PURPOSE

Burn wound care is provided to all patients who sustain partial and full thickness wounds to any area on their body to reduce the amount of bacteria present at the site, keep the wound bed moist, and remove de-vascularized tissue that may interfere with adequate wound healing.

Expected outcomes of burn wound care include:

- burn wound care is completed in shortest amount of time without complications
- patient's pain and anxiety are effectively managed
- wound healing occurs and wound remains free of infection
- cardiorespiratory status and temperature remain stable throughout procedure

POLICY STATEMENTS

Selection of burn wound dressing is done in consultation with Plastic Surgery and/or General Pediatrics.

Aseptic technique is an integral component of burn wound care.

Burn wounds are cultured on admission and weekly thereafter.

Prior to taking photographs, the Consent and Release for Filming and Photography form must be completed.

SITE APPLICABILITY

Patients with burns are cared for in the Emergency Room, Pediatric Intensive Care Unit (PICU), 3R, Medical Day Unit and the Burn Clinic.

PRACTICE LEVEL/COMPETENCIES

At BCCH, a staff member who has completed advanced burn care education through attendance at Care of Burn Survivors workshop or has related experience and training may participate in burn wound management.

The Registered Nurse who participates in burn care attains and maintains the following competencies through education and practice:

- Perform comprehensive assessment focusing on:
  - burn wound care including escharotomies
  - pain
- Able to distinguish between normal and abnormal findings with relation to burns (scalds, chemical, flame, electrical, radiation)
- Plan, implement and evaluate care for patients with burns
- Individualize and modify standard careplan based on assessment findings
- Identify equipment, supplies and monitoring to provide care for patients requiring burn wound care
- Provides patient and family teaching specific to burn care

EQUIPMENT

- Analgesics and anxiolytics per prescriber's orders
- Hydrotherapy source as appropriate
- Sterile water (warmed for comfort as appropriate)
- Antimicrobial agents as required (i.e. acticoat, flamazine, or polysporin)
- Burn gauze
- Moisture retention agent (i.e. intrasite gel, saran wrap)
- Gauze rolls (i.e. kling)
- Flexible dressing (i.e. Stockinette DO NOT use Surgifix as potential of constriction and embedding into wound)
- Sterile and clean gloves
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- Cleansing agent (Chlorhexidine 2% soap)
- Alcohol-based hand rub
- Warm sterile drapes
- Towels and wash cloths
- Dressing tray, sterile basin, or sterile bowl
- Sterile scissors
- Suture set for debridement
- Personal protective equipment (PPE) (eye/face protection, masks, gowns, and hat [if hair is long])
- Culture swabs as required

**Additional Supplies for Flamazine AND/OR Face Care**
- Sterile Normal Saline (for face care only)
- Sterile cotton tip applicator (i.e. Q-tip)
- Sterile tongue depressor

### PROCEDURE

<table>
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<tr>
<th>Procedure</th>
<th>Rationale</th>
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<tr>
<td>1. DETERMINE that you have the relevant competencies to perform burn wound care.</td>
<td>Relevant competencies developed through attendance at Care of Burn Survivors workshop and/or related experience and training.</td>
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<tr>
<td>2. IDENTIFY patient and EXPLAIN procedure. ENSURE patient and family understand procedure and questions are answered.</td>
<td>May serve to reduce patient and family’s anxiety. Evaluates and reinforces understanding of previously taught information.</td>
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<tr>
<td>3. OBTAIN consent for photography and complete Consent and Release for Filming and Photography</td>
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<tr>
<td>4. ASSESS patient’s pain and anxiety level; PREMEDICATE with analgesics and anxiolytics per prescriber’s orders. <strong>Considerations:</strong> Child Life Specialist may be helpful in working with the patient to use non-pharmacological pain and anxiety control techniques.</td>
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<tr>
<td>5. GATHER equipment and supplies.</td>
<td>Facilitates completion of tasks in a timely manner.</td>
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<td>6. PREPARE a warm environment (at 31-32°C) that minimizes exposure to hypothermia and keeps patient normothermic (37 - 38°C). <strong>NOTE:</strong> may require additional heat source (warmer) if unable to raise room temperature sufficiently.</td>
<td>Preservation of patient’s body temperature is important for maintenance of hemodynamic and metabolic stability. Ambient room temperature of 31-32°C reduces radiant heat loss. Morbidity increases significantly with each degree drop in patient temperature below normal.</td>
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<td>7. OBTAIN assistance of second nurse and involved health care professionals.</td>
<td>Burn wound care requires 2 nurses plus other health professionals for positioning, range of motion, pain management, etc.</td>
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<tr>
<td>8. PERFORM hand hygiene; PREPARE antimicrobial agent for burn dressing. See Burn Dressings Poster for details on dressing types.</td>
<td>It is optimal to prepare dressings prior to undressing wounds; can also be done during application of burn wound dressings if necessary.</td>
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**ACTICOAT** dressings
- Size Acticoat to dimensions of the wound (NOTE: do not cut through the silver circles as this will reduce the integrity of the acticoat layers)
- **Moisten Acticoat with STERILE WATER** - Do not use saline as chloride ions interfere with release of silver ions into wound bed.
- **Also need agent to retain moisture** use:
  - Intrasite gel embedded into the Acticoat AND
  - Sterile water dampened burn gauze AND
  - Plastic wrap

