

Prevention of Perioperative Pressure Injury Tool Kit

Definitions Related to Perioperative Pressure Injury

- **Bottoming Out**
“Bottoming out” occurs when a support surface becomes fully compressed under the weight of the patient’s body and the patient is lying directly on a hard surface. It is important to prevent bottoming out by using support surfaces that provide at least 1 inch (2.5 cm) of supportive material between the bed and the patient’s body.”^{1(p647)}
- **Braden Scale**
A validated pressure injury risk assessment tool. It does not assess risk factors specific to surgical patients.^{1(p636),2}
- **Braden Q and Braden Q + P**
Pediatric pressure injury risk assessment tools. The Braden Q + P is designed for use in surgical patients.^{1(p639)}
- **Envelopment**
“Envelopment is the ability of the support surface to conform and shape itself to the patient’s body. An enveloping support surface increases contact area and reduces pressure.”^{1(p647)}
- **Financial impact analysis**
“An estimate of the financial consequences associated with purchasing a new product or medical device.”^{3(p712)}
- **Friction**
“The rubbing of one body against another”⁴ or the “force of two surfaces rubbing against one another.”^{5(p155)}
- **Glamorgan Scale**
A pediatric pressure injury risk assessment tool.^{1(p639)}
- **Hospital-Acquired Pressure Injury (HAPI)**
A HAPI is a localized injury to the skin and/or underlying tissue that occurs during an inpatient hospital stay as a result of pressure, shear, or both. Stage 3 (full-thickness skin loss) or stage 4 (full-thickness skin loss and tissue loss) HAPI are considered a “never event” that is reported to the Centers for Medicare and Medicaid Services and can result in a limited reimbursement.⁶
- **Immersion**
“Immersion is the depth that a patient’s body descends into the support surface. The greater the level of immersion, the greater the amount of body surface area that is contacted. The greater the surface area, the lower the overall pressure.”^{1(p647)}

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- **Munro Scale**
A pressure injury risk assessment tool designed for use in surgical patients.^{1(p636)}
- **Negativity**
When layers of materials, for example extra bed sheets or blankets are placed on the OR bed or over padding materials. Extra linen can diminish the pressure-reducing properties of a mattress or padding.^{4(p155-156)}
- **Pressure Injury**
“A pressure injury is localized damage to skin and underlying soft tissue usually over a bony prominence or related to a medical or other device. The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, comorbid conditions, and condition of the soft tissue.”⁷
- **Pressure Redistribution**
“The ability of a supportive material to distribute the load over a broader surface or contact area. Pressure redistribution is accomplished by envelopment and immersion.”^{1(p647)}
- **Prevention of Perioperative Pressure Injury Bundle/Program**
A program designed for a health care facility to integrate evidence-based best practices into standard work practices with a focus on prevention of perioperative pressure injury.^{8,9}
- **Reverse Trendelenburg Position**
The patient’s head is positioned 15 degrees to 30 degrees higher than the feet.^{1(p663)}
- **Scott Triggers**
A pressure injury risk assessment tool designed for use in surgical patients.^{1(p636)}
- **Shear**
Displacement of the underlying tissue when the skeletal structure moves and the skin remains stationary.^{4(p155)}
- **Stages of Pressure Injury**^{7,10}
 - **Stage I Pressure Injury**
Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Presence of blanchable erythema or changes in sensation, temperature or firmness may precede visual changes. Color changes do not include purple or maroon discoloration; these may indicate deep tissue pressure injury.

