

# TISSUE VIABILITY

*Bedford Hospital Training and Information Pack for Paediatrics*

# CONTENTS

Within this educational work book you will find information regarding the following:

**Tissue Viability Service Referrals**

**Wound Care Guidance**

**Diabetic Foot Assessment**

**Skin Tear**

**Cellulitis and Lower Limb**

**Pressure Ulcers**

**Moisture Associated Skin Damage**

**Reporting**

**Documentation**

**Safeguarding**

Any further questions please contact the Tissue Viability Service on:

Email: [TVS@Bedfordhospital.nhs.uk](mailto:TVS@Bedfordhospital.nhs.uk)

Telephone: 5457 or 6175

# INTRODUCTION

The aim of this training pack is to help you understand the role of the Tissue Viability Service, how / when to refer patients, wound care advice and information regarding skin changes, including pressure ulcers – how they form, how they are treated and more importantly how they can be prevented.



The Tissue Viability Service comprises of two nurses and one admin. One full time Band 6 Tissue Viability Nurse, one part time Band 7 Lead Tissue Viability Nurse and one full time admin support, working Monday to Friday 8 – 4. The Tissue Viability Service can be contacted by telephone on 6175 (dect phone), extension 5457 (office phone) and 5933 (admin support).

# REFERRALS

All dressings must be removed at point of admission for initial assessment and prior to referral, and should not be left insitu awaiting review (even compression bandages).

All referrals need to be made electronically via ICE (guidance within this booklet). All referrals should be completed in as much detail as possible, and it is expected that all wounds are reviewed, clinical judgement used to assess the wound(s) and an appropriate dressing regime commenced prior to this.

Please ensure your referral includes a full description of the wound(s). All clinical areas have a link nurse to assist with Tissue Viability matters and links to online wound care formulary are included in this guide. This can be used to aid selection of appropriate dressings for wounds.

At point of review by the Tissue Viability Service, wherever possible, the nurse looking after the child should be present for point of care education.

Please ensure any conversations and referrals are documented within the child's records.

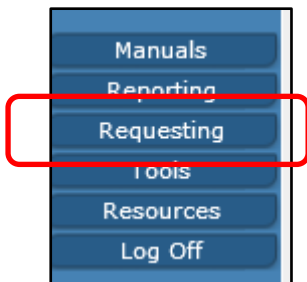
Remember – if you have referred a child, please regularly check ICE to review the status of that referral – Tissue Viability will update the referral for any queries they might have.



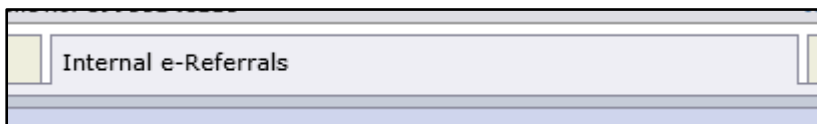
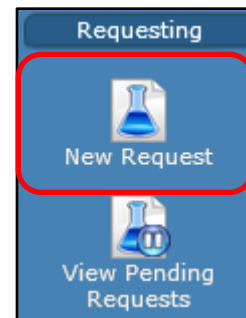
# HOW TO REFER

Type your patient's Hospital number in the search box and click search and select your patient

Alternatively, select your ward from the dropdown menu and select your patient.



Select Requesting, and then  
New Request



Select the Internal e-referrals  
tab

Consultant Ref  
Endoscopy  
Paediatrics  
**Other**  
Search  
Set as Default Panel

Select other then click on Tissue Viability

**Tissue Viability**  
 Tissue Viability

Rules-- Web page Dialogue

**TV-Information**

**TV-Brief Medical History**  
Please enter a brief Medical history for this patient.

**TV-Reason For Admission**  
Please enter the reason for admission for this patient:

**TV-Wound Type**  
Please select relevant wound type:  
(Please Select) ▼

**TV-Wound Description**  
Please state wound position, size and tissue type (e.g. necrotic, slough):

**TV-Infection Status**  
Please select the infection status for this patient:  
Result of the wound swab (e.g. MRSA)

Complete all of the sections of the tissue viability referral and then select ok

OK

## Guidance for Completing Referral Form

**TV-Brief Medical History**  
Please enter a brief Medical history for this patient.

T2DM, HTN, AF, PVD

Record your patient's past medical history - patient's PMH can indicate any medical conditions that may be a barrier to wound healing, for example diabetes or peripheral vascular disease.

**TV-Reason For Admission**  
Please enter the reason for admission for this patient:

Admitted with chest sepsis, being treated with IVABx

Record what your patient was brought into hospital for and what is the current working diagnosis – can include current treatments.

This may also identify barriers to healing. It also helps us to understand what is currently going on with your patient.

**TV-Wound Type**  
Please select relevant wound type:

(Please Select)  
Leg Ulcer  
Pressure Ulcer  
Diabetic Foot Ulcer: Complete a Podiatry referral  
Trauma Injury  
Other (Please specify)

What kind of wound are you referring? Select the most appropriate option on the dropdown list. If your wound type is not listed, you can select other. This will later give you another free text box to in which you can record the type of wound. Depending on what wound type you select, you may later be asked further questions relating to the wound type.

**TV-Wound Description**  
Please state wound position, size and tissue type (e.g. necrotic, slough):

Wound on gaiter region of left leg, 50mm x 50mm, 30mm depth. Rolled edges. 50% slough, 40% necrosis, 10

Before referral to tissue viability, all wounds must have been reviewed and assessed on the ward.

Within the wound description box, you should record a description of the wound, including the following

- Location of wound
- Dimensions of wound
- Tissue type – Necrosis, slough, granulation, epithelialisation
- Edges – jagged, rolled, undermining etc
- Exudate – type, colour, consistency, amount etc

**TV-Infection Status**  
Please select the infection status for this patient:  
Result of the wound swab (e.g. MRSA)

Wound swab +ve for pseudomonas

Record the infection status if known – for example swab results. If no known infection status but there are clinical signs of wound infection, this can be included within this box.

**TV-Duration of Wound**  
Please state duration of wound:

Ongoing for 8 weeks

How long has this wound been present? Is it new, is it long standing and non-healing?

**TV-Primary Dressing regime in the Community**  
Please state the community dressing regime for this Patient:

(Please Select)  
Practice Nurse  
Community Nurse  
Self Care  
N/A  
Other (Please specify)

If your patient has come into hospital with this wound, it is important to find out what wound care provision they have prior to hospital admission – who does their wound care? If they have wound care in the community, what is it?

**TV-Primary Dressing Regime**  
Please state the current primary dressing regime for this Patient:

Aquacel Ag+ Extra

**TV-Secondary Dressing Regime**  
Please state the current secondary dressing regime for this Patient:

Zetuvit, Stockinet, Wool and K Lite

What are you currently dressing your patient's wound with? Please detail what their current dressing regime is. If referral is for advice on dressing selection, please utilise the wound care formulary in the first instance as this will guide you in selecting an appropriate dressing for your patient.

**TV-Skincare**  
Please state:

Dry skin moisturised with Cetraben

Record how you are caring for that patient's general skin integrity

**TV-Allergies**  
Please state any allergies of this Patient:

Atorvastatin

Knowing a patient's allergies is important – if a patient is allergic to certain substances that may mean a particular type of dressing is inappropriate for use.

