FOCUSING ON PATIENT CARE

This chapter will help you develop some of the skills related to skin integrity and wound care necessary to care for the following patients:

Lori Downs, a patient with diabetes mellitus, is admitted with a chronic ulcer of her left foot.

Tran Nguyen, diagnosed with breast cancer, has had a modified radical mastectomy.

Arthur Lowes, has an appointment with his surgeon today for a follow-up examination and removal of surgical staples following a colon resection.

LEARNING OBJECTIVES

After studying this chapter, you will be able to:

1. Clean a wound and apply a dry, sterile dressing.
2. Apply a saline-moistened dressing.
3. Apply a hydrocolloid dressing.
4. Perform wound irrigation.
5. Collect a wound culture.
6. Apply Montgomery straps.
7. Provide care to a Penrose drain.
8. Provide care to a T-tube drain.
9. Provide care to a Jackson-Pratt drain.
10. Provide care to a Hemovac drain.
11. Apply negative pressure wound therapy.
12. Remove sutures.
13. Remove surgical staples.
14. Apply an external heating pad.
15. Apply a warm sterile compress to an open wound.
16. Assist with a Sitz bath.
17. Apply cold therapy.

KEY TERMS

approximated wound edges: edges of a wound that are lightly pulled together; epithelialization of wound margins; edges touch, wound is closed.
debridement: removal of devitalized tissue and foreign material from a wound
dehiscence: accidental separation of wound edges, especially a surgical wound
dehiscence: accidental separation of wound edges, especially a surgical wound
ecchymosis: discoloration of an area resulting from infiltration of blood into the subcutaneous tissue
A disruption in the normal integrity and function of the skin and underlying tissues is called a wound. This disruption creates a potentially dangerous and possibly life-threatening situation. The patient is at risk for wound complications such as infection, hemorrhage, dehiscence, and evisceration (Fundamentals Review 8-1). These complications increase the risk for generalized illness and death, lengthen the time that the patient needs healthcare interventions, and add to healthcare costs. Pressure ulcers, a wound caused by unrelied pressure that results in damage to underlying tissue, are one of the most common skin and tissue disruptions and are costly in terms of healthcare expenditures (see Fundamentals Review 8-2 for staging of pressure ulcers).

Nursing responsibilities related to skin integrity involve assessment of the patient and the wound (Fundamentals Review 8-3), followed by the development of the nursing plan of care, including the identification of appropriate outcomes, nursing interventions, and evaluation of the nursing care. Depending upon the patient’s individualized plan of care, specific wound care skills may be needed.
One of the most common causes of nosocomial infections is carelessness in practicing asepsis when providing wound care. It is extremely important to use appropriate aseptic technique and follow Standard Precautions and, if needed, Transmission-Based Precautions in providing wound care. Chronic wounds and pressure ulcers may be treated using clean technique. (Refer to Chapter 4, Asepsis and Infection Control for a discussion of infection control precautions, sterile technique and clean technique).

Nurses must also be skilled in assessing for pain and employing strategies to minimize the pain experience of the patient because some patients may experience both physiologic and/or psychological pain related to dressing changes and wound care.

Additionally, ongoing assessment for possible skin or wound complications will be required. There are many wound care products/dressings available, each with distinctive actions, as well as indications, contraindications, advantages, and disadvantages. It is very important for the nurse to be aware of the products available in a particular facility and be familiar with the indications for, and correct use of, each type of dressing and wound care product. Fundamentals Review 8-4 outlines the purposes and uses for several wound dressing/product categories. In addition, it is often appropriate and necessary to consult with the wound care specialist, often a wound certified nurse specialist, to plan and coordinate the most effective care for the patient.

This chapter will cover skills to assist the nurse in providing care related to skin integrity and wounds. In addition to the Fundamentals Review boxes in this chapter, refer to those found in Chapter 4 (Asepsis and Infection Control) for a quick review of critical knowledge to assist you in understanding the skills related to skin integrity and wound care.

