Session 123
Pressure Ulcers: Staging, Documentation, and Risk Assessment

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Presented at the Nursing2014 Symposium-Las Vegas March 28, 2014

Ayello Disclosures and Disclaimers

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Name of Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Support</td>
<td>Calmoseptine</td>
</tr>
<tr>
<td>Speaker’s Bureau</td>
<td></td>
</tr>
<tr>
<td>Consultant</td>
<td>Hill-Rom, Smith + Nephew</td>
</tr>
<tr>
<td>Other</td>
<td>LWW, NJHA, U of Toronto-IWCC, CMS, RTI</td>
</tr>
</tbody>
</table>

• Dr. Ayello has/is a consultant to CMS on various wound & skin initiatives including IRF-PAI pressure ulcer items, Tag F 314, LTCH CARE Data Set, and LTC MDS 3.0 Section M Skin Conditions. Slides and opinions expressed are hers and not official CMS statements. Consult with official CMS documents for compliance.
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Participants will:

1. Discuss pressure ulcer risk assessment.
2. Review essentials of pressure ulcer documentation.
3. Describe the NPUAP classification system for pressure ulcers.

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**International NPUAP-EPUAP**

**Pressure Ulcer Definition**

“A pressure ulcer is a 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.”

“A number of contributing or confounding factors are also associated with pressure ulcers, the significance of these factors has yet to be elucidated.”

---

**Pressure ulcer knowledge**

*Used the Pieper Tool*

**Physician**

69%

**Nurse**

76%


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**NURSING 2014 Survey Results**

- I received sufficient education on chronic wounds in my basic nursing education program.
  - Yes
  - No
- Did the number of years of nursing experience influence a yes response to the above question?

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## Braden Scale

6 Factors
- Sensory/perception
- Moisture
- Activity
- Mobility
- Nutrition
- Friction/shear

<table>
<thead>
<tr>
<th>Sensory Perception</th>
<th>Ability to respond to pressure-related discomfort</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Slightly Limited:</strong> Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness.</td>
<td>O.K.</td>
</tr>
<tr>
<td><strong>Equivocally Limited:</strong> Has a sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body.</td>
<td>O.K.</td>
</tr>
<tr>
<td><strong>Slightly Limited:</strong> Responds to verbal commands but cannot always communicate discomfort or need to be turned.</td>
<td>O.K.</td>
</tr>
<tr>
<td><strong>Equivocally Limited:</strong> Has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.</td>
<td>O.K.</td>
</tr>
<tr>
<td><strong>No Impairments:</strong> Responds to verbal commands.</td>
<td>O.K.</td>
</tr>
</tbody>
</table>
Braden Scale  

Levels of Pressure Ulcer Risk

19 to 23 = not at risk

15 to 18 = at risk

13-14 = moderate risk

12 to 10 = high risk

9 or below = very high

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New data on Braden Scale subscores


A comprehensive pressure ulcer risk assessment also includes:

<table>
<thead>
<tr>
<th>Nutrition Assessment</th>
<th>History and Co-morbidities</th>
<th>Medication Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Higher rates of PU:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>•Corticosteroid use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>•CHF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>•COPD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>•PVD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>•DM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>•Obesity</td>
</tr>
</tbody>
</table>

© Ayello 2012
___ to ___ in 3 years of HAPU’s

- Indications for wrist band application:
  - Patients who are positioned for 4 hours or more.
  - Any patient with a noted skin assessment change on discharge from the OR.

  Postoperative interventions for all positions:
  - Hand to toe assessment
  - Complete the Braden Scale
  - Breakdown is noted, stage per NPUAP pressure ulcer guideline
  - Follow prescribed treatment protocol and procedures
  - Follow specialty support surface protocol and procedure


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### Pressure ulcer clinical risk factors in older adults in home health

- Bowel incontinence
- Inability to transfer

Bergquist-Berger, S, Gajewski, B J. Outcome and assessment information set data that predict pressure ulcer development in older adults home health patients. Advances in Skin and Wound Care. 2011; 24(9):404-14

### Pressure ulcer or MASD?

<table>
<thead>
<tr>
<th></th>
<th>Pressure ulcer</th>
<th>MASD (IAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>location</td>
<td>Localized over Bony prominence</td>
<td>Diffuse</td>
</tr>
<tr>
<td>color</td>
<td>Non-blanchable</td>
<td>Blanchable</td>
</tr>
<tr>
<td>edges</td>
<td>Distinct</td>
<td>Irregular</td>
</tr>
<tr>
<td>necrotic tissue</td>
<td>Yes, possible</td>
<td>No</td>
</tr>
</tbody>
</table>


Zulkowski, K. Perineal dermatitis versus pressure ulcer: Distinguishing characteristics. ASWC 2008 21(8):382-8


