

Preventing pressure injuries

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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, not just for caregivers, but also for the health care industry as a whole, because the epidemiology of pressure injuries varies by clinical setting, and is a potentially preventable condition. The development of pressure ulcers or 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 ulcers 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 ulcers (see the section below for definitions) is currently 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 ulcers because of the increased use of devices, hemodynamic instability and the use of vasoactive drugs.

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

New terms and definitions

Pressure ulcers also are called decubitus ulcers, bed sores or pressure sores. In April 2016, the National Pressure Ulcer Advisory Panel (NPUAP) replaced the term "pressure ulcer" with "pressure injury" in the NPUAP Injury Staging System to reflect injuries to both intact and ulcerated skin. In the previous staging system, Stage 1 and "deep tissue injury" described injured intact skin, while the other stages described open ulcers. This led to confusion, because the definitions for each of the stages referred to the injuries as "pressure ulcers."³

Other changes were announced by NPUAP, including Arabic numerals are now used in the names of the stages instead of Roman numerals. The term "suspected" also has been removed from the Deep Tissue Injury diagnostic label. Additional pressure injury definitions were added, including Medical Device Related Pressure Injury and Mucosal Pressure Injury.

Pressure injuries are staged to indicate the extent of tissue damage. The staging system also was recently updated by the NPUAP, which 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.

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.

(Cont.)

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 (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 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.⁴ Optimizing overall care and increasing attention to prevention can save patients from unnecessary harm and death.



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Pressure ulcer prevention requires an interdisciplinary approach to care. Some parts of pressure injury prevention care are highly routinized, but care also must be tailored to the specific risk profile of each patient. No individual clinician working alone, regardless of how talented, can prevent all pressure injuries from developing. Rather, pressure injury prevention requires activities among many individuals, including the multiple disciplines and teams involved in developing and implementing the care plan. To accomplish this coordination, high quality prevention requires an organizational culture and operational practices that promote teamwork and communication, as well as individual expertise. Therefore, improvement in pressure injury prevention calls for a system focus to make needed changes.⁵ Optimizing overall care and increasing attention to these issues can prevent the next pressure injury and save the next patient.

The majority of the following strategies are based on the NPUAP'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 (accessed July 6, 2016).



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2. Cooper KL. [Evidence-based prevention of pressure ulcers in the intensive care unit](#). *CriticalCareNurse*, December 2013;33(6)57-66 (accessed Sept. 30, 2019).
3. National Pressure Ulcer Advisory Panel (NPUAP). [NPUAP Pressure Injury Stages](#) (accessed July 6, 2016).
4. 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).
5. [Preventing Pressure Ulcers in Hospitals](#). Overview. October 2014. Agency for Healthcare Research and Quality (AHRQ), Rockville, Maryland (accessed July 6, 2016).
6. National Pressure Ulcer Advisory Panel (NPUAP). [Pressure Injury Prevention Points](#) (accessed July 6, 2016).
7. [Bedsore \(pressure sore\)](#). Mayo Clinic (accessed July 6, 2016).

Note: This is not an all-inclusive list.

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Additional resource:

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



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