**TV-Comments**  
Please state any other reasons for your referral:

Has been having above dressing regime for two weeks with no improvement in wound condition, would like

The comments section is where you can tell the TVN's what input you need from them – this would be the R section of your SBAR referral



Please specify the type of Leg Ulcer:

Arterial  
 Mixed  
 Venous  
 Other (please specify)

hold Ctrl and click to add/delete individual lines or Shift to select ranges.

OK

What type of leg ulcer does your patient have?

The most common leg ulcers are

- Venous Leg Ulcers
- Arterial Leg Ulcers
- Mixed Aetiology Leg Ulcers (mix of arterial and venous)

There are other types of leg ulcers, so if your patient's leg ulcer is another type, select 'Other', you'll then be able to write what kind of ulcer it is in a free text box after clicking 'OK'.

Rules-- Web page Dialogue

**TV-Pressure Ulcer Details**

**TV-Pressure Ulcer Type**  
Please specify the type of pressure ulcer:

(Please Select) ▼

**TV-Hospital Acquired**  
Is this hospital acquired?

Yes  No

**TV- Incident Report System**  
Has this incident been recorded on the Incident Report System?

Yes  No

OK

What category of pressure ulcer does your patient have?

Select the appropriate category from the drop down list.

Was this acquired in hospital or did your patient come into hospital with the wound?

Has an incident report been completed for this pressure ulcer?

Please provide primary dressing regime in the community details

Kerracel, Kerramax Care, Yellow Like, KSoft and KLite

OK

If you've identified that your patient has wound care in the community - either practice nurse, community nurse or self care – what is their normal dressing regime?

If your patient is unable to tell you, please contact their normal wound care provider to ascertain normal dressing regime. Remember – not all patients with pre-existing wounds need Tissue Viability input.

# WOUND CARE GUIDANCE

Bedford Hospital **NHS**  
NHS Trust

### Wound Types & Suitable Dressings

Wound Type	Wound PINK (Epithelialising)	Wound RED (Granulating) <i>Symptoms or signs of infection, see Wounds with signs of infection</i>	Wound YELLOW (Sloughy) <i>Symptoms or signs of infection, see Wounds with signs of infection. Refer to a TVNI if there has been inadequate progress after 2 weeks of treatment</i>	Wound BLACK (Necrotic/Eschar) <i>Do not debride until a full holistic assessment including Doppler is undertaken. See Necrotic Wounds section for guidance</i>	Wounds with signs of infection <i>Consider systematic antibacterials if appropriate. Refer to BSL, CGO's Antibiotic Prescribing Guidelines. Also consider ocular-absorbent dressings. For meloourous wounds with slough or necrotic tissue, consider mechanical or autolytic debridement</i>
Low Exudate	Low adherence Vapour permeable film Soft polymer Hydrocolloid	Low adherence Soft polymer Hydrocolloid Foam low absorbent	Hydrogel Hydrocolloid	Hydrogel Hydrocolloid	Low adherence with honey Low adherence with iodine Low adherence with silver Hydrocolloid with silver Honey - topical
Moderate Exudate	Soft polymer Foam, low absorbent	Hydrocolloid Foam Alginate	Hydrocolloid Alginate	Hydrocolloid Foam	Hydrocolloid with silver Foam with silver Alginate with silver Honey - topical Cadexomer - iodine
Heavy Exudate		Foam with extra absorbency Hydrocolloid Alginate Absorbents	Alginate Capillary-action	<b>Seek advice from wound care specialist</b>	Foam, extra absorbent, with silver Alginate with honey Alginate with silver

**NOTE** in each section of this table the dressings are listed in order of increasing absorbency. Some wound contact (primary) require a secondary dressing

More detailed information can be found within the online wound care formulary on the intranet (please ensure you switch guide to HOSPITAL Formulary before use)

<https://viewer.microguide.global/SEPT/WOUNDFORMULARY>

Further guidance can be found in the [Best Practice Statement Principles of wound Management in the Paediatric Patient](#)

All wounds must have an appropriate Wound Assessment Care Plan, which will allow for appropriate assessment and handover to colleagues.

If the child is admitted with dressings insitu, contact should be made with the normal care provider to ascertain normal dressing regime.

Regardless of age wound healing follows the same process, however fear and anxiety also need to be addressed within Paediatrics when treating a child along with the physical wound healing.

# WOUND CARE PRODUCTS

**Table 2: Wound products commonly used in paediatric patients**

Type	Actions	Indications/use	Precautions/contraindications
Alginates/CMC	Absorb fluid Promote autolytic debridement Moisture control Conformability to wound bed	Moderately to highly exuding wounds Special cavity presentations in the form of rope or ribbon Combined presentation with silver for antimicrobial activity	Do not use on dry/necrotic wounds Use with caution on friable tissue (may cause bleeding) Do not pack cavity wounds tightly
Foams	Absorb fluid Moisture control Conformability to wound bed	Moderately to highly exuding wounds Special cavity presentations in the form of strips or ribbon Low adherent versions available for patients with fragile skin Combined presentation with silver or PHMB for antimicrobial activity	Do not use on dry/necrotic wounds or those with minimal exudate
Honey	Rehydrate wound bed Promote autolytic debridement Antimicrobial action	Sloughy, low to moderately exuding wounds Critically colonised wounds or clinical signs of infection	May cause 'drawing' pain (osmotic effect) Known sensitivity
Hydrocolloids	Absorb fluid Promote autolytic debridement	Clean, granulating/epithelialising, low- to moderate-exuding wounds Thicker versions can be used to debride sloughy/necrotic wounds	Do not use on highly exuding wounds May encourage overgranulation May cause maceration
Hydrogels	Rehydrate wound bed Moisture control Promote autolytic debridement Cooling	Dry/low to moderately exuding wounds	Do not use on highly exuding wounds or where anaerobic infection is suspected May cause maceration
Iodine	Antimicrobial action	Critically colonised wounds or clinical signs of infection Low to moderately exuding wounds	Use under specialist supervision only Do not use on dry necrotic tissue Known sensitivity to iodine Do not use on children <6 months
Low-adherent wound contact layer (e.g. lipido-colloid, silicone)	Protect new tissue growth Atraumatic to periwound skin Conformable to body contours	Low to highly exuding wounds Can be used as a carrier for topical preparations (e.g. honey)	May dry out if left in place for too long Known sensitivity to silicone
Non-alcohol-based barrier film	Prevent epidermal stripping of periwound skin secondary to adhesive removal Protect against skin erosion from wound exudate or other moisture	Skin at risk of epidermal stripping Wounds with high levels of exudate or exposure to other moisture (e.g. moisture- or napkin-associated dermatitis) Sensitive periwound skin	Known sensitivity to silicone (if a silicone-based product)
Activated charcoal	Odour absorption	Malodorous wounds Combine presentation with silver for antimicrobial activity	Do not use on dry wounds
Polyhexa-methylene biguanide (PHMB)	Antimicrobial action	Low to highly exuding wounds (depending on dressing presentation) Critically colonised wounds or clinical signs of infection May require secondary dressing	Known sensitivity to PHMB
Silver	Antimicrobial action	Critically colonised wounds or clinical signs of infection Low to highly exuding wounds (depending on dressing presentation)	Use under specialist supervision only Some may cause discolouration Known sensitivity to silver Prolonged use (e.g. longer than 2-4 weeks)
Polyurethane film	Moisture control Breathable bacterial barrier Transparent (allow wound visualisation)	Primary dressing over superficial low exuding wounds Secondary dressing over honey or hydrogel for rehydration of wound bed	Do not use on patients with fragile/compromised periwound skin Do not use on moderately to highly exuding wounds

The types of wounds encountered by children tend to be traumatic such as laceration, burns and road traffic accidents. In young people chronic wounds such as a pilonidal sinus may be observed among others. Clinicians have a professional responsibility to ensure they have the appropriate knowledge to be able to treat such wounds.

