



Preventing pressure injuries

Issue:

Pressure injuries are significant health issues and one of the biggest challenges organizations face on a day-to-day basis. Aside from the high cost of treatment, pressure injuries also have a great impact on patients' lives and on the provider's ability to render appropriate care to patients.

Preventing pressure injuries has always been a challenge, both for caregivers and for the health care industry, because the epidemiology of pressure injuries varies by clinical setting and is a potentially preventable condition. The development of pressure injuries can interfere with the patient's functional recovery, may be complicated by pain and infection, and can contribute to longer hospital stays. The presence of pressure injuries is a marker of poor overall prognosis and may contribute to premature mortality in some patients.¹ In addition, the development of Stage 3 and 4 pressure injuries (see the section below for definitions) is considered by The Joint Commission as a patient safety event that could be a sentinel event.

Pressure injuries are commonly seen in high-risk populations, such as the elderly and those who are very ill. Critical care patients are at high risk for development of pressure injuries because of the increased use of devices, hemodynamic instability, and the use of vasoactive drugs.

In 2008, the U.S. Centers for Medicare and Medicaid Services (CMS) announced it will not pay for additional costs incurred for hospital-acquired pressure injuries.² Pressure injury treatment is costly, but the development of pressure injuries can be prevented by using evidence-based nursing practice.

In 2019, the European Pressure Ulcer Advisory Panel (EPUAP), the National Pressure Injury Advisory Panel (NPIAP), and the Pan Pacific Pressure Injury Alliance (PPPIA) published The International Guideline (Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline).³ The guidance:

- Presents evidence-based recommendations, good practice statements, and implementation considerations for pressure injury prevention and treatment.
- Provides recommendations on approaches to measuring and reporting pressure injury rates.
- Applies to all clinical settings, including acute care, rehabilitation care, long term care, and assistive living at home, and can be used by health professionals, patient consumers and informal caregivers.
- Includes guidance for population groups with additional needs, including those in palliative care, critical care, community, or operating room settings, individuals with obesity, individuals with spinal cord injury, and neonates and children.

Terms and definitions

Pressure ulcers/injuries also are called decubitus ulcers, bed sores or pressure sores. In April 2016, the NPIAP replaced the term "pressure ulcer" with "pressure injury" in the NPIAP Injury Staging System to reflect injuries to both intact and ulcerated skin.⁴ Pressure injuries are staged to indicate the extent of tissue damage. The staging system also was updated and includes the following definitions:

A **pressure injury** is localized damage to the skin and/or 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 also may be affected by microclimate, nutrition, perfusion, co-morbidities, and condition of the soft tissue.

(Cont.)



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Stage 1 Pressure Injury: Non-blanchable erythema of intact skin – 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.

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 (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 (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 may be visible. Epibole, 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 Pressure Injury: Obscured full-thickness skin and tissue loss – 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 (i.e., dry, adherent, intact without erythema or fluctuance) on an ischemic limb or the heel(s) should not be removed.

Deep Tissue Pressure Injury: Persistent non-blanchable deep red, maroon, or purple discoloration – 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 preceded 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, 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 – (This describes the etiology.) 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.

Safety Actions to Consider:

The prevention of pressure injuries is a great concern in health care today. Many clinicians believe that pressure injury development is not solely the responsibility of nursing, but the entire health care system.⁵



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Optimizing overall care and increasing attention to prevention can save patients from unnecessary harm and death.

Pressure injury prevention and treatment requires multi-disciplinary collaborations, good organizational culture and operational practices that promote safety. Per the International Guideline, risk assessment is a central component of clinical practice and a necessary first step aimed at identifying individuals who are susceptible to pressure injuries. Other interventions that influence an individual's healing process may include identifying nutritional needs, repositioning and early mobilization, skin care, use of support surfaces, cleansing and debridement, pain assessment and management, psychological and spiritual support, and family support.³

The majority of the following strategies are based on the NPIAP's "Pressure Injury Prevention Points."⁶

Risk Assessment should be considered as the starting point. The earlier a risk is identified, the more quickly it can be addressed.

- Use a structured risk assessment tool to identify patients at risk as early as possible.
- Refine the assessment by identifying other risk factors, including existing pressure injuries and other diseases, such as diabetes and vascular problems.
- Repeat the assessment on a regular basis and address changes as needed.
- Develop a plan of care based on the risk assessment. Prioritize and address identified issues.

Skin Care. Protecting and monitoring the condition of the patient's skin is important for preventing pressure sores and identifying Stage 1 sores early so they can be treated before they worsen.⁷

- Inspect the skin upon admission and at least daily for signs of pressure injuries.
- Assess pressure points, temperature, and the skin beneath medical devices.
- Clean the skin promptly after episodes of incontinence, use skin cleansers that are pH balanced for the skin, and use skin moisturizers.
- Avoid positioning the patient on an area of pressure injury.

Nutrition. Hospitalized individuals are at great risk for undernutrition.

- Use a valid tool to assess the patient's risk for malnutrition.
- Refer at-risk patients to a registered dietitian or nutritionist.
- Assess the patient's weight regularly, as well as the adequacy of oral, enteral, and parenteral intake.
- Provide supplemental nutrition as indicated.

Positioning and Mobilization. Immobility can be a big factor in causing pressure injuries. Immobility can be due to several factors, such as age, general poor health condition, sedation, paralysis, and coma.

- Turn and reposition at-risk patients, if not contraindicated.
- Plan a scheduled frequency of turning and repositioning the patient.
- Consider using pressure-relieving devices when placing patients on any support surface.
- Consider the patient's body size, level of immobility, exposure to shear, skin moisture and perfusion when choosing a support surface.

Monitoring, Training and Leadership Support. In any type of process improvement or initiative, implementation will be difficult without the right training, monitoring and leadership support.

- Monitor the prevalence and incidence of pressure injuries.
- Educate and train all members of the interdisciplinary team. Make sure they are aware of the plan of care and that all care is documented in the patient's record.
- Ensure leadership support, oversight, and allocation of adequate resources.

Resources:

1. Reddy M, et al. [Treatment of pressure ulcers: A systematic review](#). *The Journal of the American Medical Association*. 2008;300(22):2647-2662.
2. Cooper KL. [Evidence-based prevention of pressure ulcers in the intensive care unit](#). *CriticalCareNurse*, December 2013;33(6)57-66.



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3. European Pressure Ulcer Advisory Panel (EPUAP), National Pressure Injury Advisory Panel (NPIAP), and Pan Pacific Pressure Injury Alliance (PPPIA). Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline. 2019.
4. National Pressure Injury Advisory Panel (NPIAP). [NPIAP Pressure Injury Stages](#).
5. Lyder CH and Ayello EA. Chapter 12; [Pressure Ulcers: A Patient Safety Issue](#). National Center for Biotechnology Information, U.S. National Library of Medicine, Bethesda, Maryland (accessed July 6, 2016).
6. National Pressure Injury Advisory Panel (NPIAP). [Pressure Injury Prevention Points](#).
7. [Bedsore \(pressure sores\)](#). Mayo Clinic.

Additional resource:

The Joint Commission. *Quick Safety* 43: [Managing medical device-related pressure injuries](#), July 2018.

Note: This is not an all-inclusive list.