# CLINICAL PROCEDURE

## LEG ULCER MANAGEMENT

<table>
<thead>
<tr>
<th>Issue History</th>
<th>Issue Version</th>
<th>Purpose of Issue/Description of Change</th>
<th>Planned Review Date</th>
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<tbody>
<tr>
<td></td>
<td>Two</td>
<td>To promote safe and effective leg ulcer care and management in the community</td>
<td>2016</td>
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</tbody>
</table>

**Named Responsible Officer:**

- Tissue Viability Lead

**Approved by:**

- Quality, Patient Experience and Risk Group

**Date:** January 2013

**Section:** CP17

**Target Audience:**

- Community Nursing staff who provide leg ulcer care to patients

UNLESS THIS VERSION HAS BEEN TAKEN DIRECTLY FROM TRUST WEB SITE THERE IS NO ASSURANCE THIS IS THE CORRECT VERSION
<table>
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<th>CONTROL RECORD</th>
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<td><strong>Title</strong></td>
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<th>VERSION CONTROL RECORD</th>
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<td><strong>Version Number</strong></td>
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Status – New / Revised / Trust Change
INTRODUCTION

This procedure is grounded in evidence based practice to promote the most effective care for patients requiring Leg Ulcer Management and to meet standards set by the RCN (2006) for patients. The RCN leg ulcer management guidelines RCN (2006) report that the healing rates for a leg ulcer should be between 12 to 24 weeks.

TARGET GROUP

All Community Nurses who are involved in the assessment, management and ongoing care of patient’s with leg ulcers.

TRAINING

All staff in the Trust are required to comply with mandatory training as specified in the Trust’s Mandatory Training Matrix. Clinical staff are also required to comply with service specific mandatory training as specified within their service training matrix.

DELEGATION AND SCOPE OF PRACTICE

The delegation of nursing care must be appropriate, safe and in the best interests of the patient at all times and the decision to delegate must always be based on an assessment of their individual needs (NMC 2008). Where Trust staff have the authority to delegate clinical tasks to other members of staff, they will retain accountability and responsibility for that delegation.

Trust staff should only delegate clinical tasks to other members of staff whom they deem clinically competent and able to fully understand the nature of the delegated task and also what is required of them, and with adequate supervision.

RELATED POLICIES

Please refer to relevant Trust policies and procedures

CONSENT

Valid consent must be given voluntarily by an appropriately informed person prior to any procedure or intervention. No one can give consent on behalf of another adult who is deemed to lack capacity regardless of whether the impairment is temporary or permanent. However such patients can be treated if it is deemed to be within their best interest. This must be recorded within the patient’s health records with a clear rationale stated at all times. Refer to Trust Patient Information and Consent Policy for further information and guidance.
DEFINITION OF A LEG ULCER

For the purposes of the procedure, a leg ulcer is defined as:-
‘An area of discontinuity of epidermis and dermis on the lower leg persisting for 4 weeks or more, excluding ulcers confined to the foot’

TYPES OF ULCERS

Leg ulcers may be due to a number of underlying pathologies, including venous disease, arterial disease and rheumatoid arthritis; either alone or in a combination. This procedure is concerned with the management of people with venous leg ulcers, however as an accurate differential diagnosis of the underlying cause is an essential part of the management, the procedure covers the assessment of patients presenting with leg ulcers of unknown cause.

ASSESSMENT PROCESS

<table>
<thead>
<tr>
<th>ASSESSMENT</th>
<th>RATIONALE</th>
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<tbody>
<tr>
<td>Complete a wound assessment form and supplementary leg ulcer assessment form - a trigger is a non healing wound on the leg or foot of greater than 4-6 weeks duration (RCN 2006). This time frame would start from the commencement of the wound developing. Identification of those service users with predominantly venous ulceration and the appropriate referral of service users via the referral pathway, other than venous ulcers should be made following a holistic assessment</td>
<td>To ensure standardisation of care and the use of evidence based practice</td>
</tr>
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</table>

PAST MEDICAL HISTORY

The assessment, either of a patient’s first or recurrent leg ulcer, should include a detailed history of the onset of the problem. The past medical history should include those factors which impact on persons with any chronic condition. A Medical History suggestive of venous disease includes any of the following:
- Varicose Veins (a record of any treatment must be documented)
- Proven Deep Vein Thrombosis in the affected leg
- Phlebitis in the affected leg
- Suspected Deep Vein Thrombosis e.g. swollen leg following surgery, pregnancy or trauma
- Surgery to the leg
- Fractures to the leg
- Episodes of chest pain, haemoptysis or known history of pulmonary embolus
- Allergies to latex, lanolin and/or antibiotics

Assessment of past medical history will contribute to the assessment in order to determine the underlying cause of the ulcer

EXAMINATION OF THE LEGS AND SKIN

Both legs should be examined, whether or not both legs are ulcerated.

To complete and document a thorough
- Past ulcer history and all previous methods of treatment both successful and unsuccessful should be recorded.

