Prevention of Pressure Ulcers and Skin and Wound Management Programs

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Never Events: Pressure Ulcers

- Pressure ulcers (PUs) can be identified, measured, and reported
- Usually preventable
- Result in adverse patient outcomes, prolonged/additional care, increased costs
- Significant body of scientific evidence is available to guide practice and prevent PUs
- October, 2008: Stage III and IV PUs acquired after admission are not reimbursed

Serious Adverse Events Working Group March 19, 2008

Pressure Ulcer Facts


- 4th leading preventable medical error in the United State
- 3 million patients are treated annually
- National acute care prevalence rates 7-15%
- ↑LOS ~ 4 to 14 days
- Cost to treat PU $43,000 per hospital stay
Pressure Ulcer Facts
www.hcup-us.ahrq.gov

• 503,300 PU related hospitalizations in 2006
• 45,500 admissions with PU as primary diagnosis
• 1 of 25 admissions ended in death
• 457,800 admissions, PU secondary diagnosis
• 1 of 8 admissions ended in death

Pressure Ulcer Prevention: A Nursing Sensitive Indicator
• National Database of Nursing Quality Indicators (NDNQI)
  • www.nursingworld.org
• 2004 National Quality Forum
  • National Voluntary Consensus Standards for Nursing-Sensitive Care
    • http://www.qualityforum.org/publications/reports/nurse_tracking.asp
• IHI 5 Million Lives Campaign
• National Pressure Ulcer Advisory Panel
  • www.npuap.org
• European Pressure Ulcer Advisory Panel
  • www.epuap.org

S.P.A.M.
• Prevention of pressure ulcers is nursing sensitive indicator
  – This means that prevention of skin breakdown is a direct reflection of care provided to patients by nursing professionals
• Nursing practice guided by best-evidence is essential in the prevention of pressure ulcers (PU)
• At UCH our skin program logo is S.P.A.M.
  – Skin
  – Prevention
  – Assessment
  – Management
Positively Impacting Care: Skin Assessment on Admission

• Essential that nurses complete and document full assessment of skin to include alterations and pressure ulcers on admission and nutritional status

• Differentiate
  – Community acquired pressure ulcer: Present on Admission (POA)
  – Hospital acquired pressure ulcer (HAPU)

Risk Assessment On Admission, Daily, Change in Patient Condition


• Use standard EBP risk assessment tool
• Research has shown Risk Assessment Tools are more accurate than RN assessment alone.
• Braden Scale for Predicting Pressure Sore Risk
  – 6 subscales
    • Rated 1-4
  – Pressure on Tissues
    • Mobility, sensory perception, activity
  – Tissue tolerance for pressure
    • Nutrition, moisture, shearriction
  – Score 6-23

Evidence-Based Risk Assessment Tools


<table>
<thead>
<tr>
<th>Scale</th>
<th>Type</th>
<th>Subscales</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braden</td>
<td>Acute care, home care, nursing homes</td>
<td>Adult patient populations</td>
<td>6 subscales</td>
</tr>
<tr>
<td>Norton</td>
<td>Acute care, Rehab</td>
<td>Adult patient populations</td>
<td>5 subscales</td>
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<tr>
<td>Gosnell</td>
<td>Acute care, nursing home</td>
<td>Neurology, orthopedic, medical, ICU, geriatric patients</td>
<td>4 subscales</td>
</tr>
<tr>
<td>Braden Q</td>
<td>Acute care</td>
<td>Pediatrics</td>
<td>6 subscales + tissue perfusion</td>
</tr>
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Accuracy of RN Knowledge

- Assumptions of RN knowledge to correctly assess, treat, and stage pressure ulcers
- Little didactic knowledge in academic settings
- Little formal education in practice; reliance on specialists (CWOCN)
- Two skin conditions of greatest concern are:

  - Deep Tissue Injury (DTI)
  - Incontinence Associated Dermatitis (IAD)
Staging Pressure Ulcers

http://www.npuap.org/pr2.htm

- Deep Tissue Injury (DTI)
- Stage I
- Stage II
- Stage III
- Stage IV
- Unstageable
  - ?mucosal injury

Deep Tissue Injury (DTI)

- High risk patient population-ICU
  - Immobility
  - Poor perfusion states
- Purple in color, “blood blister”
- Wound deteriorates quickly
- Usually progresses muscle, bone
- Heels are high risk areas

https://www.nursingquality.org/NDNQIPressureUlcerTraining/default.aspx

www.NPUAP DTI consensus statement
Fleck, C. (2007). Suspected DTI, FAQs. Advances in Skin & Wound Care; 20(7),413
Incontinence-associated dermatitis (IAD)

- Fecal > urine incontinence
- Patients with fecal incontinence 22% > chance developing PU*


Evidence-Based Management of IAD

- Evaluate medications that may be causing diarrhea
  - Ace inhibitors, beta-blockers, digoxin, lasix, mannitol, octreotide, lactulose
- Absorbent underpads, changed frequently
- Low airloss therapeutic mattress

