Dressing Formulary and Pathways to Support Wound Assessment and Management
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Introduction

Effective care and management of individuals with wounds is dependent upon a thorough, systematic and holistic approach to the assessment of each individual. This should be based upon a good knowledge of anatomy and physiology, understanding of the wound healing process, specific wound assessment using the TIMES framework, addressing the underlying cause where possible and the appropriate selection of wound management products.

For the individual; having a wound will impact them greatly. This may cause them pain, sleeplessness, immobility, debilitation, depression, isolation and potential loss of income.

As the health care professional; it is essential that you understand the fundamentals necessary to manage the variety of wounds affecting those individuals you care for.

This document should be used to guide and support staff with the evidence based best practice in the management of acute and chronic wounds across the primary care setting.

Where individuals are failing to respond to treatment or their needs are beyond the scope of the clinician, it is advised that a referral is made to the Tissue Viability Team for advice or support.

Accountability and Responsibility

As healthcare professionals using this document you must:

- Use your professional knowledge, judgement and skills to make a decision based on evidence for best practice and the person’s best interests. You need to be able to justify and document the decisions that you make.
- Ensure any advice you give is evidence based when suggesting healthcare products or services.
- Have the knowledge and skills for safe and effective practice when working without direct supervision.
- Recognise and work within the limits of your competence.
- Keep your knowledge and skills up to date throughout your working life.
- Take part in appropriate learning and practice activities that maintain and develop your competence and performance.
- Keep clear and accurate records of the discussions you have, the assessments you make, the treatment and medicines you give and how effective these have been.
- Complete records as soon as possible after an event has occurred.
- Ensure any entries made in someone’s paper records are clearly and legibly signed, dated and timed.
- Ensure any entries made in someone’s electronic records are clearly attributable to you.
- Where wound care is multi-professional and shared ensure all involved are informed of any significant change in status and/or dressing regime as soon as possible after the contact has occurred.
Assessment

Dressings do not heal wounds. A dressing, if chosen well supports and provides the ideal environment to promote wound healing. This can only be achieved if a thorough assessment is performed and underlying causes and contributing factors of the wound addressed.

Wound assessment can be defined as information gathering using observations, questioning, physical examination and clinical investigations, in order to formulate a management plan. It can also be used to provide a baseline from which to monitor the wound, the effectiveness of therapeutic strategies and the impact on patient wellbeing.

Recent studies have demonstrated that over 30% of chronic wounds do not receive a full assessment. The lack of an established National Minimal Data Set (MDS) for generic wound assessment has led to a lack in standardisation and variable assessment criteria being used across the country.

To improve quality and monitoring of the wound healing process and treatment NHS England have worked to provide a generic wound assessment MDS. This aims to underpin wound assessment and practice to support commissioners and providers in developing services that promote improvements in wound care.

During the assessment process it is important for clinicians to recognise any limits in their knowledge and consider referral for a specialist opinion. This may simply involve referral to a senior member within the immediate team or specialist external referral.

- A full assessment should be completed on the first visit. If this is not possible, the reason should be recorded and the date for the assessment to be carried out (Within 7 days) documented in the patients’ clinical notes.

Full Holistic Assessment Includes physical, social and psychological aspects to meet the National Minimum Data Set (MDS):-

General Health Assessment/Physical assessment: taking into account the patients’ medical conditions (comorbidities), allergies and sensitivities, medications, nutritional status using MUST tool, the cause of the wound (via differential diagnosis), the duration (acute/chronic), the status of the wound itself using the TIMES framework, the number of wounds present, size, dimensions and exudate levels. Also consider factors that may delay healing.

Social/Environmental assessment: How is the wound affecting the patient? Consider mental health issues, pain levels between and during dressing changes, exudate strikethrough, mobility, malodour, financial impact of not working. Complete Quality of Life Survey. Consider referral to social teams for advice re financial support.

Psychological assessment: Consider the effect the wound can have on the patients’ life. Wounds can cause sleep deprivation, be malodourous, restrict mobility.
and cause social isolation and hardship which can lead to depression and anxiety. Consider referral to wider multi-disciplinary team members.

**Documentation**

Information gathered during the assessment should be collated on your local documentation either electronic or paper versions signed and dated. This may be in the way of a, Wound Assessment Chart, Wound Chart Assessment Table (for measurements), a Lower Limb Assessment Form and Quality of Life Document

**NB** All diabetic patients with a new wound to the foot should be referred to a diabetes specialist podiatrist within 24 hours. Referral contacts page 74

**Management Plan**

Once your assessment is complete and the outcome shared with the patient, an appropriate management plan can be devised. Patients should be included in setting goals to ensure their priorities and concerns are identified and taken into account. Setting treatment goals should address the underlying cause of the wound for example: - use of compression for venous leg ulcers, off-loading of pressure from pressure ulcers and diabetic foot ulcers but may also include

- Protection of granulation or epithelial tissues
- Debridement of non-viable tissue to reduce infection risk
- Management of moisture balance (rehydrate or reduce exudate levels)
  
  The exception to this is in the case of dry necrosis to digits or feet where it is important to keep the necrotic tissue clean and dry until the vascular status can be determined. There will be poor healing ability and increased infection risk related to ischaemia.

- Reduce wound bio-burden (use of debridement techniques and use of antimicrobials)
- Protection and care of surrounding skin

Treatment goals will change as the wound progresses towards healing. Frequency of dressing changes will change due to different levels of exudate. Ensure documentation reflects the rationale for all changes made. This will be included in Care/Treatment plans and Management plans

Our main goal is to achieve wound healing however this may not be possible or appropriate for some patients in a palliative care situation. This can include non-operable critical limb ischaemia, fungating wounds and existing wounds on a patient at life’s end. In this instance the wound care objectives may simply be to provide comfort, exudate management, odour control, management of infection and pain. Ensure this is clearly documented in the notes/records including conversations with the patient and their understanding of the treatment objectives.
Reassessment

Regular evaluation, reassessment and setting of goals are essential to monitor the progress of the patient and their wound. This should be carried out informally at each dressing change and formally every 2 weeks using the TIMES framework and recording the appearance of the wound bed (tissue type), size, exudate colour and amount, condition of the wound edges and surrounding tissues. Information gathered is recorded on the - Wound Chart Assessment Table

However, for patients with chronic wounds and multiple co-morbidities where expectation to heal is poor or palliative, the reassessment date will be based on professional judgement following the initial assessment or if clinically indicated (e.g. 4 – 6 weeks). This decision and rationale will be documented in the patient records.

Example of Expected Wound Healing Trajectory (taken from the Trust Leg Ulcer Pathway)

- **4 weeks** – 20-30% reduction of surface area
- **8 weeks** – 40-50% reduction of surface area
- **12 weeks** – 50-60% reduction of surface area
- **16 weeks** – 65-75% reduction of surface area
- **20 weeks** – 80-90% reduction of surface area
- **24 weeks** – Healed

When a wound fails to heal as expected repeat your holistic assessment to ensure nothing has changed. At week 4, if no sign of healing consider referring on to specialist teams, this can include (but is not limited to): -

- Diabetes Specialist Podiatrist
- Dietician
- GP for requests for blood screening, further investigations e.g. MRI, ultrasound, x-ray etc., antibiotic therapy and onward referrals to secondary care which could include Vascular consultant, Dermatologist, Plastic surgery, Rheumatoid specialist etc.
- Tissue Viability Team,
- Community Psychiatric Nurse
- Occupational therapist
- Physiotherapist
- Orthotics
- Social workers
- Referral to emergency care at a local acute unit

Photography

Photographs provide a useful aid when monitoring wound progress, as well as a means to educate staff and patients. Photographs of wounds must only be taken using a Trust purchased camera or work phone which is password protected, personal mobile phones **must not be used.**
Written consent from the patient should be sought to enable use of any medical photography. Follow Trust guidelines for consent and management of digital images (PP-007 Consent policy). When seeking consent always consider gaining additional consent to use the images in Partnership Trust education sessions.

When taking photographs all efforts should be made to ensure patient anonymity. Patient initials and/or NHS number and the date of when the photograph was taken must be recorded on the measuring guide found within sterile dressing packs. Take one photograph from a distance to enable the image to show the anatomical position and follow this up with a second photograph, which is a close up of the wound ensuring the measuring guide is included to enable comparisons to be made with subsequent images. All photographs and scanned copies of the consent form should be uploaded within the nursing documents on RiO, please refer to the ‘Taking photos and uploading to RiO’ quick guide which will advise you on the process of taking the photograph and then emailing the image so that it can then be uploaded on to RiO. When saving the photographic image a standardised title must be used, please see as follows

(Team taking image) (Digital image) (Image number) (Date taken) e.g.: -

TV digital image 1 10.08.17 = image number 1 taken by Tissue viability on 10/08/17
DN digital image 2 10.08.17 = image number 2 taken by District Nurse on 10/08/17
Pod digital image 1 10.08.17 = image number 1 taken by Podiatrist on 10/08/17

Once the photographic images have been uploaded on to RiO, the photographs must then be deleted from your phone or camera and email account if the photographic image was emailed to your work email address.
If the photographs are to be used for training please use the same title format as RiO and save the image in the team SharePoint files, the images must not be stored within a public file.

**Concordance**

Patients with wounds may experience feelings of powerlessness due to lack of control over their management. Including the patient’s previous experiences and current priorities in the assessment process (use of the Quality of Life document) then sharing the resultant decision in treatment options not only improves the patients’ experience, but also improves the relationship between patient and health care professional. It will also provide feelings of empowerment for the patient; such empowerment is likely to result in better outcomes by enhancing concordance with treatment interventions.

For patients that are non-concordant with management plans ensure all documented conversations are recorded and that patients’ rationale for their decisions is reflected within the documentation.

Ensure the patient has full understanding of the impact of their decision on their healing potential and consider a mental capacity assessment.
A full assessment should be completed on **the first visit**. If this is not possible, the reason should be recorded and the date for the assessment to be carried out (**Within 7 days**) documented in the patients’ clinical notes.

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<tr>
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<th>Psychological Assessment</th>
<th>Social Assessment</th>
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**Underlying Aetiology of Wound Identified**

Once assessment is complete and the outcome shared with the patient an appropriate management plan can be devised. Patients should be included in setting goals to ensure their priorities and concerns are identified and taken into account.

**Implement Management Plan**

**Reassess and Evaluate**

This should be carried out informally at each dressing change and formally every **2 weeks**. For patients with chronic wounds and multiple co-morbidities where expectation to heal is poor or palliative, the reassessment date will be based on professional judgement following the initial assessment or if clinically indicated. Clear rationale for this should be documented in the patient records.

**Is the wound progressing as expected?**

- **Yes**
  - Continue Plan
  - Healed

- **No**
  - Reassess and amend management plan as appropriate
  - At week 4 consider referral to specialist for opinion

**Prevent**

**Discharge**
The Physiology of Wound Healing

To better understand the wound care requirements regarding dressing selection it is important for nursing staff to have an understanding of the wound healing process. Wounds are often described as acute or chronic and may heal by primary or secondary intention (see glossary).

Acute wounds are those caused by surgery or trauma and usually have a relatively short, uneventful healing time. Burns however, due to their size and level of tissue damage may often behave as chronic wounds.

Chronic wounds are wounds that fail to heal after 4 – 6 weeks this includes leg ulcers, pressure ulcers, diabetic foot ulcers and malignant wounds. Chronic wounds have prolonged healing times. This may be related to comorbidities. Chronic wounds get described as being ‘stuck’ in the inflammatory stage with increased exudate and related protease levels and increased susceptibility to episodes of infection.

With respect to wound healing it is important to remember that most descriptive models refer to the healing of acute wounds. Chronic wounds do not follow the normal sequence of events.

The wound healing process can be divided into 4 main stages. Haemostasis, inflammation, proliferation and maturation (remodelling).

Haemostasis: A cut or injury to the skin leads to damage to the blood vessels this triggers a chemical response that attracts platelets to the site of injury. Platelets come into contact with collagen in the damaged vessel walls causing them to stick together. This aggregation activates the platelets to release a number of chemical agents that trigger the clotting cascade. This initially results in vasoconstriction, thus reducing the loss of blood through the damaged vessels. This may cause the surrounding area to temporarily appear pale. This initial vasoconstriction, platelet aggregation and the release of bradykinin and histamine result in a build up of pressure in adjacent capillaries causing the vessels to dilate. This is seen as localised erythema (redness). Vessel dilatation promotes the movement of fluid into the tissues aiding to flush debris and bacteria from the wound. Approx 5-10 minutes after injury haemostasis is achieved.
Inflammatory stage: Healing will not progress if the inflammatory response does not occur. The inflammatory stage begins as soon as the injury is sustained. In acute wounds this can last 3 – 5 days but in chronic wounds may last much longer. White cells (neutrophils and monocytes) are attracted to the area. These help to cleanse the wound of bacteria and debris. Monocytes transform into macrophages which play an important part in wound healing. They continue with the cleansing activity but also secrete growth factors and enzymes (including proteases, collagenase and elastase) which break down damaged tissue that is not required.

Proliferative stage: Growth factors released from the macrophages stimulate the formation of new blood vessels (angiogenesis) and the proliferation of fibroblasts. Fibroblasts start to divide and produce collagen which builds elasticity and strength into the wound, and together with glycans form the extracellular matrix which supports the newly developed blood vessels. This is granulation tissue. Some fibroblasts change into specialist cells called myofibroblasts which begin to contract around the wound edges, pulling them closer together. New epithelial cells will begin to migrate from the edges of the wound and also from within hair follicles, sebaceous and sweat glands. The cells are white/pink and the layer is one cell thick. The cells will stop migrating when they reach other epithelial cells (contact inhibition).

