NURSING POLICY:  S-101 Skin Care Protocol: Prevention and Treatment of Pressure Ulcers and Non-Pressure Related Wounds: Adults and Pediatrics

Date Written: 3/1981
Date Reviewed/Revised: 11/2012
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I. POLICY

A. Assessment:
   1. All patients will be assessed upon admission and every shift for the following:
      a. Risk of pressure ulcer using age appropriate risk scales (Braden or Braden Q)
      b. Presence of skin impairment and any type of wound, including pressure ulcers.

B. Wound Care:
   1. Wound care treatment will begin upon discovery and follow Dressing Selection and Treatment guidelines.
   2. Pressure ulcers and other wounds will be measured & reassessed by bedside nurse minimally weekly (every 7 days) to assess for response to treatment interventions.
   3. A new WOCN referral will be initiated in the EMR via the order pathway if the wound is not responding to the recommended treatment.

C. Documentation and Plan of Care:
   1. Documentation of wounds per General Assessment and Documentation of Wounds Guidelines. (Attachment K)
   2. Pressure Ulcer prevention protocols will be initiated on patients with a Braden subscale of 2 or less (Attachment C)
   3. Specialty bed will be initiated on patients with a Braden total score of less than 13 (RN can initiate specialty bed, no MD order needed). (Attachment D)
   4. An incident report (IR) will be entered by the bedside nurse for all Community Acquired or Hospital Acquired pressure ulcers.
   5. A preventive protocol, based on the Braden subscales, will be initiated for individuals identified at risk for developing a pressure ulcer: Risk for Impaired Skin Integrity (flow sheet).
   6. A treatment plan will be initiated for individuals with an actual wound: Impaired Skin Integrity (flow sheet)
   7. Plan of Care: Actual Pressure Ulcer).
   8. The Plan of Care: Actual Pressure Ulcer document will be initiated for wound measurements for individuals with a Community Acquired or Hospital Acquired Pressure Ulcer or other wounds.

D. WOCN Referral Process:
   1. The process for referral for WOCN consultation includes submission of referral in EMR via order pathway
   2. Upon receipt of the referral, the WOCN will consult with the bedside nurse on skin impairment issues provide treatment recommendations.
   3. Bedside nurse or designee will accompany WOCN to patient’s bedside during assessment and wound care consult.

II. GUIDELINES & RESOURCES

A. Pressure Ulcer Best Practices
B. Braden and Braden Q –
C. Intervention Protocols for Braden Scale Subscales
D. Bed Selection Algorithm & Bariatric Bed Selection Algorithm
E. Pressure Ulcer Staging
NURSING POLICY:  **S-101 Skin Care Protocol: Prevention and Treatment of Pressure Ulcers and Non-Pressure Related Wounds: Adults and Pediatrics**

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F.  Mucosal Ulcer-NPUAP Position Statement  
G.  Wound Dressing Guidelines: (Pressure ulcer care, Skin Tear, Non-pressure Ulcer Care)  
H.  Incontinence Care Guidelines  
I.  Tube Site Guidelines  
J.  Protecting Against Device Related Ulcers  
K.  General Assessment/Documentation of Wounds  
L.  Differentiating Wound Types

III. REFERENCES

AHRQ Publication: Preventing Pressure Ulcers in Hospitals: A Toolkit for Improving Quality of Care  


**Related Policies:**  
Advanced Wound Therapy-Adults: Vacuum Assisted Wound Therapy  
Standard of Care for the Patient with an Ostomy-Adult and Pediatric

**Policy Owner(s):**  
Varsha Shere MSN, RN, WOCN  
Trinie Nguyen BSN, RN, WOCN  
Frances Wilson, MSN, RN, WOCN

**Approvals:**  
Nursing Professional Practice Council 11/2012  
Nursing Executive Council 11/2012

Prior Revision Date: 10/2004; 02/2008; 6/201
Attachment A: Pressure Ulcer Prevention Best Practice

- Risk for pressure ulcer development and a complete head to toe skin assessment is completed upon admission, each shift and with any significant change in patient condition.
- Devices are removed such as stocking and splints at least twice per day to assess condition of skin and to ensure no pressure is occurring.
- Devices that cannot be removed, such as indwelling tubes and drains, are stabilized and repositioned for daily skin inspection.
- Care plan linked risk assessment findings to specific preventive interventions.
- Patients with impaired sensory perception, mobility, and activity as defined by the Braden Scale have the following applicable interventions documented:
  - Repositioned every 2 hours when in bed and every 1 hour when up to chair
  - Heels are off loaded at ALL times when patient in bed
  - Appropriate support surface for pressure redistribution
- Patients with friction/shear risk as defined by the Braden scale had head of bed elevated < 30 degrees documented (if medically contraindicated physicians’ order and alternative plan to prevent shear injury were documented).
- Patients with nutritional deficits as defined by Braden scale were followed by dietary services once the deficit was identified.
- Patient with incontinence has documentation that perineal cleanser and barrier were used and the underlying cause addressed.
- Patient/family skin safety education and patient response were documented.
- Standard skin safety interventions that were determined to be medically contraindicated or inconsistent with the patient’s overall goals were documented or ordered by a physician and reevaluated routinely.
- Inability to adhere to standard skin safety interventions, such as non-compliance is documented with objective evidence of patient/family education and ongoing efforts to reeducate or modify the care plan.
### The Braden Scale - for pts. over 5 years of age

