**Guideline of Care**

**Wound and Skin Care**

I. **Description:**

   A. This Guideline of Care applies to all patients in the Children's system, in both the inpatient or outpatient/clinic setting. The Wound Care Team can assist in the development of treatment plan for all wounds. Contact a unit based Clinical Nurse Specialist (CNS) or general surgery nurse practitioner for consultation.

   B. See the FHRC Standard Practice Manual for "Skin Care Management in the Transplant Patient" and Children's SCCA GOC, Skin Care Management in the HPCT Patient.

II. **Important Considerations:**

   A. Basic Principles of Wound Healing:

      1. Wound healing occurs in stages:

         a. Inflammatory stage: 0-5 days.

         b. Proliferative or regeneration stage: 3-24 days (Period of collagen synthesis).

         c. Remodeling or maturation stage: 24 days to one year.

      2. Research has found a moist wound healing environment is superior to dry environments. Dressings that are allowed to become completely dry, when removed, can damage or debride healthy wound tissue in the proliferative stage, thereby delaying wound healing.

      3. Antiseptics, such as povidone iodine, hydrogen peroxide or Dakin's solution, should not be routinely used in wounds since many destroy healthy granulating tissue and WBCs, thus interfering with and delaying wound healing. Remember the principle:

         a. Normal saline (NS) is the cleanser of choice, unless otherwise ordered.

      4. Nutrition has a profound effect on wound healing. Adequate protein, fats, carbohydrates, vitamins and minerals play a vital role in regeneration of cells.

      5. Adequate oxygenation and perfusion affect wound healing. Maximizing both will enhance the healing process.

   B. For inpatients, the Wound Care Team resource person for each unit should be consulted to assess all wounds as soon as possible and recommend a treatment plan.

   C. For information regarding the care of invasive tubes, intravenous or arterial lines, refer to unit-specific Guidelines of Care or related Clinical P&Ps.

   D. For basic, uncomplicated post-operative surgical wounds, please consult the surgeon.

   E. Care of ostomies will be managed by the Wound Care Team resource person for the applicable service. Please contact them for any questions regarding ostomies, or refer to related unit specific or Clinical P&Ps.
III. Assessment:

A. Risk: Assess patient's risk of developing skin breakdown. Factors that increase risk include:

- Altered mental status, coma
- Hypoxemia
- Surgery, trauma
- Immobility
- Hypovolemia
- Increased stress
- Malnutrition
- Incontinence
- Underweight
- Intraoperative hypothermia
- Immobile
- Hypoxemia
- Hypovolemia
- Increased stress
- Malnutrition
- Incontinence
- Underweight
- Intraoperative hypothermia
- Immunosuppression
- Reduced vascular supply
- Presence of insensate areas
- Surgery, trauma
- Increased stress
- Malnutrition
- Incontinence
- Underweight
- Intraoperative hypothermia
- Significant edema (anasarca)
- Severe skin graft versus host disease (GVHD) with bullae formation
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- Severe skin graft versus host disease (GVHD) with bullae formation

B. Document patient's particular risk in the narrative charting.

C. Skin: Assess skin for areas of breakdown at the beginning of each shift and prn. Be sure to assess skin folds and other places of skin-to-skin contact (e.g., chin to chest; between knees if side-lying). Assess diaper/perineal area. Note and document areas of redness, excoriation or areas of excessive pressure that warrant close frequent assessment.

D. Dressing: Assess all wound and dressings at the beginning of each shift and prn. During dressing change, assess the wound, noting and documenting the following:

1. Location of the wound/dressing.
2. Type of dressing present.
3. Drainage or signs of saturation of the dressing.
4. Patency of the dressing.
5. Maceration of the surrounding skin.
6. Signs of infection, such as increased erythema, warmth at the site, increased drainage or change in drainage color, or change in odor. Remember, certain dressings have an odor when they contact moisture, so the presence of an odor alone may not be a sign of infection.