Some skin conditions such Epidermolysis Bullosa which can cause blistering and numerous wounds to the child skin may also be observed in children, where specialist knowledge should be sought.

# WOUND CARE GUIDANCE

Remove all bandages at point of initial skin assessment. Use adhesive remover if required to ease trauma and pain when removing adhesive dressings



Use clinical knowledge, online wound care formulary and best practice statements for dressing advice.

If the wound is below the ankle then dressing can be applied toe to ankle. Any other lower limb dressing needs to be applied from **toe to knee**. This is to prevent the tourniquet effect and causing oedema above and below the bandage.

After primary dressings, ensure "cotton wool" bandage is used in a spiral followed by KLite bandage - a retention dressing - applied in a spiral (if good pedal pulses two layers of KLite can be applied). Tubifast (**NOT TUBIGRIP**), or other brands of stockinet, can be used under the cotton wool bandage to prevent irritation.

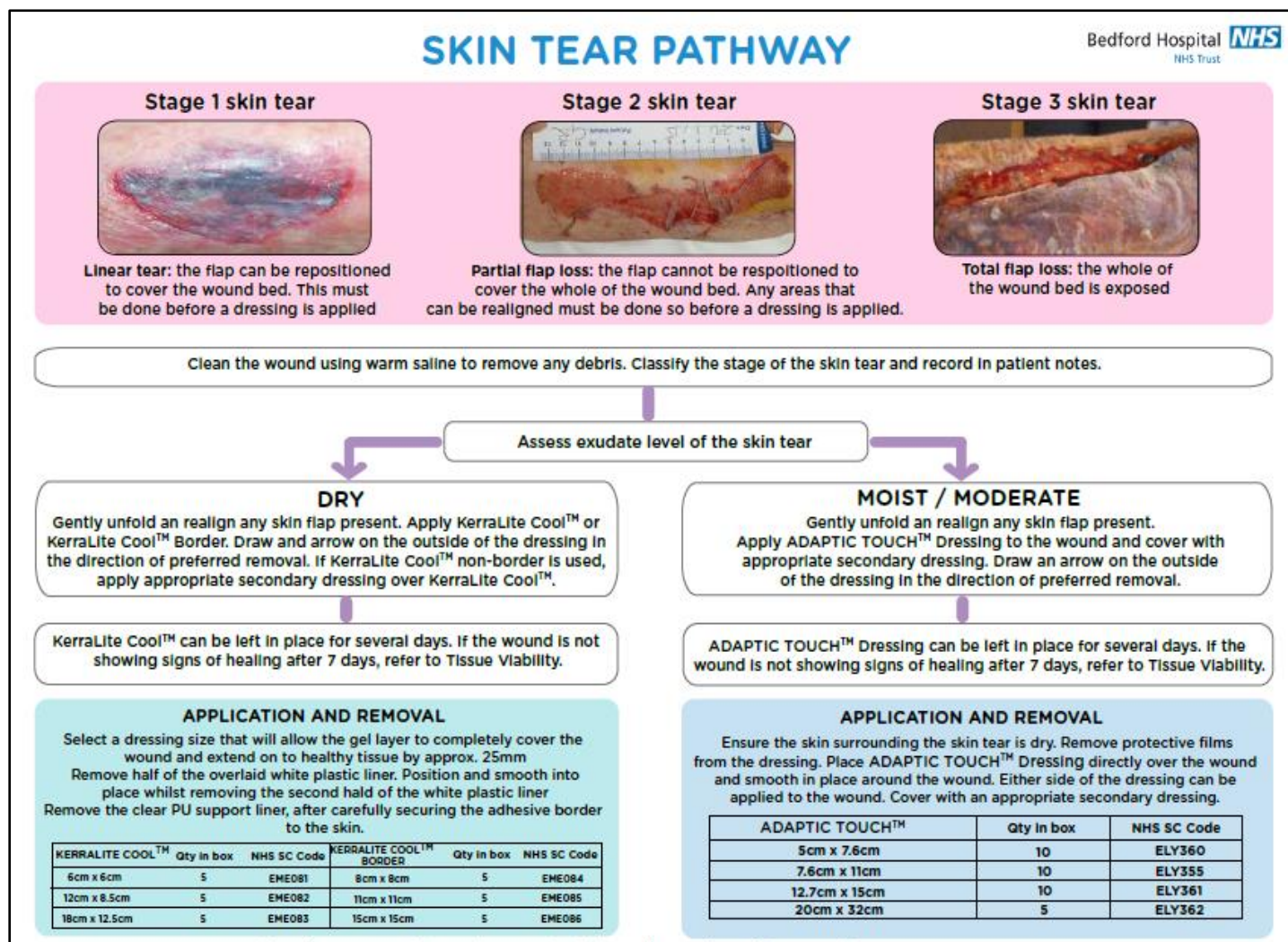


**Poor bandaging can result in further skin damage!!**



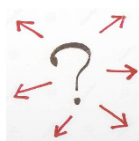
# WOUND CARE GUIDANCE

**DO NOT** steri-strip skin tears.



Skin tears tend to occur on fragile skin, therefore, a non-adhesive or silicone based secondary dressing is best, to prevent skin damage on dressing removal.

Always draw a directional arrow on the dressing to indicate the direction that the dressing needs to be removed, to avoid trauma at next dressing change.



# DIABETIC FEET

Patients with diabetes (including children) are at higher risk of developing skin damage to their feet. They are also more likely to have significant and more rapid deterioration of foot injuries as they get older.

All adult diabetic patients must have the below neuropathy assessment carried out within 24 hours of admission to ascertain if they have foot problems. Diabetic foot problems, including neuropathy, are unlikely in children, however the below foot assessment should be considered if clinical condition indicates foot damage or neuropathy may be present.

Bedford Hospital **NHS**  
NHS Trust

**Diabetic Adult Foot Assessment**

Name	<b>Instructions for Use</b> <ul style="list-style-type: none"> <li>Initial foot assessment to be completed preferably on admission but always within 24 hours of admission ensuring Neurological assessment and Risk Factors is completed</li> <li>Ensure a daily foot examination is completed/documentated post initial assessment in the nursing notes</li> </ul>	
Date of Birth		
Age		
Hospital Number		
Ward _____	Date of Initial Assessment _____	Time of Initial Assessment _____
Signature _____	Print _____	

**Neurological Assessment – The Ipswich Touch Test**

- Ask the patient to close their eyes for the whole test. LIGHTLY touch the tips of the patients toes in the order of 1- 6 as indicated in the picture below. Please document if you are unable to complete in relevant sections below.
- Ask the patient to indicate if they can feel the touch by saying which foot has been touched.
- Circle as Yes (Y) or No (N) as appropriate below.
- If you have circled more than 1 'N' then neuropathy is present and the patient is at high risk of developing ulcers.