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<td>Unresponsive (does not moan, flinch or grasp) to painful stimuli, due to diminished level of consciousness or sedation</td>
<td>Responds only to painful stimuli. Cannot communicate discomfort except by meaning or restlessness. <strong>OR</strong> has a sensory impairment which limits the ability to feel pain or discomfort over ½ of body</td>
<td>Responds to verbal commands, but cannot always communicate discomfort of the need to be turned. <strong>OR</strong> has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.</td>
<td>Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort.</td>
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<td>degree to which skin is exposed to moisture</td>
<td>Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.</td>
<td>Skin is often, but not always moist. Linen must be changed at least once a shift.</td>
<td>Skin is occasionally moist, requiring an extra linen change approximately once a day.</td>
<td>Skin is usually dry, linen only requires changing at routine intervals.</td>
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<td>Degree of physical activity</td>
<td>Confined to bed</td>
<td>Ability to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair.</td>
<td>Walks occasionally during day, but for very short distances, with or without assistance. Spends majority of each shift in bed or chair.</td>
<td>Walks outside room at least twice a day and inside room at least once every two hours during waking hours</td>
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<td>Ability to change and control body position</td>
<td>Dose make even slight changes in body or extremity position without assistance.</td>
<td>Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.</td>
<td>Makes frequent though slight changes in body or extremity position independently.</td>
<td>Makes major and frequent changes in position without assistance</td>
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<td>Usual food intake pattern</td>
<td>Never eats a complete meal. Rarely eats more than 1/3 of anit food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Dose not take a liquid dietary supplement. <strong>OR</strong> is NPO and/or maintained on clear liquids or IV’s for more than 5 days.</td>
<td>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. <strong>OR</strong> receives less than optimum amount of liquid diet or tube feeding.</td>
<td>Eats over half of most meals. Eats a total of 4 servings of protein (meats, dairy products) per day. Occasionally will refuse a meal, but will usually take a supplement when offered <strong>OR</strong> in on a tube feeding or TPN regimen which probably meets most of nutrition needs.</td>
<td>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. Dose not require supplementation</td>
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<td>Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheet is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures or agitation leads to almost constant friction.</td>
<td>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.</td>
<td>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.</td>
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### Attachment B: Braden Scale Q

#### The Braden Q Scale – For Pediatric Patients Less Than 5 Years Of Age

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<td>The ability to change and control position</td>
<td>Does not make even slight changes in body or extremity position without assistance.</td>
<td>Makes occasional slight changes in body or extremity position but unable to completely turn self independently.</td>
<td>Makes frequent though slight changes in body or extremity position independently.</td>
<td>Makes major and frequent changes in position without assistance.</td>
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<tr>
<th>ACTIVITY</th>
<th>1. Bedfast</th>
<th>2. Chairfast</th>
<th>3. Walks Occasionally</th>
<th>4. If ambulatory, all patients too young to ambulate OR walks frequently</th>
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<td>The degree of current physical activity</td>
<td>Confined to bed.</td>
<td>Ability to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair.</td>
<td>Walks occasionally during day, but for very short distances, with or without assistance. Spends majority of each shift in chair or bed.</td>
<td>Walks outside the room at least twice a day and inside the room at least every 2 hours during waking hours.</td>
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<td>The ability to respond in a developmentally appropriate way to pressure-related discomfort</td>
<td>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 surface.</td>
<td>Responds only to painful stimuli. Cannot communicate discomfort except by meaning or restlessness OR has sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body.</td>
<td>Responds to verbal commands, but cannot always communicate discomfort or need to be turned OR has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.</td>
<td>Responds to verbal commands. Has no sensory deficit that would limit ability to feel or communicate pain or discomfort.</td>
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<td>Degree to which skin is exposed to moisture</td>
<td>Skin is kept moist almost constantly by perspiration, urine, drainage, etc. Dampness is detected every time patient is moved or turned.</td>
<td>Skin is often, but always moist. Linen must be changed at least every 8 hours.</td>
<td>Skin is occasionally moist, requiring linen change every 12 hours.</td>
<td>Skin is usually dry, routine diaper changes, linen only requires changing every 24 hours.</td>
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<td>Friction occurs when skin moves against support surfaces, Shear occurs when skin and adjacent bony surface slide across one another</td>
<td>Spasticity, contracture, itching, or agitation leads to almost constant thrashing and friction.</td>
<td>Requires moderate to maximum assistance in moving. Complete lifting without sliding against is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance.</td>
<td>Moves feebly or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints, or other devices. Maintains relative good position in chair or bed most of the time but occasionally slides down.</td>
<td>Able to completely lift patient during a position change. Moves in bed and chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position on bed or chair at all times.</td>
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<td>Usual food intake pattern</td>
<td>NPO and/or maintained on clear liquids, or IV's for more than 5 days OR Albunin less than 2.5 mg/dl OR never eats a complete meal. Rarely eats more than ___ of any food offered. Protein intake includes only 2 servings of meat or dairy products per day. Takes fluids poorly. Does not take a liquid dietary supplement.</td>
<td>Is on liquid diet or tube feedings/TPN that provide inadequate calories and minerals for age OR Albunin less than 3 mg/dl OR rarely eats a complete meal and generally eats only about 1/2 of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally take a dietary supplement.</td>
<td>Is on tube feedings or TPN that provides adequate calories and minerals for age OR eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) each day. Occasionally will refuse a meal, but will usually take a supplement if offered.</td>
<td>Is on a normal diet providing adequate calories for age. For example eats most of every meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation</td>
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<td>Hypotensive (MAP less than 50mmHg, less than 40 in a newborn) or the patient does not physiologically tolerate position changes.</td>
<td>Normotensive: Serum pH is less than 7.40; Oxygen saturation may be less than 95%; Hemoglobin may be less than 10 mg/dl; Capillary refill may be more than 2 seconds.</td>
<td>Normotensive; Serum pH is normal; Oxygen saturation may be less than 95%; Hemoglobin may be less than 10 mg/dl; Capillary refill may be more than 2 seconds.</td>
<td>Normotensive; Serum pH is normal; Oxygen saturation is greater than 95%; Hemoglobin may be less than 10 mg/dl; Capillary refill is less than 2 seconds.</td>
<td>Normotensive; Serum pH is normal; Oxygen saturation is greater than 95%; Hemoglobin may be less than 10 mg/dl; Capillary refill is less than 2 seconds.</td>
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### Attachment C: Intervention Protocols for Braden Scale Subscales of 2 or less

