Instructions for Facilitator

Training is an essential component to a successful pressure ulcer prevention and treatment program. This training is designed to assist nurses in developing basic skills necessary to prevent and treat pressure ulcers. The program is interactive meaning the nurse learner will be reading, listening, and engaging in hands-on practice.

Some preparation is required on the part of the facilitator to promote a successful training experience, but it is not necessary for the facilitator to be present during the training. Upon completion of the training, a facilitator may administer a quiz to aide in determining competency in the skills necessary for basic prevention and treatment of pressure ulcers. A sample quiz has been provided.

Each nurse taking the training needs to have the handouts listed below. Master hard copies of all handouts should be provided in a training manual the nurse learner will review as they proceed through the course.

1. Braden Scale for Predicting Pressure Ulcer Risk
2. Braden Interventions
3. Selected Characteristics of Support Surfaces
4. Support Surfaces: Characteristics and Considerations
5. Managing Tissue Loads
6. Braden Case Study
7. Pressure Ulcer Definition and Stages
8. Clinical Fact Sheet Quick Assessment of Leg Ulcers
9. Measuring a Pressure Ulcer
10. Treatment Product Categories
11. Dressing Change Exercise
12. Communication with Physician
13. Competency Quiz

The training may begin when the nurse learner is comfortable, has the manual and copies of handouts, and has the supplies they will use to practice. The training session is self paced and the nurse learner can pause the training at anytime and resume it when they are able.

Software/Hardware requirements- DVD player or computer to play the DVD on. If you are playing on a computer, be sure that you are using a DVD drive.
Supplies- In addition to copies of handouts, you will need to provide the nurse learner with items they will use to practice measuring a wound and doing a dressing change. The items are as follows:

**Measuring a Wound**
1. Q tip

**Dressing Change**
1. Box of gloves
2. Potato with a space carved out of it to mimic an open pressure ulcer. Note, the facilitator may apply glitter, sand, or other foreign material inside the potato to represent non viable tissue that needs to be cleaned from the wound bed during the dressing change.
3. Cup of water- water is used in place of normal saline
4. 19 gauge needle with a 35cc syringe or wound cleaners bottle with water
5. 4x4 or 2x2 Gauze
6. Tape
7. 1- non adherent or foam dressing.
8. Q tips- Used in place of a non-cotton tip applicator or a tipped applicator moisten with normal saline
9. 10 cc of glue, liquid soap or other inexpensive semi liquid to represent hydrogel or the application of a product in the wound bed.
10. Wax paper or small towel
11. Trash bag

**Instructions for Learner**

Welcome to the Primaris Pressure Ulcer Prevention and Treatment Training. This is a comprehensive program designed to provide you with a foundation for preventing and treating pressure ulcers. The training has been designed to be interactive with visual images and opportunities for practice. You will watch a slide show and listen to a narrator explain the slides. Pause the show at any time to read the slides, read handouts, or take notes.

This program is self paced so you can take as long as you need to finish. Prior to starting, you will need the manual containing the handouts, copies of the practice sheets, and the materials listed on the practice sheets. Please make sure you have all the necessary items before beginning the training.
# Braden Scale for Predicting Pressure Sore Risk

Resident Name (Last, First, Middle) ________________________________

Room #: __________ Attending Physician: __________________________ Date of Assessment: ______________

## Assessment Date:

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Score/Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory Perception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to respond meaningfully to pressure-related discomfort</td>
<td>1 = Completely Limited</td>
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<td></td>
<td>2 = Very Limited</td>
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<td></td>
<td>3 = Slightly Limited</td>
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<tr>
<td></td>
<td>4 = No impairment</td>
<td></td>
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</tr>
<tr>
<td>Moisture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree to which skin is exposed to moisture</td>
<td>1 = Constantly Moist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Often Moist</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>3 = Occasionally Moist</td>
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<tr>
<td></td>
<td>4 = Rarely Moist</td>
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</tr>
<tr>
<td>Activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of physical activity</td>
<td>1 = Bedfast</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>2 = Chairfast</td>
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<td></td>
<td>3 = Walks Occasionally</td>
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<td></td>
<td>4 = Walks Frequently</td>
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<tr>
<td>Mobility</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Ability to change and control body position</td>
<td>1 = Completely Immobile</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2 = Very Limited</td>
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<tr>
<td></td>
<td>3 = Slightly Limited</td>
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<tr>
<td></td>
<td>4 = No Limitations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usual food intake pattern</td>
<td>1 = Very Poor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1NPO: Nothing by mouth</td>
<td>2 = Probably Inadequate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2IV: Intravenously</td>
<td>3 = Adequate</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3TPN: Total parenteral nutrition</td>
<td>4 = Excellent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friction and Shear</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>1 = Problem</td>
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<tr>
<td></td>
<td>2 = Potential Problem</td>
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<tr>
<td></td>
<td>3 = No Apparent Problem</td>
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</tbody>
</table>

## Total Score

**High Risk:** Total score ≤ 12.

**Moderate Risk:** Total score 13-14.

**Low Risk:** Total score 15-16 if under 75 years old or 15-18 if over 75 years old

## For Detailed Descriptions, see page 2

<table>
<thead>
<tr>
<th>Assess</th>
<th>Date</th>
<th>Evaluator signature/title</th>
<th>Assess</th>
<th>Date</th>
<th>Evaluator signature/title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<td></td>
</tr>
</tbody>
</table>

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### Sensory Perception

1 = **Completely Limited.** Unresponsive (does not moan, flinch, or grasp) to painful stimuli, due to diminished level of consciousness or sedation OR limited ability to feel pain over most of body.

2 = **Very Limited.** Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness OR has a sensory impairment which limits the ability to feel pain or discomfort over ½ of body.

3 = **Slightly Limited.** Responds to verbal commands, but cannot always communicate discomfort or the need to be turned OR has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.

4 = **No impairment.** Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort.

### Nutrition

1 = **Very Poor.** Never eats a complete meal. Rarely eats more than ½ of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement OR is NPO1 and/or maintained on clear liquids or IV2 for more than 5 days.

2 = **Probably Inadequate.** Rarely eats a complete meal and generally eats only about ½ of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement OR receives less than optimum amount of liquid diet or tube feeding.