Maturation stage: Sometimes called remodelling, the maturation stage of wound healing may take up to 18 months to 2 years to complete. This stage involves a balance of synthesis and degradation. Collagen bundles and other proteins deposited within the wound and previously laid down in a random manner now start to become increasingly more organised to form a stronger layer; regaining a structure similar to that of unwounded skin. Despite this the wound never achieves the same level of tissue strength (on average reaching a tensile strength of 50% within 3 months and only 80% full term). As the scar matures, the vascular network will decrease leaving the resultant scar paler in colour ranging from pink to a silver white.

Wound Assessment using TIMES Framework

Wound bed preparation is a well-established concept in the care and management of wounds. The TIME framework was developed in practice as a tool to assist practitioners when assessing and managing patients with wounds. Using the TIME framework formed a structured approach to wound assessment looking at the T-Tissue within the wound bed; presence of I –infection, inflammation or biofilm; M-moisture imbalance and the condition of the wound E-edge. Following 10 years of using this framework further studies have suggested that the management of skin health i.e. the S- skin surrounding the wound is also essential to achieving satisfactory outcomes regarding wound healing.
**T – Tissue types**
The accurate description of tissue is important in wound assessment. When tissue is non-viable, wound healing is delayed. It also provides focus for infection, prolongs the inflammatory response and mechanically obstructs wound edge contraction and impedes re-epithelialisation.

**Necrotic Tissue**: This is dry, dead/devitalized tissue. The colour varies from brown to black. When dried out it becomes tough and leathery to touch. As the tissue becomes dryer, thicker and blacker it is sometimes described as eschar.

![Image of eschar](image1)

Wound eschar is full thickness, dry devitalised tissue that has arisen from prolonged local ischaemia.

**Slough**: is adherent, fibrous tissue derived from proteins, fibrin and fibrinogen. It is usually creamy yellow in appearance and can be found dehydrated and adhered to the wound bed or loose and stringy when associated with increased wound exudate.

![Image of slough](image2)

Drying, attached slough may appear darker in colour.

![Image of stringy slough](image3)

Loose stringy slough
For necrotic and sloughy wounds it is essential to remove devitalised tissue to enable wound healing to progress. This may occur naturally but in some cases the patient may have an underlying pathology that affects the body’s ability to do this. In a chronic wound debridement treatments may be required more than once. Before any attempts are made to commence debridement of any wound to the foot or digits it is essential to assess the arterial status first. Tissue Viability should be contacted for advice or referral.

- **Debridement is achieved by:-**
  - **Autolytic debridement:** Assisting the body to utilise and increase phagocytic activity, macrophage activity and proteolytic enzymes by creating a moist wound environment using semi-occlusive or rehydrating topical dressings.
  - **Surgical and Sharp debridement:** Faster methods of removing devitalised tissue. Surgical debridement is performed in secondary care and is generally used for large areas of devitalised tissue and when there is a significant infection risk. Sharp debridement is more conservative but requires the skills of an experienced, trained practitioner (Tissue Viability Specialist Nurse, Specialist podiatrist);
  - **Larval Therapy:** Used following assessment by Tissue Viability this is a quick and efficient method of removing slough and debris from a wound. However not all patients and staff are comfortable with this method. Sterile larvae are used. They secrete powerful enzymes to breakdown devitalised tissue without damaging health granulation tissue
  - **Mechanical debridement:** Wet to dry dressing removal is not advocated as a method of debridement as this can cause pain and can damage newly formed granulation tissue. However superficial slough on wounds and dry flaky skin may be mechanically debrided using a UCS cloth or Debrisoft pad or lolly (See formulary Guide)
  - **Enzymatic debriding treatments** are not currently available or advised for use within the Trust or Local Health Care Economy.

**Granulation Tissue:** Healthy granulation tissue is bright red and moist. It is comprised of fibroblasts surrounded by an extracellular matrix of connective tissue, collagen, elastin and a delicate network of newly formed capillary loops.
Granulation tissue that is dull red in colour, bleeds easily or shows evidence of overgranulating is often associated with colonisation of bacteria. This may be managed with non-occlusive dressings, low potency steroid creams for 5-7 days, topical antimicrobials, silver nitrate sticks or compression

**Epithelial tissue**: Epithelialisation is the resurfacing of the wound. Once granulation tissue has reached skin level the epithelial cells migrate across the granulation tissue from the wound edges, hair follicles, sweat glands and pores. These new tissues are almost translucent and pale pink in colour

Management of granulation tissue and epithelial tissue is to protect, keep warm and maintain a moist wound environment.

**I – Infection**

All wounds whether acute or chronic, are contaminated with micro-organisms from the environment or the patient. Most bacteria enter the wound bed through external contamination from the environment, dressings, the patient or healthcare provider. Organisms will colonise the wound but the bacterial balance will remain stable. However, if circumstances permit, this colonisation can open the way for the wound to become infected. Characteristic signs are erythema, heat, oedema and pain.

For more information please refer to the infection pathway page 19
M – Moisture imbalance
Exudate is a normal part of wound healing. Drying out can impede the healing process. Excess exudate contains harmful proteases which can breakdown new wound tissue and macerate periwound skin.

Look at the colour of the exudate. What does it indicate?

- Straw coloured or clear. (Serous) Considered to be normal
- Green, yellow, blue/green? (Purulent) Possible infection. Follow pathway
- Blood or blood stained. (Sanguineous or serosanguinous) May indicate trauma or infection. Assess trauma; follow infection pathway
- Brown (Purulent) If the wound is sloughy or necrotic this may be breakdown of that tissue otherwise consider anaerobic infection

Amount of exudate

<table>
<thead>
<tr>
<th>Dry/low</th>
<th>low/moderate</th>
<th>Moderate/high</th>
<th>High to excessive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x weekly dressing</td>
<td>1 x weekly dressing</td>
<td>2-3 x weekly dressing</td>
<td>4-7 x weekly dressings or more</td>
</tr>
<tr>
<td>Unless the wound management plan is to keep wounds dry e.g. ischaemia</td>
<td>No wound edge maceration, lightly marked dressing on removal</td>
<td>Dressings may have moderate strikethrough possible periwound skin maceration</td>
<td>Maceration present, possible leakage from dressing</td>
</tr>
<tr>
<td>Consider: - KerraLite Cool Hydrocolloid Aquaform gel Flaminal Hydro</td>
<td>Consider: - Foam dressing Hydrocolloid Atrauman KerraLite cool Flaminal forte</td>
<td>Consider: - Aquacel extra Sorbsan Kytocel Foam</td>
<td>Consider: - Protect periwound skin. Superabsorbent pad +/- simple N/A dressing</td>
</tr>
<tr>
<td>Protect periwound skin</td>
<td></td>
<td>Absorbent secondary dressing and barrier film to periwound skin</td>
<td>Reassess underlying cause, consider possible infection. Referral on to specialist</td>
</tr>
</tbody>
</table>

Dressing selections noted above are suggestions only. Dressing choice should address treatment objectives, and all factors of the TIMES framework

E- wound Edge

The final stage of wound healing is epithelialisation, which is the active division, migration and maturation of the epidermal cells from the wound margin across the open wound.
When the epidermal margins fail to migrate consideration needs to be given back to the original full holistic assessment (to ensure all contributing factors and risks have been addressed) and the T,L and M of wound assessment to ensure all aspects of the wound bed preparation have been considered. Mechanically debride encrusted exudate at wound edges using UCS cloth or Debrisoft.

Assess why the wound edges are not progressing and consider the presence of biofilm or malignant changes that would require biopsy.

If the wound edge is rolled or undermining healing is unlikely. Refer on to Tissue Viability or Podiatry services for sharp debridement or consider a referral to a plastic surgeon or other appropriate specialist (Wound type dependant)

![](Rolled edge with undermining)

Consider pressure relief

![](Ulcerated callus. Refer to diabetic podiatry service.)

If wound edge is healthy and epithelialisation is progressing well, simply protect the wound ensuring dressing change is kept to a minimum. This is to maintain an ambient temperature and moist wound healing environment. Consider a simple foam dressing, hydrocolloid, Atrauman, or Keralite cool

**S – Surrounding skin**

The current wound management strategy may affect the surrounding skin for example, stripping of skin due to dressing removal, maceration or contact dermatitis.
However general skin condition can also have an effect on the wound healing process.

Hyperkeratosis, dry skin, callus, eczema, oedema and general skin damage may all contribute to impeding wound healing and must be addressed.

Good use of emollients, soap substitutes, debridement of hyperkeratosis and callus formation, multidisciplinary approach to skin care and hygiene and encouragement of self-care will all have a beneficial effect.

Skin health may be affected from poor diet and dehydration, assess diet and fluid intake to ensure a well-balanced, healthy diet is followed. Provide information regarding fortifying foods and eating well. Record MUST score as per policy and consider referral to dietician if any concerns raised.
<table>
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<tr>
<th>Tissue</th>
<th>Infection</th>
<th>Moisture</th>
<th>Edge</th>
<th>Surrounding skin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assess tissues in wound bed.</strong></td>
<td>All wounds contain bacteria which may proliferate and lead to infection causing delayed healing, increased pain and exudate.</td>
<td>Exudate is a normal part of wound healing.</td>
<td>Lack of healthy tissue at the wound edge or presence of rolled edges indicate the wound is not progressing normally.</td>
<td>The wound management plan may affect the surrounding skin; the condition of which may affect the wound healing process.</td>
</tr>
<tr>
<td>Protect healthy tissue.</td>
<td>Drying out of tissues will impede the healing process and slow down epithelial migration.</td>
<td>Drying out of tissues will impede the healing process and slow down epithelial migration.</td>
<td>Mechanically debride crusts of dried wound exudate and any skin plaques from the wound edges.</td>
<td>Address any causes of possible skin issues e.g. dressing sensitivities, excess exudate.</td>
</tr>
<tr>
<td>Devitalised tissue provides an ideal environment for microbes and should be removed to expedite healing.</td>
<td>Excess levels of moisture often contain high levels of proteases which can breakdown granulation tissue and macerate the wound edges.</td>
<td>Consider why the edge is not progressing by reassessment and management of T, I and M.</td>
<td>Mechanically debride hyperkeratosis.</td>
<td>Wash and moisturise skin using local formulary guidelines.</td>
</tr>
<tr>
<td><strong>Debridement:</strong></td>
<td>Address underlying cause</td>
<td>Address underlying cause</td>
<td>Consider referral to Specialist:- TVN, Podiatrist, Plastic Surgeon.</td>
<td>Discuss skin health + hygiene and encourage self-care where possible.</td>
</tr>
<tr>
<td>Autolytic (Dressing choice)</td>
<td>Dressing choice should address any moisture imbalance by donating or absorbing moisture thus providing optimum healing environment.</td>
<td>Dressing choice should address any moisture imbalance by donating or absorbing moisture thus providing optimum healing environment.</td>
<td>? Biopsy</td>
<td>Pressure relief.</td>
</tr>
<tr>
<td>Mechanical (Debrisoft)</td>
<td>Follow Trust ‘Flow Chart’ for infection management.</td>
<td>Follow Trust ‘Flow Chart’ for infection management.</td>
<td>Consider why the edge is not progressing by reassessment and management of T, I and M.</td>
<td>Consider referral to Specialist:- TVN, Podiatrist, Plastic Surgeon.</td>
</tr>
<tr>
<td>Conservative Sharp (TVN, Podiatrist, specialist practitioner)</td>
<td>Mechanically disrupt possible biofilms with Debrisoft and consider use of Octenilin or Prontosan to cleanse the wound.</td>
<td>Mechanically disrupt possible biofilms with Debrisoft and consider use of Octenilin or Prontosan to cleanse the wound.</td>
<td>Consider referral to Specialist:- TVN, Podiatrist, Plastic Surgeon.</td>
<td>? Biopsy</td>
</tr>
<tr>
<td></td>
<td>Review after 2 weeks of treatment</td>
<td>Review after 2 weeks of treatment</td>
<td>Consider referral to Specialist:- TVN, Podiatrist, Plastic Surgeon.</td>
<td>Pressure relief.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tissue Viability Dressing Formulary and Supportive pathways in Wound Assessment and Management November 2017**
Pathway for identifying Wound infection and appropriate use of topical antimicrobial dressings

- Holistic assessment of the patient is essential to commencing antimicrobial dressings
- Assessment should include related risk factors (e.g. underlying medical conditions, medication, nutrition and wound factors e.g. location and size, wound bed, exudate, odour, pain and condition of surrounding skin)
- Rationale for selecting an antimicrobial dressing must be documented within the patient record, clinical judgement may overrule this flow chart, as this is for guidance and may not fit every scenario individual patient advice can be sought from TV and IPC teams.

Static (i.e. no healing for 4 weeks) or Deteriorating Wound (i.e. deteriorating for 2 dressing changes despite best therapy) review infection control practices for potential sources of infection and cross contamination

Failing to heal - Non-Infection related Seek other opinion / consider other underlying causes (Poor blood supply, malignancy, non-infectious inflammatory conditions etc,

Failing to heal - Infection related wound - Where possible obtain a wound photograph

Colonisation
Microbes multiply but tissues are not damaged i.e. the wound is progressing along the expected healing trajectory with no clinical evidence of infection

Local Infection
Microbes multiply and the wound moves from benign colonisation to an infected state with stalled healing and subtle signs of infection e.g. pain, but having no host immunological response

Spreading infection
Bacteria multiply. Healing is disrupted and deep tissues are damaged resulting in local symptoms such as heat, induration, spreading erythema and wound breakdown

Antimicrobial dressing not indicated (Antimicrobial stewardship)

Take vital signs. Start antimicrobial dressing (course 1) to suit wound bed

At 2 weeks, reassess wound (or earlier if clinically indicated). Is there any improvement?

Return to conventional dressing if resolved and document

Continues to improve?

