Academic Department of Critical Care
Queen Alexandra Hospital Portsmouth

Portsmouth Hospitals NHS
NHS Trust

# Pressure Area Management in Critical Care

**Aim:** To provide guidance on pressure area management for Critical Care patients.
**Scope:** Adult patients in Critical Care. This is to be used with Trust guidance on pressure ulcer prevention & management

**Remember : the sicker the patient, the greater the risk of pressure areas**
Multi Organ Failure Sepsis Immobility Inotropes Poor Perfusion Incontinence
Hypovolaemia Malnourished Anaemia Oedema Neuropathy Anti-Coagulants Steroids

## 1. Assess and document pressure areas

- Within **4 hours** of admission.
- At **each turn** and/or **dressing change**
- Remove **teds** and **dressings**
- Use **mirrors** to check heels and difficult to view areas
- Careful attention to **high risk** sites
- Daily **Purpose T** scoring
- **Time and date** stamp on CIS

**If unable, document why**

## 2. Consider preventitive measures

- Use **pressure relieving mattress** (unless contra-indicated e.g. spinal injury) or **seat cushion**
- Consider **repose boots** for at risk patient (diabetic, vascular, on inotropes)
- **Repositioning** 3-4 hourly, increased to 2 hourly if damage present
- **Re-positioning** of **medical devices 2 hourly**
- **Breaks from NiV** if appropriate
- **Aderma** protection for vulnerable areas
- **Derma S** barrier film for vulnerable areas
- **Patient education**
- Removal of **unnecessary procedure pads**

## 3. Document an action plan

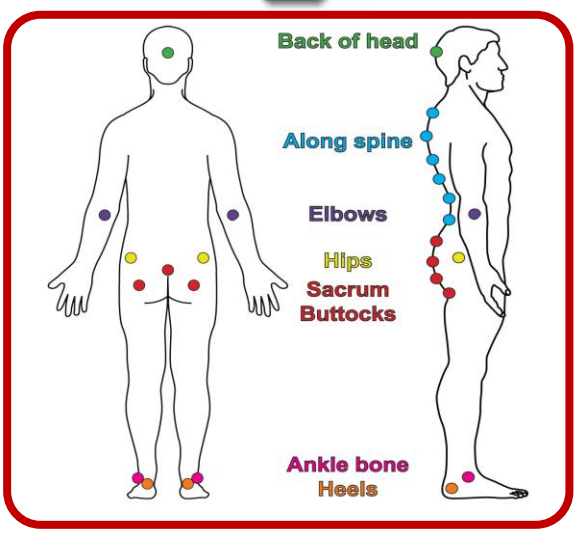
- **Repositioning** including time frame
- **Dressings** used and time to renew
- **Time frame** for evaluations
- Consider medical **photography**

## 4. Handover condition of skin

- At change of shift physically review complex wounds / dressings at the bedside
- Sign post to CIS dressing care plans
- Free type onto the nursing discharge summary

## High risk sites for pressure damage

- **Back of head** (particularly spinal patients)
- **Nose** (NiV, NGT)
- **Mouth and neck** (ETT securing)
- **Chin, chest, neck** (hard collars)
- **Ears** (ETT tapes, O2 masks, HHFO2)
- **Feet and legs** (DVT prophylaxis)
- **Waist and legs** (net knickers)
- **Medical devices and monitoring**
- **Proned patients** have high risk areas (see proning SOP)




## 5. Ongoing Evaluation

- **Short and long term goals?**
- **Address the underlying cause?**

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## Is skin damage present? ……..

### 1. Gather a history

- From patient, relative, ward staff
- Consider **causation** factors
- Has **pressure** been a contributory factor? (please see guide page 5-6)
- Is **moisture** involved? (please see guide page 5-6)
- Does the skin **blanch?**

### 2. Wound assessment

**T** **Tissue** Presence of slough, necrosis, granulation, epithelial tissue (please see page 4)

**I** **Infection**

**M** **Moisture** Exudate, colour, viscosity and volume

**E** **Edges** and surrounding skin

### 3. Pressure area staging

Please stage according to Trust guide (page 3)

### 4. Wound care

- Use **dressing selection guide SOP**
- Use **senset cleansing foam** and **derma s film** for moisture lesions.