Patient refuses assessment and has mental capacity to make this decision <input type="checkbox"/> (Ensure Mental Capacity Assessment is completed where appropriate)  Date: _____ Time: _____ Sign: _____	<p>Subject's right foot, your left side</p> <p>Subject's left foot, your right side</p>	Patient is confused or lacks capacity and is unable to answer questions appropriately. Unable to complete assessment <input type="checkbox"/> (Ensure Mental Capacity Assessment is completed where appropriate)  Date: _____ Time: _____ Sign: _____
--	---	--

**If unable to complete due to amputation please indicate by crossing through appropriate foot/feet**

**Risk Factors** – Answering Yes (Y) to any of the below statements indicates a high risk of developing foot ulceration

Current foot ulceration/pressure damage (if answer is yes please complete body map, Datix pressure damage and ensure green referral form to podiatry is completed <input type="checkbox"/> )	Y	N
Previous foot Ulceration	Y	N
Toe, foot or leg amputation	Y	N
Neuropathy (refer to Neurological Assessment)	Y	N
History of leg vascular surgery/investigations/procedures or lower limb ischaemia/gangrene	Y	N
Dialysis	Y	N
Major Foot deformity (eg Charcot arthropathy) (not including hallux valgus/bunions)	Y	N

If identified as High Risk ensure the following:

- Waterlow score 6 for diabetes
- Offloading of heels- e.g documented use of devices or pillows
- Perform daily foot examination (see below)

Daily foot examination for patients with diabetes should be documented in nursing notes.

- Ensure socks and shoes are removed and that the whole foot including toes and heels are examined for new ulceration/pressure damage.
- Ensure appropriate pressure ulcer prevention management and education is provided/documentated
- If any new ulceration/pressure damage is observed, and green referral completed for podiatry

Date \_\_\_\_\_ Signature \_\_\_\_\_ Print \_\_\_\_\_

Datix to be completed for any pressure damage not previously reported / newly identified

Diabetic Foot Assessment October 2017 V1.9

Bedford Hospital **NHS**  
NHS Trust

**Criteria for Diabetes Nurse referrals**

**On admission please refer any diabetes patients with the following to the inpatient diabetes team :**

- Admission for major surgery requiring Variable Rate Intravenous insulin Infusion for > 24hours or expecting to be NBM > 24hours.
- DKA/Ketosis
- Hyperosmolar Hyperglycaemic State
- Admitted with severe hypoglycaemic episode
- Hyperglycaemia- CBG >25mmols on admission
- Needing Variable Rate Intravenous insulin Infusion for >24hrs
- Newly diagnosed Type 1 or Type 2 diabetic
- Recurrent admissions with diabetes related problems
- Any pregnant diabetic patients

**The above would also apply to any diabetic inpatient during their hospital stay in addition to the list below :**

- Commencement of insulin during their hospital admission
- Persistently raised CBG > 12mmols or hypoglycaemic events < 4mmols
- Steroid induced hyperglycaemia
- Patient needing help with ongoing diabetes treatment following discharge
- Patient request

**The diabetes team can be contacted on bleep 509 Monday to Friday 8am-4pm. Outside these times patient should be referred to the team the next working day.**

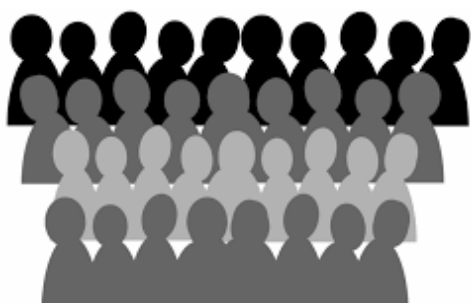
Diabetic Foot Assessment October 2017 V1.9

# PRESSURE ULCERS

Pressure ulcers can be devastating for the people they affect. They can cause pain and distress and affect peoples' quality of life.

The good news is that most pressure ulcers are preventable.

- Children are vulnerable to an increased risk of pressure ulceration due to their immature skin structure
- Prevalence of pressure ulcers in the child population is predicted to be as high as 27.7%
- Pressure damage can occur at home or in hospital
- Treating pressure ulcers costs the NHS between £1.4 billion and £2.1 billion every year
- Pressure ulcers can develop in only 1-2 hours
- Pressure ulcers have a huge impact on a children' quality of life, causing increased pain, risk of infection, low self-esteem and often embarrassment
- Pressure ulcers directly impact on staff by increasing workload and demands on time
- Pressure ulcers can increase the financial burden to hospitals due to increased length of stays and potential litigation which may damage the hospital's reputation



# PRESSURE ULCERS

## What is a Pressure Ulcer?

“A pressure ulcer is a localised injury to the skin and/or underlying tissue, **usually** over a bony prominence (or related to a medical or other device), resulting from sustained pressure (including pressure associated with shear). The damage can be present as intact skin or an open ulcer and may be painful.”

(NHS Improvement, 2018)

## How Do Pressure Ulcers Develop?

Pressure ulcers occur as a result of intrinsic and/or extrinsic factors. The impact of these forces will vary according to the individual. When skin and tissue are directly compressed, this causes cell distortion and the occlusion of blood vessels, which results in tissue breakdown.

### ISCHAEMIA

- Reduced Oxygen
- Change in Metabolism
- Accumulation of waste products
- Decrease in pH
- Cell death

### DEFORMATION

- Disruption of cytoskeleton
- Cell membrane failure
- Cell permeability increase
- Loss of haemostasis
- Cell Death



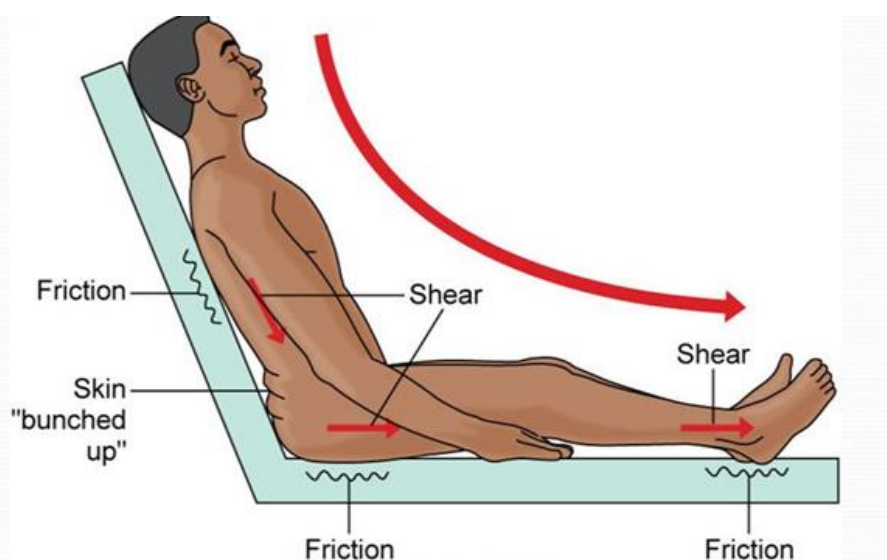
# PRESSURE ULCERS

## Shear (extrinsic)

When skin and tissue are stretched in different directions, shearing occurs. This usually happens when the patient is on a gradient.