YES

NO

Continue with conventional dressing

Continue vital signs. Restart antimicrobial dressings (course 3) discuss with TV team and/ or GP wound swab results and agree if antibiotics are required taking in to consideration signs of infection

Return to conventional dressings and document

YES

NO

Continue vital signs. Review choice of antimicrobial dressing (course 3) and discuss with GP and/or TVT continue to observe for signs of Sepsis

Tissue Viability Dressing Formulary and Supportive pathways in Wound Assessment and Management November 2017
Formulary User Guide

The biological and cellular repair of a wound will proceed at a rate related to two principle factors; the general physiological condition of the patient and the nature of the wound environment. The optimum wound environment should allow the enzymatic and cellular systems of wound healing to operate efficiently. The management of the wound should neither retard nor inhibit any part of this process.

The Optimum Dressing should:
- Maintain humidity between the wound and the dressing
- Remove excess exudate
- Allow gaseous exchange
- Provide thermal insulation
- Be impermeable to bacteria
- Be free from particulates
- Allow removal without causing trauma

We should also consider:
- The current phase of wound healing
- Aetiology (underlying cause, is it being addressed?)
- Wound location
- Condition of surrounding skin
- Patient wishes (Concordance)
- Treatment objective (full healing, conservative or palliative management)
- Comfort and conformability
- Odour control
- Cost effectiveness
- How aesthetically acceptable it is (Concordance)
- How safe and easy it is to use
- Frequency of dressing changes

NB Different interactive dressings cannot be used together unless licenced to do so. Interactive dressings should only be used in conjunction with non-interactive dressings.

Symbols used
In an effort to help clinical staff easily identify the most appropriate selection of dressings to manage the various types wounds we have used the following clipart symbols
Notes for using the Formulary
- The Formulary should not be used in isolation and should not replace sound clinical judgement
- Practitioners with specialist wound care knowledge should be referred to if necessary
- Prescribing dressings - ensure that there are sufficient dressings to last up to the next review date and not necessarily to the nearest pack size.

Sections on the formulary
**Green** – Products available to all community staff to prescribe
**Amber** – Products that community staff may prescribe with the use of an exemption form (Form available from online formulary document)
**Red** – Products available to prescribe following Tissue Viability Guidance

<table>
<thead>
<tr>
<th>Product</th>
<th>Type</th>
<th>Application</th>
<th>Hints and tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zetuvit E (Standard absorbent pad)</td>
<td>Absorbent cellulose pad with fluid repellent backing</td>
<td>Can be used as a primary or secondary dressing</td>
<td>Use as a secondary dressing over Atrauman for</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It's Non interactive</td>
<td></td>
</tr>
<tr>
<td>Kliniderm Super absorbent Pads</td>
<td>A superabsorbent dressing with 4 layers. A hydrophilic contact layer, a distribution layer, a superabsorbent inner core and fluid repellent backing layer</td>
<td>Can be used as a primary or secondary dressing</td>
<td>Can be used under compression.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It's Non interactive</td>
<td><strong>Do not layer</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Not suitable for necrotic, granulating and epithelialising wounds as generally exudate levels are low</td>
</tr>
<tr>
<td>Atrauman</td>
<td>A non-adherent polyester mesh impregnated with neutral triglycerides</td>
<td>Primary contact layer May be left in situ for up to 7 days Company advise that this is a non-interactive dressing</td>
<td>Petroleum free Do not use on heavily exuding wounds as the triglycerides impregnated within the mesh may restrict</td>
</tr>
<tr>
<td>Tissue Viability Dressing Formulary and Supportive pathways in Wound Assessment and Management</td>
<td>November 2017</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>passage of exudate thus causing tissue maceration</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>In this situation consider Tricotex instead</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tricotex</th>
<th>Low-adherent knitted viscose dressing</th>
<th>Primary contact layer May be left in situ for up to 7 days Non interactive</th>
<th>Simple non interactive primary dressing for use under compression. May be used as a secondary dressing for delivery of therapeutic creams etc. e.g. flamazine, May be used on exuding wounds with a secondary absorbent dressing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tricotex</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C-view and C-view post op</th>
<th>A clear semi permeable film. With a hypoallergenic acrylic adhesive. Provides an effective barrier to microbes and water, but enables moisture vapor transpiration. Post op version provides a central island of thin hydrophilic foam</th>
<th>Primary contact layer May be left in situ for up to 7 days may also be used for securing secondary dressings Non interactive</th>
<th>Suitable for post-operative wounds, superficial cuts and abrasions C-view can be used on intact skin to aid in the reduction of damage from friction in vulnerable areas e.g. heels + buttocks it does not provide any form of protection from pressure Not to be used when a clinical infection is suspected When removing; stretch the dressing parallel to the skin to breakdown the adhesive and aid trauma free removal Sorbaderm barrier film may be of use if skin stripping noted</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-view and C-view post op</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Sorbaderm Range

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cream:</strong></td>
<td>A white concentrated cream that moisturises and protects skin from body fluids, pH balanced</td>
<td>Film: Non sting polymeric solution that forms a transparent, vapour permeable film on the skin</td>
</tr>
<tr>
<td><strong>Film:</strong></td>
<td>Both products are for protecting peri stomal and peri wound skin as well as for incontinence related skin protection. Will not affect the adherence of dressings</td>
<td></td>
</tr>
</tbody>
</table>

**Film only**
- **Shallow**

**Cream should be used on intact skin only for protection.**

**Film may be used on fragile and broken skin**

### Aquacel Extra Range including Aquacel Ribbon

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Use</th>
</tr>
</thead>
</table>
| **A hydrofiber dressing that absorbs wound fluid vertically and transforms into a soft gel to aid autolytic debridement** | **A primary dressing**
This is an interactive dressing and is not licenced to be used with other interactive dressings |
| **A protease modulating dressing containing sodium carboxymethylcellulose** | If being used on necrotic tissue pre moisten dressing using sterile water or saline (after arterial status is known)
Exudate is transferred vertically through the dressing so this may be placed over the wound edges and may be layered or folded. |
| **Convatec (the manufacturer supports the use of Granuflex or Duoderm as a secondary dressing if required** | Aquacel extra has greater absorbency and tensile strength than standard Aquacel
A secondary, non-interactive dressing will be required over the top (pad, foam or film) |

### Sorbsan Range

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A sterile, non-woven calcium alginate. High in mannuronic acid and low in gulnuronic acid</strong></td>
<td><strong>An interactive primary dressing. Secondary dressings must be non-interactive</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **Fibres swell in contact with wound exudate to form a gel that will promote autolytic debridement and aid haemostasis in bleeding/fragile wounds** | **Useful in the management of painful donor sites and fungating fragile wounds as dressing is easily removed by irrigation.**
**Do not use on individuals with a known sensitivity** |

<table>
<thead>
<tr>
<th><strong>Sorbaderm Range</strong></th>
<th><strong>Film only</strong></th>
<th><strong>Aquacel Extra Range including Aquacel Ribbon</strong></th>
<th><strong>Sorbsan Range</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cream:</strong></td>
<td>A white concentrated cream that moisturises and protects skin from body fluids, pH balanced</td>
<td><strong>Film only</strong></td>
<td><strong>Film only</strong></td>
</tr>
<tr>
<td><strong>Film:</strong></td>
<td>Non sting polymeric solution that forms a transparent, vapour permeable film on the skin</td>
<td><strong>A hydrofiber dressing that absorbs wound fluid vertically and transforms into a soft gel to aid autolytic debridement</strong></td>
<td><strong>A sterile, non-woven calcium alginate. High in mannuronic acid and low in gulnuronic acid</strong></td>
</tr>
<tr>
<td></td>
<td>Both products are for protecting peri stomal and peri wound skin as well as for incontinence related skin protection. Will not affect the adherence of dressings</td>
<td><strong>A primary dressing</strong></td>
<td><strong>Fibres swell in contact with wound exudate to form a gel that will promote autolytic debridement and aid haemostasis in bleeding/fragile wounds</strong></td>
</tr>
</tbody>
</table>
| | **Cream should be used on intact skin only for protection.** | **If being used on necrotic tissue pre moisten dressing using sterile water or saline (after arterial status is known)** | **Useful in the management of painful donor sites and fungating fragile wounds as dressing is easily removed by irrigation.**
**Do not use on individuals with a known sensitivity** |
<p>| | <strong>Film may be used on fragile and broken skin</strong> | <strong>Exudate is transferred vertically through the dressing so this may be placed over the wound edges and may be layered or folded.</strong> | |</p>
<table>
<thead>
<tr>
<th><strong>Hydrocolloids:-</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comfeel Plus range</strong></td>
</tr>
<tr>
<td>Hydrocolloids are primarily composed of Carboxymethylcellulose. A synthesised cellulose derivative that is used as a thickener in the food industry. In Comfeel Plus Contour an alginate is added to the hydrocolloid to improve absorption. In Comfeel plus pressure relieving dressings concentric foam circles may be removed to match the size of the pressure ulcer. Comfeel Plus Contour. Varieties include ‘extra thin’ (simple hydrocolloid) and ‘Signal’ (has an indicator to help determine when to change dressing).</td>
</tr>
<tr>
<td><strong>Granuflex</strong> (With or without border)</td>
</tr>
<tr>
<td>Granuflex is an adhesive hydrocolloid with an inner layer of hydrocolloid and polymer matrix that forms a cohesive gel on contact with exudate.</td>
</tr>
<tr>
<td><strong>Duoderm</strong></td>
</tr>
<tr>
<td>Duoderm is a thin hydrocolloid that contains an elastomeric polymer that enhances the ability to absorb and contain wound exudate by forming a cohesive gel. Variety includes ‘extra thin’ (simple hydrocolloid) and ‘Signal’ (has an indicator to help determine when to change dressing).</td>
</tr>
<tr>
<td><strong>Interactive dressing</strong></td>
</tr>
<tr>
<td>All hydrocolloids provide a moist wound environment thus promoting autolysis, aiding granulation tissue formation and epithelisation. An occlusive dressing that has limited absorption capacity and so is not suitable for moderate to highly exuding or infected wounds. 1 cm mapping grid on the Comfeel range aids wound measurement. This type of dressing should never be allowed to become saturated. This will lead to wound bed and edge maceration. Dressings are ideally changed every 2-5 days but may be used for up to 7 days on dry wounds. Not recommended to be used on infected wounds due to the occlusive nature. This can encourage anaerobic bacteria. Warming the dressing between hands prior to use makes it more malleable and easier to apply.</td>
</tr>
<tr>
<td><strong>Flamazine cream</strong></td>
</tr>
<tr>
<td>White cream containing silver and the sulphonamide antibiotic sulphadiazine 1%. For treatment of wound infections (Suitable for leg ulcers, pressure ulcers and traumatic wounds) and Interactive therapeutic cream must be covered with non-interactive secondary dressing.</td>
</tr>
<tr>
<td><strong>Interactive therapeutic cream</strong></td>
</tr>
<tr>
<td>Not to be used on patients at or near full term pregnancy or premature infants and new-borns in the first few months of life. Apply a layer approx. 3-5 mm thick. Change dressing daily and use suitable non</td>
</tr>
<tr>
<td>Tissue Viability Dressing Formulary and Supportive pathways in Wound Assessment and Management</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td><strong>prophylactic use in burns</strong></td>
</tr>
</tbody>
</table>
| **Iodoflex Paste** | Iodoflex is a cadexomer iodine a three dimensional starch lattice formed into spherical microbeads containing 0.9% iodine. These microbeads are highly absorbent. The pores of the lattice increase in size when they are exposed to exudate allowing the gradual release of iodine to the wound surface, thus lengthening the effectiveness of the dressing product used. The beads also absorb debris and can therefore be used to remove it from the wound bed, making cadexomer iodine a useful debriding agent. | Interactive primary dressing for treatment of chronic infected, exuding wounds

Can be cut or moulded to suit shape and depth of the wound using aseptic technique

Cover with a non-interactive secondary dressing, e.g. pad or foam

Should not be used on dry necrotic tissue or patients with a known sensitivity

Do not use on children, pregnant and lactating women, patients taking lithium and patients with unstable thyroid function and renal impairment

Iodoflex can cause slight transient pain in the first hour after treatment. Contact with the skin around the wound edges (intact skin) should be minimised

Change the dressing when it has become saturated with wound exudate and all the iodine has been released. This is indicated by a loss in colour. Usually every 24-72hrs

A single application of Iodoflex should not exceed 50g and no more than 150g may be used in a week. The duration of treatment should not exceed 3 months. 2 weeks rest must then follow before further treatment commences |
<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KerraLite Cool</strong></td>
<td>A pro-ionic hydrogel contact layer with a polyurethane film outer layer.</td>
<td>Interactive Primary Dressing.</td>
<td>A cooling, soothing dressing suitable for radiation burns and superficial scalds. May be used on necrotic and sloughy tissue to aid autolytic debridement if assessed as safe to do so. Not suitable for cavities, sinuses, bleeding wounds or full thickness burns.</td>
</tr>
<tr>
<td></td>
<td>Comes with or without a border.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquaform Hydrogel</strong></td>
<td>A clear, viscous, sterile gel containing purified water, Glycerine, modified starch copolymer and preservatives.</td>
<td>Interactive Primary Dressing.</td>
<td>Ideal for dry wounds to aid autolytic debridement of necrotic and sloughy tissue if assessed safe to do so. Ideal application should be 3 – 5mm thick. Secondary dressing of choice should provide maintenance of moist wound healing environment. i.e. Not a superabsorbent. No longer contains propylene glycol so may be safely used prior to larvae therapy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Foams:</strong></td>
<td>Both are soft absorbent polyurethane foam pads with a gentle silicone adhesive.</td>
<td>Non interactive dressing.</td>
<td>Can be used as a primary or secondary dressing. Both brands of dressings currently on formulary to enable greater variety of sizes and shapes to be available for patient use. Suitable as secondary dressings over cavity wounds that have been lightly packed/filled.</td>
</tr>
<tr>
<td><strong>Kliniderm Foam</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Silicone range</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Biatain Silicone</strong></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
## Other items on the green Section

