Pressure Injury Audit Tools Definitions

The following definitions and examples apply to the Pressure Injury Audit Tools:

1. Pressure Injury Equipment
2. Pressure Injury Risk Assessment
3. Pressure Injury Prevention and Management Plan
4. Pressure Injury Staging Guide and Anatomical Sites
5. Non-Surgical Wounds Types
6. Consent for Skin Inspection

Note: The information in this document is taken from the Queensland Bedside Audit (QBA) information sheets.

1. Pressure Injury Equipment

As outlined in the Queensland Health Best Practice Guidelines for Pressure Injury Prevention and Management, using pressure redistribution devices does not eliminate pressure injury risk. Pressure injury prevention requires thorough clinical care, regular repositioning, ongoing assessment and the appropriate support surface. A variety of support surfaces exist which provide varying degrees of pressure relief. Local procedures must be followed for selection and use within your facility.

| Mattress – Pressure Reducing Standard Foam (Reactive) | Pressure redistribution mattresses are used for therapeutic pressure reduction and patient comfort. For Queensland Health facilities, the minimum requirement is that a pressure reducing mattress should be available on all beds. A variety of standard foam mattresses are available and vary in size, density, thickness, and weight capacities. (e.g. Cirrus1A, Maxifloat, Pentaflex, SoftForm, Soft Touch, SXS198 Simuflex) Note: Vinyl mattresses should not be in use. Mattresses covered with a vinyl cover are not considered a static* device as the vinyl does not conform to the pressure load applied. |

Note: Vinyl mattresses should not be in use. Mattresses covered with a vinyl cover are not considered a static* device as the vinyl does not conform to the pressure load applied.
| Mattress – Alternating Replacement (Active) | **Active/Dynamic**:  
- air mattresses that replace a standard hospital mattress and are alternating  
  (e.g. Alternating – Alpha Response 4, Auto logic 200, Bi-wave Carer, Cairwave, ClinActiv, Nimbus, Nodec 3, Proficare)  
  (e.g. Low air loss - Breeze) |
| --- | --- |
| Mattress – Special / self adjusting (Reactive) | High specification mattresses for pressure reduction (can be specialty foam or air mattresses) that are NOT alternating or low air loss  
  (e.g. Accumax, AtmosAir, Mighty Max, Prime Air)  
  This category is to be selected for those mattresses that are not considered a standard foam mattress, or an alternating or low air loss. |
| Overlays – Pressure Reducing Overlay – Non-powered (Reactive) | Mattress overlays that are **being used** in conjunction with standard hospital mattress and are NOT alternating or low air loss  
  (e.g. Spencos; polyester fibre overlays)  
  **Note:** Fibre-filled overlays may provide some comfort or protection from friction, however must not be used on top of pressure redistribution devices as they will limit the device’s pressure redistribution properties. |
  Need to be used in conjunction with standard hospital mattress  
  (eg. Hill-Rom) |
| Overlays – Alternating Mattress (Active) | **Alternating** mattress overlays that are **being used** in conjunction with standard hospital mattress  
  (eg: Autologic 110, AlphaXcell, Alpha Response 3) |
| Specialty bed system | An integrated bed and mattress system which incorporates a bed frame and a dynamic mattress or surface which is alternating, low air loss, constant low pressure, or air-fluidised for the purpose of relieving/reducing pressure. They may offer kinetic movement, bariatric capabilities, various positioning options, and imaging compatible surfaces. Bed and mattress can not be used exclusively of each other.  
  (e.g. Total Care Bed, Therapulse, Clinitrone) |
| Pressure Reducing Chair | Pressure reducing chairs at the bedside are more than the standard bedside chair. They do not require a foam cushion to be put on top of the seat surface because an integrated cushion with specialty foam is built into the chair, as well as a specialty cover. These chairs are an improvement to foam cushions sitting on the standard bedside chair.

