

Head Over Heels: Best Practices for Preventing Heel Ulcers

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Overview

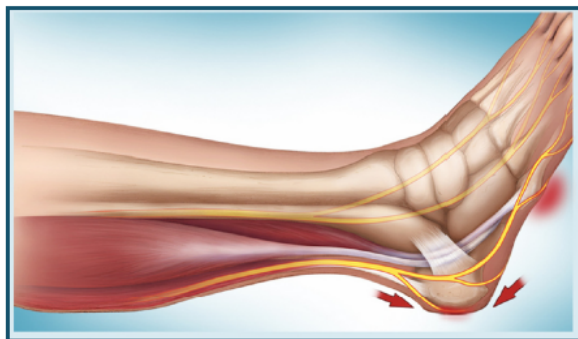
Healthcare-associated heel pressure ulcers are viewed as a quality of care indicator and are no longer reimbursable under CMS guidelines. This presentation provides a comprehensive review of the science, contributing factors for, and prevention of heel pressure ulcers. Furthermore, a perioperative pressure ulcer study demonstrates the incidence of heel ulcers (n=52%) following surgery.

The Problem

In the fiscal year of 2006, the Centers for Medicare & Medicaid Services (CMS) reported 322,946 cases of pressure ulcers as a secondary diagnosis. For patients with a pressure ulcer, the average hospital charges were \$40,381.¹

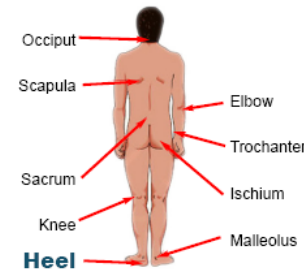
The NPUAP 2007 Revised Pressure Ulcer Definition²

A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction.



Anatomic Locations of Pressure Ulcers³

1.	Sacrum	36.9%
2.	Heel	30.3%
3.	Ischium	8.0%
4.	Elbow	6.9%
5.	Malleolus	6.1%
6.	Trochanter	5.1%
7.	Knee	3.6%
8.	Scapula	2.4%
9.	Occiput	1.3%



 <p>Stage I: Non-blanchable redness of intact skin in a localized area, usually over a bony prominence. Darkly pigmented skin may not blanch; its color may differ from surrounding tissue.</p>	 <p>Stage II: Partial thickness loss of dermis; presents as a shallow open ulcer with a red pink wound bed, no slough present. May be an intact or open/ruptured serum-filled blister.</p>	 <p>Stage III: Full thickness tissue loss. May be able to see subcutaneous fat; can NOT see bone, tendon or muscle. Slough may be present but you can still see the depth of tissue loss. Undermining and tunneling may be present.</p>
 <p>Stage IV: Full thickness tissue loss with exposed bone, tendon or muscle. May have slough or eschar but still can see base of wound. Undermining and tunneling often present.</p>	 <p>Unstageable: Full thickness tissue loss but the wound bed is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black).</p> <p>Suspected Deep Tissue Injury: Local area of purple or maroon discolored on intact skin or a blood-filled blister due to pressure &/or shear damage of underlying soft tissue. Prior to the discoloration, the tissue may be painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.</p>	

Goal: Zero Heel Pressure Ulcers

The right programs, protocols, and products

- ◆ Initial and ongoing skin assessment
- ◆ Early and aggressive implementation of prevention protocol
- ◆ Application of heel pressure-relieving devices

Assessment

The CMS believes in a holistic assessment of the patient that includes the following:

- ◆ Skin assessment
- ◆ Braden Scale Pressure Ulcer Risk Assessment
 - The Braden Scale can be used to assess risk factors and establishes guidelines for an individualized plan of care. The Braden Scale was recently revised to identify patients in the risk category of 18 to 15 as at risk rather than at low risk.
 - Of patients who acquired pressure ulcers in a hospital setting, 91% had Braden scores in the 'least risk category (18-15)'.⁴
 - Risk factors addressed by the Braden Scale include the following:
 - * Activity
 - * Sensory Perception
 - * Mobility
 - * Moisture
 - * Friction & Shear
 - * Nutrition
- ◆ Assessment of concomitant disease
 - E.g., Peripheral vascular disease, diabetes mellitus

Preventing Hospital-Acquired Heel Pressure Ulcers

- ◆ Immobility is the most prevalent risk factor (87%)⁵
- ◆ The key question to ask is "Can the patient lift the leg independently?"
- ◆ Other key factors in the development of heel pressure ulcers are presence of pressure, shear & friction

Off-Loading is the Key to Prevention and Treatment

The unprotected heel is susceptible to pressure ulcers, skin tears, plantar flexion (foot drop), and nerve damage.