3 = **Adequate.** Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) per day. Occasionally will refuse a meal, but will usually take a supplement if offered OR is on a tube feeding or TPN3 regimen, which probably meets most of nutritional needs.

4 = **Excellent.** Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation.

### Moisture

1 = **Constantly Moist.** Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.

2 = **Often Moist.** Skin is often, but not always moist. Linen must be changed at least once a shift.

3 = **Occasionally Moist.** Skin is occasionally moist, requiring an extra linen change approximately once a day.

4 = **Rarely Moist.** Skin is usually dry; linen only requires changing at routine intervals.

### Activity

1 = **Bedfast.** Confined to bed.

2 = **Chairfast.** Ability to walk severely limited or nonexistent. Cannot bear own weight and/or must be assisted into chair or wheelchair.

3 = **Walks Occasionally.** Walks occasionally during day, but for very short distances, with or without assistance. Spends majority of each shift in bed or chair.

4 = **Walks Frequently.** Walks outside room at least twice a day and inside room at least once every 2 hours during waking hours.

### Friction and Shear

1 = **Problem.** Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures or agitation leads to almost constant friction.

2 = **Potential Problem.** Moves feebly or requires minimum assistance. During a move, skin probably slides to some extent against sheets, chair, restraints, or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.

3 = **No Apparent Problem.** Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair at all times.

### Mobility

1 = **Completely Immobile.** Does not make even slight changes in body or extremity position without assistance.

2 = **Very Limited.** Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.

3 = **Slightly Limited.** Makes frequent though slight changes in body or extremity position independently.

4 = **No Limitations.** Makes major and frequent changes in position without assistance.
### AT RISK (15-18)*

- **Frequent Turning**
- **Maximal Remobilization**
- **Protect Heels**
- **Manage Moisture, Nutrition and Friction and Shear**
- **Pressure-Reduction Support Surface** If Bed- or Chair-Bound

* If other major risk factors are present (advanced age, fever, poor dietary intake of protein, diastolic pressure below 60, hemodynamic instability) advance to next level of risk

### MANAGE MOISTURE

- **Use Commercial Moisture Barrier**
- **Use Absorbant Pads or Diapers That Wick & Hold Moisture**
- **Address Cause If Possible**
- **Offer Bedpan/Urinal and Glass of Water in Conjunction With Turning Schedules**

### MODERATE RISK (13-14)*

- **Turning Schedule**
- **Use Foam Wedges for 30E Lateral Positioning**
- **Pressure-Reduction Support Surface**
- **Maximal Remobilization**
- **Protect Heels**
- **Manage Moisture, Nutrition and Friction and Shear**

* If other major risk factors present, advance to next level of risk

### MANAGE NUTRITION

- **Increase Protein Intake**
- **Increase Calorie Intake to Spare Proteins**
- **Supplement With Multi-Vitamin** (Should Have Vit A, C & E)
- **Act Quickly to Alleviate Deficits**
- **Consult Dietitian**

### HIGH RISK (10-12)

- **Increase Frequency of Turning**
- **Supplement With Small Shifts**
- **Pressure Reduction Support Surface**
- **Use Foam Wedges for 30E Lateral Positioning**
- **Maximal Remobilization**
- **Protect Heels**
- **Manage Moisture, Nutrition and Friction and Shear**

### MANAGE FRICTION & SHEAR

- **Elevate Hob No More Than 30E**
- **Use Trapeze When Indicated**
- **Use Lift Sheet to Move Patient**
- **Protect Elbows & Heels If Being Exposed to Friction**

### VERY HIGH RISK (9 or below)

- **All of the Above**
- **Use Pressure-Relieving Surface If Patient Has Intractable Pain**
- **Severe Pain Exacerbated by Turning**
- **Additional Risk Factors**

*Low air loss beds do not substitute for turning schedules

### OTHER GENERAL CARE ISSUES

- **No Massage of Reddened Bony Prominences**
- **No Do-Nut Type Devices**
- **Maintain Good Hydration**
- **Avoid Drying the Skin**

© Barbara Braden, 2001
Resident: ____________________________________________  Date: ____________________  Room #: ____________________

**Recommended times for change in position are noted with desired position.**

**Codes:** RS (right side)  LS (left side)  B (back)  OOB (lift/shift in chair)  W/C  HOB (head of bed, raised seating)  T (toileted)

When repositioning check after 30 minutes to see if the bony prominence is still red. Report to nurse.

Change every hour in W/C and at least every 2 hours in bed. Do not raise HOB higher than 30 degrees unless directed by nurse.

### Tissue Tolerance and Individualized Turning Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Desired position</th>
<th>Actual position &amp; initials</th>
<th>Check back after turned, red after 30 min? Indicate “no” or Location that is still red</th>
<th>Desired position</th>
<th>Actual position &amp; initials</th>
<th>Check back after turned, red after 30 min? Indicate “no” or Location that is still red</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11:30 pm</td>
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</tbody>
</table>

Initial | Name | Initial | Name | Initial | Name | Initial | Name

**Document available at [www.primaris.org](http://www.primaris.org)**

MO-08-13-PU May 2008 This material was prepared by Primaris, the Medicare Quality Improvement Organization for Missouri, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. Adapted from Ratliff Care Center.
Selected Characteristics of Support Surfaces

<table>
<thead>
<tr>
<th>Performance characteristics</th>
<th>Air-fluidized</th>
<th>Low Air-loss</th>
<th>Alternating Air</th>
<th>Static Flotation (air or water)</th>
<th>Foam</th>
<th>Standard Mattress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased support area</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Low moisture retention</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Reduced heat accumulation</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Shear reduction</td>
<td>Yes</td>
<td>?</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Pressure reduction</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Dynamic</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Cost per day</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
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</table>