<table>
<thead>
<tr>
<th><strong>Mechanical Debridement</strong></th>
<th><strong>Pad</strong></th>
<th>Debrisoft</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Debridement pad made from monofilament fibres</td>
<td>Use pad moistened with approx. 20 - 40mls of water or saline, use in a circular motion for 3-4 mins to lift and remove wound debris, slough and dry skin plaques.</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>It is essential to wash the leg/limb first in warm water to aid removal of excess emollient as the presence of emollient blocks the monofilament fibres and thus renders the pad useless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Used as part of wound bed preparation. Suitable for pressure ulcers, leg ulcers, diabetic foot ulcers, lacerations and trauma wounds.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not advocated for bleeding wounds and unstable haematomas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cleansing products</strong></th>
<th>Stericlene and Irripods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Sterile saline solution used in normal wound cleaning</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Used on visibly dirty wounds to help remove slough and exudate. Warming the solution has been shown to reduce delayed healing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Bandages</strong></th>
<th><strong>Bandages that are designed to provide compression therapy should only be applied to patients by staff that have been trained and shown to be competent in their knowledge, use and application of said bandages</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actico</strong></td>
<td>Short stretch cohesive compression bandage used over a primary layer of soft padding bandage.</td>
</tr>
<tr>
<td></td>
<td>Levels of compression achieved are higher when patient is mobile and lower at rest</td>
</tr>
<tr>
<td><strong>K-Soft</strong></td>
<td>Absorbent, soft, non-woven bandage wadding. Blend of viscose and polyester</td>
</tr>
<tr>
<td></td>
<td>Although forming the first layer in any compression therapy bandage system the bandage itself does not apply any level of compression. Some patients may be sensitive to this product so it may be applied over a liner of ActiFast</td>
</tr>
<tr>
<td><strong>K-Lite</strong></td>
<td>Lightweight Knitted bandage of viscose, nylon and elastomeric yarn</td>
</tr>
<tr>
<td></td>
<td>Type 2 compression bandage that provides light support. Used as a retention bandage and as the 2nd layer of the 4 layer system</td>
</tr>
<tr>
<td><strong>K-Plus</strong></td>
<td>Elastic compression bandage. Type 3a providing 20mmHg of compression at the ankle when the ankle circumference is between 18-25cm</td>
</tr>
<tr>
<td></td>
<td>Provides graduated compression from ankle to calf.</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Applied full stretch in a spiral with 50% overlap. Size and number of layers used are determined by limb circumference</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Protects limbs and bony areas prior to bandaging. Essential when creating the correct shape limb prior to use of compression</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Generally applied in a spiral with 50% overlap but extra layers may be applied to suit individual need.</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Applied in a spiral at 50% stretch and 50% overlap</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Applies in a figure of 8 with 50% stretch and 50% overlap. Not safe to be used on patients with arterial disease without expert opinion.</td>
</tr>
<tr>
<td>K-ThreeC</td>
<td>For use in multi-layer compression therapy on limbs exceeding 25cm at the ankle</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Elastic high compression bandage type 3c. Provides 20mmHg at the ankle when limb circumference is &gt;25cm</td>
<td><strong>Caution</strong> as this bandage is similar in appearance to the K-Plus and if used on a smaller limb instead of the K-Plus may cause significant pressure damage</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ko-Flex</th>
<th>Forms the top layer when using the multi-layer system</th>
<th>Applied in a spiral at 50% stretch and 50% overlap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesive, elastic compression bandage provides 20mmHg of compression at the ankle when circumference is between 18 – 25cm</td>
<td><strong>Ko-Flex</strong> provides 20mmHg at the ankle</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Urso K-TWO and K-TWO reduced compression kits</th>
<th>K-TWO reduced provides 20mmHg at the ankle</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 2 layer compression system. K-TWO provides 40mmHg at the ankle</td>
<td>K soft may be used first to ensure correct limb shape and that all vulnerable areas over bone are protected. White, short stretch layer is applied first in a spiral from toe to knee ensuring the indicators on the bandage are a circle and the base of the bandage covers the base of each circle. Second, elastic (cohesive) layer is applied in the same way. Bandages can be changed weekly or sooner if exudate levels demand.</td>
</tr>
<tr>
<td>Kits come in 2 sizes for ankle circumferences 18-25cm and 25-32cm</td>
<td>Kit sizes provide the correct level of pre-determined compression to suit ankle circumference 18cm – 25cm and 25cm -32cm</td>
</tr>
<tr>
<td>Prior to application a layer of k-soft may be applied to protect vulnerable areas and ensure correct limb shape.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paste Bandages</th>
<th>Interactive qualities</th>
<th>Viscopaste is applied in a pleating formation, never in a full spiral around the limb. This is to prevent the bandage forming a tourniquet to the leg as it shrinks when dry. Zipzoc is a tubular bandage that maintains a more moist wound environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscopaste and Zip-Zoc: - Medicated bandages containing zinc.</td>
<td>Patients report it can have quite a soothing effect on red legs</td>
<td></td>
</tr>
<tr>
<td>Zinc as a mineral is critical to wound healing, however there is very little research into the use of zinc in topical preparations</td>
<td>Ensure there is no known allergy to any of the ingredients</td>
<td></td>
</tr>
<tr>
<td>Bandages are used in management of chronic eczema or dermatitis including varicose eczema</td>
<td>Either bandage can be applied under compression</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ActiFast Range</th>
<th>ActiFast red – for toes and fingers</th>
<th>ActiFast green – for children or adults with very small legs and arms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elasticated cotton tubular bandage used to protect skin from irritation from other bandages, it also helps to keep dressing in place whilst bandaging and to allow any emollient that has been applied to soak into the skin rather than be absorbed by the k-soft.</td>
<td>ActiFast blue – for arms and small legs</td>
<td>ActiFast yellow – for larger legs</td>
</tr>
<tr>
<td>ActiFast beige – for lymphedema legs</td>
<td>ActiFast purple - for children's torsos</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Type</td>
<td>Application</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Aquacel Ag+ Extra</td>
<td>Interactive antimicrobial dressing composed of 2 layers of 1.2% ionic silver impregnated into Hydrofiber. Ag+ technology also contains an anti-biofilm formulation that disrupts and breaks down biofilms to expose bacteria and prevent further reformation</td>
<td>Interactive dressing Broad spectrum Infection management including MRSA</td>
</tr>
<tr>
<td>Algivon Range</td>
<td>An alginate dressing impregnated with 100% Manuka Honey Interactive broad spectrum antimicrobial Debrides, deodorises and is non cytotoxic. Algivon plus has reinforced alginate as does the Algivon Ribbon and may manage moderately exuding wounds</td>
<td>Interactive dressing suitable for cavities and superficial wounds</td>
</tr>
<tr>
<td>Atrauman Ag</td>
<td>Non adherent polyamide textile wound contact layer. 1mm pore size with neutral triglycerides coated with metallic silver.</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Description</td>
<td>Interactive</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Flaminal (Forte and Hydro)</td>
<td>An interactive alginate gel containing 2 antimicrobial enzymes. Glucose oxidase and lacto peroxidase. The enzymes do not harm healthy granulation tissue. Flaminal forte has a greater proportion of alginate than Hydro hence its greater capacity to absorb.</td>
<td>Interactive</td>
</tr>
<tr>
<td>Kytocel</td>
<td>A gelling fibre dressing made from chitosan a product derived from the shells of crustaceans. Can be used to control minor bleeding.</td>
<td>Interactive</td>
</tr>
<tr>
<td>PolyMem range</td>
<td>PolyMem contains a mild, non-ionic, non-toxic, tissue-friendly cleansing agent that is activated by moisture and is gradually released into the wound bed. It also contains glycerin to moisturise the wound and prevent sticking and a super absorbent to draw exudate into the dressing. The top layer.</td>
<td>Interactive</td>
</tr>
</tbody>
</table>
Varieties include:
- Regular PolyMem
- PolyMem Max
- PolyMem finger and toe (sizes 1-5)
- PolyMem WIC (no film backing so will need a secondary dressing)
- PolyMem Silver (Red section)

---

### Octenilin Range

**Wound irrigation fluid and Wound Gel**

- **Wound irrigation fluid**: containing Octenidine and ethylhexylglycerin, the second of which reduces surface tension, loosens biofilm, and devitalised tissue. Octenidine prevents growth of bacteria and fungi.

- **The gel is an interactive hydrogel containing Octenidine**

---

### Prontosan Range

**Includes:-**
- **Irrigation fluid**
- **Wound Gel**
- **Wound Gel X**

- Irrigation fluid contains PHMB and Betaine (a gentle surfactant) which penetrates, disturbs, and removes biofilm and wound debris. PHMB (polyhexamethylene biguanide) controls bacteria levels on the wound.

- **The wound gel and gel X also contain the same products within a hydrogel. The Gel X is the most viscous of the two gels**

---
<table>
<thead>
<tr>
<th>Suprasorb X with PHMB</th>
<th>Bio-cellulose dressing with PHMB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PHMB is effective against a broad spectrum of bacteria including fungi and yeasts</td>
</tr>
<tr>
<td></td>
<td>Its hydro-balance effect means the dressing can absorb and donate fluid at the same time dependent on the requirements of the wound</td>
</tr>
<tr>
<td>Interactive dressing</td>
<td>A gel sheet that can be cut or folded to the shape of the wound. Effective on colonised and locally infected wounds.</td>
</tr>
<tr>
<td></td>
<td>The antimicrobial action does not damage healthy cells so may be used for extended periods of time</td>
</tr>
<tr>
<td></td>
<td>This dressing must be kept moist, protect peri-wound skin from maceration and consider use of a film or foam as a secondary dressing do not use a superabsorbent pad</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UCS debridement cloth</th>
<th>A sterile, moistened, single use cloth to cleanse the wound and surrounding skin. Contains a mild cleanser</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All efforts should be made to offer patients with leg ulcers a leg wash using warm water in a lined bucket This debridement cloth is not a substitution.</td>
</tr>
<tr>
<td>Interactive dressing</td>
<td>Can be used on acute and chronic wounds, all types of ulcers and superficial burns. If unable to wash the wound</td>
</tr>
</tbody>
</table>

All products listed below should only be used after discussion or review by a member of the Tissue Viability Team

**RED SECTION**

<table>
<thead>
<tr>
<th>Acticoat Flex 3 and 7</th>
<th>A flexible knitted polyester dressing impregnated with nanocrystalline silver Kills a broad range of bacteria including MRSA and Pseudomonas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactive dressing</td>
<td>For use on wounds with local and spreading infection. Superficial burns, ulcers of all kinds, surgical wounds and as a contact layer under negative pressure therapy. It allows exudate to pass directly through the</td>
</tr>
</tbody>
</table>
Acticoat Flex 3 remains active for 3 days; Acticoat Flex 7 for 7 days

In practice this means the individual dressing may remain in situ for 3-7 days while if needed, the secondary dressing may be changed to suit exudate levels as required

Moisten with tap water if applying Acticoat to a dry wound otherwise use dry

Do not use Saline as this significantly reduces the effectiveness of the silver

dressing into a suitable secondary dressing

Don’t use on patients with known sensitivity to silver. MUST be removed before MRI or any radiation therapy.

Can only be used on premature infants if the clinical benefit outweighs the risk.

- [ ]
- [ ]
- [ ]

Iodozyme

Product no longer in production and as such no longer available

UrgoStart and UrgoStart Contact

UrgoStart is a soft adherent foam dressing whereas Contact, is a flexible contact layer.

Both are impregnated with TLC-NOST a protease inhibitor that helps to restore wound balance

For use on chronic or acute wounds (ideally ulcers)

Can be used under compression.

Not advised for fistulas, infected or cancerous wounds.

- [ ]
- [ ]
- [ ]

Other RED Section products

Videne Povidone Iodine 10% in aqueous solution

Videne Antiseptic Solution is a broad spectrum antiseptic for topical use. It may be used wherever an effective antiseptic is required for the skin, e.g. in minor injuries units or for pre-operative skin preparation. It will give colour delineation to the prepared skin thus effectively indicating which areas of the skin have been treated

Not advocated by Tissue Viability for wound care this is predominantly a skin preparation solution.
**Larvae therapy** Bio-surgical debridement

To be ordered and used under TVN guidance

<table>
<thead>
<tr>
<th>Maximum wound size (cm)</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 2 x 2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5 x 5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5 x 10</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10 x 10</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10 x 15</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>15 x 15</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>15 x 20</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20 x 20</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25 x 20</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>30 x 30</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

*Note that the calculator only measures the surface area of the wound. If the wound has significant depth, more larvae may be required.*

Supplied in a net bag for easy use. Patient may require support and must give informed consent for their use.

**Negative Pressure Wound Therapy (NPWT)** also known as TNP Topical Negative Pressure

NPWT should not be used on grossly infected, bleeding or malignant wounds, exposed blood vessels, bone or organs, unexplored fistulae, extensive necrotic tissue, untreated osteomyelitis or non-concordant patients.

**PICO NPWT**

PICO is a single use, portable negative pressure system which manages low to moderately exuding wounds. The exudate is drawn and locked into the superabsorbent foam dressing via a small battery powered pump. The level of negative pressure achieved is 80mmHg.

A PICO pack consists of 2 dressings and a single pump unit. The unit, once started is programmed to work for 7 days only. Dressings may be changes weekly or twice weekly. If more frequent changes are required then PICO may not be the most suitable choice of negative pressure therapy.

Suitable for superficial and deeper wound to 2cm depth including, dehisced wounds, skin grafts, donor sites, surgical incisions and ulcers.