### 5. Consider

### 6. Other Professionals to Consider

- TVN
- Dietician
- Diabetic Nurse
- Podiatry (Ulcers to feet)
- Vascular Team

### Pressure v Moisture

**History of Moisture?** Urine, faeces, perspiration

- Diffuse superficial lesion
- Irregular edges
- Can be elongated in shape
- Patchy non uniform redness
- Macerated surrounding skin

**History of Pressure?** Red, purple non blanching discoloration. Evidence of pressure involvement

- Isolated circular wound
- Regular shape, distinct edges
- Over boney prominence

### Blanching

Press on the red, pink or darkened area with your finger. The area should go white, remove the pressure and the area should return to red, pink or darkened color within a few seconds, indicating good blood flow.

If the area does not do this it is **non-blanching** this indicates pressure involvement and **at risk skin**

Check all regions of the damaged skin.

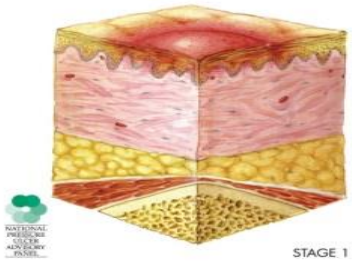
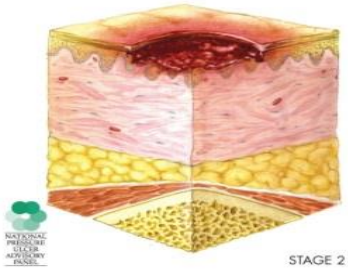
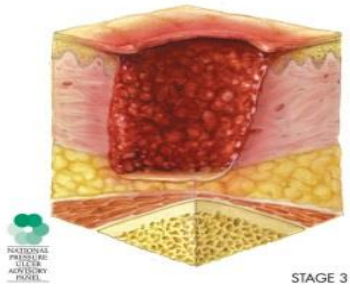
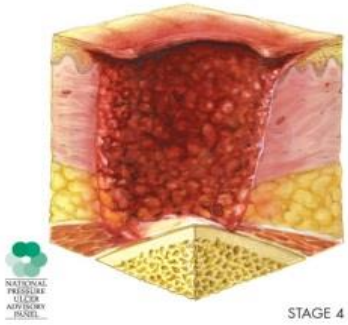
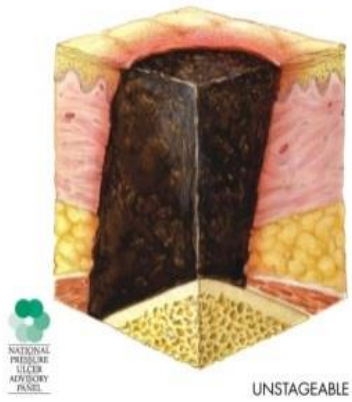
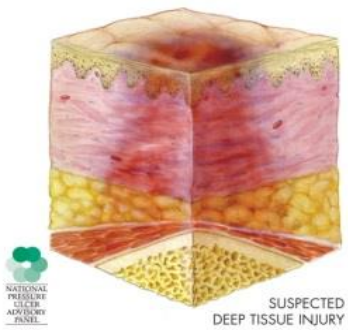
### If pressure damage is present

- Inform NIC / consultant / matron
- Create separate CIS note and label on the body map
- TVN referral
- SLER: All grades and record reference number on CIS
- Safeguarding referral: Grade 3 or 4
- Duty of Candor