**Note:** Two-way stretch vapour permeable fabric over high density foam. |
|---|
| Cushions | Reactive (Static):

- Cushions that are being used in place of or addition to a basic chair/wheelchair base/cushion and are NOT alternating or low air loss

(e.g. specialty foam/gel/air-filled; products – Jay, MacMed, Roho)

Active (Dynamic):

- Cushions that are being used in place of or addition to a basic chair/wheelchair base/cushion and are alternating or low air loss

(e.g. Aura) |
| Positioning Devices | Adjunct Devices:

- Used for positioning or to reduce shear and to provide pressure relief

(e.g. foam wedges, pillows, bed cradle)

Comfort Devices:

- Provide **comfort only** and are **not** pressure redistribution aids

(e.g. sheepskins)

Other:

- Select ‘Other’ for any other equipment item used to facilitate comfort, positioning or to reduce shear and friction not listed above.

(e.g. eggshell foam, booties, slide sheets, limb elevation devices, head cushions (foam/gel), convoluted (egg crate) devices, widgets)

**NOTE:** Avoid Blueys/Kylies as they can reduce immersion qualities of pressure redistribution mattresses. Do not use ‘doughnut’ type devices, water filled gloves/casks as pressure redistribution aids. |
For Queensland Health staff, please go to QHEPS for further information on special populations.

- Regular repositioning aids pressure redistribution. Staff must assist patients ‘at risk’ or unable to move independently and/or redistribute pressure with regular repositioning. Be careful to eliminate any shearing or friction forces. Refer to Section 5.3 of the statewide best practice guidelines.

- Generally, the term ‘pressure redistribution devices’ encompasses:
  - Reactive: Pressure Reducing: Reduces tissue interface pressure but does not consistently maintain interface pressure below capillary pressure
e.g. standard hospital foam mattress.
  - Active: Pressure Relieving: Consistently maintains tissue interface pressure below capillary closing pressure (25mmHg) e.g. Nimbus

- Reactive (Static) devices are designed to increase conformability to body contours and reduce surface tension or provide constant low pressure. These devices are used to optimise pressure reduction and relief and reducing shear and friction.

- Active (Dynamic) devices are attached to a power source to enable their function. They are used for pressure redistribution, envelopment and immersion, reduction of friction and shear forces, relieving pressure in cycles for individuals considered “moderate to high risk”. They are good to use when a pressure injury exists and the person cannot be positioned off the area.

- Selection of appropriate support surfaces requires collaborative and interdisciplinary assessment and review; use of an objective risk assessment tool; informed clinical judgement; and consideration of individual client factors. The greater the individual’s identified risk, the greater the need to use a support surface that achieves the lowest interface pressure.

- Optimal support surfaces should distribute body weight over the largest possible contact surface area with the aim of reducing tissue interface pressure, selectively offload pressure from an anatomical care of particular concern (e.g. heel, sacrum), prevent or reduce friction and shear, and maintain stable skin temperature.

- Beds and mattress purchasing must be in accordance with the current Standing Offer Arrangement (SOA). Categories apply to adult and paediatric devices such as foam mattresses, alternating air devices, low air loss mattresses, trolley mattresses, and basic foam seating for low risk patients.

- It is important that the bed and mattress combination are appropriate and comply with dimensional requirements of manufacturer to mitigate entrapment risks.


2. Pressure Injury Risk Assessment

Each patient is assessed for Pressure Injury Risk upon pre-admission and/or admission to hospital and within a minimum of eight hours (pp 30). The use of the Waterlow tool is recommended for adults and the Glamorgan for paediatric patients. The results of Pressure Injury Risk assessment shall be documented in the appropriate admission form/nursing care plan or chart. Patients/residents shall be re-assessed at a minimum:

- weekly in hospital, subacute or rehabilitation and
- monthly in residential care settings or earlier if there is a change in status or in accordance with the needs of the resident as per their Geriatric Medical Assessment Care Plan and the requirements of the Aged Care Accreditation Standards Agency and
- when there is a change in the patient’s environment, health or functional status
- upon discharge.