Gray et al. Moisture associated skin damage-Overview and pathophysiology. JWOCN. 2011;38(3):233-241

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Moisture Associated Skin Damage (MASD)

- Incontinence of urine, stool or both leading to Incontinence Associated Dermatitis (IAD)
- Wound exudate leading to periwound maceration
- Perspiration leading to excessive moisture in skin folds
- Effluent from a stoma or fistula


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Minimal pressure ulcer documentation

- Size
- Location and staging
- Exudate
- Edge and surrounding tissue
- Pain
- Bed- color and type of wound tissue

© Ayello, 2007

From Tag F 314
Minimal pressure ulcer documentation

- **Size** Measurement of Ulcer
- **Location and staging**
- **Exudate**
- **Edge and surrounding tissue**
- **Pain**
- **Bed- color and type of wound tissue**

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From Tag F 314

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**Measuring Length**

- Measure the longest length from head to toe using a disposable device.

![Image of measuring length](image)

---

**Measuring Width**

- Measure widest width of the pressure ulcer side to side perpendicular (90° angle) to length.
- The width of this pressure ulcer is 6.2 cm.

![Image of measuring width](image)
Measuring Wound Depth

MINIMAL PRESSURE ULCER DOCUMENTATION

- Size
- Location and staging
- Exudate
- Edge and surrounding tissue
- Pain
- Bed - color and type of wound tissue

LETS GET THE TERMINOLOGY RIGHT!

- Buttocks are from muscles
- BONES: Sacrum, coccyx, ischium, trochanter
- Sacrum
- Coccyx
- Illustration LWW

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Participants will:

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**Pressure ulcer Staging—True or False**

- All pressure ulcers should be staged
- Pressure ulcer staging is based on the depth in cm
- As the ulcer heals, “reverse or back” stage the ulcer
- Staging of pressure ulcers requires clinical skills including minimally observation and palpation
- CMS definition of stage II pressure ulcer differs from NPUAP

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**NURSING 2014 Survey Results**

- A pressure ulcer with full thickness tissue loss is staged/classified as:
  - Stage I
  - Stage II
  - Stage III or IV
- I can identify the six stages of pressure ulcers in my patients
  - Yes
  - No
  - Sometimes

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Pressure Ulcer Staging

Partial Thickness | Full Thickness
--- | ---

Category/Stage I Pressure Ulcer

**Definition**
- Intact skin with non-blanchable erythema of a localized area, usually over a bony prominence.
- Discoloration of the skin, warmth, edema, hardness, or pain may be present.
- Darkly pigmented skin may not have visible blanching.

**Description**
- The area may be more painful, firmer or softer, or warmer or cooler than adjacent tissue.
- Category/Stage I may be difficult to detect in individuals with dark skin tones.
- This may indicate an at-risk individual.

Category/Stage II

**Definition**
- Partial thickness loss of dermis presenting as a shallow open ulcer with a red/pink wound bed, without slough.
- It may also present as an intact or open/ruptured serum-filled or serosanguineous-filled blister.

**Description**
- Presents as a shiny or dry shallow ulcer without slough or bruising.*
- This category/stage should not be used to describe skin tears, tape burns, incontinence-associated dermatitis, maceration or excoriation.
Category/Stage III
Definition

- Full thickness tissue loss.
- Subcutaneous fat may be visible but bone, tendon or muscle are not exposed.
- Some slough may be present but does not obscure the depth of tissue loss.
- It may include undermining and tunneling.

Definition Copyright 2009 NPUAP

Category/Stage IV
Definition

- Full thickness tissue loss with exposed bone, tendon or muscle.
- Slough or eschar may be present.
- It often includes undermining and tunneling.

Definition Copyright 2009 NPUAP

Unstageable
Definition

- Full thickness tissue loss in which the actual depth of the ulcer is completely obscured by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed.

Definition Copyright 2009 NPUAP
Suspected Deep Tissue Definition

- **Purple or maroon** localized area of discolored intact skin or **blood-filled blister** due to damage of underlying soft tissue from pressure and/or shear.

Definition Copyright 2009 NPUAP

PrU staging revisited - Superficial skin changes and deep tissue framework

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Superficial skin changes (outside-in)</td>
<td>Grade I/Stage II</td>
<td>Partial thickness due to moisture or friction</td>
</tr>
<tr>
<td></td>
<td>See note below regarding Grade I/Stage I</td>
<td></td>
</tr>
</tbody>
</table>
| Deep pressure ulcers (inside-out)    | Grade I/Stage III | Partial thickness Examples include:  
|                                      | *Grade II/Stage IV | - skin tears  
|                                      | *Suspected Deep Tissue Injury (sDTI)    | - incontinence-associated dermatitis (IAD)  
|                                      | *Ungradable         | - contact dermatitis  
|                                      |                            | - friction associated blister  
|                                      |                            | - Periodically due to tissue dehiscence (compression, shear and tension)  
|                                      |                            | - Full thickness  
|                                      |                            | - Not all sDTIs evolve into pressure ulcers |


Are the definitions of all pressure ulcer stages clearly differentiated?