E. Wound:

1. Location.
2. Size of wound (measured in cm). Pictures should be drawn in the nursing notes with appropriate measurements, or an instant photo can be added to the medical progress notes.
3. Characteristics of the Wound:
   a. Color (include presence of granulation or red tissue).
   b. Depth.
   c. Drainage (color, amount, odor).
   d. Surrounding wound edges: Presence of edema or erythema.
   e. Tunneling.
   f. New epithelium: Light pink tissue forming from the edge of the wound or an island of light pink tissue within the bed of the wound at hair follicles.
4. Surgical wounds should be assessed for the above as well as approximation, presence and condition of sutures or steristrips.

5. Pressure Ulcers should also be Classified by Stage:
   a. **Stage I**: Non-blanchable erythema of intact skin.
   b. **Stage II**: Partial thickness skin loss.
   c. **Stage III**: Full thickness skin loss involving damage or necrosis of subcutaneous tissue that may extend down to, but not through, underlying fascia.
   d. **Stage IV**: Full thickness skin loss with extensive destruction, necrosis or damage of muscle, bone, or supporting structures.
   e. A wound cannot be staged if there is eschar present: It must first be debrided.

F. Reportable Skin Breakdown: **In the state of Washington, Stage III or IV pressure ulcers are a reportable Sentinel Event.** This requirement excludes progression from **Stage II** to **Stage III** if **Stage II** was recognized upon admission. Report occurrences by entering an eFeedbackNow and notify the Nursing Supervisor and unit-base CNS.

G. Nutrition Assessment and Consult:
   Initiate nutrition consult for assessment of any child with existing wounds, whether they are surgical or traumatic, and for any child at risk of developing skin breakdown or pressure ulcers.

IV. Interventions:

A. Skin Care/Preventative Measures:
   1. Keep skin clean and free from moisture (wound drainage, stool, urine).
   2. Apply lotion to skin daily and PRN.
   3. Turn and reposition every 2 hours if patient is immobile or has insensate areas.
   4. Provide perineal care for patients who are incontinent (see Diaper Rash, Section IV. C.1 below).
   5. Pad bony prominences with pillows, foam pads. Do not use blankets to pad bony prominences as these can increase the risk of pressure injuries.
   6. Separate at risk skin-to-skin areas, especially those with potential for moisture (e.g., chin to chest), with Owens' gauze.
   7. Keep head of bed at lowest degree of elevation consistent with medical condition to prevent shearing injuries.
   8. If applying tape or any adhesive dressing, use No-Sting Skin Prep® and hydrocolloid such as RepliCare® as a skin barrier before applying the tape. Avoid adhesives for HSCT.
   9. If a pressure area or wound is noted, refer to treatments in Sections IV. C and D below.

B. Choosing a Pressure-Reducing Surface:
   Consult the unit based CNS to evaluate the need for a pressure-reducing surface, or refer to the Immobilized or Limited Mobility GOC for the specific unit.

C. Treatment of Specific Skin Conditions/Wounds:
   Most described products are available in Central Supply except Secura Antifungal and Nystatin cream or powder, which are available from the pharmacy. For skin care products only available through the pharmacy, a provider’s order is required.
before use. Upon discharge and for any outpatient use, skin care products normally
stocked by Central Services for inpatients are available through Children’s
outpatient pharmacy. A prescription is required to obtain any skin care products
from Children’s outpatient pharmacy.

1. Diaper Rash: See APPENDIX II (For SCCA patients, see Section IV.
   C. 2 below).
   a. **Mild Diaper Rash**: Use a dimethicone based barrier/treatment such
      as Secura D Skin Protectant Cream® or a zinc-based barrier cream
      such as Desitin® after every diaper change. To clean the soiled
      area, use regular water and a cloth, not diaper wipes, as these are
drying and can worsen the rash.
   b. **Excoriated Diaper Rash, Not Bleeding**: Use a protective barrier
      cream such as Secura D Skin Protectant Cream® after every diaper
      change. Apply a thick layer to create a barrier. Wipe off soiled
      areas as needed; do not attempt to clean the skin off entirely, since
      the cream serves as an effective barrier. To clean the soiled area,
      use regular water and cloth, not diaper wipes, as these are drying
      and can worsen the rash. In order to remove the cream, use
      Antimicrobial Skin Cleanser® or baby oil, mineral oil or petroleum-
      based product.
   c. **Excoriated Bleeding Diaper Rash**: Same as IV. 1. b above, but
      use a complete barrier cream such as or Secura Extra Protective
      Cream® (EPC) or Ilex® after every diaper change. After applying
      the Ilex®, cover with petroleum ointment such as Vaseline to keep
      the Ilex® from adhering to the diaper. Ilex® can be removed using
      the methods described above. When using or Secura Extra
      Protective Cream® (EPC), avoid use longer than
      2 weeks, as this can lead to over-drying and increased excoriation.
   d. **Diaper Candidiasis**: Yeast rashes usually appear in the folds of the
      diaper area, are beefy red and have satellite pustules or blisters. If
      the rash is consistent with a yeast superinfection, contact the
      physician or APN for an antifungal agent, such as Secura
      Antifungal® or Nystatin® cream or powder.