A risk assessment tool is a formal scale or score used to help determine the degree of pressure injury risk (pp 10). The tool identifies the risk of developing a pressure injury based on a score of rating scale to weight the severity of risk into categories of - no risk, low, medium or high risk. The use of the Waterlow tool is recommended for adults, others include Braden Scale and Norton Scale, these tools are validated and reliable scales for assessing pressure injury risk in adults (pp 13). The Glamorgan scale can be used for paediatric patients and some facilities have integrated these tools into a comprehensive risk screening and assessment tool.

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Waterlow - includes nine clinical categories, some of which include a two-step assessment (e.g. malnutrition). Each category includes specific scores for each descriptor. Clinical categories include height and build for weight, skin type of visual risk areas, gender and age, malnutrition screening, continence, mobility, tissue malnutrition, neurological deficit and major surgery or trauma. Each category includes options with brief descriptors, fully described in a training manual. A cumulative score is used to identify patients as at risk, at high risk or at very high risk of PI’s. Waterlow, J. Waterlow Score Card. 1985, revised 2005. Available from: http://www.judy-waterlow.co.uk/downloads/Waterlow%20Score%20Card-front.pdf.

<table>
<thead>
<tr>
<th>Risk score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Not at risk</td>
</tr>
<tr>
<td>10+</td>
<td>At risk</td>
</tr>
<tr>
<td>15+</td>
<td>High risk</td>
</tr>
<tr>
<td>20+</td>
<td>Very high risk</td>
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</table>
Braden Q - includes a 3- or 4-point Likert scale for assessment of each of six clinical risk factors for Pressure injuries: sensory perception, moisture, activity, mobility, nutrition, friction and shear. A cumulative score is used to qualify the patient’s PI risk as low, moderate or high. Braden, B. and Bergstrom, N., Braden Scale for Predicting Pressure Sore Risk. 1988. [www.bradenscale.com](http://www.bradenscale.com)


<table>
<thead>
<tr>
<th>Risk score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>24+</td>
<td>Not at risk</td>
</tr>
<tr>
<td>16-23</td>
<td>At risk</td>
</tr>
<tr>
<td>13-15</td>
<td>Moderate risk</td>
</tr>
<tr>
<td>10-12</td>
<td>High risk</td>
</tr>
<tr>
<td>9 or below</td>
<td>Very high risk</td>
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</tbody>
</table>
### Glamorgan Pressure Ulcer Risk Assessment Scale
- Clinical tool designed to help you assess risk of a child developing a pressure injury.

<table>
<thead>
<tr>
<th>Risk score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Not at risk</td>
</tr>
<tr>
<td>10+</td>
<td>At risk</td>
</tr>
<tr>
<td>15+</td>
<td>High risk</td>
</tr>
<tr>
<td>20+</td>
<td>Very high risk</td>
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#### The Glamorgan Paediatric Pressure Ulcer Risk Assessment Scale

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Score</th>
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</thead>
<tbody>
<tr>
<td>Child cannot be moved without great difficulty or deterioration in condition / prolonged surgery</td>
<td>20</td>
</tr>
<tr>
<td>Unable to change his/her position without assistance / cannot control body movement</td>
<td>15</td>
</tr>
<tr>
<td>Some mobility, but reduced for age</td>
<td>10</td>
</tr>
<tr>
<td>Normal mobility for age</td>
<td>0</td>
</tr>
<tr>
<td>Equipment / objects / hard surface pressing or rubbing on skin</td>
<td>15</td>
</tr>
<tr>
<td>Significant anaemia (Hb &lt;90g/L)</td>
<td>1</td>
</tr>
<tr>
<td>Persistent pyrexia (temperature &gt; 38°C for more than 3 hours)</td>
<td>1</td>
</tr>
<tr>
<td>Poor peripheral perfusion (cold extremities/ capillary refill &gt; 2 seconds / cool mottled skin)</td>
<td>1</td>
</tr>
<tr>
<td>Inadequate nutrition (any of the following):</td>
<td></td>
</tr>
<tr>
<td>• Recently decreased/poor for ≥ 2 days</td>
<td>1</td>
</tr>
<tr>
<td>• NG aspirates &gt;10ml/kg or &gt;200mls on ≥ 3 consecutive occasions</td>
<td>1</td>
</tr>
<tr>
<td>NB: Any of the above requires dietitian referral.</td>
<td></td>
</tr>
<tr>
<td>Low serum albumin (&lt; 35g/L)</td>
<td>1</td>
</tr>
<tr>
<td>Weight less than 10th centile (requires dietitian referral)</td>
<td>1</td>
</tr>
<tr>
<td>Incontinence (inappropriate for age)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total score</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Suggested actions