#### Friction & Shear
- Do Not massage bony prominences or reddened areas of skin.
- Avoid tape and adhesives to fragile skin on arms and legs (diabetics, elderly).
- Use lift sheet for all repositioning/transfers; do not slide across bed or chair surfaces, get help from other staff.
- Use (#) ___ staff to assist with positioning and transfers.
- Use mechanical lift for transfers.
- Keep HOB flat or below 30 degrees if at all possible.
- Limit sitting in bed (greater than 30 degree) to less than 30 minutes at a time.
- Bend knee joint of bed to avoid patient sliding down in bed when HOB elevated greater than 30 degrees.
- Pad edges of casts, splints and/or braces to avoid friction & pressure.
- Float heels off of bed surface at all times when lying in bed.
- Use heel boots for off-loading (type)_____________________________
- Protect skin to skin contact in skin folds, bony prominences & position in good body alignment using foam wedges, towel rolls, pillows.
- Use protective wear for elbows and heels to decrease friction, remove 2x/shift to assess bony prominences for breakdown (don’t relieve pressure).
- Use over-the-bed trapeze and/or siderails to have patient assist with transfers/ repositioning.
- Refer to PT/OT for transfer techniques to avoid sliding and friction.
- Use transfer boards correctly, should not slide across; if must slide, then use towel or pillow case to sit on and slide.
- Follow care-plan to manage spasticity, contractures and/or restlessness – refer to OT/PT as needed.
- Refer to PT/OT for positioning straps for sitting up in w/c or chair – place at hips, not across abdomen to avoid sliding down in w/c or chair.
- Patient education related to: protecting bony areas on body; avoid sliding skin across surfaces; prevent sliding when sitting up in chair or bed; safe transfer techniques; not sitting up in bed.
- Other____________________________________

#### Activity
- Encourage patient involvement in activities (specify what the patient can and cannot do for self) ___________________________________
- Up in Chair (schedule) ______________________________________
- Up in Wheelchair (schedule) _________________________________
- Ambulate (schedule) _______________________________________
- Use walking aides for ambulation______________________________
- Use transfer aids for transfers ______________________________
- Monitor and address pain control and anxiety before activity.
- Refer to Recreation Therapy for appropriate activities to get patient involved.
- Patient education related to: self-care; daily activity schedule; (out of bed/chair); proper use of walking or transfer aides.
- Other _____________________________________________________