Chair Support Surfaces

<table>
<thead>
<tr>
<th>Support Surface</th>
<th>Characteristics</th>
<th>Cost</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foam Cushion</td>
<td>• Provides some pressure reduction, depending upon the thickness of the foam (a thickness of no less than four inches is recommended) • Resident still requires repositioning at least every hour</td>
<td>Low Cost</td>
<td>• After laundering, this surface is no longer useful for pressure reduction. A slip cover that can be separately laundered keeps the cushion clean and dry</td>
</tr>
<tr>
<td>Gel Cushion</td>
<td>• Reduces pressure by spreading pressure across the contact surface • Does not replace repositioning</td>
<td>Low to Moderate Cost</td>
<td>• Pressure reduction depends on the cushion’s condition (watch for breaks in the integrity of the cushion, which renders this product ineffective) • Do not attempt to mend any breaks in the cushion</td>
</tr>
<tr>
<td>Air-filled Cushion</td>
<td>• Reduces pressure by evenly distributing weight • Cells fill with air and deflate as pressure is applied. Does not replace repositioning</td>
<td>High Cost</td>
<td>• Compromised integrity can render this product ineffective. An ineffective air-filled cushion should be replaced</td>
</tr>
</tbody>
</table>
Support Surfaces: Characteristics and Considerations

Specialty Beds

Air-fluidized bed (also known as a “bead bed” or “sand bed”)

Product Characteristics: This is a bed frame containing silicone-coated beads incorporated in Gortex® covering. When air is pumped through the beads, they behave like a liquid, creating air and fluid support. The resident “floats” on a sheet with one third of the body above the surface and the remainder of the body immersed in the warm, dry, fluidized beads. When bed is turned off, the surface becomes firm to allow for repositioning. Helps manage copious wound drainage or incontinence by absorbing fluids into bed of silicone beads. Although there is some evidence that air-fluidized beds enhance pressure ulcer healing rates, surface interface pressure remains sufficiently high to occlude capillary perfusion. Occipital and heel ulcers have been reported to develop in patients while on an air-fluidized bed (Parish & Witkowski, 1980).

Considerations:
- Not recommended for mobile patients, patients with pulmonary disease or patients with unstable spine
- Continuous circulation of warm, dry air may dehydrate patient or desiccate wound bed
- Bed may get too hot or make room hot
- Head of bed cannot be raised; semi-Fowler’s position achieved by using foam wedges or movable sling-type device
- Coughing less effective in mobilizing secretions
- Leakage of beads may irritate the eyes and respiratory track and make floor slippery
- Width of bed may preclude care to obese patients or patients with a contracture
- Height of bed makes some nursing care difficult, and a step is needed to facilitate care
- Transfer of patient out of bed is difficult
- Bed is heavy and not easily transferable
- Some patients become disoriented or complain of feeling weightless while on surface
- Dependent drainage of catheters may be compromised because the patient is immersed in the bed
- Sharp objects may damage the surface
- Size and weight may be too large for use in home setting
- Set up and maintenance provided by company

Low air-loss bed

Product Characteristics: A bed frame with a series of connected air-filled pillows that can be calibrated for varying amounts of pressure to provide maximum pressure reduction for residents. Dry air flow between the patient and bed surface helps control moisture and heat buildup and prevents maceration and friction. Some models are designed to counteract the effects of immobility on pooling of respiratory secretions and urinary stasis by providing oscillation therapy. Other models feature kinetic therapy (rotating slowly side to side), although this is limited to a 20-degree rotation and does not have the same effect as manually rotating the resident side-to-side.

Considerations:
- Head and foot of bed can be raised and lowered
- Transfers in and out of bed easily accomplished
- Portable motor available to maintain inflation during bed transfers.
  - Motor may be noisy
  - Proper inflation essential to maintain effectiveness
  - Sharp objects may damage the surface

Primaris
Healthcare Business Solutions
• Bed surface is slippery; patients may slide down or out of bed with being transferred
• Heels need to be “floated” to totally relieve pressure
• Set up and maintenance provided by company

### Dynamic Overlays

**Alternating air-filled overlay**

**Product Characteristics:** Air is pumped through overlay chambers at regular intervals to provide cyclical pressure changes, creating a low-pressure and a high-pressure area. These surfaces constantly change pressure points and create pressure gradients that enhance blood flow. Cells with larger diameter and depth produce greater pressure relief over the body. A cell depth of not less than 3 inches is recommended.

**Considerations:**
- Surface is easy to clean
- Assembly required
- Sensation of inflation and deflation may bother patient
- Electricity required
- Motor may be noisy
- Excessive or sudden surface movement may disturb sleep
- Sharp objects may damage the surface
- Bed surface is slippery; patients may slide down or out of bed with being transferred
- Heels need to be “floated” to totally relieve pressure

### Static Overlays

**Foam Overlay**

**Product Characteristics:** A foam surface applied over the surface of an existing hospital mattress. The following characteristics of foam influence the effectiveness of the overlay: base height, density and indentation load deflection (ILD). Base height refers to the height of the foam from the base to where the foam ridges begin and should be 3 to 4 inches to be effective in reducing pressure. Density refers to the weight per cubic foot and reflects the foam's ability to support the person's weight. Foam densities of 1.3 to 1.6 pounds per cubic foot are generally effective in supporting an average size adult. ILD is a measure of the firmness of the foam. It describes the foam's compressibility and conformability. It also indicates the ability of the foam to distribute the mechanical load. Measurement of ILD is expressed as the number of pounds required to indent a sample of foam with a circular plate to a depth of 25% of the thickness of the foam. An ILD of approximately 30 pounds is recommended. Optimal support and conformability of foam is achieved when the relationship between 60% ILD and 25% ILD is 2.5 or greater (Krouskop & Garber, 1987; Whittemore, 1998).

**Considerations:**
- Plastic protective sheet is usually required for incontinent patients
- Foam may trap perspiration and be hot
- Washing removes flame-retardant coating
- One-time charge, no reoccurring charges
- No set up or maintenance fees
- Cannot be punctured by needle or metal traction
- Light weight
Support Surfaces: Characteristics and Considerations: page 3

- Requires no maintenance
- No electricity required to operate
- May be hot and trap perspiration
- Foam has a limited life
- Lack of firm edge creates unsure surface when patient transferring on and off surface
- Heels need to be “floated” to totally relieve pressure
- Must be discarded when wet from drainage or incontinence
- Adds height to the bed

**Air Overlay**

**Product Characteristics:** Interconnected bubble-like cells that are inflated with an air blower to an appropriate pressure level. Optimum air level is defined as 1 inch or more of uncompressed support surface between bony area of the resident’s body and the caregiver’s hand when placed under the support surface. Cells with larger diameter and depth produce greater pressure relief over the body. A cell depth of 3 in. or greater is recommended.

