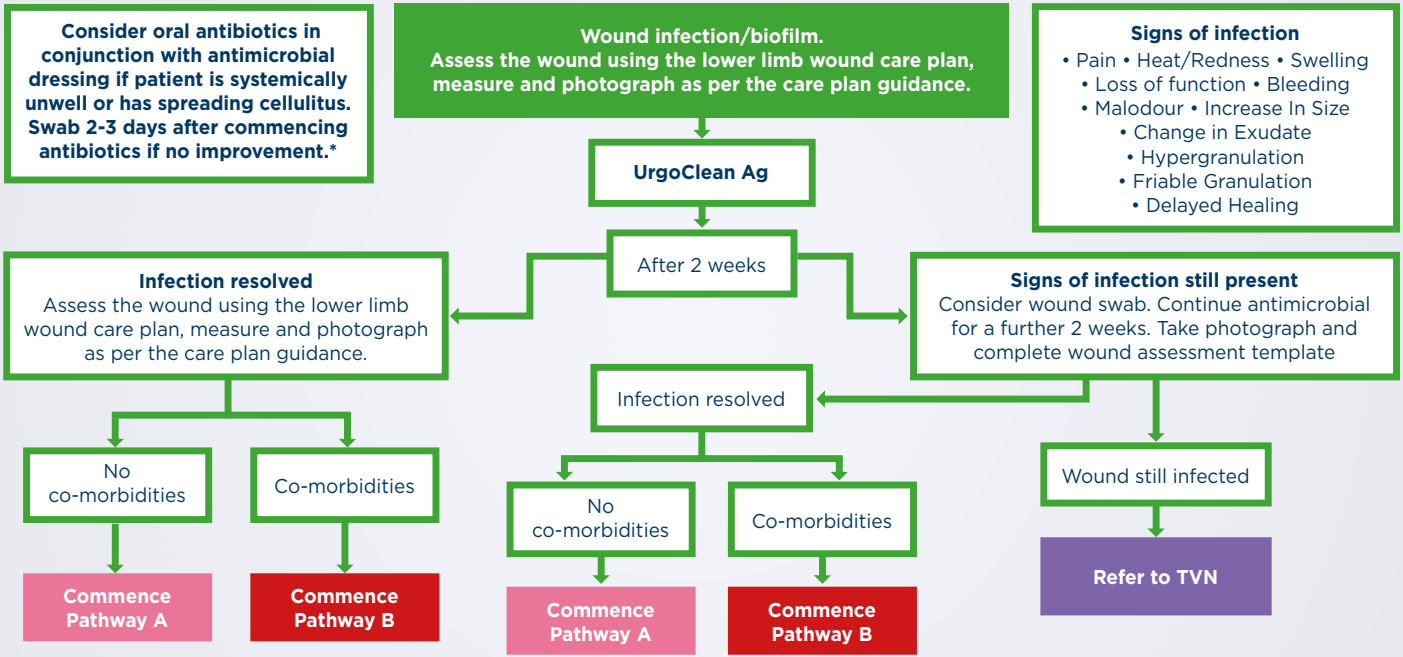
PATHWAY C: FOR INFECTED WOUNDS



Minimum requirement is to take wound dimensions and photograph every 2 weeks

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Reference: *NICE Guidance NG152

PATHWAY D: FOR A HEALED LEG ULCER

Legs should be washed and creamed regularly using an emollient as both a soap substitute and leave on skin treatment.

For a healed leg ulcer and to prevent ulceration of the other leg

Keep in compression therapy **for 2 weeks**
Legs should be washed and creamed prior to application

Reassess

Patient not already in hosiery/wraps, assess limb(s), including limb shape, for appropriate compression garment to promote self management.
Order hosiery application aid if required.

Review the patients after 2 weeks to check managing chosen compression product. Ensure patient knows when and how to re-order their compression product

Reassess if discomfort or deterioration in condition of the leg occurs. Repeat ABPI and follow Lower Limb PATHWAY A to D.

Educate patient regarding ongoing care of their legs e.g. patient info leaflet

Venous Disease will remain

Compression must be worn for life

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GLOSSARY

Ankle flare	Tiny varicose veins on inner aspect of ankle, which can give a reddish tinge to the skin
Atrophie blanche	Smooth, ivory-white areas of avascular tissue to lower leg
Haemosiderin staining	Red/brown discolouration to lower limb caused by leaking of haemoglobin from engorged capillaries in to the skin
Lipodermatosclerosis/induration	Hard layer of fibrous tissue often around the ankle which prevents it from swelling and often leads to 'inverted champagne bottle' legs
Claudication	Cramping pain in the leg induced by exercise and relieved by rest, caused by obstruction of the arteries
Ischaemic rest pain	Continuous burning pain of the lower leg or foot which begins or is aggravated by reclining or elevating the limb and is relieved by sitting or standing
Biofilm	A complex microbial community in which microorganisms synthesize and secrete a protective matrix that attaches itself to a surface.
Phlebitis	Inflammation of a vein usually in the leg and most commonly occurring in superficial veins
Wound surface area calculation	Length cm x Width cm = Wound Surface Area cm^2
Percentage reduction in surface area	Last surface area ÷ new surface area x 100 = percentage reduction

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NOTES

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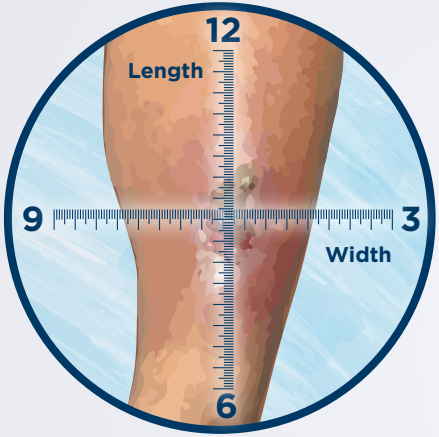
MEASURING WOUNDS



Document all measurements in centimetres, as L x W x D. Remember—sometimes length is smaller than width.

When measuring length, keep in mind that:

the head is always at 12 o'clock

the feet are always at 6 o'clock

your ruler should be placed over the wound on the longest length using the clock face.

WHEN MEASURING WIDTH:

measure perpendicular to the length, using the widest width place your ruler over the widest aspect of the wound and measure from 9 o'clock to 3 o'clock.

WHEN MEASURING DEPTH:

Place a probe into the deepest part of the wound bed.

We also need to measure undermining and tunneling. Measure undermining using the face of a clock as well, and measure depth and direction. Tunneling will measure depth and direction.

TO MEASURE UNDERMINING:

Check for undermining at each "hour" of the clock.

Measure by inserting a probe into the area of undermining back to the wound edge.

TO MEASURE TUNNELLING:

Insert a probe into the tunnel. Grasp the probe at the wound edge (not the wound bed) and measure.

Document tunnelling using the clock as a reference for the location as well.

On the feet, the heels are always at 6 o'clock and the toes are always 12 o'clock.

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