<table>
<thead>
<tr>
<th>Risk score</th>
<th>Category</th>
<th>Suggested action</th>
</tr>
</thead>
<tbody>
<tr>
<td>10+</td>
<td>At risk</td>
<td>Inspect skin at least twice a day. Relieve pressure by helping child to move at least every 2 hours. Use an age and weight appropriate pressure redistribution surface for sitting on/ sleeping on.</td>
</tr>
<tr>
<td>15+</td>
<td>High risk</td>
<td>Inspect skin with each positioning. Reposition child / equipment / devices at least every 2 hours. Relieve pressure before any skin redness develops. Use an age and weight appropriate pressure redistribution surface for sitting on/ sleeping on.</td>
</tr>
<tr>
<td>20+</td>
<td>Very high risk</td>
<td>Inspect skin at least hourly. Move or turn if possible, before skin becomes red. Ensure equipment / objects are not pressing on the skin. Consider using specialized pressure relieving equipment.</td>
</tr>
</tbody>
</table>

3. Pressure Injury Prevention and Management Plan

Pressure Injury Prevention and Management Plan (PIPP) is defined as a single use or combination of interventions applied to a patient based upon a standardised risk assessment in order to reduce risk factors associated with Pressure Injury development. A PIPP, to be complete, should include interventions that minimise or eliminate friction and shear, minimise pressure with off-loading, manage moisture, and maintain adequate nutrition and hydration. Actions in the PIPP should address each of the identified risk factors. A PIPP must be documented at the bedside and ‘not applicable’ written in the chart if the patient is not at risk. The PIPP should be current and as such should be for review in the daily care plan.
### 4. Pressure Injury Staging Guide and Anatomical Sites

#### Stage I Pressure Injury: Non-Blanchable Erythema

- Intact skin with non-blanchable redness of a localized area usually over a bony prominence.
- Dural 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.
- May be difficult to detect in individuals with dark skin tones.
- May indicate “at risk” persons (a heralding sign of risk).

#### Stage II Pressure Injury: Partial Thickness Skin Loss

- Partial thickness loss of dermis presenting as a shallow, open wound 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 (NB bruising indicates suspected deep tissue injury).
- Stage II PI should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation.

#### Stage III Pressure Injury: 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 tunneling.
- The depth of a stage III PI varies by anatomical location. The bridge of the nose, ear, occiput and malaeolus do not have subcutaneous tissue and stage II PI can be shallow. In contrast, areas of significant adiposity can develop extremely deep stage II PI. Bone or tendon is not visible or directly palpable.

#### Stage IV Pressure Injury: 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.
- The depth of a stage IV pressure injury varies by anatomical location. The bridge of the nose, ear, occiput and malaeolus do not have subcutaneous tissue and these PI's can be shallow. Stage IV PI's can extend into muscle and/or supporting structures (e.g. fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone or tendon is visible or directly palpable.
### Table 7.1 NPUAP/EPUAP pressure injury classification system