**Considerations:**
- Easy to clean
- Low maintenance
- Repair of some products is possible
- Durable
- Can be damaged by sharp objects
- Requires regular monitoring to determine proper inflation and need for reinflation
- Heels need to be “floated” to totally relieve pressure
- Adds height to bed
- Lacks a firm edge, so transfer on and off surface may be difficult

**Water Overlay**

**Product Characteristics:** A vinyl chamber that can be filled with water to appropriate level to distribute body weight evenly over the entire supporting surface. Recommended depth is 3 in. or greater. Some models contain a baffle system to control motion effects.

**Considerations:**
- Readily available in the community
- Easy to clean
- Requires water heater to maintain comfortable water temperature
- Fluid motion makes procedures difficult (e.g. positioning)
- Patient transfers may be difficult
- Inadvertent needle punctures will create leaks
- Maintenance is needed to prevent microorganism growth
- Surface is heavy
- Cannot raise head of bed unless mattress has compartments
- Can be overfilled (causing too firm a surface) or underfilled (decreasing pressure reducing benefit)
Support Surfaces: Characteristics and Considerations: page 4

**Gel Overlay**

**Product Characteristics:** A pad constructed of Silastic, silicone or polyvinyl chloride. Lack air-flow for moisture control and friction control is variable depending on the surface of the gel. Recommended depth for effective support is 2 in. or more. Gel filled pads are particularly useful in wheelchairs.

**Considerations:**
- Low maintenance
- Easy to clean
- Multiple-patient use
- Impermeable to punctures with needles
- Surface is heavy
- Expensive purchase price
- Heels need to be “floated” to totally relieve pressure
- Research on effectiveness is limited
- Some surfaces may be slippery; patient may slide down or out of bed during transfers

**Replacement Mattress**

**Product Characteristics:** Mattress made of foam and gel combinations or layers of different foam densities. Some models have replaceable foam shapes and some have a replaceable foam core. Other replacement mattresses contain a series of air-filled chambers covered with a foam structure. All models are covered with a comfortable, water-repellent, bacteriostatic cover that can be maintained with routine cleaning. Mattresses with foam should be antimicrobial and have appropriate foam ILD with high resiliency. Evidence is increasing that replacement mattresses are superior to standard hospital mattresses and may be more effective than some overlays (Vyhlidal, et al., 1997).

**Considerations:**
- Reduce use of overlay mattresses
- Reduce staff time
- Do not add height to mattress
- Provide certain level of pressure reduction automatically
- Multiple-patient use
- Easy to clean
- Use standard hospital linens
- Low maintenance
- Initial expense is high
- Some mattresses have removable sections which may be misplaced
- May not control moisture
- Potential for excessive delay in using other support surface
- No objective method for determining when or if product loses effectiveness
- Life of product is not known
Support Surfaces: Characteristics and Considerations: page 5

Additional References:


Source: National Nursing Home Improvement Collaborative Coordinated by Qualis Health, Learning Session Two, January 2004
Managing Tissue Loads

Appropriate Patient Positioning

Yes

Multiple large, truncal Stage III or IV ulcers?

No

Able to keep ulcer off surface?

Yes

Patient at risk for additional ulcers?

No

No special surface needed

Use device that moves air across skin

Yes

Skin moisture problem?

No

Multiple turning spaces available?

Yes

Static device

No

Dynamic overlay or mattress

No

Patient bottoms out?

Yes

Monitor

No

Ulcer healing properly?

Yes

Monitor

No

Low air-loss bed

No

Ulcer healing properly?

Yes

Monitor

No

Air-fluidized bed

No

Ulcer healing properly??

Yes

Reevaluate plan of care

Reference: Quick Reference for Clinicians No. 15
Page 10 Developed by AHCPR

Document available at www.primaris.org

MO-12-15-PU February 2012 This material was prepared by Primaris, the Medicare Quality Improvement Organization for Missouri, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy.
After you read this case study, circle the appropriate score for Bessie. Indicate at least one intervention appropriate for her in the space provided.

**Case Study**

Bessie Smith is a 76 year old female who has just moved into your nursing home. She is 5’4” and 100 lbs. She has the following medical diagnosis. COPD, HX CVA on the right side, and HTN. Bessie becomes fatigued during meals and her intake is usually less than 50%. She is continent of bowel but occasionally incontinent of urine and requires her underclothing changed once or twice daily. Due to fatigue and paralysis she needs weight bearing assist to reposition when she is in bed or wheel chair, although she can move from side to side somewhat. Bessie has some limited perception of pressure but when she is uncomfortable she can express her discomfort. She uses 2 liters of oxygen via n/c and has had breakdown behind her ears before. Bessie can walk with a walker for distances less than 5 feet but uses a wheel chair the majority of the time.

**Sensory Perception**  
Ability to respond meaningfully to pressure-related discomfort  
1 = Completely Limited  
2 = Very Limited  
3 = Slightly Limited  
4 = No impairment

**Moisture**  
Degree to which skin is exposed to moisture  
1 = Constantly Moist  
2 = Often Moist  
3 = Occasionally Moist  
4 = Rarely Moist

**Activity**  
Degree of physical activity  
1 = Bedfast  
2 = Chairfast  
3 = Walks Occasionally  
4 = Walks Frequently

**Mobility**  
Ability to change and control body position  
1 = Completely Immobile  
2 = Very Limited  
3 = Slightly Limited  
4 = No Limitations

**Nutrition**  
Usual food intake pattern  
1NPO: Nothing by mouth  
2IV: Intravenously  
3TPN: Total parenteral nutrition  
1 = Very Poor  
2 = Probably Inadequate  
3 = Adequate  
4 = Excellent

**Friction and Shear**  
1 = Problem  
2 = Potential Problem  
3 = No Apparent Problem

**Interventions**

Sensory perception:  
Mositure:  
Activity:  
Mobility:  
Nutrition:  
Friction & Shear:
Now that you’ve worked through the case study, below are the scores and a sample of possible interventions.