**Fundamentals Review 8-1**

**WOUND HEALING AND COMPLICATIONS**

- Wounds heal by primary, secondary, or tertiary intention.
- Wounds healing by primary intention form a clean, straight line with little loss of tissue. The wound edges are well approximated with sutures. These wounds usually heal rapidly with minimal scarring.
- Wounds healing by secondary intention are large wounds with considerable tissue loss. The edges are not approximated. Healing occurs by formation of granulation tissue. These wounds have a longer healing time, a greater chance of infection, and larger scars.
- Wounds healing by primary intention that become infected heal by secondary intention. These wounds generate a greater inflammatory reaction and more granulation tissue. They have large scars and are less likely to shrink to a flat line as they heal.
- Wounds healing by delayed primary intention or tertiary intention are left open for several days to allow edema or infection to resolve or exudates to drain. They are then closed.
- Wound complications include infection, hemorrhage, dehiscence, and evisceration. These problems increase the risk for generalized illness, lengthen the time during which the patient needs healthcare interventions, and increase the cost of healthcare, and can result in death.
- Multiple psychological effects can occur as a result of trauma to the integumentary system. Actual and potential emotional stressors are common in patients with wounds. Pain is part of almost every wound. In addition, anxiety and fear play a large role in a patient’s recovery from a wound. Many patients must deal with changes in body image, body structure, and function related to a wound.
**Fundamentals Review 8-2**

**COMPARISON OF STAGES OF PRESSURE ULCERS**

**SUPESTED DEEP TISSUE INJURY**
Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. Deep tissue injury may be difficult to detect in individuals with dark skin tones. The area may be preceded by tissue that is painful, firm, boggy, warmer or cooler as compared to adjacent tissue. Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by a 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. Stage I may indicate “at risk” persons.

**STAGE II**
Partial-thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. Presents as a shiny or dry shallow ulcer without slough or bruising (which indicates suspected deep tissue injury). May also present as an intact or open/rupture serum-filled blister. This stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration, or excoriation.
**COMPARISON OF STAGES OF PRESSURE ULCERS**

### STAGE III

Full-thickness tissue loss. Subcutaneous fat may be visible, but bone, tendon, or muscle are not exposed. Bone/tendon is not visible or directly palpable. 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 II ulcers at these locations can be shallow. In contrast, areas with significant adipose tissue can develop extremely deep stage III pressure ulcers.

### STAGE IV

Full-thickness tissue loss with exposed bone, tendon, or muscle. Exposed bone/tendon is visible or directly palpable. Slough or eschar may be present on some parts of the wound bed. Often include 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 at these locations. Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon, or joint capsule), making osteomyelitis possible.

### 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 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.


Wounds are assessed for appearance, size, drainage, pain, presence of sutures, drains, and tubes, and the evidence of complications.

PERFORMING GENERAL WOUND ASSESSMENT

- Assess the wound’s appearance by inspecting and palpating. Look for the approximation of the edges and the color of the wound and surrounding area. The edges should be clean and well approximated. Edges may be reddened and slightly swollen for about a week, then closer to normal in appearance. Skin around the wound may be bruised initially. Observe for signs of infection (increased swelling, redness, drainage, and/or warmth).
- Note the presence of any sutures, drains, and tubes. These areas are assessed in the same manner as the incision. Make sure they are intact and functioning.
- Assess the amount, color, odor, and consistency of any wound drainage.
- Assess the patient’s pain, using an objective scale. Incisional pain is usually most severe for the first 2 to 3 days, after which it progressively diminishes. Increased or constant pain, especially an acute change in pain, requires further assessment. It can be a sign of delayed healing, infection, or other complication.
- Assess the patient’s general condition for signs and symptoms of infection and hemorrhage.

MEASURING WOUNDS AND PRESSURE ULCERS

Size of the Wound
- Draw the shape and describe it.
- Measure the length, width, and diameter (if circular).