#### Mobility
- Turn every ______ hours. Greater patient risk requires more frequent repositioning (maybe more than every 2 hours).
- Position on sides using 30º lateral positioning – avoid laying directly on hip and thigh bony prominences.
- Refer to PT and/or OT for positioning techniques and/or ROM program.
- Implement weight shifting program when in chair – at least every hour by staff OR if patient able, reposition self every 15-30 minutes.
- Use pressure redistributing support surfaces (specialty bed or mattress; type)_____________________
- Appropriate support seating surface in chair or w/c (type)___________
- Pressure map wheelchair or chair cushion.
- Patient education related to: turning and repositioning; pressure redistribution; frequent weight shifts in bed and chair; use of therapeutic support surfaces; ROM exercises.
- Other _____________________________________________________
Sensory
- Complete skin check daily and during bath/shower.
- Avoid constrictive clothing to extremities.
- Inspect skin, especially bony prominences and all skin folds every ______ (the greater the risk the more frequently need to assess).
- Remove TED™ hose (anti-embolism stockings), heel and elbow protectors and/or sequential compression devices at least 1x/shift & inspect skin.
- Inspect skin under all medical devices at least 1x/shift; pad if necessary (oxygen tubing, catheters, casts, braces, IV lines, NG or ET tubes).
- Monitor skin for tissue tolerance with each repositioning, any redness or skin color change should fade after 15-30 minutes of no pressure; If doesn’t fade, need to reposition more frequently.
- Daily toe/foot assessment of all patients with diabetes or poor circulation.
- Use special shoes or foot orthotics for diabetic patients with foot bone changes and/or foot wounds.
- Assess extremities for adequate circulation & sensation (pulses-palpate or doppler, skin discoloration, hair growth, condition of nail beds, edema, c/o pain, test for decreased sensation; Ankle Brachial Index (ABI)).
- Patient education related to: identified sensory losses (touch, vision, temperature recognition- hot/cold); avoid walking in bare feet; need for daily foot and skin inspection and when to call MD/nurse; appropriate use of compression/elevation to control swelling; use of proper foot wear; avoid constrictive clothing to extremities.
- Other ______________________________________

Moisture
- Keep clothing, bed linens and underpads clean, dry & wrinkle free.
- Check and change incontinence brief every _______ hour(s).
- Check and change incontinence pad every _______ hour(s).
- Toilet or commode every _______ hours to avoid/limit incontinence episodes.
- Low Air Loss mattress with only 1 flat sheet and 1 dry flow chux at a time.
- Use moisturizing creams or ointments for dry skin BID and PRN.
- Use barrier ointment for incontinence (type)_________________
- Bath or shower (frequency/day)__________________________
- Implement bowel and/or bladder re-training programs __________________
- Manage/control drainage from stoma/Tube/wound sites (circle).
- Refer to WOC Nurse for pouching of excess drainage from wounds or fistulas (more than 250cc/day) or excess incontinent bowel movements (more than 3 loose/liquid stools/shift) and/or maintenance of ostomy sites.
- Patient education related to: controlling skin exposure to moisture, risks of skin exposure to urine and feces; appropriate bathing practices; use of appropriate skin cleansers and moisturizers/emollients.
- Other ________________________________________________

Nutrition
- Document weight (frequency)__________________________
- Make eating a pleasure (odor control, pleasant atmosphere and meal presentation, sitting upright in chair at bedside if possible).
- Encourage fluids, unless restricted (avoid caffeine beverages).
- Provide meal supplements as ordered; monitor if consumed.
- Monitor Intake and Output (schedule)______________________
- Monitor labs as ordered, report out of range values.
- Monitor glucose and Hgb A1C as ordered.
- Refer to Nutrition Therapy when patient eating 50% or less of meals.
- Refer to Speech Therapy for concerns with swallowing.
- Assess condition of teeth and/or dentures; refer to Dentist as needed.
- Review meds that may affect skin status (vitamins, minerals, systemic steroids more than 40mg/day, anticoagulants, diuretics, chemotherapy, meds that decrease sensation or mobility).
- Patient education related to: appropriate calorie, protein and fluid needs; glucose control for all diabetics; appropriate medication usage (Rx and OTC); appropriate weight loss if/when applicable.
- Other ________________________________________________
Attachment D: Bed Selection Algorithm

University of California, Irvine Bed Selection Algorithm

Medical Surgical Units, Acute Rehabilitation & Perinatal
3T, 4T, 5T, DH58, DH66, DH68, DH76, DH78, Neuropsychiatry

Patients < 350 pounds (See Bariatric Algorithm for all Patients > 350 pounds)

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Intact skin with Braden Score less than 13 (High Risk & Very High Risk)
- Freedom’s Ro-Tech Low Bed

Patient cannot be positioned off wound OR has less than 2 intact turning surfaces
- Freedom’s Ro-Tech Low Bed

Patient has multiple wounds/pressure ulcers, OR extensive debridement OR flap OR wound deterioration on low air loss surface
- Air Fluidization Bed Cliniront Rite Hite

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All Specialty Beds Can be Obtained from Equipment Pool. Consider hip width when ordering. Patient should have 5"-7" space available on each side to facilitate turning

Critical Care Units
SICU, MICU, CCU, NSCU, BICU, DH52

Patients < 350 pounds (See Bariatric Algorithm for all Patients > 350 pounds)
All beds in SICU, CCU, MICU, BICU, Neuro ICU & Neuro stepdown have Hill Rom Total Care SpO₂-RT Bed.