Sensory Perception- 3
- Assess skin for redness
- Reposition q 2 hours while in bed or 1 hour when in chair

Moisture- 2
- Apply barrier cream
- Offer bed pan or bedside commode
  Toileting plan
- Absorbent pad

Activity- 2
- Cushion in w/c
- Pressure relieving mattress
- Turn schedule

Mobility- 2
- Reposition q 2 hours in bed and q 1 hour when up
- Therapy screening

Nutrition- 2
- Request dietary consult
- Offer high protein snacks
- Request vitamin & protein supplement

Friction & Shear- 1
- Use positioning aides such as a turn sheet, lift pad
- Therapy screening

Total score- 12 or High risk
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 and/or friction. A number of contributing or confounding factors are also associated with pressure ulcers; the significance of these factors is yet to be elucidated.

Pressure ulcers are staged using the system at right.

**DEFINITION**

A pressure ulcer is 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.

**PRESSURE ULCER STAGES**

**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.

**Further Description:** 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 pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister.

**Further Description:** Presents as a shiny or dry shallow ulcer without slough or bruising.* This stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation.

*Bruising indicated suspected deep tissue injury.

**STAGE III**

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

**Further Description:** The depth of a stage III pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep stage III pressure ulcers. Bone/tendon is not visible or directly palpable.

**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 include undermining and tunneling.

**Further Description:** The depth of a stage IV pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.

**UNSTAGEABLE**

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

**Further Description:** Until enough slough and/or eschar is removed to expose the base of the wound, the true depth, and therefore stage, cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as “the body’s natural (biological) cover” and should not be removed.

This staging system should be used only to describe pressure ulcers. Wounds from other causes, such as arterial, venous, diabetic foot, skin tears, tape burns, perineal dermatitis, maceration or excoriation should not be staged using this system. Other staging systems exist for some of these conditions and should be used instead.
## Pressure Ulcers: Clinical Fact Sheet: Quick Assessment of Leg Ulcers

<table>
<thead>
<tr>
<th>Venous Insufficiency (Stasis)</th>
<th>Arterial Insufficiency</th>
<th>Peripheral Neuropathy (Diabetic)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Previous DVT &amp; Varicosities</td>
<td>• Diabetes</td>
<td>• Diabetes</td>
</tr>
<tr>
<td>• Reduced mobility</td>
<td>• Anemia</td>
<td>• Spinal cord injury</td>
</tr>
<tr>
<td>• Obesity</td>
<td>• Arthritis</td>
<td>• Hansen's Disease</td>
</tr>
<tr>
<td>• Vascular ulcers</td>
<td>• Increased pain with activity and/or elevation</td>
<td>• Relief of pain with ambulation</td>
</tr>
<tr>
<td>• Phlebitis</td>
<td>• CVA</td>
<td>• Parasthesia of extremities</td>
</tr>
<tr>
<td>• Traumatic injury</td>
<td>• Smoking</td>
<td></td>
</tr>
<tr>
<td>• CHF</td>
<td>• Intermittent claudication</td>
<td></td>
</tr>
<tr>
<td>• Orthopedic procedures</td>
<td>• Traumatic injury to extremity</td>
<td></td>
</tr>
<tr>
<td>• Pain reduced by elevation</td>
<td>• Vascular procedures/surgeries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Hypertension</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Hyperlipidemia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Arterial disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Medial aspect of lower leg and ankle</td>
<td>• Toe tips or web spaces</td>
<td>• Plantar aspect of foot</td>
</tr>
<tr>
<td>• Superior to medial malleolus</td>
<td>• Phalangeal heads around lateral malleolus</td>
<td>• Metatarsal heads</td>
</tr>
<tr>
<td></td>
<td>• Areas exposed to pressure or repetitive trauma</td>
<td>• Heels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Altered pressure points/sites of painless trauma/repetitive stress</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• <strong>Color</strong>: base ruddy</td>
<td>• <strong>Color</strong>: base of wound, pale/pallor on elevation; dependent rubor</td>
<td>• <strong>Color</strong>: normal skin tones; trophic skin changes, fissuring and/or callus formation</td>
</tr>
<tr>
<td>• <strong>Surrounding Skin</strong>: erythema (venous dermatitis) and/or brown staining (hyperpigmentation)</td>
<td>• <strong>Skin</strong>: shiny, taut, thin, dry, hair loss of lower extremities, atrophy of subcutaneous tissue</td>
<td>• <strong>Depth</strong>: variable</td>
</tr>
<tr>
<td>• <strong>Depth</strong>: usually shallow</td>
<td>• <strong>Depth</strong>: deep</td>
<td>• <strong>Wound Margins</strong>: well defined</td>
</tr>
<tr>
<td>• <strong>Wound Margins</strong>: irregular</td>
<td>• <strong>Wound Margins</strong>: even</td>
<td>• <strong>Exudate</strong>: variable</td>
</tr>
<tr>
<td>• <strong>Exudate</strong>: moderate of heavy</td>
<td>• <strong>Exudate</strong>: minimal</td>
<td>• <strong>Edema</strong>: cellulitis, erythema and induration common</td>
</tr>
<tr>
<td>• <strong>Edema</strong>: pitting or non-pitting; possible induration and cellulitis</td>
<td>• <strong>Edema</strong>: variable</td>
<td>• <strong>Skin Temp</strong>: warm</td>
</tr>
<tr>
<td>• <strong>Skin Temp</strong>: normal; warm to touch</td>
<td>• <strong>Skin Temp</strong>: decreased/cold</td>
<td>• <strong>Tissue</strong>: granulation frequently present; necrotic tissue variable, gangrene uncommon</td>
</tr>
<tr>
<td>• <strong>Tissue</strong>: granulation frequently present</td>
<td>• <strong>Tissue</strong>: granulation rarely present; necrosis, eschar, gangrene may be present</td>
<td>• <strong>Infection</strong>: frequent</td>
</tr>
<tr>
<td>• <strong>Infection</strong>: less common</td>
<td>• <strong>Infection</strong>: frequent (signs may be subtle)</td>
<td>• Reflexes usually diminished</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Altered gait; orthopedic deformities common</td>
</tr>
</tbody>
</table>
### Venous Insufficiency (Stasis)