## Friction (extrinsic)

When two surfaces rub together, the top layer of the skin gets stripped away. Shear and friction often occur in the same clinical situations.



## Moisture (extrinsic)

While moisture associated skin damage must not be confused with pressure, excessive moisture can increase the risk of pressure damage by increasing the friction on already weakened skin.

# RISK ASSESSMENT

## Policy

- ✓ Use the Trust approved paediatrics/young persons validated risk assessment tool, within 6 hours of admission to assess a person's risk.



Risk assessment tools are required but they do not replace clinical judgement, and should be used to help you in your decision making.

Reassessment of risk is recommended daily or if there is a change in the Childs / young person's condition.

Children who are at greater risk include:

- Those undergoing lengthy surgery
- Children with orthopaedic conditions with external fixators / plaster casts, traction or splints
- Children with continuous use of medical devices such as nasal cannula, CPAP, peripheral cannula, NG tubes, SATs probes etc
- Children who have spinal injuries or neurological impairment
- Children who have a nutritional deficit
- Children with multiple pathologies



# GLAMORGAN SCALE

Dates and times of assessment should be inserted into the appropriate box

- Mobility – include the total of ALL relevant scores in this section.
  - **Child cannot be moved without great difficulty or deterioration in condition/general anaesthetic** – add 20 to total score e.g if the ventilated child who de-saturates with position changes or a child that becomes hypotensive in certain positions. Children with spinal injuries or contracture deformities can only be made comfortable in certain positions.

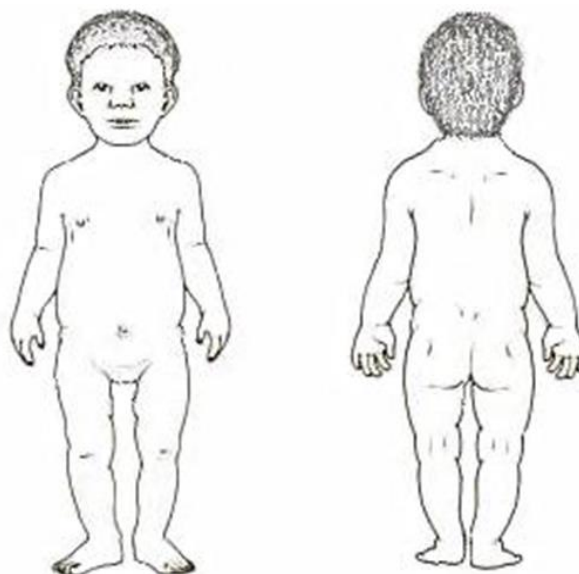
If surgery greater than 2 hours add 20 to the score for this section only on the day of surgery

- **Unable to change his/her position without assistance / cannot control body movements** – add 15 total score for this section. E.g a child may be unable to move themselves but can be repositioned by family, carers or hospital staff and/or the child can make movements but they are not purposeful, i.e they cannot consciously change position.
  - **Some mobility but reduced for age** – add 10 to total score. The child may have ability to change position but this is limited/restricted due to developmental delay or restrictions such as bed rest or traction.
  - **Normal Mobility for age** – score 0, mobility is normal for age and developmental stage
- **Significant anaemia (Hb <9g/dl)** – if HB has been measured and less than 9g/dl score 1 if not known document NK and score 0
  - **Persistent pyrexia (temperature 38.0°C for more than 2 hours)** – score 1 if temperature remains for over 4 hours

# GLAMORGAN SCALE

- **Poor peripheral perfusion (cold extremities / capillary refill / 2 seconds / cool mottled skin)** If the child has any of these things in warm environment (i.e not due to low temperature in the room) score 1
- **Inadequate nutrition / PYMS score .2 (discuss with a dietician if in doubt)** Excluding pre- op fasting score one if identified as malnourished
- **Low serum albumin (<35g/l)** – can cause fragile skin and reduce wound healing score 1 if serum albumin is less than 35g/l
- **Incontinence (inappropriate for age) e.g** a 4 year old child that needs to wear nappies during the day and night. Include children with special needs into this category. Occasional bedwetting , or a 1 year old in nappy for example should not be included.

## Pressure



The diagram of the child can be used to indicate the position of skin lesions. The skin lesions documented should be numbered and can be referred to in the table provided

# WATERLOW ASSESSMENT

Risk Factor	What is it?	Why is it a risk?
Age	How old someone is	Neonatal skin is thinner and underdeveloped meaning it is unable to perform normal functions of the skin and becomes more easily damaged. Mature skin has reduced amounts of collagen which affects the elasticity, muscle tone and fatty tissue of the skin making it more prone to damage.
Mobility	The ability to change and control body position	Staying in one position increases the time that pressure is applied to one area.
Sensory Impairment	Reduced ability to feel pain or discomfort or communicate this	The inability to sense pain or discomfort means that the person may not respond accordingly to relieve their own pressure.
Perfusion and Oxygenation	The amount of oxygen and nutrients the blood is able to provide to the skin	The skin is a living organ and requires oxygen and nutrients to keep it healthy and functioning appropriately. Skin integrity will be compromised if there is a reduced blood supply.
Nutrition and Hydration	The amount of food and drink required	Nutrients are required to ensure cell health so they are able to respond to injury as required. If these nutrients aren't available the body will start to use up fat supplies. Fat tissue has a poor blood supply while if there is not enough fat, the bones become more pronounced.
Previous Pressure Damage	Pressure damage that has now healed	Scar tissue does not have the same tensile strength of normal skin meaning it is more at risk of breaking down.
End of Life	When someone is approaching the last stages of life	The skin like any other organ can start to shut down towards end of life. This can be unavoidable and is acknowledged as skin changes at life's end (SCALE)
Non Concordance	Failure to follow recommended advice	A person has the right to choose any care or interventions as long as they have capacity. If a person is non concordant , ensure risks are explained and look for alternative plans which may be more acceptable

# SURFACES

## Equipment

Mattresses, cushions and heel offloading devices help to redistribute and relieve pressure but are not a replacement for effective nursing care.

All support surfaces can be obtained from the portering service. Where internal equipment is unavailable, there is an escalation process to follow in order to obtain rental devices. Patients **must not** be waiting days for appropriate surfaces to be available and provided.

The escalation process can be found on the intranet, and should be visible within all clinical departments.