**Stage 1**
- Intact skin with non-blanchable redness of a localized area usually over a bony prominence.
- Darksly 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.
- Category/Stage I may be difficult to detect in individuals with dark skin tones. May indicate “at risk” persons (a heralding sign of risk)

**Deep Tissue Injury**
- Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear.
- The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler than adjacent tissue.
- Deep tissue injury may be difficult to detect in individuals with dark skin tones.
- Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar.
- Evolution may be rapid exposing additional layers of tissue even with optimal treatment.
Distribution of pressure ulcer staging 2006 to 2009

<table>
<thead>
<tr>
<th>Stage</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>31%</td>
<td>30%</td>
<td>28%</td>
<td>26%</td>
</tr>
<tr>
<td>II</td>
<td>38%</td>
<td>37%</td>
<td>37%</td>
<td>36%</td>
</tr>
<tr>
<td>III</td>
<td>8%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>IV</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>sDTI</td>
<td>3%</td>
<td>4%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Unstageable</td>
<td>13%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
</tr>
</tbody>
</table>


Where are most sDTI ulcers located?

- ORANGE: Buttocks
- BLUE: Sacrum
- YELLOW: Heels
- GREEN: Ankles and foot
- RED: Elbow

Pressure Ulcer Classification at a glance

<table>
<thead>
<tr>
<th>Ulcer Characteristics</th>
<th>Category / Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Intact skin, non blanchable erythema</td>
<td>I</td>
</tr>
<tr>
<td>• Open shallow ulcer with no slough</td>
<td>II</td>
</tr>
<tr>
<td>• Serum, sero-sanguinous filled or ruptured blister</td>
<td></td>
</tr>
<tr>
<td>• Full thickness ulcer</td>
<td>III</td>
</tr>
<tr>
<td>• Can have necrotic tissue, but can see wound bed</td>
<td></td>
</tr>
<tr>
<td>• No bone, tendon, muscle visible</td>
<td></td>
</tr>
<tr>
<td>• Full thickness ulcer</td>
<td>IV</td>
</tr>
<tr>
<td>• Can have necrotic tissue, but can see wound bed</td>
<td></td>
</tr>
<tr>
<td>• Bone, tendon, muscle visible</td>
<td></td>
</tr>
<tr>
<td>• Necrotic tissue covers wound bed</td>
<td>Unstageable</td>
</tr>
<tr>
<td>• Purple, maroon discoloration of intact</td>
<td>sDTI</td>
</tr>
<tr>
<td>• Blood filled blister</td>
<td></td>
</tr>
</tbody>
</table>
Revised Figure 4: Blistered Pressure ulcers and sDTI

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Acute Care</th>
<th>LTC MDS 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serous Filled Blister</td>
<td>Stage II</td>
<td>Stage 2, code under section M0300B. (If no signs of suspected deep tissue injury)</td>
</tr>
<tr>
<td>Blood Filled Blister</td>
<td>sDTI- depth unknown</td>
<td>Stage 2, code under section M0300B. (If no signs of suspected deep tissue injury)</td>
</tr>
<tr>
<td>Intact purple maroon skin injury due to pressure</td>
<td>sDTI- depth unknown</td>
<td>Unstageable-sDTI, code under section M0300G.</td>
</tr>
</tbody>
</table>

What’s the number one location for device related pressure ulcers?

#1: Sacrum
#2: Heels
#3: Ears
#4: Lips
#5: Thigh

What’s under this strap?

Look at skin under tubes, drains, skin folds, other vulnerable areas

Photos © B. Delmore, PhD, RN Photos © E A Ayello

© Ayello, 2011

© Ayello, 2009

Mucosal Pressure Ulcers (MPrU)

An NPUAP Position Statement

- **Definition:** MPrU are pressure ulcers found on mucous membranes with a history of a medical device in use at the location of the ulcer.
- **Devices** include oxygen tubing, endotracheal tubes, bite blocks, orogastric and nasogastric tubes.
- Epithelium of mucosa is not keratinized.
- “Pressure ulcers on mucosal surfaces are not to be staged using the pressure ulcer staging system.”
- Furthermore, it is NPUAP’s position that mucosal pressure ulcers not be classified as partial or full thickness, because the clinical assessment of the tissue does not allow the distinction.

www.npuap.org

---

CARE® to Prevent Medical Device-Related Pressure Ulcers (MPrU)

- **C** — **Choose** correct size of medical device(s) to fit the individual
- **Cushion** protect skin with dressings in high risk areas (e.g., nasal bridge)
- **Confirm** that devices are not placed directly under an individual who is bedridden or immobile

- **A** — **Avoid** placement of device(s) over sites of prior, or existing pressure ulcer
- **Awareness** of edema under device(s) and potential for skin breakdown

- **R** — **Remove** or move the device daily to assess skin

- **E** — **Educate** staff on correct use of devices and prevention of skin breakdown

Adapted from the NPUAP Best practices for Prevention of Medical Device-Related pressure ulcers.