<table>
<thead>
<tr>
<th>Perfusion</th>
<th>Arterial Insufficiency</th>
<th>Peripheral Neuropathy (Diabetic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Pain</td>
<td>Pain</td>
</tr>
<tr>
<td>• Minimal unless infected or desiccated.</td>
<td>• Intermittent Claudication</td>
<td>• Diminished sensitivity to touch</td>
</tr>
<tr>
<td><strong>Peripheral Pulses</strong></td>
<td><strong>Resting</strong></td>
<td>• Reduced response to pin prick usually painless</td>
</tr>
<tr>
<td>• Present/Palpable</td>
<td><strong>Positional</strong></td>
<td><strong>Peripheral Pulses</strong></td>
</tr>
<tr>
<td><strong>Capillary Refill</strong></td>
<td><strong>Nocturnal</strong></td>
<td>• Palpable/Present</td>
</tr>
<tr>
<td>• Normal-less than 3 seconds</td>
<td><strong>Peripheral Pulses</strong></td>
<td><strong>Capillary Refill</strong></td>
</tr>
<tr>
<td></td>
<td>• Absent or diminished</td>
<td>• Normal</td>
</tr>
<tr>
<td></td>
<td><strong>Capillary Refill</strong></td>
<td><strong>Capillary Refill</strong></td>
</tr>
<tr>
<td></td>
<td>• Delayed — more than 3 seconds</td>
<td>• Normal</td>
</tr>
<tr>
<td><strong>Pain</strong></td>
<td><strong>ABI &lt; 0.8</strong></td>
<td><strong>Pain</strong></td>
</tr>
</tbody>
</table>

### Measures To Improve Venous Return
- Surgical obliteration of damaged veins
- Elevation of legs
- Compression therapy to provide at least 30 mmhg compression @ ankle
  - Options:
    - Short stretch bandages (e.g. Setopress, Surepress, Comprilan)
    - Therapeutic support stockings
    - Unna's boot
    - Profore 4 layer wrap
    - Compression pumps

### Topical Therapy
- Goals:
  - Absorb exudate (e.g. alginate, foam)
  - Maintain moist wound surface (e.g. hydrocolloid)

### Measures To Improve Tissue Perfusion
- Revascularization if possible
- Medications to improve RBC transit through narrowed vessels
- Lifestyle changes (no tobacco, no caffeine, no constrictive garments, avoidance of cold)
- Hydration
- Measures to prevent trauma to tissues (appropriate footwear at ALL times)

### Topical Therapy
- **Dry uninfected necrotic wound:** KEEP DRY
- **Dry infected wound:** IMMEDIATE referral for surgical debridement/ aggressive antibiotic therapy
- **Open wound**
  - Moist wound healing
  - Non-occlusive dressings (e.g. solid hydrogels) or cautious use of occlusive dressings
  - Aggressive treatment of any infection

### Measures To Eliminate Trauma
- Pressure relief for heal ulcers
- “Offloading” for plantar ulcers (bedrest or contact casting or orthopedic shoes)
- Appropriate footwear
- Tight glucose control
- Aggressive infection control (debridement of any necrotic tissue, orthopedic consult for exposed bone, antibiotic coverage)

### Topical Therapy
- Cautious use of occlusive dressings
- Dressing to absorb exudate/keep surface moist
Handout: Measuring a Pressure Ulcer

**Supplies**

Q-Tip

**Directions**

Practice measuring the wounds below.

A. Depth

B. Length and Width

Facilitator: Because of scaling issues when printing, we have not included the measurements. Please check the measurements for accuracy.
Pressure Ulcers: Treatment Product Categories

Pressure ulcers require consistency in treatment to promote healing. Use this list that includes the major types of products to ensure your nursing center carries an appropriate range of materials. Nursing staff then can choose the most effective dressing type based on wound stage, characteristics and potential concerns.

<table>
<thead>
<tr>
<th>Treatment Products</th>
<th>Description</th>
<th>Appropriate Wound Stage</th>
<th>Characteristics</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyurethane Film</td>
<td>Adhesive and transparent.</td>
<td>Stages 1-2</td>
<td>Occlusive and waterproof Retains water Impermeable to bacteria &amp; contamination Promotes moist wound healing Nonabsorbent May be changed every 3 to 7 days May be used as a secondary dressing over a more absorbent product</td>
<td>Should not be used with moderate to heavy exudate wounds May macerate surrounding skin</td>
</tr>
<tr>
<td>Hydrocolloid</td>
<td>Adhesive wafers composed of gelatin, pectin, and carboxymethyl-cellulose</td>
<td>Stages 1-4</td>
<td>Occlusive and waterproof Retains moisture Impermeable Promote moist wound healing Moderately absorbent Easy to apply</td>
<td>Should not be used with heavy exudate wounds Should not be used if infection is present May have odor upon removal May be difficult to remove</td>
</tr>
<tr>
<td>Hydrogels</td>
<td>Glycerin or water based gels, wafers, sheets, and impregnated gauze with or without adhesive borders</td>
<td>Stages 2-4</td>
<td>Non-adherent Fills dead space Semi-occlusive Promotes moist wound healing Easy to apply &amp; remove Minimally absorbent Retains moisture and rehydrates wound</td>
<td>May macerate surrounding tissues Secondary dressing required Daily application required unless applied with adhesive borders Dries out easily Risk of candidiases</td>
</tr>
<tr>
<td>Foams</td>
<td>Hydrophilic polyurethane foam, available in wafers, sheets, and pillow with foam covering</td>
<td>Stages 2-4</td>
<td>Non-adherent Easy to apply and remove Highly absorbent</td>
<td>Can be used on various levels of exudate Additional fixation is required unless has an adhesive border</td>
</tr>
<tr>
<td>Alginites</td>
<td>Non woven fibers containing calcium sodium salts of alginic acid, available in pads or ropes</td>
<td>Stage 2 wounds with a lot of exudate Stages 3-4</td>
<td>Non-adherent Promotes moist wound healing Can be used on infected wounds</td>
<td>Should not be used on dry or low exudate wounds, the wound may get dehydrated Secondary dressing required Typically requires daily application</td>
</tr>
</tbody>
</table>
### Pressure Ulcers: Treatment Product Categories, Page 2