**WOCN Image Files**

Evidence-Based Management of IAD

- 1st identify the source of IAD
  - In ICU frequently it is antibiotics or tube feeding
  - Consult nutritionist: evaluate osmolarity of tube feeding; add fiber to diet
  - Consider medications to slow diarrhea

Evidence-Based Management of IAD
Gray, M. Incontinence-related skin damage: essential knowledge. OWM, 2007; www.o-wm.com/article/8161

First, do no harm…
- Soaps ↑ skin pH
- Wash clothes rough-up already fragile skin
- Diapers/briefs keep moisture, enzymes in

Cleans frequently and avoid scrubbing
- Apply barrier creams that:
  - moisturize and protect skin
  - Polymer-based underpads; limit linens

What is the evidence for rectal tubes?
- “Rectal tubes”
  - Mushroom and balloon-tipped catheters
  - No evidence to support use
  - Not intended use of device
  - Increased risk of liability
    - Sphincter and mucosal injury
- Rectal trumpet (Grogan, 2002)
  - Nasopharyngeal trumpet

Evidence-based fecal incontinence management
- Fecal containment devices
- FDA approved
- Research on effectiveness
- Requires two healthcare providers to apply
- Perineal skin must be intact
  - Clean DRY skin
  - Hold 1 minute for adhesive to bind to skin
- Careful removal of device
Evidence supporting bowel management systems (BMS)
Benoit et al. 2007; Echols et al., 2007; Keshava, et al., 2007

- Patient selection
  - Indications
  - Contraindications
- Placement: 29 days
- Practice realities
- Cost effectiveness
- Patient outcomes

Evidence-Based Management of CAUTI and Skin Related Concerns?

- What about CA-UTIs and urinary incontinence?
- How to prevent CA-UTIs?
  - How was the foley placed
  - Is foley secured
  - Foley always below bladder
  - Daily perineal care
  - Metered bag
- Remove foley ASAP
- Bladder scan for bladder volume BEFORE patient can’t void
- Intermittent catheterization for retention
- Excessive moisture?
  - Treat cause/protect skin

Therapeutic Surfaces

- Rethinking beds as “therapy”
- Change in practice for all
  - RNs
  - Orderlies
  - EVS
- Knowledge of surfaces is confusing
- Movement away from specialty beds except for specific indications
- Linen as a friend and foe
What Lies Beneath the Patient

• Linen
  – Linen increases entrapment of moisture
  – Creates wrinkles
  – May increase risk of skin compromise
  – Limit linens on all beds
    • Especially on pressure redistribution beds and low air loss beds
  – Newer ICU beds are pressure redistribution surfaces
  – www.npuap.org/npuap_s31

Knowledge of Wound Assessment and Management

• Address healthcare provider knowledge of wound assessment
• Product knowledge
  – There is more to wound management than hydrocolloids and wet to dry dressings....

Partial or Full Thickness Wound
Used to describe all wounds other than pressure ulcers

Partial Thickness
• Involved epidermis and dermis
• Shallow
• Moist
• May be painful
• Pink-red color

Full Thickness
• Total loss of epidermal and dermal layers
• Extends into subcutaneous tissue
• May involve muscle, bone or joint
• Undermining and tunneling may be present
How to Measure a Wound

A is the wound bed 
B is the wound edge 
C is the surrounding skin

UCH Resource Pocket Cards

Wound Base

• Document assessment of wound base:
  – Each dressing change
• Describe wound tissue
  – Eschar or black necrotic
  – Red Granulation
  – Yellow slough
Surrounding (*periwound*) Tissue

- Descriptors used to document the periwound
  - Intact
  - Erythema
  - Macerated
  - Blistered
  - Indurated

Assess for Signs and Symptoms of Infection

**Systemic**
- Fever, chills, altered mental status

**Wound**
- Necrotic tissue, erythema, warmth, poor wound healing, increased pain, increased exudate

**Immunocompromised Patient**
- Vague symptoms

Tack Your Success and Adjust Plan

- Pressure ulcer prevalence
  - Quarterly (one day)
  - Quarterly (billing chart audits)
- RN knowledge assessments
- Unit-based process improvement projects
- Unit skin rounds
- Journal clubs
- Evaluate products and processes related to products
Poisoning by the skin is no less certain than poisoning by the mouth—only it is slower in its operation.

~Nightingale

Nursing Driven Interventions to Prevent HAPU

- Assessment of risk
  - The obvious factors
  - Other factors: age, vasopressors, instability, severe agitation, comorbidities, obesity
- Optimize nutrition & hydration
  - Albumin, prealbumin
  - Fluid balance
- Frequent repositioning
  - Manual turning
- Managing moisture
- Developing and implementing a pressure ulcer prevent protocol/rogram
  - User friendly
  - Products available
  - RNs knowledge of protocol and products
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