Take the Time to Prevent Pressure Ulcers

A Did You Know? poster by Katie Turck, RN-BC, Denise Lauria, RN, and Nick Faoro, RN

**WHAT CAUSES PRESSURE ULCERS?**

Many factors contribute to the development of pressure ulcers:
- Friction and shear
- Moisture
- Impaired activity and mobility
- Inadequate nutrition

What’s the difference between friction and shear?

NPUAP defines friction as “the resistance to motion in a parallel direction relative to the common boundary of 2 surfaces” and shear as “the force per unit area exerted parallel to the plane of interest (NPUAP, 2007), meaning:

- friction abrades the skin
- shearing can pull and cause tissue damage internally

Friction and sheare are increased in patients who:
- slide down in bed
- are pulled up in bed
- transfer between bed and chair
- use the bed pan
- have dressings or tape removed from skin

The National Pressure Ulcer Advisory Panel (NPUAP) defines a “Pressure Ulcer” as:

“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” (NPUAP, 2007)

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**PRESSURE ULCERS: A NATIONAL FOCUS**

Patients can experience increased pain, mortality, and prolonged hospitalization as a result of pressure ulcers.

In the U.S., treatment of pressure ulcers is estimated to cost up to $11 billion annually (Gray-Siracusa & Schrier, 2011). Since 2008, Centers for Medicare & Medicaid Services (CMS) no longer reimburses hospitals for the treatment associated with a preventable Stage III or IV pressure ulcer.

The goal is for a ‘never event’, meaning 0 percent occurrence.

The Massachusetts Department of Public Health has its own guidelines for reporting of pressure ulcers as a Serious Reportable Event (SRE).

<table>
<thead>
<tr>
<th>Patient is admitted to hospital with:</th>
<th>During the hospital stay Pressure Ulcer became:</th>
<th>Is it an SRE/Not SRE?</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Pressure Ulcer</td>
<td>Stage 3, 4 or unstageable</td>
<td>SRE</td>
</tr>
<tr>
<td>Stage 1</td>
<td>Stage 3, 4 or unstageable</td>
<td>SRE</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Stage 4 or unstageable</td>
<td>SRE</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Stage 4 or unstageable</td>
<td>SRE</td>
</tr>
<tr>
<td>Stage 4</td>
<td>Stage 4 or unstageable</td>
<td>SRE</td>
</tr>
<tr>
<td>Unstageable</td>
<td>Stage 3 or 4</td>
<td>Reportable*</td>
</tr>
<tr>
<td>Deep Tissue Injury</td>
<td>Pressure Ulcer (any stage)</td>
<td>Not SRE</td>
</tr>
</tbody>
</table>

*In these cases, the pressure ulcer should be reported to DPH, which will decide on a case-by-case basis whether or not the pressure ulcer should be considered a Serious Reportable Event. A determination will be made within 7 days. Massachusetts Department of Public Health 2012

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**DEEP TISSUE INJURY (DTI)**

Purple or maroon area of discolored intact skin or blood-filled blister. Initially, tissue may be painful, firm, mushy, boggy, warmer or cooler, then covered with thin eschar with rapid exposure of additional layers of tissue.

**STAGE I**

Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area. The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue.

**STAGE II**

Partial thickness loss of dermis presenting as a shallow open ulcer with a red or pink wound bed, without slough. May also present as an intact or open/nontunneled serum-filled or sero-sanguineous filled blister. Bruising indicates deep tissue injury.

**STAGE III**

Full thickness tissue loss. Subcutaneous fat visible but no exposed bone, tendon or muscle. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling. Depth varies by location and degree of adipose tissue.

**STAGE IV**

Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often includes undermining and tunneling. Depth varies by location. May extend to muscle, bone, tendon.

**UNSTAGEABLE**

Full thickness tissue loss in which the base of the ulcer is covered or slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black). True depth unknown until slough or eschar removed and base of wound exposed.
AT-RISK POPULATIONS

- The time to develop a pressure ulcer varies by each patient's condition.
- Patients undergoing surgery > 4 hours have a two-fold increase in the chance of developing pressure ulcers (Schoonhoven et al., 2002)
- Paraplegic patients are susceptible to DTI by 1.4 fold compared to healthy subjects (Linder-Ganz et al., 2008)
- Shear stresses were decreased by 70 percent when paraplegic patients were moved from sitting position to a lying position (Linder-Ganz et al., 2008)
- Other at-risk patients include those affected by:
  - friction and shear
  - exposure to moisture
  - impaired activity and mobility
  - inadequate nutrition

TAKE THE TIME TO...

**Turn, Turn, Turn:**
The Agency for Health Care Policy and Research Guidelines (1992) state that any patients at risk for developing pressure ulcers should be repositioned at least every two hours...

More frequent turning should be considered for patients with certain conditions or medications (Kaitani et al., 2010)

Use ceiling lift to reposition patient regardless of body habitus to avoid friction

**Provide Excellent Skin Care:**
Protect skin from breakdown by using appropriate products and devices for movement:
- Barrier creams and skin protectants protect against moisture
- Mechanical lifts protect against shearing by lifting the patient up instead of sliding the patient against linen that may tear skin tissue

**Consult Nutrition:**
Ensure daily, adequate nutrition (and hydration):
- Patient taking at least 75 percent of all 3 meal trays
- Patient receiving >= 95 percent of tube feeding goals

If clinical status prevents either of the above, consult Nutrition and/or TPN

**Consult Physical Therapy:**
Follow up with Physical Therapy recommendations for patient-specific exercise regimen.

**Educate:**
Caregivers and patients should be taught to shift position while sitting in a chair every 15-20 minutes.

The patient should remain in a chair for ≤2 hours per sitting (NPUAP, 2007).

**Consult MGH Resources:**
Access online resources for wound products 24/7 through TROVE or Excellence Every Day Portal

CONCLUSION

The etiology of a pressure ulcer is multifactorial and may include friction and shear forces.

Pressure ulcers are costly to both institutions and the patient and may be a reportable event.

The incidence may be lowered by taking the time to assess, educate, implement, and evaluate skin prevention strategies.

Evidence-based practice guidelines on the prevention of pressure ulcers are critical to promote a culture of patient safety, quality patient care and improved outcomes.

REFERENCES