2. Diaper Rash for SCCA Patients:
   a. Diaper change and assessment every 2 hours (awake or asleep).
   b. Disposable diapers are preferred.
   c. Apply a clear product such as Proshield® after every diaper change
to prevent skin breakdown.
   d. Cleanse peri area with warm water and soft cloth if skin is pink and
      intact.
   e. Use sitz bath or peri bottle to help cleanse areas with erythema or
      breakdown.
   f. For open areas, apply antibacterial/antifungal powders with
      Proshield® covering the powders. Utilize a very light dusting of the
      powder.
   g. Remove Proshield® and powder at least every 8 hours.

3. Abrasive Wounds/Minor Burns:
Examples: Wounds caused by 1st degree burns, skin-to-skin contact, excoriated skin, reactions to topical cleanser (e.g., Betadine burns), or adhesive/tape removal.

a. If area is dry and intact, and not in a skin-to-skin contact area — observe. May use moisturizing ointment such as Aquaphor® as needed.

b. If wound is moist, seeping or in contact areas such as chin to chest, use either a:
   i. Foam product, such as PolyMem® for small to large amount of moisture/drainage:
      - Cleanse area with NS, pat dry and apply foam dressing.
      - Reapply when dressing is 75% saturated. Allowing dressing to become fully saturated will macerate the skin surrounding the wound.
   ii. Hydrogel product, such as FlexiGel® for mild drainage.
      - Cleanse area thoroughly with NS and pat dry.
      - Remove protective film from product and apply to surface.
      - Do not allow dressing to become dry; moisten edges with NS and re-apply as needed to keep area moist.

c. If wound is not in a skin-to-skin contact area, but is moist or seeping and needs to be protected on areas where tape needs to be repeatedly applied, use a hydrocolloid product, such as RepliCare®.
   i. Cleanse area with NS and pat surrounding skin dry.
   ii. Remove protective backing and apply directly over wound.
   iii. Change dressing every 7 days or PRN leaking.

4. Burns (2nd Degree or Greater):
Examples: Thermal, chemical or skin sloughing from some other etiology (e.g., hot water burn, Stevens-Johnson's Syndrome, meningococcemia, IV extravasation), Grade 4 graft versus host disease (GVHD)

a. All dressings in this category must be ordered by a physician or APN, who should assess stages of healing and order progression of wound dressings. A Wound Care Team resource member should be involved in assessment, discussion, and decision-making about wound care for this patient.

b. Consult Harborview Medical Center Burn Unit (206-731-8704) as needed.

c. Wounds may be covered with Silvadene cream (ensure no allergy to sulfa drugs), an antibacterial topical medication. Wounds may also be dressed with Silvadene-impregnated gauze, which can be made by the Pharmacy with adequate notice (See Children’s Formulary or call Pharmacy at ext. 7-2033).
   i. Burn Dressing Typical Orders:
      - Change dressing QD or BID if excessive drainage.
      - Clean skin with warm NS or other ordered cleanser, removing all Silvadene and necrotic skin, and pat dry.
      - Cover with Silvadene or Silvadene-soaked gauze dressing.
Children's Guideline of Care: Wound and Skin Care

- Cover with conforming gauze, such as Kerlix. Avoid regular gauze, as it sheds fibers.
- Secure with Stockinette if necessary.

d. Consult PT/OT for ROM and/or recommendation for compression devices.