Intact skin with Braden Score less than 13 (High Risk & Very High Risk)
- Pulsate from Sizewise

Patient has multiple wounds/pressure ulcers, OR extensive debridement OR flap OR wound deterioration on low air loss surface
- Air Fluidization Bed Cliniront Rite Hite From Hill Rom

Neurological Disorders, Spinal Cord Injury, Cervical or Skeletal Traction
- Roto-Rest From KCI
Attachment D: Bed Selection Algorithm-Bariatric Bed Selection Algorithm

University of California, Irvine Bariatric Bed Selection Algorithm

This Algorithm to be used for ALL patients weighing above 350 pounds

Does the Patient have a Wound

NO

If Patient is Ambulatory

Bariatric Sizewise Pulsate (600 lbs capacity) (Low-Air Loss)

If Patient is Bedbound

MightyAir By Sizewise

YES

Low-Air Loss Bariatric Bed with full body lateral rotation

1000 lb Capacity
- Sizewise BigTurn-I
- Sizewise BigTurn-II for rotation
- Sizewise Evolution for percussion/vibration
Attachment E: Pressure Ulcer Staging (National Pressure Ulcer Advisory Panel-NPUAP)

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.

Deep Tissue Injury – purple or maroon localized area of discolored skin or blood-filled blister due to damage to the underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue. DTI 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.

Stage I – Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area. The area may be painful, firm, soft, warmer, or cooler as compared to adjacent tissue. Stage I may be difficult to detect in individuals with dark skin tones. May indicate “at risk” persons (heralding sign of risk.)

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. 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 indicates suspected deep tissue injury.

Stage III – Full thickness 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. 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 includes undermining and tunneling. 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 tendon/bone 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. Until 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.
Mucous membrane is the moist lining of body cavities that communicate with the exterior. These tissues line the tongue, gastrointestinal (GI) tract, nasal passages, urinary tract and vaginal canal. Pressure applied to this tissue can render it ischemic and lead to ulceration. Mucosal tissues are especially vulnerable to pressure from medical devices, such as oxygen tubing, endotracheal tubes, bite blocks, orogastric and nasogastric tubes, urinary catheters and fecal containment devices.

**Definition:** Mucosal Pressure Ulcers (MPrU) are pressure ulcers found on mucous membranes with a history of a medical device in use at the location of the ulcer.

**Anatomy of Mucous Membrane:** Two types of tissue are present in mucous membranes: a nonkeratinized stratified squamous epithelium and an underlying connective tissue layer; the lamina propria. These two layers are analogous to the epidermis and dermis and likewise are connected via rete pegs. There is also a basal laminal layer at the interface of the two tissue layers. The epithelial layer is continuously renewed through migration of lower layers of epithelium to the surface. However, unlike the epithelium of the skin, the epithelium of mucosa is not keratinized. The lamina propria structure varies depending on the location but generally contains blood vessels and elastic and collagen fibers.

**Injury to Mucous Membrane:** Injury to mucous membrane can occur from direct trauma (burns, bites, pinching, radiation, pressure or infection). The injured tissue bleeds and forms a clot within minutes. However, because of the moist environment and mucus, the clot does not resemble the hard, dry clots seen on the skin. The clot on mucous membrane is soft and then becomes coagulum, which is easily shed.

**Appearance of Injured Mucous Membrane:** Injured mucous membrane responds to injury with inflammation, however due to their underlying color, an inflammatory response may not be visible, but none the less still occurs. Tenderness and edema of injured tissues does occur. Injury that leads to bleeding creates a soft clot (or coagulum) that remains flat and loosely attached to the wounded area. This coagulum is not to be classified as slough, even though both tissues can appear yellow and shiny. Tissue injury to mucous membranes of the mouth can occur from misfitting dentures and lead to exposed bone, but these ulcers are beyond the scope of this position statement.

**Healing Mucosal Pressure Ulcers:** Wound healing is the same in mucosa as it is in the skin, except for the formation of scar. There is increasing evidence that fibroblasts in the oral mucosa are phenotypically different from those in the skin and more closely resemble fetal fibroblasts. Scar tissue of the mucosa is remodeled and most injuries heal without scar formation.

**Describing Mucosal Pressure Ulcers:** The staging system for pressure ulcers of the skin cannot be used to stage mucosal pressure ulcers. Nonblanchable erythema cannot be seen in mucous membranes, as shallow open ulcers indicating superficial tissue loss of the nonkeratinized epithelium are so shallow that they are visually indistinguishable from deeper, full thickness ulcers. Soft coagulum seen in mucosal pressure ulcers, which resembles like slough in Stage III pressure ulcers, is actually soft blood clot. Exposed muscle would seldom be seen and bone is not present in these soft tissues.