<table>
<thead>
<tr>
<th>Unstageable pressure injury: depth unknown</th>
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<tbody>
<tr>
<td>• Full thickness tissue loss in which the base of the PI is covered by slough (yellow, tan, grey, green or brown) and/or eschar (tan, brown or black) in the PI bed.</td>
</tr>
<tr>
<td>• Until enough slough/eschar is removed to expose the base of the PI, the true depth, and therefore the stage, cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as the body’s natural biological cover and should not be removed.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Suspected deep tissue injury: depth unknown</th>
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</thead>
<tbody>
<tr>
<td>• Purple or maroon localized area or 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, baggy, warmer or cooler as compared to adjacent tissue.</td>
</tr>
<tr>
<td>• Deep tissue injury may be difficult to detect in individuals with dark skin tone.</td>
</tr>
<tr>
<td>• Evolution may include a thin blister over a dark wound bed. The PI may further involve and become covered by thin eschar. Evolution may be rapid, exposing additional layers of tissue even with optimal treatment.</td>
</tr>
</tbody>
</table>
Mucosal Pressure Ulcers (MPuU) are pressure ulcers found on mucous membranes with a history of a medical device in use at the location of the injury. (NPUAP position statement MI).

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COMMON SITES FOR PRESSURE INJURY & FREQUENCY OF SITE – Use as an aid for completing the site section
5. Non-Surgical Wounds Types

Non-surgical wounds such as skin tears and incontinence associated dermatitis are a current focus of research, they are sometimes confused with a pressure injury and will affect patients in our care. “Skin tears are known as the most common wounds among frail older and disabled persons”¹, while skin tears do not usually cause serious health problems for the individual, they do disrupt the integrity of the skin, predispose to infection, can be the source of physical and emotional discomfort, and their treatment can be costly². Incontinence-associated dermatitis (IAD), is a result of moisture-associated skin damage, this is a common problem in patients with faecal and/or urinary incontinence and this has a considerable effect on patients’ physical and psychological well-being ³.

**Pressure Injury** – is a localised injury to the skin and/or underlying tissue usually over bony prominences, as a result of pressure, shear and/or friction, or a combination of these factors⁴.

**Skin Tear** – A wound resulting from: separation of the epidermis from the dermis OR separation of both epidermis and dermis from underlying tissue damage⁵ The images below represent some skin tears ⁶ as per the STAR.

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Incontinence Associated Dermatitis (IAD) – is an inflammation of the skin that may occur when urine or faeces comes into contact with the skin, it is manifested as redness with or without blistering, erosion or loss of the skin barrier function that occurs as a consequence of chronic or repeated exposure of the skin to urine or faecal matter. IAD is a painful condition and appropriate pain relief may be required. – incontinence-associated skin problems as a reactive response of the skin to chronic exposure to urine and faecal material, which could be observed as an inflammation and erythema with or without erosion or denudation.

Other – includes all other wound types e.g. burns, neuropathic ulcer, venous ulcer.

6. Consent for Skin Inspection
Auditors may approach patients without ward staff being present. Verbal consent should be sought for the skin inspection. Interpreters may need to be booked by ward staff to assist in obtaining verbal consent. Most patients are more than willing to participate in quality activities so long as the reasons for and benefits of the activity are explained to them. If a patient declines to participate in the skin inspection auditors should, as able, try to find out their reasons for doing so and attempt to address their concerns. In addressing a patient’s concerns it would be important for auditors to clarifying points of concern by speaking to the patient. Auditors should be instructed that the discussion to address any concerns should be brief and if the concerns are unable to be addressed then the audit form should be completed by collecting demographic, equipment and documentation data and indicating that consent for skin inspection was not obtained by recording a ‘No’ to consent for skin inspection.

Further information can be found at:

For Queensland Health staff, please go to QHEPS for further information on Pressure Injury Prevention.
We recognise and appreciate that there may be gaps in the scope and questions included in these tools, however, as the audit tools are a constant ‘Work in Progress’, future versions will build upon the existing scope and questions, and incorporate staff feedback and suggestions for improvement.

The Health Service and Clinical Innovation Division, Patient Safety Unit, welcomes feedback on the audit tools and the measurement plans, to ensure the tools meet the needs of Queensland Health facilities. We appreciate any feedback you can provide for the next version.

Please email Patient Safety Unit on mrat@health.qld.gov.au for feedback or comments.

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