Decisions on equipment provision should be based on an overall holistic assessment and should consider the following:

- ❖ Appropriateness for the age, weight and size of the patient
- ❖ Level of risk
- ❖ Skin assessment
- ❖ Location, cause and category of any existing pressure damage
- ❖ General health status
- ❖ Acceptability and comfort to the patient
- ❖ Mobility of the patient
- ❖ Safety of the patient
- ❖ Availability of the equipment
- ❖ Treatment objectives
- ❖ Any contraindications

# SURFACES

## Care and Maintenance of Equipment

### Check integrity of mattresses weekly, or after every child use - whichever comes first

Please ensure you are familiar with all pressure relieving/redistributing equipment and refer to individual resource files provided by the companies for further information

- The equipment is only effective if it is good working order, switched on and used appropriately.
- If any piece of equipment is alarming, it is letting you know that there is a problem – you **MUST** respond to this and not mute it or ignore it, otherwise you are putting your patient at risk of pressure damage.
- If you are unable to rectify the alarms, then contact the Equipment Library.
- Please remember the air alternating mattresses are single child use and need to be sent for decontamination after every use.

## Think ALL Surfaces

Wheelchairs, stools, equipment - are they appropriate, will they cause pressure damage? Is equipment required to reduce pressure ulcer risk?

## Equipment related pressure damage

When a child is in hospital, they have the potential to have a number of medical devices in place and all of these can cause pressure damage.

For the majority of times, this can be mitigated with regular skin checks and position changes of the medical device.

## Oxygen delivery devices



Kerrapro pads can help to redistribute pressure and due to their versatility, can be used in many anatomical locations. Protective dressings can also be used.

## Offloading



Ensure heels are offloaded where appropriate, especially children who are immobile or have a lower limb problem.

Pillows can be used to ensure that heels are floating. Care should be taken to ensure that the pillow is not occluding blood vessels behind the knee. Ensure offloading is documented within the child's records.

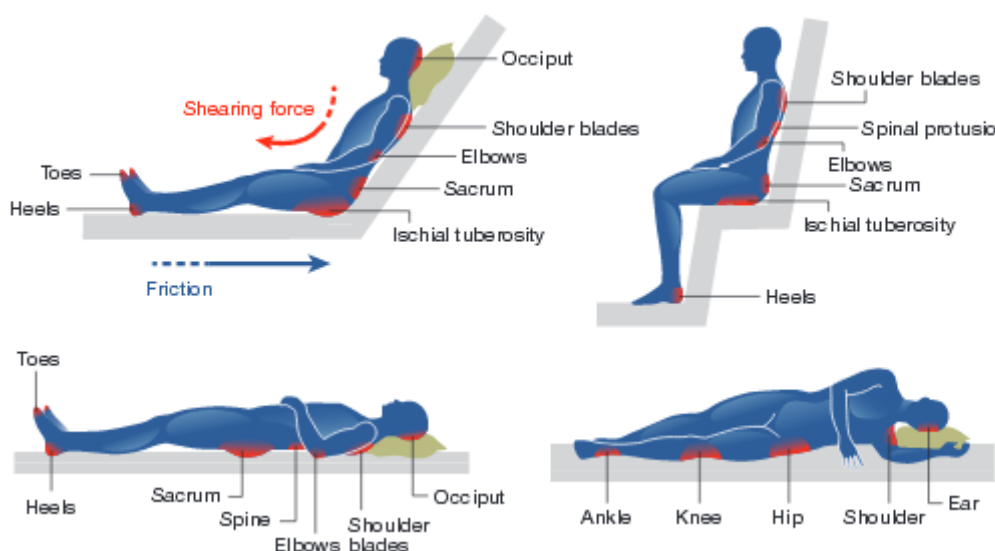


# SKIN ASSESSMENT

## What to Look For

Skin assessments help us to identify early changes in the skin which may lead to pressure damage.

Skin assessments should be completed on admission to the department, within six hours of arrival, and include the most vulnerable areas at risk for each child, not forgetting underneath medical devices. Presentation in infants and children is more likely to occur in areas such as occipital region, elbows, heels, base of spine or ears.



**A description of the pressure ulcer, along with the category, should be documented in the patient record**

Any pressure damage should be reported through the incident reporting system at point of identification. If there is a delay in completing the Incident Report please identify this within you report and ensure the time and date of incident is back dated to when it was initially identified. Information should also be sought from the child's normal caregiver.

# SKIN ASSESSMENT

Any alteration in the skin condition should be noted on the body map.



Alterations in the skin condition could include:

- ❖ Dryness
- ❖ Cracking
- ❖ Erythema
- ❖ Maceration
- ❖ Localised oedema
- ❖ Fragility
- ❖ Blisters
- ❖ Localised temperature change
- ❖ Localised pain
- ❖ Induration
- ❖ Discoloration



# SKIN ASSESSMENT

In children with darker skin tones, skin changes such as non-blanching erythema, may be difficult to detect. Instead of redness, a purple/blue hue may be evident. There may also be a change in the feel of the skin, in comparison to the surrounding skin, or a change in the temperature of the affected area, in comparison to surrounding skin.



It is important that we react to any skin changes, remember **red skin** is not normal, **purple skin** may not be bruising; you need to act on what you find!

**Any pressure damage identified 6 hours after commencement of care (first initial review in A&E) is New Pressure Damage (NPU).** Prior to this, it is Present on Admission (POA).

**Skin assessment should be discussed at handover to any transferring ward and, where possible, skin checked at point of admission to ward with accepting nurse.**

# Pressure Ulcer Categorisation

## Category 1 – Non Blanching Erythema



Intact skin with non-blanchable redness of a localised area, usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its colour may differ from the surrounding area. The area may be painful, firm, soft, warmer or cooler compared to adjacent tissue. Category 1 may be difficult to detect in individuals with dark skin tones. May indicate 'at risk' individuals (a heralding sign of risk).

## Category 2 – Partial Thickness Skin Loss

Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister. Presents as a shiny or dry shallow ulcer without slough or bruising. This category should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation.



## Category 3 – Full thickness skin loss



Full thickness tissue loss. Subcutaneous fat may be visible, but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunnelling. The depth of a Category 3 pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and Category 3 ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep Category 3 pressure ulcers. Bone/tendon is not visible or directly palpable.

## Category 4 – Full Thickness Tissue Loss

Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often includes undermining and tunnelling. The depth of a Category 4 pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Category 4 ulcers can extend into muscle and/or supporting structures (eg: fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.



## Unstageable – Depth Unknown



Full thickness tissue loss in which the base of the ulcer is covered by slough and/or eschar in the wound bed. Until enough slough and/or eschar is removed to expose the base of the wound, the true depth and therefore category cannot be determined. Stable eschar on the heels serves as the body's natural cover and should not be removed.

## Deep Tissue Injury – Depth Unknown

Purple or maroon localised area of discoloured intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler compared to adjacent tissue. DTI may be difficult to detect in individuals with dark skin tones. May include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar. Evolution may be rapid, exposing additional layers of tissue even with optimal treatment.