### How to refer to the TVN team

Please make an electronic referral to: tissueviablity@porthosp.nhs.uk

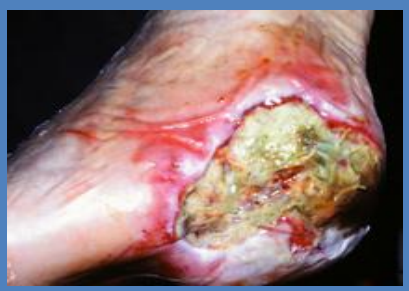
and ensure that a wound assessment has been carried out.
Ext. 6985
Bleep. 0078

| Category/Stage | Illustration Example | Definition |
|---|---|---|
| **Stage 1** |  | Intact skin with non-blanchable redness of a localized area usually over a bony prominence. |
| **Stage 2** |  | 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 or sero-sanginous filled blister. Presents as a shiny or dry shallow ulcer without slough or bruising. Bruising indicates deep tissue injury |
| **Stage 3** |  | 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/Stage III pressure ulcer varies by anatomical location. Bone/tendon is not visible or directly palpable |
| **Stage 4** |  | Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present. Often includes undermining and tunnelling. The depth of a Category/Stage IV pressure ulcer varies by anatomical location. Category/Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule). Exposed bone/muscle is visible or directly palpable. |
| **Unstageable/ Unclassified** |  | Full thickness tissue loss in which actual depth of the ulcer is completely obscured by slough (yellow, tan, grey, green or brown) and/or eschar (tan, brown or black) in the wound bed. Until enough slough and/or eschar are removed to expose the base of the wound, the true depth cannot be determined; but it will be either a Category/Stage III or IV. Stable (dry, intact without erythema) eschar on the heels serves as “the body’s natural (biological) cover” and should not be removed. |
| **Suspected Deep Tissue Injury (SDTI)** |  | Purple or maroon localized area of discoloured intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. Evolution 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. |

# Definition of Wound Types

## Sloughy Tissue

- Layer of dead tissue
- Yellow or green in color
- Maybe dry or wet on the surface
- Varying depth
- May produce an offensive smell



## Granulation Tissue

- The development of new tissue from the wound base
- Typically bright red in colour
- Rough and irregular surface

## Epithelialising Tissue

- Healing of the surface layer of the skin
- Delicate new skin cells appear at the edges or middle of the wound as tiny pink specks.

## Necrotic Tissue

- A layer of dead tissue
- Brown or black in color
- Caused by inadequate blood supply or infection
- Can be soft or hard on the surface
- Can be of varying depth
- May produce an offensive smell

# Pressure Ulcer Prevention Strategies

Differentiating between Pressure Ulcers and Moisture Lesions

# Moisture v Pressure Damage

SSKIN

| | Pressure Ulcer | Moisture Lesion |
|---|---|---|
| | | |

## Location:

| | |
|---|---|
| Pressure Ulcers | If not over a bony prominence then unlikely to be a pressure ulcer. If limited to one spot, it is likely to be a pressure ulcer. |
| Moisture Lesions | May occur over a bony prominence but pressure and shear should be excluded and moisture should be present *(e.g. urine, faeces, perspiration)*. |
| Remarks | It is possible to develop a pressure ulcer where soft tissue is compressed (e.g. by a nutrition tube, nasal oxygen tube, urinary catheter). |

## Shape:

| | |
|---|---|
| Pressure Ulcers | Circular wounds or wounds with a regular shape. The possibility of friction injury has to be excluded. |
| Moisture Lesions | Diffuse, superficial spots, kissing ulcer/copy lesion. A lesion limited to the natal cleft with an elongated shape is likely to be a moisture lesion. |
| Remarks | Irregular wound shapes are often present in a combined lesion *(e.g. pressure ulcer and moisture lesion)*. Friction on heels may be circular. Diagnosis should be made based on history and observation. |

## Depth:

| | |
|---|---|
| Pressure Ulcers | Pressure ulcers vary in depth depending on classification. |
| Moisture Lesions | Moisture lesions are superficial (partial thickness skin loss). If moisture lesions get infected, the depth of the lesion can be enlarged/ deepened extensively. |
| Remarks | An abrasion is caused by friction. If friction is exerted on a moisture lesion, this will result in superficial skin loss in which skin fragments are torn and jagged. |