---

Exposed Cartilage Pressure Ulcer

An NPUAP Position Statement

August 27, 2012

- **Pressure Ulcers with Exposed Cartilage Are Stage IV Pressure Ulcers**
- Although the presence of visible or palpable cartilage at the base of a pressure ulcer was not included in the stage IV terminology, it is the opinion of the NPUAP that cartilage serves the same anatomical function as bone. Therefore, pressure ulcers that have exposed cartilage should be classified as a Stage IV.

www.npuap.org
Skin ulcers that develop in patients who have terminal illness or are at the end of life should be assessed and staged as pressure ulcers until it is determined that the ulcer is part of the dying process (also known as Kennedy ulcers). Kennedy ulcers can develop from 6 weeks to 2 to 3 days before death. These ulcers present as pear-shaped purple areas of skin with irregular borders that are often found in the sacrococcygeal areas. When an ulcer has been determined to be a Kennedy Ulcer, it should not be coded as a pressure ulcer. (page M-3)

CMS data about accuracy of staging

Consider these questions:

How does the distribution of the percentage of claims with a pressure ulcer site code with no accompanying pressure ulcer stage code vary by major hospital characteristics?

<table>
<thead>
<tr>
<th>Hospital Characteristic</th>
<th>Percentage of PU claims with out stage codes</th>
<th>Hospital Bed Size</th>
<th>Percentage of pressure ulcer claims without any stage codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>68%</td>
<td>&lt;100</td>
<td>19%</td>
</tr>
<tr>
<td>AMC</td>
<td>58%</td>
<td>100-249</td>
<td>28%</td>
</tr>
<tr>
<td>Not AMC</td>
<td>31%</td>
<td>250-499</td>
<td>37%</td>
</tr>
<tr>
<td>Missing</td>
<td>50%</td>
<td>500-749</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>750-999</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;1000</td>
<td>54%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Missing</td>
<td>50%</td>
</tr>
</tbody>
</table>

Sources:

How should you stage this wound?

Stage I
Stage II
Stage III
Stage IV
sDTI
unstageable

© Ayello, 2014
How should you stage this wound?

Stage I
Stage II
Stage III
Stage IV
sDTI
unstageable

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Minimal pressure ulcer documentation

- Size
- Location and staging
- Exudate
- Edge and surrounding tissue
- Pain
- Bed-color and type of wound tissue
Exudate- Type and Amount

Photo D. Weir

Minimal pressure ulcer documentation

- Size
- Location and staging
- Exudate
- Edge and surrounding tissue
- Pain
- Bed- color and type of wound tissue

© Ayello, 2007

From Tag F 314

Wound Edges

© Ayello, 2011
Undermining

An area of tissue destruction extending under intact skin along the periphery of a Wound, commonly seen in shear injuries. It can be distinguished from a sinus tract in that it involves a significant portion of wound edge. (NPUAP-EPUAP p. 129

© Ayello, 2011

Minimal pressure ulcer documentation

- Size
- Location and staging
- Exudate
- Edge and surrounding tissue
- Pain
- Bed-color and type of wound tissue

© Ayello, 2007

Pressure Ulcer Pain

Assess individuals for pain related to a pressure ulcer or its treatment. (strength of evidence = B)

Assess for pressure ulcer related pain in adults using a validated scale. (strength of evidence = B)

Try This

www.hartfordign.org

Assessing Pain in Older Adults
Assessing Pain in Persons with Dementia

E. Ayello
Pain Scales to Evaluate Pressure Ulcer Associated Pain

**PAIN SCALES**

- **Visual analogue scale**
- **No Pain**
- **Worst Pain**

**Verbal rating scale**

- **No Pain**
- **Mild Pain**
- **Moderate Pain**
- **Severe Pain**

**Numerical rating scale**

- Ask the patient which word best describes their current level of pain.

---

**Minimal pressure ulcer documentation**

- **Size**
- **Location and staging**
- **Exudate**
- **Edge and surrounding tissue**
- **Pain**
- **Bed-color and type of wound tissue**

---

**Tissue Types**

<table>
<thead>
<tr>
<th>Epithelial</th>
<th>Granulation</th>
<th>Slough</th>
<th>Eschar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**NPUAP PUSH Tool Scores**

© Ayello, 2007

Photos: D. Wear
Tools for Monitor Healing

Pressure Sore Status Tool, 1990
Pressure Ulcer Healing Scale, 1996

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