5. Healing 2nd, 3rd, or 4th Degree Burns: Physician must order progression of burn care:
   a. Aquaphor gauze and/or ointment may be used.
   b. Consult PT/OT for ROM exercises and recommendations for compression devices.
   c. The Nutrition Service should be consulted for all burn patients.

6. Healed Burns: Physician must order progression of wound care:
   a. Moisturizing ointment such as Aquaphor® to keep areas moist and supple.
   b. A hydrogel, such as FlexiGel®, may be used to lessen scarring of the area.

D. Treatment of Complex Wounds: Complex wounds may include pressure ulcers (all stages), open debrided wounds (after infection or dehiscence) or open surgical wounds left to heal by secondary intention (no sutures or steristrips). Dressings in this category must be ordered by a physician or APN, who will assess the stages of healing and order the progression of wound dressings. A Wound Care Team resource member is to be involved in assessment, discussion and decision-making about wound care for this patient. Wounds in this category are to be assessed early for the need for surgical debridement. This is to be given consideration as part of the initial evaluation. Medical debridement or treatment of wounds with necrotic tissue can delay or prolong healing. Some wounds will require definitive surgical closure. This applies particularly to pressure sores:

1. Non-Blanchable Erythema of Intact Skin:
   a. Apply a hydrocolloid dressing, such as RepliCare® to protect the wound site.
   b. Leave in place for 5-7 days unless wound begins draining.
   c. Reassess need for pressure relief or pressure relief surface.

2. Partial Thickness Wound with Minimal or No Drainage:
   a. Irrigate with NS using a 30 cc syringe with a 19-gauge blunt adapter with each dressing change. Use personal protective equipment when irrigating the wound to protect from splash exposure.
   b. For wounds with no drainage, maintain moisture with a hydrogel dressing such as IntraSite Gel® covered with a secondary dressing, or a hydrogel-impregnated gauze such as Transigel Conformable Wound Dressing®, covered with a secondary dressing.
   c. For superficial wounds with no or minimum drainage, apply a hydrocolloid dressing such as RepliCare Extra Thin®.
   d. For wounds that are lightly exudative, cover with foam dressing, such as PolyMem®, and secure in place.
   e. Change dressing PRN: As the dressings become saturated or every 24-48 hours.

3. Partial or Full Thickness Wound with Moderate to Large Amounts of Drainage:
a. Use a foam dressing, such as PolyMem® secured in place; or
b. A calcium alginate dressing such as AlgiSite® cut to fit directly in the wound bed and covered with a secondary dressing.
c. A hydrophilic absorbing dressing such as Aquacel®.

4. Wound with Tissue Necrosis and/or Eschar Present:
   a. The Surgical Team should make decisions about the method of debridement.
   b. For chemical debridement:
      i. Irrigate the wound with NS using a 30 cc syringe and 19-gauge blunt adapter.
      ii. Apply a gel solution such as IntraSite® or Transigel® dressing covered with a transparent dressing, which will soften the eschar and facilitate debridement.
         • Change dressing every 24 hours, coordinating care with the Surgery Service.
      iii. Or apply RepliCare® and leave in place for 5 days.

5. Deep, clean wounds with minimal to no drainage secondary to dehiscence, or following fasciotomy, left to close by secondary intention should be managed by Surgery. The orders may include:
   a. Gently pack with wet-to-wet NS gauze every 8-12 hrs. Gauze should not be removed from the dressing dry. If it is dry on removal, add sterile normal saline to facilitate non-traumatic removal.
   b. Pack with hydrogel dressing such as Transigel Conformable Gauze Dressing® and cover with a secondary dressing of gauze.

6. Deep wounds with moderate to heavy drainage
   a. Pack the wound with AlgiSite®.

7. Deep or Draining Wounds that are Infected:
   a. Infected wounds should be treated with IV antibiotics. A topical antimicrobial wound product can be used as the dressing such as Acticoat®.
   b. Acticoat is Not MRI compatible, because of the silver content:
      1. Acticoat on formulary at CHRMC is calcium alginate based, so intended for those with moderate to large drainage.
      2. If Acticoat is required for a dry wound, apply it with sterile water, cover with flexigel and maintain a moist wound environment or ask central supply to order Acticoat burn, which is not absorbent.
      3. The Smith and Nephew website may be referred to for full product line.