## Necrosis:

| | |
|---|---|
| Pressure Ulcers | A black necrotic scab over a bony prominence is a grade 3 or 4 pressure ulcer. |
| Moisture Lesions | There is no necrosis in a moisture lesion. |
| Remarks | Necrosis softens up and changes colour *(e.g. blue, brown, yellow, grey)*. Necrosis is never superficial. |

## Edges:

| | |
|---|---|
| Pressure Ulcers | If the edges are distinct, the wound is likely to be a pressure ulcer. Wounds with raised edges are old wounds. |
| Moisture Lesions | Moisture lesions often have diffuse or irregular edges. |
| Remarks | Jagged edges are seen in moisture lesions that have been exposed to friction. |

## Colour:

| | |
|---|---|
| Pressure Ulcers | Erythema, slough, necrosis, granulation tissue, epithelial tissue, dressing residue, infection. Redness on patients with darkly pigmented skin may manifest as blue or purple. |
| Moisture Lesions | Non-uniform redness. Pink or white surrounding skin could indicate maceration due to moisture. |
| Remarks | **Red skin:** If the skin (or lesion) is red and dry or red with a white sheen, it could be a fungal infection. Green in wound bed: Infection. |

## Distribution:

| | |
|---|---|
| Pressure Ulcers | Isolated individual lesions. |
| Moisture Lesions | Connected or patchy. |

# Pressure Ulcer Prevention Strategies: SSKIN Bundle

Support, Inspection, Movement, Protection, Nutrition & Hydration

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**S** **Surface:**
Make sure your patients have the right support surface (bed, chair).

**S** **Skin Inspection:**
Early inspection means early detection. Show patients and carers what to look for. Document findings.

**K** **Keep your patients moving:**
Encourage independent repositioning or assist with repositioning.

**I** **Incontinence/Moisture:**
Your patients need to be clean and dry. Apply a barrier product for skin protection.

**N** **Nutrition/Hydration:**
Help patients have the right diet and plenty of fluids. Assist patients who cannot feed themselves.

**SSKIN Bundle**: Helping to prevent pressure ulcers (2013) 'Five simple steps to prevent and treat pressure ulcers'. Available at: http://nhs.stopthepressure.co.uk/SSKIN/sskin.htm

**Pressure Ulcers VS Moisture lesions**: Yates, S (2012) 'Differentiating between pressure ulcers and moisture lesions'. Wounds Essentials. Volume 2 pp 19-20

Hyfywedd, F. And Gyfan, M. (2014) 'All Wales best practice statement on the prevention and management of moisture lesions'. Available at: www.welshwoundnetwork.org/files/5514/0326/4395/All_Wales-Moisture_Lesions_final_final.pdf

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# Pressure Ulcer vs Moisture Lesion

Skin damage, particularly on the sacral area, is often considered to be due to pressure damage, when frequently it is the result of prolonged exposure of the skin to moisture. Correct differentiation between pressure and moisture lesions is important for planning appropriate prevention and treatment strategies.

## Definitions:

**Pressure Ulcer**
'Localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear'.[1]

**Moisture Lesion**
'Skin damage caused by excessive moisture'.[2]
Includes terms such as perineal and diaper dermatitis and incontinence associated dermatitis (IAD).[2]

***NB. Combined lesions can occur in the presence of both moisture and pressure/shear, both of which must be treated appropriately.***