**Physical signs of Venous Disease** may be identified by clinical examination and include:
- Varicose Veins (best seen when the patient is standing)
- Lipodermatosclerosis (hardening of the dermis and underlying subcutaneous fat)
- Eczema
- Ankle Flare (the appearance of many dilated intradermal venules over the medical aspect of the ankle).

Observational assessment of the leg can aid in determining the presence of underlying chronic venous insufficiency (CVI).

**Signs of Arterial Disease** may also be identified and include:
- Cold legs/feet – identified by touch or palpation (in a warm environment)
- Dependant Rubor (reddish / blue discolouration of the foot)
- Pale or Blue feet
- Gangrenous toes
- Absent foot Pulses (determined by palpation and use of Doppler.)

Oedema may be present in either venous or arterial disease. However, its presence should be noted and possible other causes should be investigated e.g. other co-morbidities such as heart failure or renal disease.

**Changes within the leg indicate the progression of underlying arterial disease.**

**A Medical History suggestive of non-venous or mixed aetiology includes any of the following:**
- Diabetes mellitus
- Peripheral vascular disease/intermittent claudication
- Cigarette smoking
- Rheumatoid arthritis

Other co-morbidities can indicate the effects of other disease processes and the likelihood of the ulcer being mixed aetiology.

**CLINICAL INVESTIGATIONS**

Clinical investigations will include
- Blood pressure, as part of the assessment
- Weight as part of the assessment, with reference to a Body Mass Index chart - with appropriate health education or signposting to other support services when deemed appropriate
- Routine urinalysis (to screen for diabetes mellitus and note presence of protein and blood) as part of the assessment

Routine clinical investigations can aid in eliminating other health related problems.

**VASCULAR ASSESSMENT**

The use of Doppler ultrasound by trained health care professional to measure the Ankle Brachial Pressure Index (ABPI) is mandatory.

Doppler assessment is part of the on-going assessment and must

All patients with a non healing wound on the leg of greater than 4 – 6 weeks should have a
be repeated every three months and recorded on the supplementary leg ulcer assessment documentation. This should be repeated whilst compression therapy remains part of the treatment. Vascular assessment by means of Doppler Ultra Sound to eliminate any underlying ischaemic disease (RCN Leg Ulcer Guidelines 2006).

EXAMINATION OF THE ULCER

The assessment will include careful observation of the ulcer itself to facilitate both diagnosis and subsequent treatment choice, including the following:

<table>
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<tr>
<th>SITE:</th>
<th>RATIONALE</th>
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<tbody>
<tr>
<td>Most venous ulcers occur in the ‘gaiter’ area of the leg. This is defined as extending from just above the ankle to below the knee and tends to occur on both the inside of the calf (medial) and outside the calf (lateral).</td>
<td>The clinical appearance of an ulcer, the tissue types involved can help determine the underlying cause of the ulcer.</td>
</tr>
<tr>
<td>APPEARANCE AND DEPTH</td>
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<tr>
<td>Venous ulcers are often shallow i.e. including epidermis and dermis, whereas deep ulcers are more likely to be arterial. Malignant ulcers, though rare, do occur and can be confused with venous ulcers, in this respect, beware of ulcers with atypical appearance such as rolled edges, or non-healing ulcers with a raised ulcer bed. IMPORTANT: If clinical presentation is not consistent with venous ulceration refer to Tissue Viability Specialist Nurses for a specialist advice as per referral criteria.</td>
<td>The type of tissue presented and observation of these tissue types help in determining the underlying cause of the ulcer. Inform General Practitioner of concerns. To update wider health care team</td>
</tr>
<tr>
<td>SIZE:</td>
<td></td>
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<tr>
<td>Dimensions of the ulcer should be taken at first presentation and reassessed fortnightly and recorded on supplementary leg ulcer documentation, measurements must be re-evaluated every 2 weeks. If photography is required for complex cases contact the Tissue Viability Lead for further advice, written consent is required for photography. The consent form for photography is available on the intranet. Baseline assessment is necessary in order to help future evaluations to identify progression or deterioration of the ulcer, will aid in subsequent referrals as necessary.</td>
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<tr>
<td>PAIN:</td>
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<td>The level of pain associated with the ulcer must be assessed on presentation and at each visit thereafter using an analogue pain scale included in the Leg Ulcer Assessment form (complete pain assessment form each visit) which is available to all healthcare Pain is a significant problem for patients suffering with leg ulcers. Baseline assessment and subsequent evaluation is necessary in order to ensure pain is appropriately managed.</td>
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professionals. Pain may suggest infection or arterial disease so careful assessment is required. If patients present with pain the nurse may need to discuss appropriate analgesia with the patients General Practitioner. This is also a key quality of life indicator. Inappropriate pain management will also have a significant effect on the healing rate of leg ulcers (Morrison et al 2007).