Pillows may not provide pressure relief



Heel protectors work

Heel protectors float the heel off the bed surface, reducing pressure as well as friction and shear.



In recent research, Walsh et al⁶ developed an intervention that included a heel protector in patients with hip fractures. The study found that incorporating a heel pressure ulcer prevention protocol - combined with early, aggressive implementation of pressure-relieving devices, and early identification of high risk patient populations - reduced the rate of heel pressure ulcers.

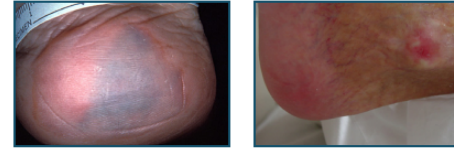
CMS and reimbursement issues

In the CMS Federal Register of August 22, 2007, the CMS announced a shift from the old system, under which hospitals were paid the same for services regardless of quality of care to a new system, Value Based Purchasing, which links payment more directly to performance. Pressure ulcers are one of the conditions that will be reimbursed under the new reporting and payment rules starting in October 2008; CMS will not reimburse hospitals for care related to hospital-acquired pressure ulcers.¹



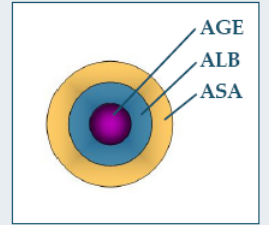
Perioperative Pressure Ulcers

A perioperative pressure ulcer is a pressure-related deep tissue injury under intact skin that presents within the first 5 days following surgical procedures.^{2,7}



Preoperative Assessment

- ◆ Assess preoperative patients for all 3 risk triggers:
 - Age over 62 years
 - Serum albumin <3.5
 - ASA Score III or greater



- ◆ Consider length of surgery (> 3 hours), cardiac and vascular procedures, position during surgery, and current skin integrity
- ◆ Consider type of surgery: cardiac, vascular, trauma, transplants, and bariatric

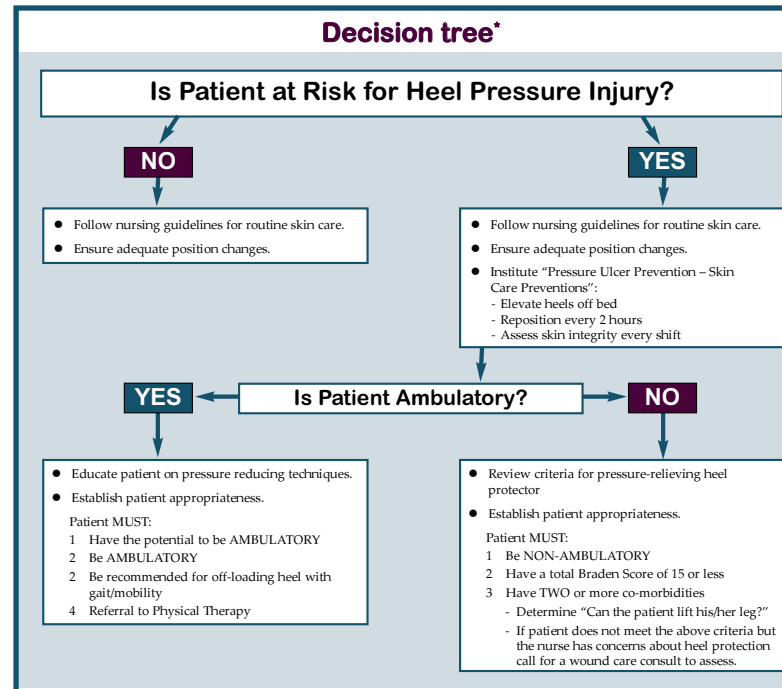
Perioperative Pressure Ulcers Can Be Prevented

In a prospective, controlled study using a special surgical table surface pad, the rates of pressure ulceration were 38% in the control group (66/176 patients) and 7% in the study group (10/147). In the control group, there were 61 stage I ulcers, 4 stage II ulcers, and 1 stage III ulcer. In the study group, there were 14 ulcers, all of which were stage I.⁸

Best Practices⁷ for Preventing Perioperative heel ulcers:

- ◆ Choose operating room mattresses and positioning devices wisely
- ◆ Use devices that eliminate or redistribute pressure
- ◆ Assess alignment, tissue perfusion, and skin integrity
- ◆ Provide ongoing education and competency validation for staff
- ◆ Provide documentation
- ◆ Practice current policies and procedures
- ◆ Use quality management programs to track outcomes

Decision tree*



* Developed by Christine Baker, RN, MSN, CWOCN, APN.

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