Not suitable for fissions, necrotic or fungating wounds, wounds with exposed blood vessels, nerves and organs, or wounds originating from drainage sites.
### Juxta CURES

An alternative to bandaging. An instantly adjustable system for the treatment of venous stasis ulcers. It is easy to use and comfortable to wear, and is designed to be effective for 6 months of daily use. Juxta cures have a built-in pressure system guide that helps ensure that correct and consistent pressure (20, 30, 40 or 50 mmHg) is applied to the lower leg. The built-in pressure system guide card can also promote self-management by helping the patient to check the pressure level during the day. The juxta cures can be re-adjusted as required to maintain the desired pressure.

As with compression bandages this system must not be used for patients with arterial insufficiency.

### Proshield

**Proshield Plus Skin Protectant** is a dimethicone based skin protectant with copolymer bioadhesives that enable the application of this skin protectant to fragile, excoriated, broken skin caused by incontinence. A layer approx. 3mm thick should be applied over the affected area and not rubbed in. It is suitable for neonate and elderly skins. Apply after cleansing skin and remove following an episode of soiling.

**Proshield Foam and Spray Cleanser** - a gentle pH balanced no-rinse moisturising cleanser. Designed to minimise irritation to fragile skin. Aids the removal of faeces, Proshield skin protectant and other skin barriers. Pull the nozzle forward when spraying to create a foam. Leave foam to sit on the skin for a short period (to soften the cream protectant and any soiling) before gently wiping with a soft damp disposable cloth. This will reduce risk of friction and skin trauma to vulnerable skin. Reapply protectant once skin is clean.

All products listed within the formulary will be subject to further evaluation and possible changes as new products and innovations join the wound care market.
Making the formulary easy for basic wounds

Before considering tissue type it is essential to assess and manage the exudate level.

Epithelialising wounds: - Minimise dressing change to protect delicate new epithelial cell migration (suggest weekly)
- Kliniderm silicone foam border
- Hydrocolloid dressing Duoderm/Comfeel extra thin
- Atrauman with a suitable secondary dressing e.g. simple absorbent pad secured to suit position of wound

Granulating wound: - protect and promote further granulation. Keep warm and moist.
- Kliniderm silicone foam border/Biatain Silicone
- Hydrocolloid dressing Duoderm /Granuflex/ Comfeel
- KerraLite cool* or KerraLite cool border
- Atrauman *
- Actilite* (If concerned re possible colonisation)
* Secure with suitable secondary dressings

Granulating wound with a small amount of slough: - protect and promote further granulation. Keep moist, debride slough
- Cleanse using water/saline and Debrisoft (suggest weekly)
- Cleanse with Octenilin and Debrisoft if infection suspected.
- Kliniderm silicone foam border
- Hydrocolloid dressing (As without slough)
- KerraLite cool *
- Atrauman * (Atrauman Ag if local infection suspected)
- Aquacel foam or Aquacel extra * (Aquacel extra Ag+ if infection suspected)
- Sorbsan (if tissues are friable and bleed easily)*
* Secure with suitable secondary dressings
**Wounds with Slough:** - Debride (follow pathway) dressing choice is dependent on exudate level + or – presence of infection

<table>
<thead>
<tr>
<th>Dry no infection</th>
<th>Dry with local infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duoderm/Comfeel/Granuflex</td>
<td>Flaminal Hydro</td>
</tr>
<tr>
<td>KerraLite Cool +/- border</td>
<td>Suprasorb X with PHMB</td>
</tr>
<tr>
<td>PolyMem (pre moistened)</td>
<td>Algivon</td>
</tr>
<tr>
<td>Aquaform gel</td>
<td>Octenilin Gel</td>
</tr>
<tr>
<td></td>
<td>Prontosan Gel</td>
</tr>
<tr>
<td></td>
<td>Flamazine</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wet no infection</th>
<th>Wet with local/spreading infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquacel Extra</td>
<td>Aquacel extra Ag +</td>
</tr>
<tr>
<td>Flaminal Forte</td>
<td>Flaminal Forte</td>
</tr>
<tr>
<td>PolyMem</td>
<td>Kytocel</td>
</tr>
</tbody>
</table>

Secure with suitable secondary dressing to effectively manage exudate levels

---

**Necrosis:** Assess options for debridement. All patients with wounds to the lower limb should have a Doppler assessment to ascertain their arterial status before considering management.

If safe to do so, plan debridement strategy: - Ensure periwound skin is protected while rehydrating devitalised tissue. Utilise photography to monitor wound progress

- KerraLite cool +/- border
- Aquaform gel
- Granuflex/Comfeel/Duoderm
- Flaminal Hydro

As necrosis softens contact Tissue Viability or Specialist Podiatrist to discuss conservative sharp debridement and discuss further management strategies
Cavity Wounds:  -  Holistic assessment of patient and wound assessment using TIMES.

Causes of cavity wounds
- Surgical: - e.g. pilonidal sinus
- Dehisced surgical wounds
- Traumatic
- Chronic: - e.g. pressure ulcer

Dressing choice is determined by position of wound, size and depth, tissues present, presence of infection and exudate levels. Liaise with Tissue Viability or Podiatry if the wound may benefit from conservative sharp debridement.

Dressing choices:- consider size and extent of cavity prior to dressing selection. Cavity wounds <4mm diameter are not suitable for packing with fibrous dressings.

Aquacel extra (ribbon or sheets, dependent on size of wound)
Sorbsan
Kytoceal
Flaminal hydro/forte (smaller wounds with/without local infection)
Aquacel extra Ag+ (When local/spreading infection present)
Iodoflex (When infection present. In shallow cavities with no unexplored fistula and wound size does not require amount of dressing to exceed maximum dose)
Prontosan Gel X

Topical negative pressure (V.A.C. or PICO) following TVN input

Consider protection of peri wound skin with a barrier film (Sorbaderm)

If no evidence of improvement in 2 weeks, reassess underlying causes and contributing factors

If no improvement in 4 weeks refer to Tissue Viability

Pathways for Leg Ulcer assessment and management and Pressure ulcer Prevention and Management can be found within the individual SSOTP Trust policies
Necrotic digits

No dressing will improve this situation for the affected digits. Necrosis is usually caused by either chronic arterial insufficiency (advanced peripheral arterial disease, small vessel disease/diabetes) or a vascular event due to embolism.

The considerations for management in this situation are:
- Patient suitability for interventional surgeries i.e. amputation with or without revascularisation procedures
- Conservative management

Management plan: -
Surgical intervention will require referral to a Vascular Surgeon for assessment and treatment

Conservative management outcomes are determined by the extent and underlying cause of the necrosis. Single digits may auto amputate without complication if managed well. More extensive areas of necrosis must be treated as palliative.

Pain: - ischaemic pain can be a significant factor for the patient and must be managed via a multidisciplinary approach to be successful

Wound care: - Do NOT use dressings that will add moisture. The area may be washed in water but must be dried thoroughly afterwards.
Separate digits using Tricotex. Iodine powder is advised by local vascular surgeons for use around the wound base to reduce risk of infection
Digits may be covered lightly with pad, K-soft and K-lite bandages to protect and prevent accidental early amputation of digits

Odour may be an issue. Carbon dressings may help as will keeping the area clean.
(If using carbon dressings, staff will need to complete an exemption form when prescribing as currently there are none on formulary due to discontinuation of production in Sorbsan carbon)

Psychological support for both patient and family will be needed. Liaise with palliative care team and GP for support
Debridement Pathway

Purpose of Debridement:
- Remove non-viable tissue,
- Reduce bacterial load and minimise risk of infection,
- Promote healing,
- Reduce odour,
- Allow wound drainage, and
to determine the extent of the wound to identify any undermining.

Assess patient holistically including:
- Past medical history,
- Allergies, medications,
- Doppler, psychosocial issues, and nutritional status.
Assess wound using TIMES algorithm and record wound site dimensions and underlying cause.

Assess tissue type present

First consider contraindications to determine suitability for debridement

Plan to debride

Debridement contraindicated:
- Discuss conservative management

Methods of debridement

Autolytic: - Dressing choice
Mechanical: - Debrisorf
Biomechanical: - Larvae (under supervision of TVN)
Conservative sharp debridement: - refer to specialist practitioner (e.g. TVN, Podiatrist)
Surgical: - referral on to surgeon via GP

Haematoma

Autolytic debridement
- Aquaform gel
- KerraLite Cool
- Flaminal Hydro

Consider mechanical debridement with Debrisorf once autolysis has commenced.
Consider conservative sharp debridement by TVN if no progress after 4 weeks

Slough

Autolytic debridement
- KerraLite Cool,
- Aquacel Extra
- Flaminal Hydro/forte
- Hydrocolloid
- Suprasorb X
- PolyMem
- Algivon

Mechanical debridement
Biomechanical refer to TVN
Conservative sharp debridement
refer to TVN or Podiatry services

Necrosis

Autolytic debridement
- Hydrocolloid
- Aquaform Gel
- KerraLite cool
- Flaminal Hydro

Conservative sharp debridement:
refer to TVN or Podiatry services

Surgical debridement: Referral to secondary care via GP

Consolidated Formulary

Contraindications for Debridement
- Ischaemic digits
- Fungating wounds
- Clotting disorders
- Diabetes (specialist practitioners only)

Cautions for Conservative Sharp Debridement
- Wounds in close proximity to blood vessels, nerves and tendons
- Patients receiving anti-coagulation therapy
- Peripheral arterial disease
- Palliative patients
- Patients unable to provide consent

Two week challenge

Use your selected dressing for 2 weeks. If no progress noted, use an alternative product.

If debridement is delayed after 4 weeks refer to Tissue Viability for advice/support.
Exudate Pathway

Use as a Guide to manage exudate levels and to consider how the presentation of the exudate may indicate factors within the wound

Exudate colour: - What could it be telling you?

- **Straw coloured or clear**: Considered normal but if excessive in quantity and depending on position of wound consider cardiac issues, venous disease, lymphatic fluid, joint fistula. Exclude urine contamination if on the lower leg.

- **Blue/green, yellow, thick or cloudy**: Different pathogens produce different coloured exudate. Refer to infection pathway and consider topical and/or systemic antimicrobial management.

- **Bleeding or blood stained**: May indicate trauma (accident or via dressing removal), adverse reaction to dressing or bacterial bioburden. Assess for possible cause of trauma and follow infection pathway to determine cause.

- **Brown**: May be due to anaerobic microbes or the breakdown of sloughy, necrotic, devitalised tissue.

Exudate Volume: - How do you manage it?

Also consider presentation of wound bed and treatment objectives

- **Dry**: Unless the wound management plan requires the wound to stay dry e.g. ischaemia, consider - Aquafom Gel, KerraLite cool border, Hydrocolloid, Flaminal Hydro, Suprasorb X, Prontosan Gel, Octenilin gel.

- **Moist**: 1 x weekly dressing. No maceration and lightly marked dressing. Consider - Kliniderm silicone, KerraLite Cool border, Hydrocolloid, Flaminal Forte/hydro, Prontosan Gel, X, Aquacel Extra.

- **Moderate/Wet**: 2-3 x weekly dressing. Dressing has moderate strike through. Possible peri wound maceration. Consider - Kliniderm Silicone, Zetuvit E Pad, Flaminal Forte, Aquacel Extra. Barrier film or cream to protect peri wound edge.

- **Saturated/leaking**: 4-7 x weekly dressing. Maceration present; strikethrough and leaking from dressing. Consider - Kliniderm super absorbent. Simple primary dressing e.g. Tricotex. Reassess underlying cause of excess exudate, referral needed. Protect peri wound skin, Sorbaderm film.

If exudate remains unmanageable discuss with Tissue Viability Team.
Signs of Over-granulation

- Granulation tissue sitting proud of the skin
- Often friable and prone to bleeding
- Exudate levels may be both high and low. (But generally more often high)

Causes of Over-granulation

- Foreign body-irritant in wound bed (e.g. Sutures, dressing fibres, poor wound hygiene)
- Infection (also consider possible osteomyelitis when related to the foot)
- Friction (Usually related to tubing such as catheters and PEG sites)
- Poorly managed exudate
- Occlusive dressings

Other Considerations - Atypical Over-granulation Tissue

Malignant tissue can sometimes resemble over-granulation tissue. Therefore examine any suspected cases carefully and look for the following signs which could indicate a malignancy requiring an urgent referral (via GP) to dermatology for investigation.