The position of the NPUAP is that pressure ulcers on mucosal surfaces are not to be staged using the pressure ulcer staging system. It is understood that these ulcers may indeed be due to pressure, however anatomically analogous tissue comparisons cannot be made. Further, 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. Therefore, the position of NPUAP is that pressure ulcers on mucous membranes be labeled as mucosal pressure ulcers without a stage identified.
### UC Irvine Health Wound Dressing Selection Guide

<table>
<thead>
<tr>
<th>B/Y/R</th>
<th>Wound Appearance</th>
<th>Description</th>
<th>Eschar* (Callos may vary)</th>
<th>Predominantly Slough (Infection may be present)</th>
<th>Granulating/Mixed Wound Tissue</th>
<th>Fibrin (Appears yellow)</th>
<th>Granulating and/or Epithelializing</th>
<th>Skin Tear</th>
<th>Epithelializing</th>
<th>Healed Wounds, Skin at Risk or Closed Surgical Incisions</th>
</tr>
</thead>
<tbody>
<tr>
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<td>None</td>
</tr>
</tbody>
</table>

#### Exudate Level
- Moderate to None
- High
- Deep
- Shallow

#### Depth
- Unknown
- Deep
- Deep/Shallow
- Shallow
- Shallow

#### Treatment Objective
- Debride
- Cleanse, Debride, Absorb, Fill Dead Space
- Protect, Hydrate, Fill Dead Space
- Protect

#### Suggested Products and Change Rates

<table>
<thead>
<tr>
<th>Hydrogel every 24 hours covered with NS moist gauze.</th>
<th>Hydrogel or Silint covered with Vaseline Gauze.</th>
<th>TIPS</th>
<th>Hydrogel to wound bed every 24 hours and covered with protective dressing such as Abdominal Pad.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enzymatic debridement every 24 hours covered with NS moist gauze.</td>
<td>Lightly pack wound with NS moist gauze and cover with dry gauze and secure with ABD pad with minimal tape or stretch net stocking.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EXCEPTION!**
- Intact eschar on heels
- Do not debride stable heel or toe eschar
- Fast Heals: Keep dry.

**Deep (Dry)**
- Hydrogel to wound bed every 24 hours and covered with protective dressing such as Abdominal Pad.

**Shelpa (wet)**
- Lyofoam (every 12 hours)

**Slippa (dry)**
- Cover with Non Adherent Dressing such as Vaseline Gauze or Telfa every 24 hours.

**TIPS**
- Keep wound bed moist and protect wound edges from maceration.
- Dressings should not be reinforced if breakthrough drainage present, replace the dressing.
- Clean wound beds vigorously with Normal Saline with every dressing change.
- REMEMBER! If a wound is not responding to a treatment, the wound needs to be RE-EVALUATED.

**Protect**
- Protect with Lyofoam or Moisture Barrier such as Calmoseptine.
- May leave open to air and observe.

**Avoid** adhesive dressing/tape on fragile skin.

**Protect** adhesives from trauma/potentiation friction and shearing.
Attachment G: Wound Dressing Guidelines - (continued)

Lower Extremity Ulcers

Venous Insufficiency
- Wounds which are the result of prolonged venous hypertension. Usually located near the medial malleolus (gaiter region).
- Reddish base
- Presence of yellow fibrin
- Irregular edges
- Moderate to heavy exudate with peripheral tissue edema
- Pulse may be difficult to assess secondary to edema
- Brown discoloration to affected area (hemoglobinosis)
- Scarring from previous ulcers may be observed

Arterial Insufficiency
- Wounds caused by the presence of occlusive disease, predominately arteriosclerosis. May be located between toes, on tips of toes, over phalangeal heads, around lateral malleolus or at sites subjected to friction or trauma by footwear.
- Well defined and even edges
- May be deep (tendons often visible)
- Little or no granulation
- Minimal to no exudate
- Dry cracked skin
- Pain: intermittent or chronic
- Thickened toenails
- Pale wound base
- Necrotic tissue common
- Skin cool around and distal to ulcer
- Induration around wound margin
- Shiny, taut, thin, dry skin
- Hair loss on ankle and foot
- Dependent rubor; elevational pallor

Management Guidelines
- Compression and Elevation
- Maintain legs in a neutral or slightly dependent position.
- Avoid devascularization or compression (for mixed disease) until perfusion status is determined

Definition of Pressure Ulcer Categories/Stages†

<table>
<thead>
<tr>
<th>Deep Tissue Injury</th>
<th>Category/Stage I</th>
<th>Category/Stage II (Partial Thickness)</th>
<th>Category/Stage III (Full Thickness)</th>
<th>Category/Stage IV (Full Thickness)</th>
<th>Unstageable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intact skin</td>
<td>Intact skin with non-blanchable redness of a localized area usually over a bony prominence; skin may not have visible blanching; its color may differ from the surrounding area.</td>
<td>Partial thickness loss of dermis presenting as a shallow crater or with a red, pink, wound bed, without slough. May also present as an intact or open/ruptured serosanguineous blister.</td>
<td>Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon, or muscle can still be present. Ulcers may be present at some part of the wound bed. Ossification includes undermining and tunneling.</td>
<td>Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some part of the wound bed. Ossification includes undermining and tunneling.</td>
<td>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 dark) in the wound bed.</td>
</tr>
</tbody>
</table>