SURROUNDING SKIN AREA:
Observe for the presence of eczema, hyperkeratotic skin (hypertrophy of the stratum corneum or the horny layer of skin), maceration, cellulitis, signs of irritation and scratching which are signs and symptoms associated with underlying Venous Disease. Skin changes such as eczema and hyperkeratosis are an indication of underlying Venous Disease. Inappropriate management can cause significant problems such as irritant dermatitis, contact dermatitis, and allergic dermatitis.

REFERRAL CRITERIA - Adapted from RCN (2006) Leg Ulcer Guidelines

Research has shown that patients are not always referred appropriately or promptly for medical assessment; a specialist medical referral must be considered for any of the following:

- Newly diagnosed diabetes ulcer, these patients must always be referred for a specialist medical referral
- Treatment of underlying medical problems
- Ulcers of non-healing aetiology (rheumatoid, diabetes related, arterial mixed aetiology)
- Suspected malignancy
- Diagnostic uncertainty
- Reduced Ankle Brachial Pressure Index (ABPI) (for example, < 0.8 – routine vascular referral; < 0.5 – urgent vascular referral)
- Increased ABPI (for example, >1.3)
- Rapid deterioration of an ulcer
- Signs of contact dermatitis (spreading eczema; increased itch)
- Cellulitis
- Healed ulcers (with a view to venous surgery)
- Ulcers which have received adequate treatment and have not improved after 6 – 8 weeks following date of referral
- Reoccurring ulceration
- Ischaemic foot
- Infected foot/leg
- Pain management

All patients within the Trust who have been referred to the Community Nursing Service for wound care and continue to have a wound evident following 6-8 weeks following the point of referral must be routinely referred to the Tissue Viability Service.

All patients with a previous history of leg ulceration are advised to self-refer to a Leg Ulcer Clinic when signs and symptoms of a new leg ulcer are evident.
BACTERIOLOGICAL SWABBING

Accurate and clear documentation of the bacteriological results must be recorded in the patient’s health care records or wound assessment documentation assessment form on page 4, with all clear actions detailed specifying:

- Who is following up the results in the Community Nursing Team
- By when date for follow up
- Clear documentation of findings and any treatment commenced

The results of the wound swab and clinical presentation will provide a more accurate indication as to the presence of infection and the implications for subsequent management of the wound. It is the responsibility of the member of staff who takes the swab to ensure that the results are fed back and documented.

Routine bacterial swabbing is unnecessary unless one or more of the following “clinical” signs of infection are present (RCN 1998):

- Inflammation / redness / evidence of cellulitis
- Increased pain
- Rapid deterioration of the ulcer
- Purulent exudate

When taking a bacteriological swab of the leg ulcer ensure that:

- The swab is taken from tissue with a good blood supply not necrotic tissue
  If possible also take a sample of pus by either using a swab or if there is copious amounts of exudate and pus, a universal specimen jar and document as per the Trust’s Record Keeping policy
- It is necessary to follow the correct procedure for taking a culture swab in order to ensure that sufficient bacteria is provided for the microbiologist to carry out an appropriate culture and sensitivity.

It is essential to correctly complete the accompanying information card for the microbiologist as this will ensure correct patient information is recorded.

All specimens and microbiology forms must be clearly labelled with the correct patient details which include:

- Patients full name
- Patients address
- Patients sex
- Patients NHS number
- Date of birth

If there are not two identifiers e.g. full name and date of birth then the specimen will be discarded.

It is important to state information relating to the information as stated below:

LEG ULCER MANAGEMENT
• Details of any current antibiotic medication

• Provide as much clinical information as possible i.e. signs and symptoms that may suggest clinical infection, erythema, swelling, heat, purulent discharge, wound deterioration, increased exudate

• State the location of the ulcer from where the swab was taken.

Accurate and clear documentation of the bacteriological results must be recorded in the patient’s health records or wound assessment documentation assessment form on page 4, with all clear actions detailed, specifying who is responsible with by when date if appropriate. The results of the culture swab and clinical presentation will provide a more accurate indication as to the presence of infection and the implications for subsequent management of the wound. It is the responsibility of the member of staff who takes the swab to ensure that the results are fed back and documented.

**Without detailed information, the bacteriologist cannot make an informed diagnosis.**
Diabetic Foot Ulcers

Refer to Wirral Diabetic Foot Guidelines

Diabetic

GP

Non Healing Leg Wound > 4 Weeks

Rheumatoid

Venous Disease

Is Cancer suspected?