1. The tissue has been present for many months or even years,
2. The tissue is hard to touch (may even have a ‘cauliflower appearance),
3. It grows beyond the wound margins or
4. It does not respond to suggested treatments for over-granulation
### Assessing Potential Causative Factors for Over Granulation

<table>
<thead>
<tr>
<th>Identify Cause</th>
<th>Refer to management guides (page 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Excessive moisture including leakage from stoma/wound site</strong></td>
<td>• Tube blockage? Refer to management guidelines&lt;br&gt;• Poor exudate management (wound care)&lt;br&gt;• Poor connections involving giving tube? Replace&lt;br&gt;• Poor stoma/skin hygiene? Reinforce daily cleansing with pH balanced cleanser and water&lt;br&gt;• Consider use of barrier film/cream&lt;br&gt;• Dilated stoma area? Consider tube resizing; contact specialist service&lt;br&gt;• Recent body weight changes? – may require resizing of low profile gastrostomy device&lt;br&gt;• Poor general health, presence of systemic infection? Refer and treat as necessary</td>
</tr>
<tr>
<td>NO</td>
<td></td>
</tr>
<tr>
<td><strong>2. Friction, pressure, or excessive tube movement</strong></td>
<td>• Ensure the PEG fixation plate is in the correct position – 0.5cm from exit site&lt;br&gt;• Is tube resizing required? Refer to specialist service&lt;br&gt;• Ensure that the feeding or giving sets are not pulling on the tube itself – consider repositioning and secure tube if required&lt;br&gt;• Check/alter patients positions to reduce pressure on tubes</td>
</tr>
<tr>
<td>NO</td>
<td></td>
</tr>
<tr>
<td><strong>3. Local or spreading Infection, also consider yeast and fungal culture</strong></td>
<td>• Obtain swab to identify causative organisms and send for microscopy, culture and sensitivities&lt;br&gt;• Check for yeast cultures and consider MRSA&lt;br&gt;• Refer to local guidelines for infection&lt;br&gt;• Consider use of topical antimicrobial</td>
</tr>
<tr>
<td>NO</td>
<td></td>
</tr>
<tr>
<td><strong>4. Presence of foreign materials or allergy</strong></td>
<td>• Examine wound for foreign matter&lt;br&gt;• Consider cleansing with Debrisoft&lt;br&gt;• Consider allergy testing</td>
</tr>
<tr>
<td>NO</td>
<td></td>
</tr>
<tr>
<td><strong>5. Feeding tube or tube component deterioration i.e. brittle, damaged, kinked, dented</strong></td>
<td>• Replace damaged tube or components if able to do so&lt;br&gt;• Refer to specialist service for support and advice</td>
</tr>
<tr>
<td>NO</td>
<td></td>
</tr>
<tr>
<td><strong>6. Buried internal bumper? - tube does not advance or rotate easily (gastric placed tubes)</strong></td>
<td>Refer to specialist service</td>
</tr>
</tbody>
</table>

- Over granulation commonly related to Feeding tube
- Over granulation related to general wounds
<table>
<thead>
<tr>
<th>Management Guides</th>
</tr>
</thead>
</table>
| **1st Line Treatment** | • Address recognised causative factors  
• Stoma, and tube components to be cleaned daily with soap and water  
• Sorbaderm barrier cream or film to be used to protect surrounding skin from exudate  
• Reassess wounds using TIMES Framework and address imbalances  
• Review in 7 days |
| **2nd Line Treatment** | • Revisit causative factors  
• Consider cleansing site with Octenilin irrigation solution  
• Protect peri wound area with Sorbaderm barrier film or cream  
• Utilise a foam or non-occlusive absorbent dressing pad to reduce moisture levels at the wound/exit site  
• Review after 7-14 days |
| **3rd Line Treatment** | • Revisit causative factors  
• Daily cleansing with Octenilin solution  
• Consider an antimicrobial dressing e.g. Biatain silicon Ag, Actilite, Suprasorb X with PHMB  
• Consider other factors that may affect healing i.e. reassess wound holistically  
• Address and treat any noted underlying cause  
• Review in 7 -14 days |
| **4th Line Treatment** | • Revisit causative factors  
• Cleanse with Octenilin and consider presence of biofilm and benefit of mechanical debridement with Debrisoft  
• If there is no clinical evidence of local infection consider use of a topical corticosteroid cream. Use as prescribed for 7-10 days then reduce application slowly  
• If colonisation is suspected then consider an antimicrobial/antifungal steroid preparation e.g. Trimovate. Synalar C, Timodine, fucibet  
• Continue to redress with a simple primary dressing such as a foam or superabsorbent dressing to manage exudate |
| **5th Line Treatment** | • Consider referral to specialist teams including Tissue Viability, Dietician  
• Consider biopsy for histology  
• Consider referral to dermatology via GP for surgical debridement or cauterisation  
• For PEG’s consider need to re-site tube. Liaise with specialist teams |
## Management of Malignant and Fungating Wounds (MFW)

### Assessment of Malignant Wounds

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wound Location</strong></td>
<td></td>
</tr>
<tr>
<td>Is mobility impaired?</td>
<td>Consider an occupational therapy referral to facilitate activities of daily living</td>
</tr>
<tr>
<td>Is the lesion easily covered from public view?</td>
<td>Impacts on dressing selection</td>
</tr>
<tr>
<td>Located near wrinkled, folded or flat skin?</td>
<td>Impacts on dressing fixation</td>
</tr>
<tr>
<td><strong>Wound appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Size: length, width, depth, undermining, exposed structures</td>
<td></td>
</tr>
<tr>
<td>Fungating or ulcerative?</td>
<td>Impacts on dressing selection but also evidences change</td>
</tr>
<tr>
<td>Percentage of non-viable tissue</td>
<td>Impacts on dressing selection and fixation</td>
</tr>
<tr>
<td>Tissue friability/bleeding</td>
<td>Need for debridement/cleansing</td>
</tr>
<tr>
<td>Odour</td>
<td>Need for non-adhesive dressings and haemostatics</td>
</tr>
<tr>
<td>Exudate amount</td>
<td>Need for odour reducing strategies</td>
</tr>
<tr>
<td>Local or spreading infection?</td>
<td>Possible need for wound manager bag</td>
</tr>
<tr>
<td><strong>Surrounding skin</strong></td>
<td></td>
</tr>
<tr>
<td>Erythematous</td>
<td>Topical/systemic management plan</td>
</tr>
<tr>
<td>Fragile or denuded (stripped)</td>
<td></td>
</tr>
<tr>
<td>Nodular</td>
<td>Tumour extension/metastatic spread</td>
</tr>
<tr>
<td>Macerated</td>
<td>Review exudate management plan</td>
</tr>
<tr>
<td>Radiation related skin damage</td>
<td>Consider PolyMem dressings or topical skin care</td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td></td>
</tr>
<tr>
<td>Deep Pain; aching, stabbing, continuous</td>
<td>Need to adjust systemic analgesia</td>
</tr>
<tr>
<td>Superficial pain; burning, stinging, dressing changes</td>
<td>Consider topical analgesia or dressing selection</td>
</tr>
<tr>
<td>Pruritus</td>
<td>Related to skin stretching due to tumour or dressing sensitivity. Does not always respond to anti-pruritic medication. Consider hydrogel sheet</td>
</tr>
<tr>
<td><strong>Potential serious complications</strong></td>
<td></td>
</tr>
<tr>
<td>Lesion is close to a major blood vessel</td>
<td>Need for education of patient and family regarding palliative management and treatment options. All staff involved in care should be aware of planned actions in the event of significant/catastrophic bleed</td>
</tr>
<tr>
<td>In event of haemorrhage</td>
<td>Cover area with dark coloured towels and apply pressure. Elevate area if possible. Ensure patient comfort and follow plan.</td>
</tr>
<tr>
<td>Lesion is near the airway and has potential to obstruct</td>
<td>Work in close liaison with palliative care team, May require sedation. Consider positions (Raised head of bed) Reduce need for conversation keep voice calm and comforting</td>
</tr>
</tbody>
</table>

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*European Oncology Nursing Society*
Fungating wound Pathway

Fungating wounds are complex and therefore management should be individualised for each patient. The following Pathway is categorised with different issues that can occur and suggestions to support care (Adapted from Gloucestershire Care Services NHS Trust)

Pain and Discomfort
Assess pain levels using wound pain assessment
Consider breakthrough analgesia and give prior to dressing changes
If still unmanageable liaise with palliative care team to consider topical morphine.
PolyMem has been reported to have an analgesic effect

Friable, Bleeding Tissues
Consider N/A dressing e.g. Atrauman or alginate dressing e.g. Sorbsan.
Consider local infection as cause of friability not just tumour

Malodour
Use of Charcoal dressing to absorb odour (currently none on formulary: - suggest carboFlex, Clinisorb or Carbonet)
Topical metronidazole (Anabact) may be indicated in severe cases.
Consider use of antimicrobials e.g. Octenilin wound cleanser; Suprasorb X with PHMB, honey based dressings, Flaminal or silver

Necrosis and Slough
Use of hydrogel (Aquaform gel Octenilin gel or Prontosan gel X), gel sheet (KerraLite Cool)
Other debridement methods should be discussed and reviewed by Tissue Viability due to fragile nature of wound

Exudate
Follow Exudate pathway

Infection
Refer to infection and antimicrobial pathway
Consider need for systemic or topical management e.g. Suprasorb X with PHMB or in severe cases topical metronidazole

Itching
Apply KerraLite Cool
Also consider care of peri wound skin, use of anti-pruritic emollient barrier film or cream. Oral antihistamine and use of PolyMem

Ensure patient is under the care of specialist palliative care teams and/or oncology services. Follow advised management plan and liaise with the team at all times.
For wounds that may involve major blood vessels or airway ensure a management plan is in place for any significant event

If the pathway is followed and wound management advice is still indicated, contact the Tissue Viability Team for advice and support
SKIN TEAR PREVENTION

Skin tears are associated with falls, blunt force trauma, poor manual handling and equipment injuries. Skin tears can occur on any part of the body but are often sustained on the extremities, particularly in the elderly. In neonates, skin tears are often more associated with device trauma or use of adhesives. In neonates, the dermis is still developing. Even at full term the skin is only 60% of adult thickness.

### Predisposing Risk Factors

<table>
<thead>
<tr>
<th>History of previous skin tears</th>
<th>Fragile dry or thin skin</th>
<th>Compromised status</th>
<th>Medications</th>
<th>Dependency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous injury reduces tensile strength</td>
<td>Extremes of age (neonates and elderly) = thin skin, decreased tensile strength and elasticity</td>
<td>Cognitive impairment, Dehydration, Poor nutrition, Altered mobility with history of falls, Decreased sensation, Poor vision</td>
<td>Long term corticosteroid therapy, Anticoagulant therapy</td>
<td>Requires help with activities of daily living.</td>
</tr>
<tr>
<td>Recurrent skin tears show individuals increased risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Reducing The Risk (S.E.E the Risk)

**S** sk in
- Carry out a skin assessment; Document general condition, existing wounds, marks and bruises etc. mark on a body map/chart
- Assess risk; including changes in skin integrity, medications and mobility
- Skin care- Use pH neutral skin cleansers. Pat dry don’t rub, moisturise (at least daily) apply in direction of hair growth
- Ensure MUST score is assessed and encourage/monitor fluid intake to prevent dehydration
- Reduce risk of skin trauma from dressing products by using none or low adhesive products. Utilise barrier creams to prevent skin stripping and have available adhesive removal products

**E** nvironment
- Complete a falls assessment
- Assess Walsall score and implement pressure prevention as per policy
- Consider surroundings- Ensure there is adequate lighting, and position furniture to reduce risk of injury.
- Manual handling – ensure correct equipment is available and used correctly to reduce friction and shearing.
- Ensure staffs handling patients comply with uniform policy and do not have jewellery or long nails that can cause skin damage when handling patients.
- Encourage use of long sleeves and trousers to protect skin
- Encourage exercise to maintain mobility
- Ensure sensible well-fitting shoes are worn
- Assess potential skin damage from pets

**E** ducation
- Provide patient and carer with information on how to reduce risk of skin tears
- Ensure patient and carers understand the prevention strategies discussed
- Actively involve patient and carer in decisions and plans
- A collaborative multidisciplinary approach should be utilised to prevent and manage e.g. carers, Community nurses, GP, Occupational and physiotherapists, dietician
- Refer to appropriate specialist if impaired sensory issues e.g. optician, diabetes, neurology

**EVALUATE**

**REASSESS**

Skin tear risk should be re assessed and recorded if the patients’ condition changes
Carer/family member

Patient presents with a skin tear

Control Bleeding
Apply pressure/elevate the limb

Perform wound assessment and categorise skin tear

Document findings
Include – Classification, wound size, exudate level, colour and condition of skin flap

Approximate the wound edge
If able, gently ease the skin back into position using sterile gloves and saline. Do not attempt to pull/force the skin edges back together. Do not use wound closure strips as this encourages stretching of the wound edges/skin flap

Apply Dressing
Select appropriate dressing based on exudate levels. This should ideally be left in place for 5-6 days to enable the skin flap to reattach.
- Moist wound - Biatain silicon.
- Wet wound - Biatain silicon.
- Saturated wound - Atrauman covered with Kliniderm superabsorbent pad
Draw an arrow on surface of Biatain dressings to advise following carers which direction to remove the dressing
Protect peri wound skin with a barrier film

Set treatment goals
- Avoid further trauma
- Protect periwound skin
- Manage exudate
- Prevent infection
- Minimise pain
- Reassess prevention plans

Review and reassess
Monitor the wound for changes and revise treatment plan according to progress

Perform first aid as appropriate and refer to minor injuries unit or A&E. Inform GP of incident

Star Classification of skin tears
1a - no skin loss, skin flap is not discoloured and can be realigned
1b – as above, flap may be realigned but skin flap is dusky/darkened
2a - Skin edges cannot be realigned to the normal position but skin flap is pink
2b – As 2a but flap is dusky/darkened
3 – Skin flap is completely absent

Skin flaps that are dusky or dark in colour are likely to become non-viable and may require debridement at a later date. This will require referral to TVN or GP
Cellulitis and Erysipelas (as per British Association of Dermatologists)

What are cellulitis and erysipelas?
Both are infections of the skin. Erysipelas is a superficial infection affecting the upper layers of the skin, while cellulitis affects the deeper tissues. They can overlap, so it is not always possible to make a definitive diagnosis. Both can occur anywhere on the body but are most commonly found on the lower limbs or face. On limbs it is generally unilateral. Bilateral events are uncommon and other causative factors should be considered

Causes
Bacteria get through a break in the skin. This can be very small such as a scratch, insect bite or injection, or from another skin condition such as athlete’s foot and eczema or from an existing wound such as a leg ulcer. Common bacteria are Staphylococcus aureus and Group A Streptococcus however if wounds are caused by animal bites and scratches or fish/crustaceans contact more unusual strains will be identified.

Who is more susceptible?
Anyone may get cellulitis or erysipelas and reoccurrence is common however there are some conditions that will increase the risk of development:
- Athlete’s foot
- Leg ulcers and pressure damage
- Intravenous drug use and alcoholism
- Swollen limbs/lymphedema
- Obesity
- Poorly controlled diabetes
- Impaired immune system
- Eczema
- Poor hygiene/living conditions

Is it contagious?
No

How is it treated?
Once the doctor has confirmed that redness and swelling is due to infection (White blood count and skin cultures are useful) both conditions require management with systemic antibiotics. This may be oral or intravenous in severe cases. If left untreated complications include: -
- Septicaemia
- Abscess formation
- Infection spreading deeper to muscle or bone
- Long term swelling due to lymphatic damage
- Kidney damage from streptococcal infections
- Meningitis following facial erysipelas
What do cellulitis and erysipelas look like?