† National Pressure Ulcer Advisory Panel, 2009
Attachment H: Incontinence Treatment Guidelines: Perineal/Diaper Dermatitis

Perineal/Diaper Dermatitis

<table>
<thead>
<tr>
<th>Problem</th>
<th>Product Choice</th>
<th>Mode of Action</th>
</tr>
</thead>
</table>
| Prevent and treat mild skin irritation in incontinent patients  
  - No adult diaper patient should be on | Aloevesta; use following each incontinent episode; apply Calmoseptine to effected skin | One step emulsifying cleanser and skin protectant                              |
| Moderate to severe skin irritation **without** fungal overgrowth.  
  With/without denuded or weeping skin | Aloevesta, rinse and blot dry; apply/replenish Calmoseptine | Barrier ointment which provides physical barrier against damaging effects of incontinence |
| Moderate to severe skin irritation **with** fungal* overgrowth.  
  With/without denuded or weeping skin. | Aloevesta, rinse and blot; apply/replenish Nistantin powder | Antifungal barrier ointment which provides physical barrier against damaging effects of incontinence; treats and controls fungal overgrowth |

* Characterized by a bright red, fine, maculo-papular rash with satellite lesions; may produce intense burning, stinging, or itching sensation

Note: Skin exposed to the effects of fecal and/or urinary incontinence are more prone to the forces of friction, shear, and pressure.

Note: Diaper can be used for ambulation or off floor for testing. General Care Guidelines:
Attachment I: Tube Site Guidelines

Orthotic skin check:

- Obtain order to remove orthotics to assess skin for any redness or pressure ulcer upon admission and then every shift (splint, brace, immobilizer, cast, traps, orthosis, C-collar, body jacket, corset, halo vest).
- Bedside staff will be available when MD is present to remove/change orthotic to allow for complete and thorough assessment of skin.
- Any reddened area that does not fade after 20 minutes should be watched carefully. If reddened area does not dissipate within 20 minutes, do not re-apply the brace, call MD and Fountain Valley Orthotics-prosthetics and place referral in EMR for WOCN.

Tube Sites:

- Tubes should be properly secured at all times to prevent (1) lateral movement and (2) tube migration (3) pressure.
  - Lateral movement contributes to leakage of gastric or intestinal contents on to the skin by eroding the tissue along the tract. Pressure contributes to pressure ulcers.
- Daily site care includes gentle cleansing with water. Mild soap can be used to cleanse tube sites if the site is dirty.
- Diluted hydrogen peroxide is ONLY used to clean accumulated crusty drainage at insertion site and when soap and water are ineffective.
- Calmoseptine may be used after cleansing around the tube to protect skin from damage.
- Foam dressing may be used under external bumper or holder to provide padding and keep the skin from ulcerating.
- Fungal infections such as candidiasis can result when moisture is trapped at the insertion site. Antifungal powders may be necessary when extensive candidiasis is present.
- Place referral in EMR for WOCN consult regarding skin issues at tube sites.

Surgical site:

- Sterile nonadherent dressing is recommended for at least 24 – 48 hours or until epithelial migration “seals” the wound surface; dressing then optional.
  - (Dressing should provide bacterial barrier until epidermal barrier has been reestablished). Pt at greatest risk for wound dehiscence between days 5 – 8 postoperatively. Provide incisional support as indicated.
- Assess patient’s surgical incision site every shift including evaluation of primary dressing, epithelial resurfacing, wound closure, healing ridge, and local changes at the wound site that may signal infection.
- Refer to UC Irvine Dressing Selections and Wound Care Guideline for acute wounds.
## Attachment J: Protecting Against Device Related Pressure Ulcers

### Protecting Against Device Related Pressure Ulcers

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Problem</strong></td>
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</tr>
<tr>
<td><strong>Protection</strong></td>
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</tr>
<tr>
<td><strong>Directions</strong></td>
<td>Apply dressing to skin under the nares.</td>
<td>Apply dressing to the contact points of the ears, or behind the ears.</td>
<td>Apply dressing to mandibles, chin and clavicles with extended collars.</td>
<td>Apply dressing to skin under trach plate. Drain sponges may be placed on top to catch secretions.</td>
<td>Apply dressing to skin under trach ties.</td>
</tr>
<tr>
<td><strong>Suggested Products</strong></td>
<td>Lyofoam</td>
<td>Extra thin Hydrocolloid</td>
<td>If skin is open without slough, cover with Calmoseptine and Lyofoam.</td>
<td>Lyofoam</td>
<td>If trach sutured, contact MD for suture removal if time appropriate.</td>
</tr>
<tr>
<td></td>
<td>or Extra thin Hydrocolloid</td>
<td></td>
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</tbody>
</table>
## Attachment J: Protecting Against Device Related Pressure Ulcers