#### Treatment Products

<table>
<thead>
<tr>
<th>Treatment Products</th>
<th>Description</th>
<th>Appropriate Wound Stage</th>
<th>Characteristics</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antimicrobial</strong></td>
<td>Ionic silver and cadexomer iodine that provides sustained antimicrobial barrier to multiple bacteria including strains of MRSA and VRE. Can be found in different types of products including alginates, gels and polyurethane film</td>
<td>Stage 2 wounds when antimicrobial treatment is needed Stages 3-4</td>
<td>Manages bacterial burden Non-cytotoxic</td>
<td>Do not use with a resident with a known sensitivity to silver. Iodine products should be avoided if known sensitivity, or thyroid disorder. Do not use in conjunction with topical antibiotics</td>
</tr>
<tr>
<td>ACTICOAT◊</td>
<td></td>
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<tr>
<td>SilvaSorb®</td>
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<tr>
<td>IODOSORB◊</td>
<td></td>
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<tr>
<td>ALLEVYN Ag◊</td>
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<tr>
<td>Optifoam AG®</td>
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</tr>
<tr>
<td>Others</td>
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</tr>
</tbody>
</table>

| **Collagen**       | Collagen provides the matrix for the body’s tissue structure. Stimulates wound healing Can be found in different delivery systems: dried collagen matrix, hydrogel with collagen, hydrogel base. | Wounds that have stalled in healing Chronic wounds | Promotes new tissue growth Wound debridement Pulls wound edges together | Do not use on dry wounds Do not use with patients sensitive to bovine products |
| Biostep◊           |             |                         |                 |         |
| Prisma®            |             |                         |                 |         |
| Promogran®         |             |                         |                 |         |
| Puracol®           |             |                         |                 |         |
| Others             |             |                         |                 |         |

| **Gauze, Dry or Wet** | Woven natural cotton fibers; non woven rayon and plastic blends; available in pads and rolls, sterile and non sterile | Stages 2-4, especially if wound is deep or has tissue that needs debridement | May be dampened with saline or water Inexpensive Facilitates moist to dry debridement Non-adherent when used as a wet to moist dressing Minimal to moderate absorbency | Moist to dry debridement can be painful, damaging healthy tissue Woven gauze is abrasive Requires frequent changes Packing may harden, causing further pressure injury |

### Related Wound Treatments

<table>
<thead>
<tr>
<th>Treatment Products</th>
<th>Description</th>
<th>Indications</th>
<th>Contraindications</th>
<th>Concerns/Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuum Controlled Assisted Closure (V.A.C.)</td>
<td>System that uses controlled negative pressure to help promote wound healing. VAC system pulls infectious materials and excess interstitial fluid from the wound</td>
<td>Pressure ulcers Traumatic wounds Post-op-dehisced &amp; surgical wounds</td>
<td>Malignancy Untreated osteomyelitis Unexplored fistulas into the body cavity or to an organ Necrotic tissue with eschar in the wound abed Exposed arteries or veins Uncontrolled pain</td>
<td>Active bleeding Difficult hemostasis Anticoagulant therapy</td>
</tr>
<tr>
<td>KCI VAC®</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Engenex™</td>
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<tr>
<td>EZCARE◊</td>
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<td>VISTA◊</td>
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** Brands are listed for reference purposes only. We do not recommend use of one brand over another.**

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**Document available at www.primaris.org**

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Handout: Dressing Change Exercise

**Supplies**

1. Box of gloves
2. Potato with a space carved out of it to mimic an open pressure ulcer. Note, the facilitator may apply glitter, sand, or other foreign material inside the potato to represent non viable tissue that needs to be cleaned from the wound bed during the dressing change.
3. Cup of water- water is used in place of normal saline
4. 19 gauge needle with a 35cc syringe
5. Gauze
6. Tape
7. 1- non adherent dressing
8. Q tips- Used in place of a non-cotton tip applicator or a tipped applicator soaked in normal saline
9. 10 cc of glue or other inexpensive semi liquid to represent a medicated ointment and/or other materials to simulate wound care products.
10. Small towel or wax paper
11. Trash bag

**Directions**

Follow the directions you hear and see in the video to change a dressing. You may also use the directions found in a nursing fundamental text book or your policy and procedure manual for clean dressing change technique.
Directions: Fill out both sides of this form before calling the physician to obtain orders. When talking with physician: greet physician by name, state your name and facility name, state nature of the call, identify resident by name, give detailed description of the pressure ulcer and related factors using the data collected. Suggest a solution (based on clinical practice guideline, if possible). Fax this form to the physician. When signed by physician and returned to your facility, this form may be used as the direct physician order.

Resident: _____________________________________________ Room #: __________ Date: __________
Diagnoses: ________________________________________________________________________________
Allergies: _________________________________________________________________________________

<table>
<thead>
<tr>
<th>Pressure Ulcer Description</th>
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<tbody>
<tr>
<td>Site: ____________________</td>
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<tr>
<td>Size (length x width x depth): ________________</td>
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<td>Stage #: _________________</td>
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Note: DO NOT clean ulcer wounds with skin cleansers or antiseptic agents (e.g., povidone iodine, iodophor, sodium hypochlorite [Dakin’s Solution], Hydrogen Peroxide or acetic acid) as they are toxic to human fibroblasts, decrease white blood cell viability and phagocytic efficiency.
**Dressing/Treatment Orders**

Check all that apply:
- Normal saline (preferred)
- Packing
- Consults
- Debridement (sharp, mechanical, autolytic, enzymatic)
- Dressing
- Other

**Classification of Pressure Ulcers**

**Stage 1** – A persistent area of skin redness (without a break in skin). Darker skin, discoloration of the skin, warmth, edema, induration or hardness may also be indicators.

**Stage 2** – A partial thickness skin loss of skin layers (involving epidermis, dermis or both) that presents clinically as an abrasion, blister or shallow crater.

**Stage 3** – A full thickness skin loss involving damage to or necrosis of subcutaneous tissue that may extend down to, but not through, underlying fascia. The ulcer presents clinically as a deep crater with or without undermining adjacent tissue.

**Stage 4** – A full thickness skin loss with extensive destruction, tissue necrosis or damage to muscle, bone or supporting structures (e.g., tendon or joint capsule).