## How to Diagnose[3]:

| Cause | Pressure Ulcer<br>Identifiable cause of pressure or shear | | Moisture Lesion<br>Identifiable cause of excess moisture<br>eg. Incontinence, wound exudate, perspiration | |
|---|---|---|---|---|
| Location | | Most likely over a bony prominence | | Can occur over a bony prominence - exclude pressure and shear. A linear (straight) lesion limited to the anal cleft is likely a moisture lesion. Peri-anal redness/irritation is most likely a moisture lesion due to faeces |
| Shape/Edges | | Regular shape with a more defined wound edge | | Diffusely scattered, irregularly shaped. If a 'kissing' lesion is observed across two adjacent surfaces, at least one is likely due to moisture |
| Colour | | Non-blanching redness or blue/purple discolouration is likely due to pressure damage. Red granulation, soft/black necrotic or sloughy tissue in the wound bed indicates a pressure ulcer | | If redness or discolouration is uneven, moisture damage is the likely cause. Pink or white surrounding skin indicates maceration |
| Depth | | Can vary in depth from unbroken non-blanching erythema to full thickness tissue loss extending to tendon or bone | | Superficial – Partial thickness skin loss, but may enlarge when infection is present |
| Necrosis | | Presence of necrosis (black scab or softening blue, brown, grey or yellow tissue) indicates a pressure ulcer | | Moisture lesions do not contain necrotic tissue |

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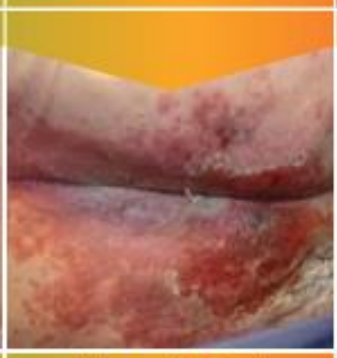
# Incontinence Continuum for Skin Barrier Protection

## How to Choose the Right Skin Barrier Product:

| | Low | Moderate | High |
|---|---|---|---|
| **Level of Incontinence Related Skin Damage** | |  | |
| **Type and Severity of Incontinence** | Urinary Incontinence +/- occasional Faecal Incontinence usually requiring infrequent to regular cleansing pad changes* | Urinary and/or Faecal Incontinence, usually formed or soft stool, usually requiring regular cleansing and pad changes** | Urinary and/or Faecal Incontinence, often liquid stool, usually requiring frequent cleansing and pad changes*** |
| **Skin Integrity** | Intact +/- Erythema | Erythema/Dermatitis with <50% broken skin | Erythema/Dermatitis with >50% broken skin |
| **Cleansing** | Skin Friendly, pH Balanced Skin Cleansing Solution or Wipe | | |
| **Skin Barrier Protection** | **MEDI DERMA-S BARRIER CREAM** 2g Sachet applied as required after each episode of incontinence | **MEDI DERMA-S BARRIER FILM** 1ml Film Applicator applied every 48-72 hours | |

**Type and Severity of Incontinence**

**Low**
Urinary Incontinence +/- occasional Faecal Incontinence.
Intact skin +/- Erythema.

**High**
Frequent Urinary & Faecal Incontinence and/or profuse Diarrhoea.
Erythema & Dermatitis with >50% broken skin.

**Damage to Skin Integrity**

**Skin Friendly Skin Cleansing**

Skin Barrier Protection with **MEDI DERMA-S BARRIER CREAM**

Skin Barrier Protection with **MEDI DERMA-S BARRIER FILM**

*1-3 changes in 24 hours. **4-7 changes in 24 hours. ***≥8 changes in 24 hours (Guidance only). Adapted from the Nix DH (2002) Validity and Reliability of the Perineal Assessment Tool OWM 48(2): 43-49 and the (2009) Excoriation Tool available at www.healthcareimprovementscotland.org/programmes/patient_safety/tissue_viability_resources/excoriation_tool.aspx accessed November 2015. References: 1. National Pressure Ulcer Advisory Panel (2007) available at: www.npuap.org/resources/educational-and-clinical-resources/npuap-pressure-ulcer-stagescategories/ accessed 16th August 2015. 2. Wounds UK (2012) Moisture Lesions Supplement, Wounds UK, London. 3. Defloor T, Schoonhoven L, Fletcher J et al. (2005) Pressure Ulcer Classification: Differentiation between Pressure Ulcers and Moisture Lesions available at www.epuap.org/archived_reviews/EPUAP_Rev6.3.pdf accessed on 16th August 2015.

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