Yes

No

ABPI 0.6 – 0.8

ABPI 1.2 – 0.8

ABPI less than 0.6 or greater than 1.2

If no obvious venous disease

Tissue Viability Nurse Vascular Referral, Reduced Compression Pending Review Level 2

Vascular Referral Level 3

Weekly H2O Soak/Wash/Emolliate Atrauman Dressing Level 1/Home

Four Layer Bandage

Urgent Vascular Referral Level 3

Simple Dressings No Compression

Ulcers still present after 6-8 weeks from date of referral, or if clinical need dictates refer to Tissue Viability Service Level 2

Refer to Venous Ulcer Clinic at Clatterbridge Hospital Level 3

If healed order class II/III compression dependent on individual assessment and dexterity of patient and refer for query varicose vein surgery if evidence of varicose veins present.
Management of Venous Stasis Eczema / Irritant Dermatitis

During 3 Month Compression

If venous eczema

Use Eumovate ointment

If excess pain or no improvement refer

Community TVN
Leg Ulcer Specialist
Level 2

No improvement after potent steroid BD for 10 days refer to dermatologists
Level 3
## THE MANAGEMENT OF SERVICE USERS WITH VENOUS LEG ULCERATION
### CLEANSING OF THE ULCER

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbally confirm the identity of the patient by asking them for their full name and date of birth. If client unable to confirm, check identity with family/carer.</td>
<td>To avoid mistaken identity</td>
</tr>
<tr>
<td>Introduce yourself as a staff member and any colleagues involved at the contact</td>
<td>To promote mutual respect and put client at their ease</td>
</tr>
<tr>
<td>Wear identity badge which includes name status and designation</td>
<td>For patients to know who they are seeing and to promote mutual respect</td>
</tr>
<tr>
<td>Discuss and offer a chaperone for the procedure. Document name of chaperone and any other person present, ensuring that consent for their presence has been gained.</td>
<td>To ensure client consents to the presence of third parties and understands why a chaperone is offered.</td>
</tr>
<tr>
<td>If a chaperone has been declined, ensure this is documented.</td>
<td></td>
</tr>
<tr>
<td>Ensure verbal consent for the presence of any other third party is obtained</td>
<td>Students for example, as the client has the choice to refuse</td>
</tr>
<tr>
<td>Explain procedure to patient including risks and benefits and gain valid consent.</td>
<td>To ensure client understands procedure and relevant risks and to promote shared decision making</td>
</tr>
<tr>
<td>Establish patient has no known allergies, check in patient’s records and also ask patient/family of any known relevant previous medical history</td>
<td>To reduce the risk of allergic reactions.</td>
</tr>
<tr>
<td>Explain procedure and any potential risks and fully document risks and benefits explained to patient in the patient’s health care records.</td>
<td>Ensures understanding on the patient’s behalf and allows the patient to provide valid consent if they wish to proceed with the intervention.</td>
</tr>
<tr>
<td>Obtain valid consent and document within the patient’s health care records.</td>
<td>Refer to Trust Clinical Protocol for Assessing Mental Capacity and Best Interests if needed</td>
</tr>
<tr>
<td>If a patient is attending a follow-up appointment at Leg Ulcer Clinic, check the care plan in the patient’s health care records for their specific plan of care.</td>
<td>To inform planned procedure and ensure continuity of care.</td>
</tr>
<tr>
<td>Prepare the environment, e.g. lighting, seating.</td>
<td>To ensure good visibility of the wound bed and enables health care staff to conduct an environmental/infection control risk assessment.</td>
</tr>
<tr>
<td>Ensure the patient is comfortable and in a position where the wound can be easily accessed and viewed</td>
<td>To allow access to area for leg ulcer care</td>
</tr>
<tr>
<td>The staff member carrying out the procedure should adopt an appropriate and comfortable position to enable provision of appropriate leg ulcer care</td>
<td>To promote a safe working environment for the practitioner</td>
</tr>
<tr>
<td>Decontaminate hands prior to procedure</td>
<td>To reduce the risk of transfer of transient micro-organisms on the healthcare workers hands</td>
</tr>
<tr>
<td>Apply single use disposable apron</td>
<td>To protect clothing or uniform from contamination and potential transfer of micro-organisms</td>
</tr>
<tr>
<td>Open sterile dressing pack onto a clean area and</td>
<td>To ensure asepsis and prevent contamination of</td>
</tr>
<tr>
<td>Task</td>
<td>Purpose</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Place all sterile single use equipment required within aseptic field while using key part protection at all times</td>
<td>To enable assessment of the wound bed and adherence to Trust Infection and Prevention Control guidelines</td>
</tr>
<tr>
<td>Apply single use disposable non-sterile gloves and remove any current dressing and dispose of waste according to Trust policy.</td>
<td>To provide a baseline of wound status</td>
</tr>
<tr>
<td>Assess current wound size, shape, depth, position and site to assess for signs of improvement, wound infection or deterioration</td>
<td>Forms part of the holistic wound assessment</td>
</tr>
<tr>
<td>If patient is attending a follow-up appointment, record any changes in wound etiology within the patient’s health care records.</td>
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</tr>
<tr>
<td>Irrigate ulcer with water at body temperature i.e. 37 degrees celcius. Trust staff are to ensure they have thermometers with them when providing leg ulcer care to ensure safety.</td>
<td>Evidence supports the use of irrigating ulcers where necessary using warm tap water or saline is sufficient Fernandez, R., Griffiths, R. and Ussiac 2003)</td>
</tr>
<tr>
<td>In leg ulcer clinic leg(s) are to be cleansed/soaked in a bucket lined using a clinical waste bag containing water at body temperature (37 degrees celcius) containing a bath emollient that has been prescribed as per manufacturer’s instructions for up to 15 minutes. Domestic waste bags can be used to line buckets when patients are receiving leg ulcer care within their own home. Thermometers should also be used in this instance also.</td>
<td>Prevents cross infection and also softens keratotic plaques to aid removal.</td>
</tr>
<tr>
<td>Remove scabs with forceps, if they can easily be removed to allow epithelisation of the wound. Gently pat the leg dry with blue paper roll</td>
<td>Remove scabs with forceps as the accumulation of hyperkeratotic plaques and scabs can harbour bacteria which can subsequently cause infected dermatitis and can also cause pressure necrosis if not removed under compression</td>
</tr>
<tr>
<td>Staff members should stop the procedure at any time if requested to do so by the patients or if any complications arise</td>
<td>To ensure continuing evidence of consent throughout the duration of the procedure</td>
</tr>
<tr>
<td>Reassess the wound bed and if necrotic or devitalized tissue is present refer to the Tissue Viability Service</td>
<td>To establish leg ulcer status Removal of necrotic tissue should only be carried out by the Tissue Viability Service</td>
</tr>
<tr>
<td>Remove single use non-sterile disposable gloves and decontaminate hands</td>
<td>To reduce the risk of transfer of transient microorganisms on the healthcare workers hands</td>
</tr>
<tr>
<td>Apply single use disposable sterile gloves in a manner which prevents the outer surface of the sterile glove being touched by a non sterile item</td>
<td>To ensure asepsis, reduce the risk of microbial contamination and prevent contamination of key parts</td>
</tr>
<tr>
<td>Using an aseptic non-touch technique redress the wound bed according to wound etiology following holistic assessment, Trust wound care guidelines and care plan if still relevant.</td>
<td>To provide an optimum wound healing environment.</td>
</tr>
<tr>
<td>On completion of the procedure remove and dispose of PPE to comply with waste management policy</td>
<td>To prevent cross infection and environmental contamination</td>
</tr>
<tr>
<td>Decontaminate hands following removal of PPE</td>
<td>To remove any accumulation of transient and resident skin flora that may have built up under...</td>
</tr>
</tbody>
</table>
At present, there is insufficient evidence from clinical trials to recommend one dressing type over another. Cochrane (1998) and Health Technology Reports (1999)