# KEEP MOVING

## Repositioning

- Repositioning is one of the essential elements of caring for someone at risk of developing a pressure ulcer, and is equally as important in children with existing pressure damage, to prevent deterioration or new areas of pressure ulceration occurring.
- Repositioning regimes should be implemented on an individual basis, encompassing the child's tissue tolerance.
- If children are able to change their own position or have a family member who can assist then this should be encouraged and documented in their record.
- Any repositioning needs to be evidenced within the child's record and should be appropriate for the child's needs and risk.
- Avoid positioning on pressure ulcers

## 30° Tilts

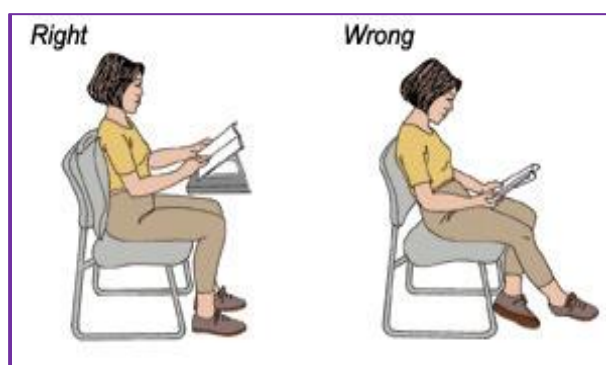


# KEEP MOVING

## Equipment

### Chairs

- All chairs at the side of a child's bedside have a high density foam cushion.
- Some chairs have height adjusters on the legs, so the chairs can be altered for each individual person.
- Orange chairs have more pressure relieving qualities
- Ensure the child is sitting correctly and for appropriate lengths of time



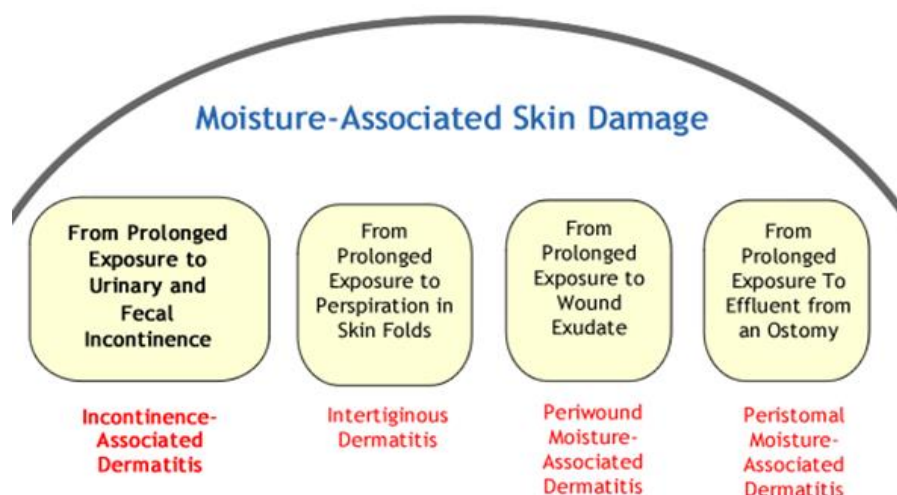
## Slide Sheets

There is no excuse for not using slide sheets. They are for protection of your young patients and yourself.



# INCONTINENCE

## Moisture Associated Skin Damage



Moisture associated skin damage (MASD) is an umbrella term that describes damage to the skin caused by prolonged exposure to moisture.

**All** MASD needs to have an incident form completed (IAD and Non IAD).

## Incontinence Associated Dermatitis












Incontinence associated dermatitis (IAD) is a form of contact dermatitis that results from a chemical irritation of the skin caused by prolonged exposure to urine and/or faeces.

This alters the skin's pH and makes it more alkaline, which results in the skin being more hospitable to micro-organisms.





# Incontinence skin care protocol

Clinical presentation**		Clean the skin	What to use	When to use	How much to use	
Prevention	At risk No redness and skin intact		Clean daily and after each episode of faecal incontinence	 3M <sup>®</sup> Cavilon <sup>™</sup> Durable Barrier Cream	 Day and night	
	Mild Red but skin intact		Clean daily and after each episode of faecal incontinence	 3M <sup>®</sup> Cavilon <sup>™</sup> Durable Barrier Cream	 Day and night	
Management	Moderate Red* with skin breakdown		Clean daily and after each episode of faecal incontinence	 Medihoney <sup>®</sup> Barrier Cream	Apply after each incontinence episode	As per product guidance
	Severe Red* with skin breakdown		Clean daily and after each episode of faecal incontinence	Treat as moderate skin damage but refer to Tissue Viability Service 3M <sup>®</sup> Cavilon <sup>™</sup> Advanced Skin Protectant may be appropriate 		

## Important considerations



Apply Cavilon durable barrier cream in successive pea-sized amounts. A little goes a long way!



Apply twice per week only

Cavilon Advanced skin protectant is a highly durable, long lasting barrier and is applied as per tissue viability service instruction.

## TVN Contact

Dept Phone 6175  
Bleep 319  
Tissue Viability Service,  
Bedford Hospital

\*Or pale, dark, purple, dark red or yellow in patients with darker skin tones. \*\*MAD Severity Categorisation Tool taken from Baseman D et al. Proceedings of the Global IAD Report Panel: Incontinence-associated dermatitis: involving prevention research. Wound International 2016;18(6):62

## Non Incontinence Associated Dermatitis

### Intertriginous Dermatitis

Intertrigo occurs when moisture, usually perspiration becomes trapped within skin folds. It is more likely to occur in hot and humid conditions.

### Periwound Moisture Associated Skin Damage

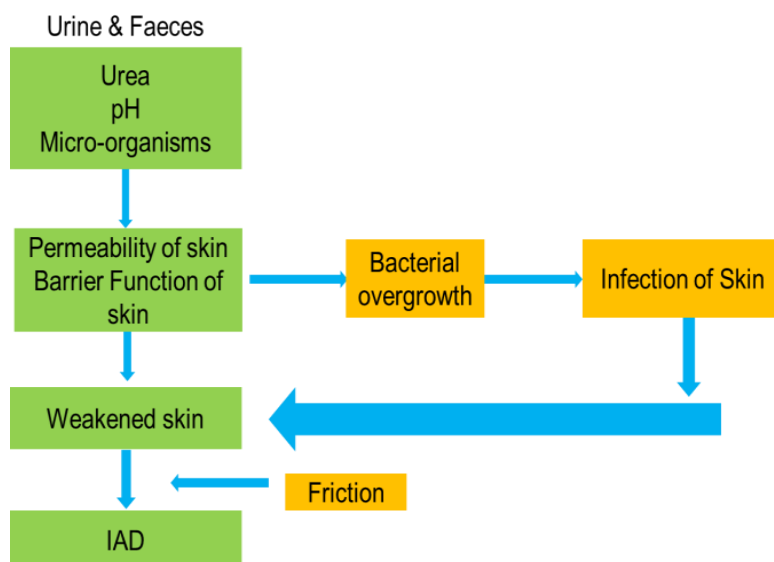
This occurs when wound fluid or exudate comes into prolonged contact with the skin surrounding the wound. The excess moisture puts the skin at higher risk of friction and prevents migration of cells, delaying wound healing.

## Peristomal Moisture Associated Skin Damage

Peristomal skin damage is caused by poor appliance fit, which allows urine or faeces to collect under the seal, causing erosion of the skin.