- Cellulitis of the lower leg
- Cellulitis of the hand
- Erysipelas of the forearm and face

Conditions that may cause confusion:
- Contact dermatitis
- Hemosiderin Staining
- Bilateral stasis dermatitis
- Dependant rubor (limb ischaemia)
Supportive Management in the Treatment of Cellulitis and Erysipelas

Ensure medical treatment plan is followed re antibiotic therapy and monitor response

Encourage elevation of the affected area. If this is on a limb encourage exercises to aid reduction of oedema in both the soft tissue and around the joints

If possible, outline the demarcated area with a disposable sterile marker pen (with patient’s verbal consent). This will enable monitoring of treatment re effectiveness.

In the picture to the left it is clearly evident that current treatment is not effective

Is the affected area wet or dry?

WET, with broken skin

Wash affected area daily with an antimicrobial emollient. If this is not possible consider daily irrigation with Octenilin.

Moisturise intact skin with a simple emollient

Dress broken areas with Atrauman Ag or Acticoat flex 3 for 2 weeks then reassess.

Cover with a suitable choice of pad to manage exudate levels and secure.

DRY, with intact skin

No dressings required

Wash skin with antimicrobial emollient

Moisturise twice daily

Encourage elevation of affected area when at rest

Once Recovered:

Assess arterial supply using Doppler and advise compression hosiery if suitable, and able to apply.

Discuss and address risk factors and possible recurrence:- i.e. diabetes management, wound care, skin care and hygiene, weight loss and exercise
Factors affecting wound healing

Factors that affect healing can be Intrinsic or extrinsic. Intrinsic factors are systemic whereas extrinsic factors include conditions affecting the wound locally, environmentally and socially.

**Intrinsic**

**Nutrition:** Malnutrition adversely affects wound healing by prolonging inflammation, inhibiting fibroblast function and reducing angiogenesis and collagen deposition.

### Summary of the stages of wound healing and key elements/nutrients involved

<table>
<thead>
<tr>
<th>Stage</th>
<th>Key Elements/Nutrients Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemostasis</td>
<td>Energy, Protein, Vitamin K</td>
</tr>
<tr>
<td>Inflammation</td>
<td>Energy, proteins, Vitamins A, C, E, Selenium, antioxidants</td>
</tr>
<tr>
<td>Proliferation</td>
<td>Energy, protein, copper, iron, Vitamins A, B6, C and zinc</td>
</tr>
<tr>
<td>Maturation</td>
<td>Energy, Protein zinc, iron and Vitamin C</td>
</tr>
</tbody>
</table>

### Role of Key Nutrients in Wound Care

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Function</th>
<th>Key Facts</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fats</td>
<td>Energy source, component in cell membranes involved in formation of inflammatory markers and clotting</td>
<td>Dietary energy should be provided from carbohydrate and fats</td>
<td>Butter, Margarine, oils, cream, cheese, full fat milk</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>Broken down to form glucose – energy for cellular activity</td>
<td>In the absence of sufficient dietary or stored energy the body will use protein as an energy source</td>
<td>Complex - Bread, pasta, noodles, rice, potatoes, Simple – jam, sugar, honey, sweets and biscuits</td>
</tr>
<tr>
<td>Proteins</td>
<td>Necessary for tissue synthesis and repair</td>
<td>Excess protein can tax liver and kidney function causing dehydration</td>
<td>Meats, eggs cheese, fish, poultry, milk, nuts and pulses</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>Enhances immune response, antioxidant,</td>
<td>Excess can cause toxicity</td>
<td>Butter and other spreading fats, oils,</td>
</tr>
</tbody>
</table>
promotes collagen synthesis and epithelialisation | milk, cheese, carrots, red peppers tomatoes and eggs
---|---
Vitamin C | Antioxidant, promotes collagen synthesis, and angiogenesis, enhances iron absorption and promotes the immune function | No benefit taking extra Vitamin C if not deficient | Citrus fruits, green veg soft fruit and berries
---|---|---|---
Selenium | Antioxidant | Deficiency is relatively common | Brazil nuts, meat, vegetables fish and cereals
---|---|---|---
Copper | Collagen organisation | Deficiency rare | Meat veg, cereals, tea and coffee
---|---|---|---
Manganese | Component of enzymes needed for tissue regeneration | Deficiency is rare | Tea, Widely added to various foods
---|---|---|---
Zinc | Fibroblast proliferation, component in enzyme systems, collagen synthesis and immune function | Supplements will not improve healing if not deficient. Can cause toxicity | Meat, milk potatoes bread
---|---|---|---
Iron | Promotes collagen synthesis, improves oxygen delivery to tissues, component of many enzyme systems | Poor intake and blood loss can lead to deficiency | Red meat, liver, fortified breakfast cereals, eggs pulses green veg and sardines
---|---|---|---
Vitamin B complex | Efficient energy usage, collagen formation, component in enzyme systems | Includes- Thiamin, riboflavin, niacin, folate, B12 and B6 | Wholegrain breakfast cereals, milk, and milk products, meat fish and liver
---|---|---|---
Vitamin E | Antioxidant enhances the immune response | Excess can impair wound healing | Vegetable oil, egg yolks, nuts and seeds
---|---|---|---
Vitamin K | Blood clotting | Deficiency is very rare | Liver and green veg

It must be noted that both obese and underweight patients can be undernourished in essential nutrients. When undertaking initial wound assessment it is important to discuss diet. A MUST score must be recorded and the patient provided, if appropriate, with information on eating well and how to fortify their diet. For patients with extensive wounds or with malabsorption conditions such as crohns and ulcerative colitis or simply poor oral intake nutritional supplements may be required but this should be discussed with a dietician and/or GP.

**Hypoxia and related co-morbidities.**

All wounds will have a degree of hypoxia due to the disruption of the local vascular supply. Although hypoxia is a key chemoattractant for neutrophils and macrophages, oxygen is needed for phagocytosis and for their optimal function. Oxygen is also essential for collagen disposition.
Related diseases include conditions: - PAD (peripheral arterial disease), heart failure, chronic obstructive pulmonary disease, bronchitis, asthma, pulmonary embolism, anaemia, diabetes (this list is not fully inclusive)

**Age**
Elderly patients have a thinner epidermal layer and have slower inflammatory, migratory and proliferative responses. Within the dermis there is decreased vascularity, sensitivity; elasticity and tensile strength. There is increased risk of having chronic diseases and related medications that also combine to slow down the healing process.

**Medications**
There are several medications that may have a detrimental effect on wound healing.

Steroids and non-steroidal anti-inflammatory drugs affect the normal inflammatory response thus delaying the normal healing process.

Chemotherapy drugs affect the replication of normal cells, delay the inflammatory response and supress protein synthesis.

Immunosuppressant drugs reduce white activity and delay the clearing of debris from the wound bed.

Antibiotics are generally useful in controlling bacterial organisms and treating infection however, penicillin prevents efficient cross-linking of collagen thus reducing the tensile strength of the wound.

Sedatives have the potential to inhibit the sense and response to pressure leading to potential deterioration of existing pressure related wounds.

**Body type**
Obesity: - Adipose tissue is less vascularised than other tissues. Reduction in blood supply affects tissue oxygenation and nutrient supply to the skin.

Underweight: - lack of energy and reduced protein stores for the body. Bony areas have less padding and are more vulnerable to pressure. In both cases consider malnourishment with regards to a balanced diet.

**Extrinsic**

**Mechanical stress**
Pressure, shear and friction are all mechanical stresses which can disrupt wound healing. Removal of these stress factors reduces the risk of further injury to existing wounds.

**Debris**
Devitalised tissues within the wound bed or foreign materials both impede healing. Their presence prolongs the inflammatory response and may lead to infection.
Temperature
The optimal temperature for growth of human cells is 37°C; an attempt should be made to maintain the wound environment at body temperature. Frequent dressing changes and wound cleansing significantly reduces wound temperatures. It can take several hours for the wound to return to body temperature. Dressing changes should be reduced to a minimal where possible i.e. every 5 to 7 days.

Moisture imbalance
Exposed, dry wounds are more inflamed, itchy and have more scab material during the early stage of healing. Cell proliferation, leukocyte activity, wound contraction and revascularisation are all faster in a moist wound environment. Excessive moisture however can lead to cell maceration, damage to the wound edge and increase risk of infection

Infection
Infection, delays healing as bacteria compete with macrophages and fibroblasts and consume the limited oxygen and nutrients present at the wound surface. Spreading infection leads to tissue damage and deterioration in the condition of the host (patient)

Smoking
This has a detrimental effect on the peripheral circulation. It alters platelet function with a higher risk of blood clots in the smaller vessels. Toxins in cigarette smoke affect the haemoglobin in red blood cells reducing their efficiency to carry oxygen

Alcohol
In excess can impact on behaviours resulting in malnutrition, anaemia and liver damage which can result in clotting disturbance and a reduction in platelets

Stress
Long term stress can affect the immune system, decreasing the amount of circulating leukocytes. Psychological stress may also lead to unhealthy behaviours which may impact on wound healing e.g. poor motivation reduced appetite, increase in smoking, and altered sleep. Lack of sleep can lead to a reduction in growth hormones which will inhibit tissue repair.

Social and environmental factors
Financial status- may result in poor surroundings e.g. cold house, poor hygiene, declining help due to cost of care.
Lifestyle/dependants- unable to rest due to work or carer responsibilities. May live in cluttered or contaminated environment.
Lack of sleep- tissue repair and cellular division are advanced when sleeping.
Wounds near joints benefit from rest and reduction in stress and tension.
Lack of carer support- patients unable to reposition themselves rely on support to turn, keep clean, dry and have adequate diet and fluids
CONSENT FORM 5

Consent for Clinical Photography or Conventional Digital Recordings of a Patient

Patient Details (Or pre-printed label)

Patient’s surname/family name ______________________________

Patient’s first name (s) ______________________________

Date of birth ______________________

NHS number ______________________

Male □ Female □

Special requirements: __________________________________________
(e.g. other language/other communication method)

Responsible health professional ______________________________

To be retained in patient notes

Patient Name __________________________ NHS Number ____________________________

Consent Policy V2 Final, March 2017
I hereby give consent for a:

☐ Photograph
☐ Digital Recording
☐ Other (detail) _____________________________________________

To be taken.

I understand that it may be used for: (tick all that apply)

☐ Medical records
☐ Trust Publications for patient information
☐ Teaching
☐ Medical Research
☐ Other

Signed ___________________________ Date __________________________

Name (PRINT) _________________________________________________

If it is necessary to have this form signed by a representative, complete as follows:

Name________________________ Relationship to the patient ________________

Address (If not the same as the patient)
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Signature ______________________ Date __________________________

Copy accepted by the patient  Yes/No  (please circle)

Consent Policy V2 Final, March 2017
Taking Photos and Uploading to RiO

Staff members must ensure that they have appropriate consent to photograph or record patients/service users, taking into account any capacity considerations. In the event that photographs or recordings are required for any other purpose than direct care explicit consent is required and advice should be sought from the Information Governance Team.

On the mobile phone, click on Lumia Camera which will be either on your first screen as shown here

or

Scroll to the bottom and click on all apps, scroll down by swiping your finger up the phone and click on the Lumia Camera.

To take the photo, click on the camera icon at the bottom of the screen.
You will need to take two pictures:
One close up of the wound itself:

The second photo should be slightly further back showing the body part, in this example, the foot.

Check the quality of the picture to ensure that it is not blurred. If it is blurred, retake the photo.

Once the photos have been taken, swipe up from the bottom and click on the window icon bottom centre to take you back to the home page. Click on your SSOTP email on your phone.

Click on the plus sign at the bottom of the screen to start a new email.
In the To: box, start to type in your email address, your email address will be displayed below, click on your email address.

Click on the paperclip at the bottom of the screen and click on the photos you want to attach. Then click on the tick at the bottom of the screen.

The photos will now be attached to the email. Click on the send email button to send the photo’s to your outlook mailbox.

On your computer, open outlook and open the email, right click on the photo and click on save as, save the photo to a suitable location:

The photos should now be deleted from your phone and you email account.
Now that you have taken your photos the next part of this guide explains how to upload the photo to RiO.

There are two ways of uploading a document (in this case your photo), using the Icon Folder from the top of the RiO screen or by going into the Case Record Menu from within the Client Portal.

Or

Click on the Patient’s name and you will go directly to the Client Portal.

- To upload a document, select your service in the Case Record Menu and then select Document Management.

- Select the Document Upload link at the bottom of the list.

- The name of your patient will then appear in the top Client ID – select Go.
• Find the document that you want to upload by selecting the Browse button.
• Ensure that you use the correct naming convention for your service. (See Naming Convention Document).
• Document title - See page 7
• Ensure you put in the date the image was taken
• Document type is - Digital image
• Description box can contain free text
• Upload when ready

• Select the Upload button at the bottom of the page.
• You will be asked to mark the document as a Final Version – Select Yes.
• Select the Show List View Link

• Your uploaded document will now be visible.
• To open it click on the blue area.

• Your uploaded document will now display as below.
Tissue Viability Contacts

The Tissue Viability Team will provide advice and support for complex, difficult to heal wounds. This advice may be verbal via use of phone call or virtual via web cam (at appointed times) TVN visits will be booked following verbal discussion with the referring nurse or team following receipt of a completed referral that includes patient demographic details, medical history, wound history including underlying cause, size and previous and current treatment plans.

To optimise learning opportunities all visits arranged for the TVN will be joint with a referring team member.

