Head Over Heels: Best Practices for Preventing Pressure Ulcers

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Overview

Healthcare-associated 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 (%52%) following surgery.

The Problem

In the fiscal year of 2018, the Centers for Medicare & Medicaid Services (CMS) reported 22,946 cases of pressure ulcers as a secondary diagnosis. For patients with a pressure ulcer, the average hospital charges were $40,381.

Anatomic Locations of Pressure Ulcers

<table>
<thead>
<tr>
<th>Stage</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>I</td>
<td>Sacrum</td>
</tr>
<tr>
<td>II</td>
<td>Heel</td>
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<tr>
<td>III</td>
<td>Malleolus</td>
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<tr>
<td>IV</td>
<td>Knee</td>
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Goal: Zero Heel Pressure Ulcers

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

Assessment

The CMS beliefs 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 16 to 15 as at risk rather than at low risk.
  - Patients who acquired pressure ulcers in a hospital setting had Braden scores in the ‘least risk category (18-15)’.
- Risk factors addressed by the Braden Scale include:
  - Sensory Perception
  - Mobility
  - Moisture
  - Friction & Shear
  - Nutrition

Analysis

- Assessment of concomitant disease
- E.g.: Peripheral vascular disease, diabetes mellitus

Preventing Hospital-Acquired Heel Pressure Ulcers

- Immobility is the most prevalent risk factor (90%)
- 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, planter fascia (foot drop), and nerve damage.

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 al. 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-selecting 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 reimbursed under CMS guidelines. This presentation provides a comprehensive review of the science, contributing factors for, and prevention of heel pressure ulcers.

Pillows may not provide pressure relief

Perioperative Pressure Ulcers Can Be Prevented

In a prospective, controlled study using a special surgical table surface, the rate of pressure ulceration were 56% in the control group (86/176 patients) and 7% in the study group (10/147). In the study group, there were 14 ulcers, all of which were stage I.

Best Practices 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

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

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References:

[3] Local area of purple or maroon discolored on intact skin or a blood-filled blister due to pressure &/or shear damage. Prior to the discoloration, the tissue may be painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.
[4] In the CMS Federal Register of August 22, 2007, the CMS announced a shift from the old system, under which hospitals were reimbursed under CMS guidelines.