### Protecting Against Device Related Pressure Ulcers

<table>
<thead>
<tr>
<th>Device</th>
<th>Restraints Skin Damage</th>
<th>Tubes and Drains</th>
<th>Rigid Casts/Splints/Traction</th>
<th>Braces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem</td>
<td><img src="https://example.com/image1.jpg" alt="Image" /></td>
<td><img src="https://example.com/image2.jpg" alt="Image" /></td>
<td><img src="https://example.com/image3.jpg" alt="Image" /></td>
<td><img src="https://example.com/image4.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Protection</td>
<td><img src="https://example.com/image5.jpg" alt="Image" /></td>
<td><img src="https://example.com/image6.jpg" alt="Image" /></td>
<td><img src="https://example.com/image7.jpg" alt="Image" /></td>
<td><img src="https://example.com/image8.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Directions</td>
<td>Apply dressing to skin at risk from friction or shear under restraint</td>
<td>Apply dressing to skin under bumper or drain: Anchor device</td>
<td>Apply dressing to protect bony prominences and skin that will be in contact with splint or traction support strap</td>
<td>Apply dressing to protect bony prominences and skin that will be in contact with brace</td>
</tr>
<tr>
<td>Suggested Products</td>
<td>Lyofoam secured with net stocking</td>
<td>Calmoseptine to skin around tube and Lyofoam</td>
<td>Lyofoam and offload as appropriate</td>
<td>Lyofoam</td>
</tr>
<tr>
<td>Notations</td>
<td>If no order from MD to remove splint, bedside nurse will ensure ortho is removing case minimum of three days for skin assessment.</td>
<td></td>
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</tbody>
</table>

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EP33t, Skin Care Protocol.pdf
Attachment K : General Assessment and Documentation of Wounds

Assessment and documentation to include:
1. Type of wound
2. Location
3. Size in centimeters (length x width x depth using cephalocaudal orientation)
4. Appearance of wound bed
5. Presence/absence of tunneling or undermining using clock face orientation
6. Stage or category (as appropriate)
7. Color, presence/character of slough and/or eschar
8. Presence/character of exudate
9. Odor
10. Condition of surrounding skin
11. Presence/absence of pain
12. Photo documentation on admission and as needed
13. Prevention measures/interventions/plan of care
14. Date, time, MD and CNS/Unit Educator notified
15. Patient’s response and compliance with interventions
16. Patient/family education and response to same
17. Create referral in EMR for WOCN consult as needed
18. Pressure Ulcer Staging Assessment and Physician Confirmation of Staging Form
### Attachment L: Differentiating Ulcer Types

<table>
<thead>
<tr>
<th>Ulcer characteristics</th>
<th>Venous</th>
<th>Arterial</th>
<th>Diabetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Most often around ankle, medial malleolus (from instep to above the ankle).</td>
<td>Most often on tips of toes; distal to impaired arterial supply.</td>
<td>Most often on foot, at area of trauma or on weight-bearing surface; may be between toes.</td>
</tr>
<tr>
<td>Ulcer base</td>
<td>“Beefy” red; may be shallow or deep.</td>
<td>Pale, gray, or yellow, with no evidence of new tissue growth; may be shallow or deep.</td>
<td>Often has deep necrotic area that’s undetected until it is opened surgically; may be dry.</td>
</tr>
<tr>
<td>Border</td>
<td>Irregular</td>
<td>Regular; if caused by trauma, ulcer border may be irregular and will conform to injury.</td>
<td>Undefined; ulcer may be small at surface and have large subcutaneous abscess.</td>
</tr>
<tr>
<td>Drainage</td>
<td>May be copious.</td>
<td>Usually minimal</td>
<td>Varies. An infected ulcer may have purulent drainage; others may have no drainage.</td>
</tr>
<tr>
<td>Pain</td>
<td>Aching, stinging, burning from exposed superficial nerves.</td>
<td>Very painful (burning, throbbing, stabbing sensation) unless neuropathy is present.</td>
<td>No sensation or constant or intermittent numbness or burning.</td>
</tr>
<tr>
<td>Surrounding skin</td>
<td>May be ruddy, edematous, mauterated.</td>
<td>Pale or gray or dry; black eschar; cool; may be thin; little or no edema.</td>
<td>Dry, thin.</td>
</tr>
<tr>
<td>Pulses</td>
<td>Present, but may be difficult to palpate if edema is present.</td>
<td>Absent</td>
<td>Present</td>
</tr>
</tbody>
</table>
| Treatment              | Leg elevation Compression therapy at least 30 mmHg at ankle Topical therapy goals: absorb, exudate maintain moist wound surface (e.g. alginate, foam, hydrocolloid dressings) | - No tobacco  
- No caffeine  
- No constrictive garments  
- Avoid cold  
- Hydration  
- Wear appropriate footwear at all times  
Topical therapy: Dry infected necrotic wound; keep dry  
Open wound: Moist wound healing  
Use nonocclusive dressings | Pressure relief for heal ulcers  
Appropriate footwear  
Tight blood sugar control  
Topical therapy:  
Use occlusive dressings cautiously  
Use dressing to absorb exudate  
Keep surface moist |