PRESSURE ULCER PROPHYLAXIS

THE DEVELOPMENT OF A CARE BUNDLE FOR THE CRITICALLY ILL

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Barb Duncan
• No disclosures

Heather Harrington
• No disclosures
Objectives

1. Define Pressure Ulcer
2. Describe risk factors which contribute to the development of a pressure ulcer
3. Describe the interventions recommended to prevent pressure ulcer development
4. Discuss particular risks in the most critically ill patients
5. Describe the development of a care bundle designed to identify high risk patients & implement interventions

More Objectives!

6. Describe patient selection criteria used in development of the care bundle
7. Describe educational strategies
8. Describe the process used to implement the care bundle
9. Review the development of an evaluation (auditing) tool
10. Review audit results
11. Describe future strategies
Pressure Ulcer

- An area of local tissue trauma
- A sign of local tissue necrosis and/or death
- Usually develop over a bony prominence subject to external pressure forces, friction and shear
- May develop significant subcutaneous & muscle destruction underneath intact skin

Risk Factors

Braden Scale is used to score risk:
- Sensory Perception
- Moisture
- Activity
- Mobility
- Nutrition
- Friction & Shear
Risk Factors & Scores in the Critically Ill

- Braden score < 18, or a low score on any subscale is indicative of increased risk and requires an intervention
- Our ICU patient patients routinely scored < 15, while some scored < 8
- Friction & shear was a subscale identified as having a consistently low score
Particular risks in the Critically Ill

- Compromised tissue perfusion
- Immobility
- Sensory Perception Disturbances

| Low friction & shear scores |

- Moisture
- Inadequate Nutrition

Care Bundle

- Mepilex® Border Sacrum
- Tegaderm™ Transparent Film Dressing
- Heelift® Suspension Boots
Mepilex® Border Sacrum

- An all-in-one foam dressing for sacral pressure ulcers
- Reduces friction & shear
- Absorbs exudate, maintains a moist wound-healing environment and minimises the risk for maceration

Heelift® Suspension Boot

- Reduces friction & shear
- Offloads all pressure from the heel
- Redistributes the pressure to the calf, preventing the development of heel pressure ulcers in bedfast patients
Tegaderm™ Transparent Film Dressing

- Reduces friction & shear
- A transparent film dressings designed for protecting skin and wound sites
- Frame style allows customization of shape and size to fit any site

Patient Selection Criteria

Focused on the ICU patients with highest risk

- Compromised tissue perfusion
  - Hemodynamic Instability
  - Vasopressor use
  - Therapeutic Hypothermia
  - Diabetes
Patient Selection Criteria
Focused on the ICU patients with highest risk

- Immobility
  - Spinal Cord Injury
  - Open Chest/Abdomen
  - CRRT & IABP
  - HFO
  - Lengthy surgical procedures
  - Traction
  - Sedative & N MBA use

Nursing Intervention Guidelines

**Automatically** applied if patient:
- Therapeutic Hypothermia Post-Cardiac Arrest this admission
- Spinal Cord Injury this admission
- Open Chest
- Open Abdomen
- CRRT & IABP
- High Frequency Oscillation
### Nursing Intervention Guidelines

If patient has **3 or more** of the following:

- Has undergone a surgical procedure that lasted > 6 hours with current ICU admission
- Weeping edema
- Traction/Halo Vest
- IABP
- Diabetes Mellitus
- Has any one of these vasopressor infusions (if 3 infusions, counts as 3):
  - Phenylephrine (any dose)
  - Norepinephrine > 2mcg/min
  - Epinephrine > 2mcg/min
  - Vasopressin > 0.4units/hour
  - Dopamine > 10mcg/kg/min
- Weight > 300lbs/136kg
- Fecal or Urinary Incontinence
- NPO > 48 hours or Enteral Feeds < goal for 48 hours
- Chemotherapy/Radiation Therapy
- Sedation infusion prescribed to maintain SAS<2 &/or Neuromuscular Blockade infusion
- Mechanical Ventilation for > 48 hours
- Nitric Oxide Ventilation Therapy
- Liver Failure
- Prescribed Complete Bedrest
- Braden: Moisture Score ≤ 3
- Braden: Friction/Shear score ≤ 2
- Past history of pressure ulcers
Educational Strategies