**NOTE:** if periwound skin appears macerated upon removal of last dressing or you have a heavily exuding wound with a lot of natural moisture, consider removing the damp burn gauze from the dressing structure

**POLYSPORIN** face care
- Apply using sterile technique
- Need sufficient quantity to completely cover facial burns

**FLAMAZINE** dressing (rarely used)
- **Embed Flamazine cream into burn gauze using sterile gloves or sterile tongue depressor**;
- Should be thick (like icing on a cake) to prevent adherence of dressing to wound bed.

9. **TRANSPORT** patient to procedure location if available or necessary. **PROVIDE** for appropriate privacy and position patient to promote comfort and facilitate procedure. **Promotes patient’s comfort during procedure; ensures adequate pain and anxiety control; promotes compliance with future procedures.**

10. **ASSESS** patient’s pain and anxiety level; **PREMEDICATE** with analgesics and anxiolytics per prescriber’s orders

**Considerations:** Child Life Specialist may be helpful in working with the patient to use non-pharmacological pain and anxiety control techniques.

11. **ENSURE** appropriate cardiorespiratory monitoring throughout burn wound care. **Analgesic and anxiolytic medications, especially when given together, may adversely affect patient’s hemodynamic and respiratory status.**

12. **PERFORM** hand hygiene; **DON** clean gloves, mask and other personal protective equipment as indicated for the specific procedure. **Routine Infection Control Practices; reduces transmission of microorganisms;**

13. **REMOVE** splints if necessary. Do not discard thermoplastic (i.e. OT made) splints. These should be cleaned/wiped out, but not discarded. **REMOVE** dressings and dispose. **ASSESS** wound for adequacy of moisture, maintenance of previous dressing, wound healing, and signs of infection. **Excessive moisture contributes to maceration of wound bed; dry dressing impairs release of silver ions and injures new tissue upon removal.**

**NOTE:** consider taking a photograph of open wound as part of assessment and documentation process. **Obtaining consent for photographs ensures adherence to Freedom of Information and**
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<th>Action</th>
<th>Notes</th>
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<tr>
<td>14.</td>
<td><strong>REMOVE</strong> gloves, <strong>PERFORM</strong> hand hygiene</td>
<td>Protection of Privacy Act (FOIPPA).</td>
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<td>15.</td>
<td><strong>PREPARE</strong> cleansing agent; fill sterile basin or sterile bowl with sterile water and 2 squirts of 2% Chlorhexidine based soap or prepare hydrotherapy bath with 75 – 125 mL 2% Chlorhexidine based soap.</td>
<td>Burn wound precautions; contact is made with openings in the wound.</td>
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<td>16.</td>
<td><strong>DON</strong> sterile gloves.</td>
<td>Reduces transmission of microorganisms.</td>
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<td>17.</td>
<td>Gently <strong>CLEANSE</strong> wound with cleansing agent and sterile burn gauze</td>
<td>Gentle cleansing prevents damage to newly forming epithelial tissue and reduces bacterial load enhancing wound healing.</td>
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<td>18.</td>
<td><strong>DEBRIDE</strong> devitalized necrotic tissue by gently removing loose tissue with sterile scissors and tweezers. <strong>NOTE:</strong> Conservative sharp wound debridement is a restricted activity under the CRNBC Scope of practice. Nurses who do not have this competency will need to seek assistance from the responsible physician.</td>
<td>Reduces transmission of microorganisms. Over aggressive debridement (ie. to the point of excessive bleeding) disrupts healing tissue. <strong>Conservative sharp wound debridement:</strong> The removal of loose, soft, necrotic tissue at the interface between non-viable and viable tissue, using instruments (e.g., scalpel, scissors, curette) to create a clean wound bed. The procedure involves minimal pain and bleeding, and does not require general anesthesia. [Adapted from Provincial Skin and Wound Committee. (2010). Guideline and Procedure: Conservative Sharp Wound Debridement.]</td>
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<tr>
<td>19.</td>
<td><strong>RINSE</strong> wound bed with sterile water or hydrotherapy source and pat dry with warm sterile drape in preparation for dressing.</td>
<td></td>
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<td>20.</td>
<td><strong>OBTAIN</strong> wound cultures as necessary. Routine surveillance every Monday required for patients on 3R.</td>
<td>Surveillance screening of wound bed for infection weekly on 3R.</td>
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<tr>
<td>21.</td>
<td><strong>PERFORM</strong> hand hygiene and <strong>DON</strong> a new pair of sterile gloves.</td>
<td>Burn wound precautions; minimizes cross contamination.</td>
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<td>22.</td>
<td><strong>CALL</strong> most responsible physician for assessment of wound as per areas requirement.</td>
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<tr>
<td>23.</td>
<td><strong>APPLY</strong> antimicrobial agent (acticoat; flamazine; polysporin). If using Acticoat, <strong>COVER</strong> Acticoat with</td>
<td>Reduces bacterial load in wound bed; silver ions in acticoat require moisture to be activated.</td>
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intrasite gel and ensure that it is well embedded into the dressing prior to application. Cover dressing with damp burn gauze (if required), plastic wrap and then kling.