Primary dressing should be chosen using the following criteria:

a) Low adherent
b) Cost effective
c) Be comfortable and acceptable for the service user
d) As per current Trust Formulary

The following primary dressings are suggested because they are least likely to damage the healing tissue or cause sensitivity and allergic reaction.

Atrauman 10 x 20 or 10cm x 7.5cm (Dressing Formulary 2008)

The choice of product should be determined by the level of exudate.

**SKIN SENSITIVITY**

Products which commonly cause skin sensitivity such as those containing lanolin and topical antibiotics should **not** be used on any service user – (RCN 2006)

**INCREASED LEVELS OF EXUDATE**

Increased levels of exudate can be contained by the application of sufficient layers of Orthopaedic Wadding (e.g. Soffban), however an alternative primary dressing can be utilised to prevent maceration or excoriation (e.g. Aquacel).

Aquacel AG and Honey dressings have an antiseptic effect which may help reduce exudate caused by infection. Neither of these should be used for more than 4 weeks. Return to non-adherent dressing – (Wirral Formulary 2008)

Increase in exudate is unlikely in an uncomplicated venous ulcer in compression. Increased exudate may suggest emerging infection, insufficient compression, or the influence of other co-morbidities such as cardiac failure (RCN 2006).
<table>
<thead>
<tr>
<th>Exudate Level</th>
<th>Wound Dressing</th>
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<tbody>
<tr>
<td>Minimum Exudate</td>
<td>Atrauman</td>
</tr>
<tr>
<td>Moderate Exudate</td>
<td>Atrauman and sufficient Orthopaedic Wadding</td>
</tr>
<tr>
<td>High Exudate</td>
<td>Aquacel</td>
</tr>
</tbody>
</table>
Use Aquacel AG (silver)

If there is clinical indication of localised infection to aid reduction of proliferating pathogens
To be used for a maximum of **4 weeks**

Refer to Tissue Viability Service if exudate management continues to be problematic
**CONTACT SENSITIVITY**

Health professionals should be aware that service users can become sensitised to elements of their treatment at any time