• Developed document
• Outlined inclusion criteria
• Described the bundle components
  – How to apply/remove
  – Related nursing care & documentation

Educational Strategies

• Feedback requested from other critical care Educators/APNs
• Feedback from unit councils
• Feedback from Wound & Skin Committee

• Many drafts later...
Nursing Resource

MEPILEX™ SACRUM

Dressing Application:

1. Cleanse the wound & dry the surrounding skin thoroughly. Remove the centre release film.
2. Apply the adherent side to the sacral area. Do not stretch.
3. Remove the side release films.
4. Gently smooth each side into surrounding skin thoroughly. Do not stretch.

Remove the centre release film.

(App courtesy of Molnlycke Heath Care)

Apply as illustrated above. Date & initial the dressing when applied.

Nursing Care:
1. Peel dressing back daily & assess skin. Reseal existing dressing.
2. Document findings on Wound Care Record daily.
3. Remove & discard dressing every 3 days. (Date & initial dressing when applied.)
4. Continue to reapply until discharge home.

** If patient is incontinent; dressing does not have to be changed. If only the top of the dressing is soiled, simply wipe clean.

** If dressing does not remain intact > 24 hours due to incontinence, discontinue. Use Secura™ No Rinse solution followed by ProShield Plus™ ointment.

Nursing Resource

HEELIFT® SUSPENSION BOOTS:

Boot Application:

1. Place the foot inside the boot with the heel positioned above the heel suspension opening. The heel should hang over the bottom elevation pad.
2. Pull the closure straps over skin towards D-rings. Thread straps through D-rings. Use Velcro closures to secure straps. Leave flaps slightly open to provide added ventilation.
3. Test for proper fit. You should be able to fit your fingers between the heel opening & the bed. The boot should not move freely on the bed. (See instructions contained with boot)

(Nursing Care:
1. Remove the boot q8h to assess CSWM & the skin for any areas of redness. Pay particular attention to the Achilles tendon area.
2. If moisture is an issue, Mepilex™ may be applied to the affected area. The Mepilex™ dressing should be changed every 3 days. (Date & initial dressing when applied.)
Nursing Resource

Tegaderm™ Application:

1. Place the dressing on the skin, ensuring that the corners are loose and not sticking to the wound.
2. Use a smooth moving motion to press down the dressing. Remember to remove the dressing after 7 days.
3. The dressing is designed to be either cut to length or used as is.
4. When removing the dressing, loosen a corner and stretch the dressing away from the wound.
5. Move towards the corner and remove the dressing. Repeat as necessary. Remember not to pull on the edges of the dressing.

Tegaderm™ Removal:

Method #1: Remove dressing by loosening the corner & stretching the dressing away from the centre, parallel to the patient’s skin. (As the dressing stretches it will lift off the skin, reducing incidence of skin tearing.)

Method #2.

(Courtesy of 3M)

Revised from original tool provided by VCU, 2011

Implementation of the Bundle

Inservices
Implementation of the Bundle

- Tool loaded onto unit webpage

Implementation of the Bundle

- Email of initiative & tool to staff
Implementation of the Bundle

Identification of candidates on Rounds

Bedside education

Evaluation

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<th>Date</th>
<th>Bed/Room</th>
<th>Braden Score</th>
<th>Pressure Ulcer Stage</th>
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<th>指導用品 applied</th>
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Reviewing the results
(Total # patients = 59)

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Planning for the Future

- Interventions for friction & shear
  - Trial of Mepilex® Heel
  - Include patients with cachexia, anorexia nervosa, or ‘failure to thrive’

- Interventions for moisture
  – Skin IQ™
  – InterDry® Ag Textile
  – Medline Ultrasorbs® Drypads
Bibliography


THANK YOU!

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