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- **Stage 2 Pressure Injury: Partial Thickness Skin Loss with Exposed Dermis**
Partial-thickness loss of skin with exposed dermis. The wound bed is viable, pink or red, moist, and may represent as an intact or ruptured serum-filled blister. Adipose tissue (fat) is not visible and deeper tissues are not visible. Granulation tissue, slough, and eschar are not present. These injuries commonly result from adverse microclimate and shear in the skin over the pelvis and shear in the heel. This stage cannot be used to describe moisture-associated skin damage (MASD), including incontinence-associated dermatitis (IAD), intertriginous dermatitis (ITD), medical adhesive-related skin injury (MARS), or traumatic wounds (skin tears, burns, abrasions).
- **Stage 3 Pressure Injury: Full Thickness Skin Loss**
Full-thickness loss of skin, in which adipose tissue (fat) is visible in the ulcer and granulation tissue and epibole (rolled wound edges) are often present. Slough and/or eschar may be visible. The depth of tissue damage varies by anatomical locations; areas of significant adiposity can develop deep wounds. Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage and/or bone are not exposed. If slough or eschar obscure the extent of tissue loss, this is an unstageable pressure injury.
- **Stage 4 Pressure Injury: Full Thickness Skin and Tissue Loss**
Full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage or bone in the ulcer. Slough and/or eschar maybe visible. Epibole (rolled edges), undermining, and/or tunneling often occur. Depth varies by anatomical location. If slough or eschar obscure the extent of tissue loss, this is unstageable pressure injury.
- **Unstageable**
Full-thickness skin and tissue loss in which the extent of tissue damage within the ulcer cannot be confirmed because it is obscured by slough or eschar. If slough or eschar is removed, a stage 3 or stage 4 pressure injury will be revealed. Stable eschar (ie, dry, adherent, intact without erythema or fluctuance) on an ischemic limb or the heel(s) should not be removed.
- **Deep Tissue Pressure Injury (DTPI)**
Intact or non-intact skin with localized area or persistent non-blanchable deep red, maroon, purple discoloration, or epidermal separation revealing a dark wound bed or blood-filled blister. Pain and temperature changes often precede skin color changes. Discoloration may appear differently in darkly pigmented skin. This injury results from intense and/or prolonged pressure and shear forces at the bone muscle interface. The wound may evolve rapidly to reveal the actual extent of tissue injury or may resolve without tissue loss. If necrotic tissue,

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subcutaneous tissue, granulation tissue, fascia, muscle, or other underlying structures are visible, this indicates a full-thickness pressure injury (unstageable, stage 3 or stage 4). Do not use DTPI to describe vascular, traumatic, neuropathic, or dermatologic conditions.

- **Medical Device-Related Pressure Injury**

Medical device-related pressure injuries result from the use of devices designed and applied for diagnostic or therapeutic purposes. The resultant pressure injury generally conforms to the pattern or shape of the device. The injury should be staged using the staging system.

- **Mucosal Membrane Pressure Injury**

Mucosal membrane pressure injury is found on mucous membranes with a history of a medical device in use at the location of the injury. Due to the anatomy of the tissue, injuries cannot be staged.^{7, 10}

- **Trendelenburg position**

The patient's feet are higher than the patient's head by 15 degrees to 30 degrees.^{1(p658)}

References

1. Guideline for positioning the patient. In: *Guidelines for Perioperative Practice*. Denver, CO: AORN, Inc; 2020: 629-704.
2. Bergstrom N, Braden BJ, Laguzza A, Holman V. The Braden Scale for Predicting Pressure Sore Risk. *Nurs Res*. 1987;36(4):205-210.
3. Guideline for medical device and product evaluation. In: *Guidelines for Perioperative Practice*. Denver, CO: AORN, Inc; 2020:705-714.
4. Friction. <https://www.merriam-webster.com/dictionary/friction>.
5. Rothrock JC, ed. *Alexander's Care of the Patient in Surgery*. 16th ed. St Louis, MO: Elsevier; 2019.
6. Rondinelli J, Zuniga S, Kipnis P, Najib Kwar L, Liu V, Escobar GJ. Hospital-acquired pressure injury. Risk-adjusted comparisons in an integrated healthcare delivery system. *Nurs Res*. 2018; 67(1):16-25. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6013055/>.
7. NPIAP Pressure Injury Stages. The National Pressure Injury Advisory Panel. https://cdn.ymaws.com/npiap.com/resource/resmgr/online_store/npiap_pressure_injury_stages.pdf.

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8. Scott S. Use of an OR skin bundle to prevent pressure injury. *AORN J.* 2017;106(4):P18-P19.
9. Scott, S. Perioperative Pressure injuries: protocols and evidence-based programs for reducing risk. *PSQH.* 2016;13(4):20-28.
10. Edsberg LE, Black JM, Goldber M, McNichol L, Moore, L, Sieggreen M. Revised National Pressure Ulcer Advisory Panel Pressure Injury Staging System. *J Wound Ostomy Contenance Nurs.* 2016;43(6):585-597.