<table>
<thead>
<tr>
<th>Signs and Symptoms Include:</th>
<th>RATIONALE</th>
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<tbody>
<tr>
<td>• Eczema</td>
<td>Eczema can be an indication of uncontrolled chronic venous insufficiency (CVI) or irritant dermatitis as a result of a reaction to a topical product.</td>
</tr>
<tr>
<td>• Weeping Eczema</td>
<td></td>
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<tr>
<td>• Erythema</td>
<td></td>
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<tr>
<td>• Irritation</td>
<td></td>
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<tr>
<td>• Pruritis</td>
<td></td>
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<tr>
<td>• In the presence of the above symptoms stop current dressing</td>
<td></td>
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<tr>
<td>and bandaging regime and utilise low allergy primary dressing</td>
<td></td>
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<tr>
<td>e.g. Atrauman.</td>
<td></td>
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<tr>
<td>Refer to Tissue Viability Service for further advice</td>
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</table>

| In cases of contact sensitivity:                                 |                                                                                                                                           |
| • Remove the known or potential allergens                        | Evidence shows that 69% of venous ulcer patients can react to their treatment. Consequently, early referral for a dermatology opinion and patch testing can identify causative allergens (RCN Guidelines 2006). |
| • Elevate and rest the limb for periods of prolonged sitting     |                                                                                                                                           |
| Apply prescribed steroid ointment to the skin for 2 – 4 days    |                                                                                                                                           |
| and then reduce the amount of steroid gradually over 3 – 4 days, |                                                                                                                                           |
| replacing the steroid with white soft paraffin emollient         |                                                                                                                                           |

| Avoid using cream which may contain sensitisers e.g. E45 cream,  | May exacerbate current condition                                                                                                           |
| sudocreme. Always use ointments                                  |                                                                                                                                           |

| If the service users surrounding skin is dry **only** use a     | Emollients that have a cream base also contain preservatives which are known skin sensitizers. Therefore, it is recommended that emollients should be ointment based (RCN Guidelines 2006) |
| simple emollient to soothe and hydrate the skin e.g. 50 % white |                                                                                                                                           |
| soft paraffin and 50% liquid paraffin (50/50 emollient), Epaderm|                                                                                                                                           |
NATIONAL PATIENT SAFETY ALERT RE USE OF PARAFFIN BASED OINTMENTS.

National Patient Safety Alert Number 4 (2007) identified a potential risk associated with the use of white soft paraffin. Following a patient safety incident the health & safety executive (HSE) identified a fire hazard associated with concentrations of white soft paraffin over 50%.

Products containing over 50% white soft paraffin include.
- Diprobase ointment
- Emulsifying ointment
- Liquid paraffin 50% & white soft paraffin 50% e.g. emmolin emollient aerosol spray
- White soft paraffin
- Zinc & salicylic Acid paste BP
- Zinc Ointment

The HSE also recommends caution with products lower concentrations of white soft paraffin e.g.
- Dithranol
- Epaderm
- Hydramol
- Imuderm liquid
- Infaderm Therapeutic Oil.

Advice:
- Patients should be given information that includes advice about the potential fire risks of smoking (or being near to people who are smoking) or exposures to any open flame or other potential cause of ignition during treatment. All patients should be provided with both verbal & written information
- Patients and their families should be provided with safety advice about regularly changing clothing or bedding impregnated with paraffin based products. As paraffin soaks in to the fabrics and can potentially be a fire hazard
- This information should be given on the first occasion that such treatment is prescribed, dispensed or administered by a health care professional and should be given in the form of leaflet, provided by the Tissue Viability Lead. Easy read version and other languages available on request and recorded in the patient’s notes. Health care staff should ensure that this information is understood.
- Patients should be encouraged to inform their relatives.
- The smoking status of patients should be established before commencing treatment. Patients who smoke should be offered practical help and advice to stop smoking.

Alternative Emollients
A water based emollient should be considered as an alternative to a paraffin emollient e.g. Aqueous cream. Please note water based emollients are not as effective in providing sustained emollient therapy as an ointment and also contain preservatives which are known potential irritants.
## COMPRESSION THERAPY FOR VENOUS LEG ULCERS

Compression therapy is the first step in the treatment of venous leg ulcers. Standard treatment is a Four Layer Compression Bandage (RCN 2006)

**Arterial** involvement is suggested by an ankle brachial pressure index (ABPI) of less than 0.8

**Reduced compression (20mmHg)** should be applied to legs with an ABPI of less than 0.8 > 0.6 and referred to Tissue Viability Service. Signs and symptoms should also be considered in conjunction with the ABPI

<table>
<thead>
<tr>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Graduated multi-layer compression systems should provide:</strong></td>
</tr>
</tbody>
</table>
| • Adequate padding  
  • Compression of 40mmHg  
  • Sustained compression for up to a week  
  • Effective compliance to be discussed with patient as may prefer an alternative bandage system                                      |
| Graduated multi-layer compression is necessary in order to reverse the effects of CVI and is the recognised treatment for patients that have venous leg ulcers. |

<table>
<thead>
<tr>
<th><strong>Compression bandaging systems should not need to be changed more than weekly. Reasons for renewing the bandages can include:</strong></th>
</tr>
</thead>
</table>
| • Strike through of exudate  
  • Service user discomfort  
  • Slippage of bandage                                                                                                           |
| Both the primary dressing and orthopaedic wadding should be sufficient to manage the exudate. More frequent changes expose the wound increasing the risk of infection. |

