

PRESSURE ULCERS: A Primer

Pressure ulcers are one of the largest dilemmas facing clinicians who care for geriatric and critically ill patients. Prevalence is estimated to be around 15% in acute care, 28% in long term care (LTC) and up to 29% in home care. In 2010, despite initiatives to prevent pressure ulcers, the costs continued to rise with the total annual cost of treatment reaching \$17.1 billion in direct costs and \$2.5 billion in indirect costs. Infection, osteomyelitis and sepsis are the most common major complications of pressure ulcers.

Definition: Also known as bedsores, pressure sores, decubitus ulcers (from the Latin decumbere – to lie down), are all used in the medical community. It is theorized that pressure ulcers are caused by localized pressure or shear forces that lead to ischemia and cell death, thus causing skin and tissue breakdown. Low amounts of pressure over longer periods of time can be just as detrimental as high pressure for shorter periods. Pressure ulcers in general occur over bony prominences like the heels, sacrum, ischial tuberosities (seat bones) or the greater trochanters (hip bones).

Staging is the method for evaluating the greatest or lowest level of tissue destruction. In 2007, the National Pressure Ulcer Advisory Panel, (NPUAP), redefined the staging and definition of pressure ulcers by adding 2 stages to the original 4 stages:

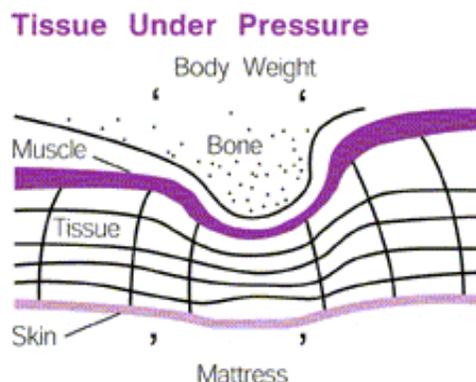
- ◆ Stage I: Intact skin with non-blanchable redness
- ◆ Stage II: Partial thickness skin loss presenting as a shallow open ulcer with a red pink wound bed
- ◆ Stage III: Full thickness skin loss without exposure of bone or tendons, may include undermining and tunneling
- ◆ Stage IV: Full thickness tissue loss with exposed

bone, tendon or muscle. Slough or eschar (dead tissue) may be present

- ◆ Unstageable: Full thickness skin or tissue loss – depth unknown
- ◆ Suspected Deep Tissue Injury: Depth unknown

Who's at Risk? Individuals with decreased mobility or sensation are at high risk. This includes patients that are neurologically impaired, chronically ill, those with altered mental status, paralysis, patients hospitalized with acute illness, the frail elderly and those at end-of-life. Factors such as morbid obesity, smoking and patients who have comorbidities (e.g. diabetes) that affect the circulatory system increase the risk of pressure ulcer occurrence.

The risk assessment tool most commonly used by health care professionals is the **Braden Scale for Predicting Pressure Ulcer Risk**. Six broad categories, including sensory perception, moisture, activity, mobility, nutrition, and friction and shear are assessed and documented using the Braden Scale. Total scores range from 6-23 with lower scores indicating a lower level of functioning and inversely a higher risk of developing a pressure ulcer. A score of **18 or below** indicates a risk for developing a pressure ulcer. For the surgical patient with a different set of risk factors specific to the operating room environment, the American Society of Anesthesiology (ASA) **Physical Status Score** and the **Munro Pressure Ulcer Risk Assessment** tools are commonly used.



Documentation: Skin conditions should be described objectively upon admission and daily. Documentation should include the location; size (length, width and depth); the wound bed (color and type of tissue); any devitalized material; the surrounding skin or peri-wound; the exudates or drainage type, amount, color, consistency and odor; the wound margins and any turning under of the wound's edge (undermining) and tunneling, as well as assessment of pain and possible cause.

Treatment: There is no one gold standard for treatment. Treatment is focused on assessing severity, reducing pressure/friction/shearing, optimizing wound care and removing necrotic debris, managing infection and correcting nutritional deficits. Guidelines and protocols adopted within a facility's protocols, and policies and procedures set the required standard of care for that facility.

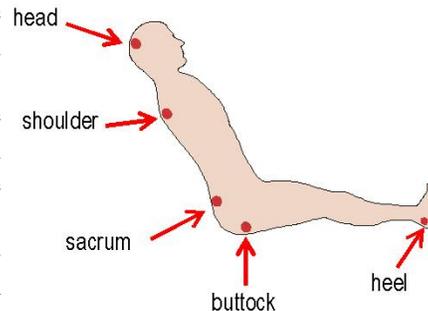
Prevention Guidelines: Common guidelines for relieving pressure include the following:

- ◆ Turn and reposition every 2 hours in the recumbent individual and every 15 minutes in the seated person
- ◆ Use 30 degree lateral position in a supine patient instead of placing a patient side lying in 90 degrees (this may decrease peak pressure over the greater trochanter)
- ◆ Implement an appropriate pressure-redistribution support surface to both the seated and recumbent surfaces that the body contacts at the first sign of risk
- ◆ Off-load the heels with a heel protectors, pillows, or wedge.

Friction reduction measures commonly employed include lift rather than drag the patient when moving or repositioning. Transfer devices are helpful. It's important to keep the skin moisturized to increase strength and pliability and to provide absorption of drainage and body fluids.

Source: "Pressure Ulcers," *JLNC*, Vol. 23, No. 1, 2012

Unavoidable pressure ulcers: According to the 2010 NPUAP Conference; there was unanimous consensus that not all pressure ulcers are avoidable. Pressure ulcers may occur even though the provider evaluated the individual's clinical condition and risk factors, defined and implemented interventions consistent with individual needs, goals and recognized standards of practice; monitored and evaluated the impact of the interventions, and revised the approaches as appropriate. There are patient situations where pressure cannot be relieved and perfusion cannot be improved including the following:



- ◆ Hemodynamic instability that is worsened with physical movement
- ◆ Inability to maintain nutrition and hydration status due to advanced directives that prohibit artificial nutrition
- ◆ Skin failure at end-of-life that occurs with multi-organ failure

While these conditions may lead to unavoidable pressure ulcers, the duty to provide preventive care remains. When the skin, the largest organ in the body fails either acutely or chronically, the goal of the clinical team may still involve healing or may become focused on relieving pain and the unaesthetic consequences of a wound (e.g. odor, infection, drainage). Source: *Ostomy Wound Management*, February 2011, www.o-wm.com