### Pathology of IAD

- **Overhydration**
  - Increased fragility
  - Increased “drag” against the sheets
- **Repeated cleansing**
  - Loss of skin oils
  - Removal layers of skin
- **Irritants/bacteria**
  - Enter through “gaps” in the skin
  - Inflammatory response
- **Change in pH**



## Differences between MASD and Pressure

<b>Pressure Ulcer</b>	<b>MASD</b>
History of immobility, short or long term	History of incontinence, perspiration or contact with exudate
Usually circular and symmetrical in shape	May be associated with sweating in skin folds or natal cleft
May take on a butterfly wing shape if it spans out from sacrum	Irregular and asymmetrical shape
Will be over a bony prominence (unless a piece of equipment is the cause)	Lesions will be over fatty parts of the buttocks and thighs, and are not isolated to being located over the bony prominences
May have necrotic or thick sloughy tissue present	Lesions may extend into perineal area, scrotum and vulva
If associated with an external device causing the pressure the lesion will take the shape of the device	Usually there is no necrotic tissue
Categorise according to EPUAP classification tool	Do not categorise

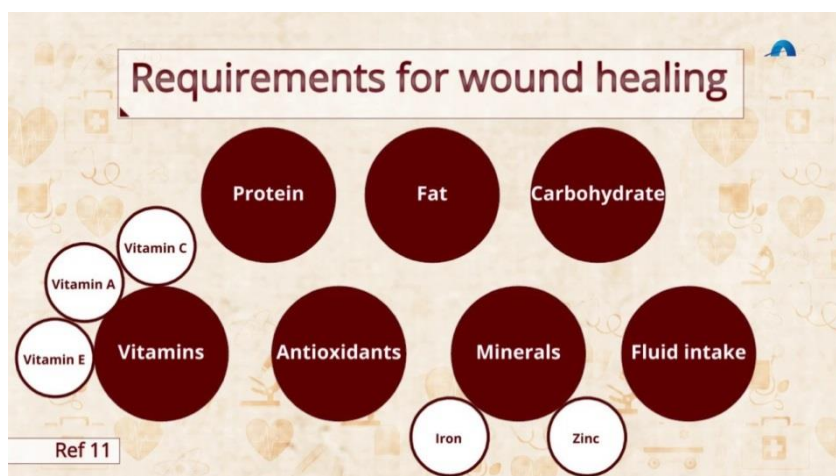
# NUTRITION & HYDRATION

A nutritional assessment must occur as per Trust policy

Evidence shows that there is a correlation between malnutrition and the development of pressure ulcers, therefore it is important to optimise a child's nutritional state for pressure ulcer prevention.

The skin requires oxygen and nutrients to keep it healthy and repair any tissue damage that may occur. If the patient is not getting enough nutrients, then this cannot occur.

Use the medical notes and patient history to establish if there is any recent weight loss.



All patients with significant wounds and/or category 2 pressure damage and above will need additional nutritional support to aid in wound healing. Patients will require increased protein, calories and micronutrients. Please ensure appropriate nutritional support is sought and referral to dietician made, where referral criteria is met.



# GIVING INFORMATION

Ensure the child and/or parent(s)/guardian(s) are appropriately educated of their risk of pressure ulcer development and what they can do to help prevent this from happening.

If there is concordance issues, ensure the child and/or parent/guardian makes informed decisions and educated them on the risk of not adhering to prescribed care.

Ensure risk and management is communicated to appropriate staff and on transfer/discharge to ensure continuity of care.

Ensure the above and below is documented in the child's record.



# REPORTING & SAFEGUARDING

## Incident Reports

**All** pressure ulcers and moisture damage **MUST** be reported on The Incident Reporting System.

Any skin damage must be reported on The Trust incident reporting system at point of identification. If there is a delay in completing the incident report please identify this within your report and ensure the time and date of incident is backdated to when it was initially identified.

Please include a description of the skin damage with the categorisation on the report.

## Harm

Even if skin damage is present on admission, a harm level has to be assigned. – Although we have not caused the harm, there is harm to the patient's skin.

Moisture Lesion **Low Harm**

Category 1 Pressure Ulcer **Low Harm**

Category 2 Pressure Ulcer **Low Harm**

Category 3 Pressure Ulcer **Moderate Harm**

Suspected Deep Tissue Injury **Moderate Harm**

Unstageable Pressure Ulcer **Moderate Harm**

Category 4 Pressure Ulcer **Severe Harm**

If reporting numerous pressure ulcers or combination of moisture and pressure ulcers always categorise with the greatest harm level.

## Safeguarding

If the child is admitted with skin damage from a care facility or has formal care provision at home, a history and/or cause of the wound should **ALWAYS** be investigated to rule out any safeguarding issues. Refer to transfer documentation from care facilities, information from child / relatives and community nurse information as appropriate.

Questions to consider:

- How did the pressure damage occur?
- Is it historical or something new to the child?
- Have you received transfer documentation regarding the pressure damage?
- Have they got appropriate pressure ulcer prevention equipment at home?
- Have they received appropriate prevention management?
- Are they aware, or is the parent/guardian aware of the pressure damage?

If unable to ascertain the correct information, ensure this is documented in the child's records and on the incident report form. On transfer to another ward/department, ensure that staff are made aware that further investigation is required in regards to care provision and to question safeguarding further.



# DOCUMENTATION

## “If it wasn't documented it wasn't done”

- Documentation must evidence care given and any variation must have documented rationale within the child's record.
- Documentation of pressure ulcer prevention management (aSSKING) should be documented within the patient record.
- Do NOT use terms such as “skin intact” as pressure damage could still be evident but skin not broken e.g. Category 1 and DTI
- Body maps should be completed for every skin change identified
- Evidence of wound checks should be evident in the patient record, with dressing provision clearly stated – if wounds are present then a wound care plan must be filled in for each wound.





# Questions

Please complete all questions and **send to the education team**.  
If you have any feedback or have any questions, please contact  
to [TVS@bedfordhospital.nhs.uk](mailto:TVS@bedfordhospital.nhs.uk)

**Q.1 Where in the first instance would you look for dressing advice?**

**Q.2 Why do we bandage toe to knee for lower leg wounds?**

**Q.3 Should you use steri-strips on skin tears?**

**Q.4 What are effective ways of offloading heels?**

**Q.5 When should you inspect the skin and pressure areas?**

**Q.6 What areas are most at risk for developing pressure damage on a child?**

**Q.7 If a pressure ulcer or moisture lesion is identified after 6 hours of admission to ED is this NEW or Present on Admission?**

**Q.8 If the pressure damage is POA is there a harm level on datix or no harm?**

**Q.9 If a child is admitted with dressings insitu from the community who should you contact to identify what dressings are in use?**

**Q.10 When should barrier cream be used?**

**Q.10 where can you find further guidance on wound management for paediatric patients.**

**Q.11 What risk assessment tool is used within paediatrics?**

**Q.12 At what age would a child or young person be assessed using waterlow?**

**Q.13 What can be used to prevent skin damage from medical devices?**

---

Please sign and date below to acknowledge you have read and completed the Tissue Viability ED Training Work Book. Please send completed strips to the education centre.

Name:

Role:

Sign:

Date:

Completed with the kind assistance of Chesterfield Royal Hospital  
Foundation Trusts

April 2023