**Related Factors**

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<tr>
<th>Bed Mobility</th>
<th>Comments/Treatment Order</th>
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<tr>
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<tr>
<td>Some Assist</td>
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<td>Extensive Assit</td>
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**OT consult for positioning devices**

- Yes
- No

Yes
- Two urinary incontinent episodes within a two-day period (day of/after pressure ulcer identification)
- Has a urinary catheter, indwelling catheter that leaks, or condom catheter
- Any bowel incontinent episodes
- Inadequate oral intake of nutrition
- Recent weight loss:
  - Pounds Lost: __________
  - Current Weight: __________
  - Current Height: __________
  - BMI: __________
- Dietary consult

Nurse signature: ____________________________

Physician signature: ____________________________
Competency Quiz

Objectives One and Two: Risk Factors

1. Describe one intervention you can work with your CNAs to improve in regards to positioning, pericare, nutrition or mobility for the residents in your care now.

__________________________________________________________________________________________

__________________________________________________________________________________________

2. Select one risk factor for pressure ulcer formation and explain why the resident is at risk in relation to the physiological change of aging.

__________________________________________________________________________________________

__________________________________________________________________________________________

3. Mrs. Smith is a new admission to your home. You conduct a Braden risk assessment and find she scores in the moderate risk range; however, your nursing judgment tells you she is at high risk. What actions will you take?
   a) Ignore your nursing judgment.
   b) Tell the next shift her Braden score.
   c) Make note of the Braden score but also implement interventions that address the risks you have found while conducting your assessment.

Objective Three: Staging

1. Indicate what stage each pressure ulcer picture is.
   a) Hint: Skin is closed.

   ![](image)

   b) Hint: Superficial opening.

   ![](image)
1) You are caring for Mrs. Jones, a new resident who is 82 year old and she is due for a weekly assessment of a pressure ulcer above her coccyx. She has a dx of CVA and was recently hospitalized for a bowel impaction. She fell transferring herself from her w/c to her bed and lay in the floor for several hours at home. Mrs. Jones protein levels are within normal limits and she is eating well. Her pain level is well controlled with a routine analgesic as well as an additional analgesic 30 min prior to her dressing change. She is not able to reposition herself in the bed or her chair. She is non ambulatory but does enjoy getting out for activities. Her cognition is intact and she has a wide range of activities she enjoys. She is able to sit on the toilet with assistance and the family reports a toileting schedule was successful at home to maintain continence of urine. Identify the following characteristics.

HEAD

CMS, (2010). MDS 3.0 Training Materials

a) Stage
b) Size- You may test this skill measuring length and width on above picture or ask the learner to measure the wound you made on the potato.
c) Location
d) Drainage
e) Pain
f) Wound bed
g) Wound margins
h) Peri wound area
i) Interventions (List three nursing interventions to manage her risks and support the healing of this pressure ulcer).
Competency Quiz - page 4

Objective Five: Products and Treatment

1) Select which category of product you expect the physicians will order for the pressure ulcer of Mrs. Jones.

__________________________________________________________________________________________
__________________________________________________________________________________________

Objective Six: Dressing Change

1) Demonstrate a clean technique dressing change for the facilitator.
Competency Quiz Answer Sheet

Objectives One and Two: Risk Factors

1. Describe one intervention you can work with your CNAs to improve in regards to positioning, peri care, nutrition or mobility for the residents in your care now.

   *Accept answers related to interventions appropriate for CNAs to perform.*

2. Select one risk factor for pressure ulcer formation and explain why the resident is at risk in relation to the physiological change of aging.

   *Example of possible answer: Subcutaneous tissue thins increasing risk due to lack of protection on bony prominence.*

3. Mrs. Smith is a new admission to your home. You conduct a Braden risk assessment and find she scores in the moderate risk range; however, your nursing judgment tells you she is at high risk. What actions will you take?
   a) Ignore your nursing judgment.
   b) Tell the next shift her Braden score.
   c) Make note of the Braden score but also implement interventions that address the risks you have found while conducting your assessment.

Objectives Three: Staging

   a) Stage 1
   b) Stage II
   c) Stage III
   d) Stage IV
   e) Unstageable

Objectives Four: Assess a wound and peri wound area

   a) Stage - *Stage III*
   b) Size- You may test this skill measuring length and width on picture or ask the learner to measure the wound you made on the potato. *Facilitator will check measurements for accuracy.*
   c) Location - *Directly above coccyx*
   d) Drainage - *Light*
   e) Pain - *Controlled with analgesics*
   f) Wound bed - *Granulation tissue present*
   g) Wound margins - *No undermining or tunneling*
   h) Peri wound area - *Intact*
   i) Interventions (List three nursing interventions to manage her risks and support the healing of this pressure ulcer). *Interventions may address pressure relief in w/c during activities, toileting program to maintain continence, assist with position changes, pressure relief surface in bed, etc.*
Objective Five: Products and Treatment

1. Select which category of product you expect the physician will order for the pressure ulcer of Mrs. Jones.

*Product to maintain moist wound bed would include the category of hydrogels and covered with an occlusive dressing such as a poly urethan film to maintain the moist wound bed environment. If the learner uses an alginate product, review the treatment categories with them.*

Objective Six: Dressing Change

*Observe the dressing change. Monitor to ensure the learner does not contaminate the field, applies the dressing appropriately and washes hands.*
1. Colonization- Presence of bacteria in the pressure ulcer that are not causing damage to the tissue.
2. Debride- Remove non-viable tissue from the wound.
3. Epithelialization- Production of epithelial cells that make up the outer layer of skin.
4. Erythema- redness
5. Eschar- Dead tissue that may be loose or attached to the skin. It can be brown or black in color and is non-viable.
6. Exudate- drainage, fluid, or discharge
7. Granulation- Pink- reddish, moist tissue that fills in the wound.
8. Induration- Hardening of tissue.
9. Infection- Invasion of bacteria or other microorganisms that cause harm to the tissue.
10. Maceration- Softening and eventual breakdown of tissue due to constant moisture in normal skin tissue.
11. Peri wound- Area around the wound.
12. Sinus tract- Tunneling of damaged tissue under the skin with an opening at the wound.
13. Slough- Necrotic or non-viable tissue that is separating from healthy tissue.
14. Undermining- Edges of the wound are rolled under due to damage and do not allow for epithelization to occur.
15. Denuded skin- Loss of epidermis due to irritants such as feces and urine or friction.
16. Excoration- Skin that has been traumatized and is abraded from rubbing or scratching.
Certificate of Completion

Name

has successfully completed

Interactive Pressure Ulcer Training

NAME
Program Manager, Nursing Home Services

Date of completion