8. Excoriated Tracheostomy Sites:
   a. Apply foam dressing around the stoma, such as PolyMem®.
   b. Avoid using a hydrocolloid dressing such as RepliCare® on a routine basis, as these form a gel on contact with moisture and gel may leak into the trachea. There may be some indications, where RepliCare® is the best choice for pressure ulcers around the
tracheostomy. When used, the trach service and wound care nurse must be involved.

V. Outcomes:

A. Decrease in incidence of pressure ulcers.
B. Prevention of progression of pressure sores.
C. Timely wound healing.
D. Appropriate use of products.
E. Appropriate use of wound healing techniques.
F. Wound healing with minimal scarring present.
G. Cost savings due to efficient wound healing.

VI. Patient/Family Education:

A. If patient is admitted with pre-existing skin or wound condition, educate the family about skin care and preventative measures, such as frequent repositioning.
B. Involve the family in skin/wound care activities to assure understanding of ongoing care needs.
C. Encourage the family to provide comfort measures during wound care regimen.
D. If the patient will be discharged on a skin or wound care regimen, ensure that the family has been taught and is proficient in providing wound care prior to discharge.

See Also:

APPENDIX I: Wound Care Instructions
APPENDIX II: Diaper Dermatitis Algorithm

VII. References:


Children's Guideline of Care: Wound and Skin Care

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APPENDIX I

WOUND CARE INSTRUCTIONS

FOR CAREGIVERS

<table>
<thead>
<tr>
<th>Patient's Name:</th>
<th>Instruction Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person Instructed:</td>
<td>Verbalizes Understanding: ✅ Date:________</td>
</tr>
<tr>
<td>Return Demonstration: ✅ Date:________</td>
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Equipment/Supplies Needed:

Instructions for Changing the Dressing:
- Wash hands
- Open dressing supplies and prepare for dressing change
- Put on gloves if necessary
- Remove old dressing and assess wound
- Change gloves and prepare to place clean dressing

Change the dressing every ______ day(s).

Call _________________________ at _____________ if you note the following:
(Wound Care Plan Provider) (phone)
- Temperature above __________
- Wound drainage increases
- Wound drainage color is different
- Wound drainage becomes foul smelling
- Area surrounding wound becomes more red or warm to touch
- Sutures no longer intact or healed incision pulling apart
APPENDIX II

DIAPER DERMATITIS ALGORITHM

RISK FACTORS
1. Diarrhea, not related to viral/bacterial illness
2. Diarrhea, due to viral/bacterial illness
3. Limited mobility (e.g.: neurological process, DD, CP)
4. Patient on antibiotics

Always ask the parent what their home routine is for diaper changes. Is an ointment used with each diaper change, regardless of skin condition, or only when the bottom is red? What is used at home?

Skin is intact, no sign of redness or irritation
- Risk factors present
- No risk factors

Skin is intact but is red and irritated
- ?Candida? Consider adding nystatin. Triple care with Antifungal is in the pharmacy
- Secura Dimethicone protectant thickly applied, frequent diaper changes, warm water only, avoid diaper wipes.

Skin is red and excoriated
- ?Candida??
- Wound care consult
- Secura Extra Protective cream (EPC) thickly applied, frequent diaper changes, warm water only. NO DIAPER WIPES

Skin is excoriated and bleeding with open/weeping sores
- Wound care consult
- Secura Extra Protective Cream (EPC) Thickly applied, cleansing spray only, stomaadhesive powder may assist with adhesion to skin

Excoriated, bleeding with fissures and/or deep open sores
- Wound care consult
- Wound care consult for plan of care
  - ?Secura Extra Protective Cream
  - ?Ilex
  - ?Aquaphor

Use preventative care. Frequent diaper changes and use of over the counter ointment such as A&D or desitin. Applied thickly with each diaper change. No need to wipe off between changes. Cleanse bottom in warm water daily.

If no improvement in 24 hrs call for a wound consult.

EPC is drying, so limit use to 7 days.