**NOTE:** When not using an intrasite product, water moistened gauze must be re-moistened every 12 hours with **sterile water** only.

**Suggested "order" for dressing a burn wound:**

1. **Stockinette**
2. **Kling**
3. **Plastic wrap**
4. **Damp burn gauze (if required)**
5. **Acticoat with layer of intrasite gel**
6. **Wound bed**

The goal is to keep the dressing securely in place and to maintain moisture to the acticoat without causing maceration of the wound bed or peri-wound skin.

24. **SECURE** dressing with stockinette. Attention to range of motion is crucial – all digits should be wrapped independently. Dressings should not be restrictive enough to inhibit movement. **REAPPLY** splints and/or positioning devices as necessary.

**NOTE:** contact OT for fitting of splints. Grafted areas may require elevation until physiotherapy dangling protocol completion. Physician should clarify. Refer to positioning chart for appropriate limb positioning.

25. **DISCARD** used supplies and equipment in appropriate receptacle.

26. **REMOVE** personal protective equipment and perform hand hygiene.

27. **RETURN** patient to his/her room if procedure performed in treatment room. Continue to monitor patient as per Sedation protocol.

28. **ENSURE** supplies for next dressing change are

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**Maintenance of range of motion throughout the wound healing phase is essential for good functional outcomes following wound closure.** Wrapping digits separately prevents webbing which may occur if one burned area is allowed to be in contact with another.

**Routine Infection Control Practices; reduces transmission of microorganisms.**

**Return to room signals end of procedure.**

**Ensures supplies available for next dressing**
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ordered (as required).

TRANSFER OF CARE AND/OR DISCHARGE PLANNING

The following items need to be completed prior to discharge or transfer:

- Burn & Wound Referral form completed and faxed to receiving unit (i.e. 3R, MDU, Burn Clinic) with copy of estimation chart (for ED) or latest Burn Wound Progress notes (for 3R & MDU)
- Family Education Completed on the following topics: (to be done prior to hospital discharge and reviewed after each Burn Bath)
  - Complete Discharge Information after Sedation form
  - Review Burns and Wounds: How To Care for You Child’s Dressing pamphlet
  - Pain and itch management
  - Scar management - Lotioning; Pressure garments; Splints (OT involved)
  - Skin and thermal protection – sun/cold exposure
  - Exercises (PT involved)
  - Diet/Nutritional needs
  - Follow-up appointments – Date/Place/Instructions
  - Follow up referrals (Outpatient: OT, PT, Psychology)

DOCUMENTATION

DOCUMENT on appropriate records (burn wound progress notes, careplan, nurses notes):

- patient and family education
- pain and anxiety control and effectiveness of medications/interventions
- location and appearance of wounds
- procedures performed (ie. debridement)
- topical agents and dressings applied
- team members participating in burn wound care
- unexpected outcomes and related treatment
- any other pertinent actions or observations

REFERENCES