<table>
<thead>
<tr>
<th><strong>Compression bandaging is a skilled competency that should only be undertaken by a Registered Nurse having completed either in house 2 day Leg Ulcer course or a recognised National Leg Ulcer course.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The application of compression bandaging is a skilled procedure and nursing staff need to attend a recognised 2 day course or an approved national course in order to determine their level of competency and ability before bandaging a patient.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Following the completion of an in depth specific leg ulcer assessment</strong></th>
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<tbody>
<tr>
<td>A full leg ulcer assessment is necessary in order for the health professional to determine the underlying cause of the non-healing wound on the leg.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th><strong>If service user is unable to tolerate compression, alternative compression systems may be considered – seek advice from Tissue Viability Service</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>There are a variety of alternative compression systems, 4 layer, 3 layer and 2 layer available for patients. These can be considered alongside the assessment of the ulcer and the needs of the patient.</td>
</tr>
</tbody>
</table>
4 LAYER COMPRESSION BANDAGE VARIATIONS - FIRST CHOICE FOR ALL SERVICE USERS TO BE APPLIED FOR UP TO 12 WEEKS – CHANGED WEEKLY OR AS LEVEL OF EXUDATE INDICATES
VENOUS ULCERS WITH ABPI > 0.8 + BELOW 1.3

4 Layer bandage as per ankle circumference below

VENOUS ULCERS WITH ABPI 0.6 – 0.8

Reduced compression achieved by omitting the outer cohesive bandage (e.g. Coban)

TABLE ONE:- FOUR LAYER BANDAGES TO ACCOMMODATE ANKLE SIZE

<table>
<thead>
<tr>
<th>Ankle Circumference</th>
<th>Bandage Regime</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 18cm</td>
<td>2 or more wool padding 1 light stretch bandage (K-Lite) 1 light elastic bandage 3a (K-Plus) 1 cohesive bandage 3b (Coban)</td>
<td>Laplaces Law states that the sub-bandage pressure is inversely proportional to the circumference of the limb. Therefore it is necessary to measure ankle circumference in order to ensure that appropriate compression is achieved in relation to the size of the patients’ ankle. Healing may not be achieved on large limbs if an inappropriate bandaging regime is used. Conversely on small limbs, trauma can occur if the size of the limb is not considered when applying multi-layer compression (RCN Guidelines 2006)</td>
</tr>
<tr>
<td>18cm – 25cm</td>
<td>1 wool padding 1 light stretch bandage (K-Lite) 1 light elastic bandage (K-Plus) 1 cohesive bandage (Coban)</td>
<td></td>
</tr>
<tr>
<td>25cm – 30cm</td>
<td>1 wool padding 1 high elastic bandage (Tensopress)* 1 cohesive bandage (Coban)</td>
<td></td>
</tr>
<tr>
<td>Greater than 30cm</td>
<td>1 wool padding 1 light elastic bandage (K-Plus) 1 high elastic bandage (Tensopress)* 1 cohesive bandage (Coban)</td>
<td></td>
</tr>
</tbody>
</table>

* Special training is required in how to apply Tensopress from Tissue Viability Specialist Nurses

ALTERNATIVE COMPRESSION BANDAGES

Further advice regarding compression bandages can be sought from the Tissue Viability Service. Please document alternative bandage regime and monitor its effect and review after four weeks.

- Multi-layer bandage systems (4 – layer 3 – layer full compression i.e. 40mmHg at the ankle graduated to 20 mmHg below the knee)
- Long Stretch bandages
- Shaped elasticated tubular bandages (e.g. Tubigrip SSB) (size determined by calf circumference)
- Reduced compression i.e. ABPI > 0.6 and < 0.8 (e.g. Soffban; K-Lite and K-Plus)
- Short stretch bandage
- Pro-Guide (Smith & Nephew)
- Coban 2 - 3M (2-Layer system)
- K2 Urgo (2-Layer system)

The pressure required for that individual patient, along with a number of factors, determines type of bandage selected e.g.

- The clinical evidence available
- The patient's Ankle Brachial Pressure Index (ABPI)
- National and Local Guidelines (RCN 2006)
- Patient's details such as leg shape, ankle circumference
- Cost effectiveness of the bandage
- Concurrent disease such as diabetes, heart failure
- Patient choice and compliance

**PAIN**

All service users **must** be assessed and documented with a pain assessment tool by qualified assessors and practitioners.

- Pain may be a sign of some underlying pathology such as arterial disease or infection.
- Compression therapy, exercise and leg elevation (legs should be elevated as high as their buttocks) may relieve pain in people with venous leg ulcers.
- Effective analgesia must be tailored to meet the individual needs of the service user.
- Opioid analgesia may be required in some cases (RCN 2006)
- The service users’ pain assessment should be recorded at each visit to the clinic or home visit, in the leg ulcer documentation
This will ensure accurate assessment of pain in the management of leg ulcers which is essential, both as a baseline and an assessment to determine appropriate management and also for future evaluation to identify the effectiveness of the pain management regime.