The team is split into two; the north team are based at Bradwell Hospital ST5 7NL and the south team are based at Armitage Clinic WS15 4BL.

The equipment co-ordinators are based within the north team.

North contacts:-
Tel. 0300 123 0905 ext. 6125
Bradwell Hospital, Talke Road, Chesterton, Newcastle under Lyme. ST5 7NJ
E-mails; tissueviabilityteam@ssotp.nhs.uk; tissue.viability7north@nhs.net

South contacts:-
Tel. 01889 571435
Armitage Clinic, Mill Moor Avenue, Armitage WS15 4BL
E-mails; ssotp.tissuesouth@ssotp.nhs.uk; tissue.viability7@nhs.net
What is contained in an inch of the skin?

- Millions of cells (9,500,000)
- Intricate network of blood vessels (19 yards)
- Nerves (78 yards)
- Pores for Sebaceous glands (95 - 100)
- Pores for Sweat glands (850)
- 85 hairs
- Nerve endings to record pain (1,300)
- Sensory cells at the end of nerve fibers (19,500)
- Sensory apparatuses for heat (78)
- Sensory apparatuses for cold (13)
- Pressure Apparatuses (160 – 165)

Divisions of the Skin
Epidermis – **cuticle or scarf skin**

- Epidermis protects the delicate tissues of the body from injury
- Epidermis is made of soft keratin, a protein
- Soft keratin is found in the epidermis as flattened cells, or dry scales
- Outermost layer of the skin; sheds daily with completely new *cuticle layer* by 23rd day; tightly packed, scale like cells; turnover slows with age

Epidermis – **cuticle or scarf skin**

- Contains no blood vessels, but has many small nerve endings
- Dispute over how many layers in epidermis, between 4 - 6
- Bottoms layers are sometimes classified together, known as the *basal layer*
- For our purposes, there are 4 main layers in epidermis
Epidermis layers (4 main + 2)

1. Stratum corneum: horny layer; tightly packed, scale-like cells, continuously shed & replaced
2. Stratum lucidum: clear layer; small, transparent cells through which light can pass (only on hands and feet; not present where there are hair follicles); horny zone
3. Stratum granulosum: granular layer; cells that look like distinct granules; these cells are dying; horny zone
4. Stratum spinosum: basal layer - prickle cell layer; as cells undergo mitosis below, they are pushed upward into this layer; begins basal layer
5. Stratum mucosum: basal layer - also called stratum germinativum, but stratum germinativum refers to lowest row of cells to make up basal layer; basal zone (living stratum)
6. Stratum Germinativum: basal layer - composed of single layer of cells, lowest layer of cells to make up living stratum or basal layer; mitosis happens here and cells begin journey to surface, to replace older cells that are shed; approximately 28 days for journey; pigment granules produced here (melanocytes) to give skin color

Dermis – derma or true skin

- Made of collagen and elastin (protein fibers); gives skin strength, form, flexibility
- Blood vessels, fat cells, oil and sweat glands held together by collagen
- Thickest layer of connective tissue; binds epidermis to subcutaneous tissue
- Network of nerves, blood and lymph vessels provide nutrition to itself and epidermis
- Vital functions of skin; composed of sweat and oil glands, blood & lymph vessels, nerve fibers, sensory receptors, hair follicles
- Arrector pili muscles (tiny muscles, generates heat when body is cold, contracts, causing hair to “stand up straight” on skin)
- Papillae (small, cone shaped projections of elastic tissue that point upward), contain nerve fiber endings for sense of touch
Dermis – 2 layers

1. Papillary Layer: superficial layer
   - Lies directly beneath epidermis
   - Houses nerve endings (corpuscles) that provide body with sense of touch – pain, heat, cold, pressure, touch
   - Contains papillae, small, cone shaped projections of elastic tissue that point upwards
   - Papillae contain looped capillaries or nerve fiber endings

2. Reticular Layer: deeper layer
   - Contains fat cells, blood and lymph vessels, oil and sweat glands, hair follicles, arrector pili muscles

Subcutaneous Tissue

- Fatty layer; attaches dermis to underlying structures
- Also called adipose, or subcutis tissue
- Composed of adipose and connective tissue
- Serve as shock absorbers for vital organs, stores energy
- Varies in thickness according to age, sex, general health of individual
- Gives smoothness, contour to body, contains fats for use as energy, heat insulator
- Circulation is maintained by network of arteries, and lymphatics (removes bacteria and foreign materials, produces antibodies to fight infection)
<table>
<thead>
<tr>
<th>Assessment of mobility, ability to get out &amp; about</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you able to mobilise as you did prior to having a wound?</td>
</tr>
<tr>
<td>If not, what stops you?</td>
</tr>
<tr>
<td>Are you able to get out and about and socialise as you did?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment of sleep, nutrition and pain:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where are you sleeping?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
<tr>
<td>Do you sleep well? If not, what stops you from sleeping?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
<tr>
<td>Are you eating a normal diet? If not, why?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
<tr>
<td>Is your pain better or worse since your last visit?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What pain killers are you taking? Do you take these regularly?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication dose &amp; frequency taken:</td>
</tr>
<tr>
<td>Are they effective?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment of personal hygiene, clothes &amp; shoes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you managing to shower or bathe?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
<tr>
<td>Are you able to wear the clothes and shoes that you did prior to having a wound?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
<tr>
<td>If not, what are you wearing? Is this suitable?</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
</tbody>
</table>
### Assessment of emotional effects, relationships & fears:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your wound get you down? How are you feeling today?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have friends or family members who support you?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have any concerns about your ulcer?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Comments

### Wound Management:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you documented your patient’s treatment and the advice you have given to them in their notes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there excessive exudate from your patient’s wound? Is there any odour?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the dressing type and frequency of dressings appropriate?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you made your patient aware of their wound assessment and their management plan?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Comments

### Template assessment guidance

#### Assessment of mobility & ability to get out & about:
- Is the wound restricting mobility? Are you able to recommend anything to assist with mobility?
- Is your patient able to enjoy the activities that they did prior to having a wound? Is there anything you can recommend to improve this?

#### Assessment of sleep, nutrition and pain:
- Does the wound interfere with sleep? What advice have you given? eg. the timing of analgesia, positioning, etc. Where are they sleeping? Is this suitable?
- Is dietary intake sufficient? Is a full nutritional assessment necessary? Have suitable supplements been prescribed?
- Assess your patient's pain and ascertain whether this is improving or deteriorating? Is it intermittent or continuous? What makes the pain better or worse?
- What analgesia is currently being taken and is this effective? Does the medication need reviewing? What advice have you given in relation to non-pharmacological methods of pain relief such as positioning of the limb, timing of the visit, etc.?

#### Assessment of personal hygiene, clothes & shoes:
- Is your patient able to maintain their personal hygiene? Can you make any recommendations to improve this? Is it possible for any aids and appliances to be recommended?
- Is your patient struggling to wear clothes and shoes that they would like to? Is their footwear safe? Review any advice given.

#### Assessment of emotional effects, relationships & fears:
- How is your patient feeling today and how is their wound impacting on their daily life? Is there anything you can offer to support your patient?
- Does your patient confide in friends and family about their wound and do they feel well supported?

#### Assessment of wound management:
- Complete a full assessment of the wound and document the details in the patients’ notes.
- Assess exudate and odour – are the dressing products suitable and the frequency of visits appropriate? How are these symptoms impacting on your patient?
- Does your patient understand their management plan and do they agree with this? Are they able to follow the advice given?

#### Problem solving / comments:
- This box is provided to record any problems that you have solved during your visit today. This may have been by making a referral to another service, undertaking a reassessment, giving advice or making a recommendation or by making a change to treatment in response to a problem that you have assessed. Discuss and agree your actions and the plan of care with your patient and document here.

Review the assessments you make, the advice you give and the interventions you recommend at each visit.
**Comments and problem solving:**

<table>
<thead>
<tr>
<th>*Official Use Only</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed by</td>
<td>Signature</td>
</tr>
<tr>
<td>(Print Name)</td>
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</tbody>
</table>

**Patient Signature**

<table>
<thead>
<tr>
<th>Print Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time</td>
</tr>
</tbody>
</table>
**Tissue Viability Referral Form**

<table>
<thead>
<tr>
<th>*NHS Number</th>
<th>CISS Number/Unit No.</th>
<th>*Date of Birth</th>
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</table>

<table>
<thead>
<tr>
<th>*First name</th>
<th>*Surname</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>*Name of Referrer</th>
<th>*Referrer job title</th>
<th>*Referrer’s base</th>
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</table>

<table>
<thead>
<tr>
<th>*Referrer’s tel. no</th>
<th>*Referrer’s mobile</th>
<th>*Date of referral</th>
<th>* Date seen</th>
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</table>

**Reason for referral**

<table>
<thead>
<tr>
<th>Visit</th>
<th>Skype/virtual clinic</th>
<th>Advice</th>
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</thead>
<tbody>
<tr>
<td>Wound care referral</td>
<td>NPWT/Pico</td>
<td>Doppler referral completed</td>
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</table>

**Medical history**

**Medication**

**Section 1 – Wound Information**

<table>
<thead>
<tr>
<th>Traumatic:</th>
<th>Surgical:</th>
<th>Pressure ulcer:</th>
<th>Leg ulcer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other (please state):</td>
<td></td>
<td>Site of wound:</td>
<td></td>
</tr>
<tr>
<td>Condition of wound</td>
<td>Improving:</td>
<td>Deteriorating:</td>
<td>Static:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration of wound:</th>
<th>Wound size</th>
<th>Pressure ulcer grade:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wound bed:</td>
<td>Necrotic:</td>
<td>Sloughy:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leg ulcer assessment</th>
<th>Lt Brac:</th>
<th>Rt Brac:</th>
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</thead>
<tbody>
<tr>
<td>Rt AT/DP:</td>
<td>Lt AT/DP:</td>
<td></td>
</tr>
<tr>
<td>Rt PT:</td>
<td>Lt PT:</td>
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<tr>
<td>Rt peroneal:</td>
<td>Lt peroneal:</td>
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<tr>
<td>Rt ABPI:</td>
<td>Lt ABPI:</td>
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</tbody>
</table>

**TNP Information**

<table>
<thead>
<tr>
<th>Date of discharge</th>
<th>Date of next dressing change</th>
</tr>
</thead>
</table>
### Additional comments

<table>
<thead>
<tr>
<th>*Official use only</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed by</td>
<td>Signature</td>
</tr>
<tr>
<td>(Print name)</td>
<td>Date</td>
</tr>
<tr>
<td></td>
<td>Time</td>
</tr>
</tbody>
</table>
Referral to Diabetic Foot Care

Please refer to the Diabetic foot pathway and Management guidance 2017

Contact details for referrals:

| Staffordshire & Stoke on Trent NHS Partnership Trust Podiatry Services Referral |
|-------------------------------------------------|-------------------------------|----------------------------------------------------------|
| Refer to                                        | Process                       | Contact Info                                             |
| **North Staffordshire**                         | Referral form                 | Telephone: 01782 222948                                  |
| Fenton Health Centre,                           | Appendix E                    | 01782 222950                                             |
| Glebedale Road, Fenton, Stoke-on-Trent, Staffordshire, ST4 3AQ |                              | FAX: 017822222896                                       |
|                                                 |                               | Email: Stokepodiatry@nhs.net                             |
| **South Staffordshire**                         | Referral form                 | Phone 01543 509770                                        |
| Podiatry Appointment                            | Appendix D                    |                                                         |
| Booking Centre, PO box 7014                    |                               | Email: apptbookingcentre.ssotp@nhs.net                    |
| Civic Centre Beecroft Road Cannock WS12 9GT     |                               |                                                          |
Diabetic Foot Infection

Empiric Treatment

Mild
- Two or more signs of local inflammation
  - erythema,
  - pain
  - warmth,
  - induration
- PLUS superficial cellulitis extends < 2 cm around the ulcer

**Oral Flucloxacillin 1g four times daily**
- **REVIEW**
- Duration of therapy 1-2 weeks

**Penicillin allergy or not responding to Flucloxacillin**
- Oral Doxycycline 100 mg twice daily
  - or
  - Oral Clarithromycin 500mg twice daily
- **REVIEW**
- Duration of therapy 1-2 weeks

**Severe**
- As per moderate criteria plus
- Systemic toxicity/sepsis

**Emergency hospital admission**
- Management as per acute care guidance

Moderate
- As per mild criteria plus one or more of:
  - Cellulitis extends >2 cm around the ulcer
  - Deterioration despite management as mild infection
  - Lymphangitic streaking
  - Localised dry gangrene
  - Deep tissue involvement
- Systemically well and metabolically stable

**Oral Co-Amoxiclav 625mg three times daily**
- for 7 days
- **REVIEW**
- Duration of therapy 1-3 weeks

**Penicillin allergy or not responding to Co-Amoxiclav**
- Oral Ciprofloxacin 750mg twice daily
  - plus
  - Oral Clindamycin 300-600mg four times daily
- **REVIEW**
- Duration of therapy 1-3 weeks

**Penicillin allergy or not responding to Flucloxacillin**
- Oral Doxycycline 100 mg twice daily
  - or
  - Oral Clarithromycin 500mg twice daily
- **REVIEW**
- Duration of therapy 1-2 weeks

**Still not responding**
- treat as moderate

General Principles
- **Consider Osteomyelitis**
  - Ulcer area >2cm or TEXAS Grade 3 ulcers
  - Visible cortical bone in the ulcer
  - Positive probe-to-bone test (depending on the nature of ulcer)

**Microbiology**
- Sample before use of topical antimicrobials or oral antibiotic use if possible
- Samples should be taken after wound debridement and cleansing
- Consider use of topical antimicrobial dressings for very localised, mild infections of TEXAS grade 1 ulcers (as per Partnership Trust wound dressing formulary.)
- **TREAT THE PERSON NOT THE SWAB**