**STRATEGY FOR THE PREVENTION OF RECURRENCE OF ULCERATION**

It is important that the continuing care of healed leg ulcer service users is maintained, as there is a risk of recurrence of venous leg ulceration.

Significant improvements in morbidity quality of life can be achieved once patients are healed to ensure prevention of re-occurrence.

Re-occurrence rates can be as high as 74% with inappropriate management but as low as 24% with appropriate management.

These strategies should involve:

- Lifetime Compression therapy – Class II support (RCN 2006) prescribed by community nurse
- Recommend what moisturiser to use e.g. Epaderm. N.B. NPSA patient safety alert re fire risk associated with use of paraffin based products.
- Encouragement of service users’ early referral at the first signs of possible skin breakdown.
- Educating service users to avoid accidents or trauma to their legs
- Encouragement of mobility as this aids use of calf muscle pump which in turns improves venous return circulation to the heart thus reducing swelling in the leg
- Correct elevation of the limb when immobile, as prolonged leg dependency increases limb oedema (legs should be elevated as high as their buttocks) e.g. whilst sitting watching television
- 6 Month ongoing review by community staff to include:
  a) Monitor condition of skin
  b) Compliance with compression hosiery
  c) Measure for new compression hosiery
  d) Re-Doppler and record reading in leg ulcer documentation
- Patients are to undergo diagnostic testing (Doppler assessment) on referral to the Leg Ulcer Clinical if the patient has a previous history of leg ulceration.

**PATIENT INFORMATION AND EDUCATION**

All patients will receive information in an appropriate format on their leg ulcer disease.

Patients will also be offered the Trust’s Patient Information Leaflets:-
• **Information to Help Heal your Leg Ulcer** – this will be provided on initial assessment of the patient’s leg ulcer

• **How to Care for your Healed Leg Ulcer** – this will be provided once the leg ulcer has healed

All patients should be provided with both verbal and written information to help them understand their condition and the treatments they receive as this will enable them to better understand their condition and will support concordance between patients and staff.

Patients should:

• Be aware of the leg ulcer services available to them within Wirral

• Know how to access community nursing services

• Understand the basic principles of leg ulcer treatment and management

• Be encouraged to ask questions regarding their treatment

• Understand the importance of continuation of care following a leg ulcer

• Have health advice pertinent to the prevention of ulcer re-occurrence.

• Have general health promotion with reference to choosing a better diet. Benefits of increased physical activity. (DH 2005)

• Be offered smoking cessation support and advice if required

**ACCESS AND DISTRIBUTION OF COMPRESSION BANDAGES**

The Trust has agreed to purchase bandages from the 3 layer and the 4 layer system that are not currently available on drug tariff (F.P.10).

These being - Orthopaedic padding
K-Plus
Coban
Shaped Tubular Bandage

It is essential that the bandage systems are only used for leg ulcer service users and only applied by health professionals who have undertaken the in service training programme within the Trust.

The bandage distribution has to be carefully monitored and a named health professional in each locality will be responsible for re-ordering bandages. Only the health professionals who have completed the training requirements within the Trust will be able to access the bandages.
Each service user will receive a holistic assessment. The trained healthcare professional will implement the leg ulcer assessment form designed in accordance with the management of leg ulcer procedure.

LOCAL SERVICES

These will be managed by a multi-disciplinary team representing both primary and secondary care from the following i.e:

- General Practitioners
- Dermatologist
- Vascular Surgeon
- Community Nurses
- Practice Nurses
- Specialist Nurses
- Trained Nursing Home Staff

WERE TO GET ADVICE FROM

Community Nursing staff should contact their Line Manager when advice is required. When more comprehensive advice is needed, the Tissue Viability Service should be contacted.

INCIDENT REPORTING

Clinical incidents or near misses must be reported via the Trust’s incident reporting system.

SAFEGUARDING

In any situation where staff may consider the patient to be a vulnerable adult, they need to follow the Trust Safeguarding Adult Policy and discuss with their line manager and document outcomes.

REFERRALS

Any referrals to health professionals, therapists or other specialist services must be followed up and all professional advice or guidance documented in the patients health records.

EQUALITY ASSESSMENT

During the development of this procedure the Trust has considered the clinical needs of
each protected characteristic (age, disability, gender, gender reassignment, pregnancy and
maternity, race, religion or belief, sexual orientation). There is no evidence of exclusion of
these named groups.

If staff become aware of any clinical exclusions that impact on the delivery of care a Trust
Incident form would need to be completed using the Trust’s incident reporting system and an
appropriate action plan put in place.

REFERENCES

Cochrane (1998) and Health Technology Reports (1999)

Journal of Wound Care 3:198201

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Royal College of Nursing (2006) Clinical Guidelines for the Management of Venous Leg
Ulcers. Royal College of Nursing, London