Depth of the Wound
- Perform hand hygiene. Put on gloves.
- Moisten a sterile, flexible applicator with saline and insert it gently into the wound at a 90-degree angle, with the tip down.
- Mark the point on the swab that is even with the surrounding skin surface, or grasp the applicator with the thumb and forefinger at the point corresponding to the wound’s margin.
- Remove the swab and measure the depth with a ruler.

Wound Tunneling
- Perform hand hygiene. Put on gloves.
- Determine direction: Moisten a sterile, flexible applicator with saline and gently insert a sterile applicator into the site where tunneling occurs. View the direction of the applicator as if it were the hand of a clock. The direction of the patient’s head represents 12 o’clock. Moving in a clockwise direction, document the deepest sites where the wound tunnels.
- Determine the depth: While the applicator is inserted into the tunneling, mark the point on the swab that is even with the wound’s edge, or grasp the applicator with the thumb and forefinger at the point corresponding to the wound’s margin. Remove the swab and measure the depth with a ruler.
- Document both the direction and depth of tunneling.

### EXAMPLES OF WOUND DRESSINGS/PRODUCTS

<table>
<thead>
<tr>
<th>Type</th>
<th>Purposes</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparent films, such as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioclusive</td>
<td>Allow exchange of oxygen between wound and environment</td>
<td>Wounds with minimal drainage</td>
</tr>
<tr>
<td>DermaView</td>
<td>Are self-adhesive</td>
<td>Wounds that are small; partial-thickness</td>
</tr>
<tr>
<td>Mefilm</td>
<td>Protect against contamination; waterproof</td>
<td>Stage I pressure ulcers</td>
</tr>
<tr>
<td>Polyskin</td>
<td>Prevent loss of wound fluid</td>
<td>Cover dressings for gels, foams, and gauze</td>
</tr>
<tr>
<td>Uniflex</td>
<td>Maintain a moist wound environment</td>
<td>Secure intravenous catheters, nasal cannulas, chest tube dressing,</td>
</tr>
<tr>
<td>OPSITE</td>
<td>Facilitate autolytic debridement</td>
<td>central venous access devices</td>
</tr>
<tr>
<td>Tegaderm</td>
<td>No absorption of drainage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Allow visualization of wound</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May remain in place for 24 to 72 hours, resulting in less interference</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with healing</td>
<td></td>
</tr>
<tr>
<td>Hydrocolloid dressings,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>such as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DuoDerm</td>
<td>Are occlusive or semi-occlusive, limiting exchange of oxygen between</td>
<td>Partial- and full-thickness wounds</td>
</tr>
<tr>
<td>Comfeel</td>
<td>wound and environment</td>
<td>Wounds with light to moderate drainage</td>
</tr>
<tr>
<td>PrimaCol</td>
<td>Minimal to moderate absorption of drainage</td>
<td>Wounds with necrosis or slough</td>
</tr>
<tr>
<td>Ultec</td>
<td>Maintain a moist wound environment</td>
<td>Not for use with wounds that are infected</td>
</tr>
<tr>
<td>Exuderm</td>
<td>Are self-adhesive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide cushioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitate autolytic debridement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protect against contamination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May be left in place for 3 to 7 days, resulting in less interference with healing</td>
<td></td>
</tr>
<tr>
<td>Hydrogels, such as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IntraSite Gel</td>
<td>Maintain a moist wound environment</td>
<td>Partial- and full-thickness wounds</td>
</tr>
<tr>
<td>Aquasorb</td>
<td>Minimal absorption of drainage</td>
<td>Necrotic wounds</td>
</tr>
<tr>
<td>ClearSite</td>
<td>Facilitate autolytic debridement</td>
<td>Burns</td>
</tr>
<tr>
<td>Hypergel</td>
<td>Do not adhere to wound</td>
<td>Dry wounds</td>
</tr>
<tr>
<td>ActiFormCool</td>
<td>Reduce pain</td>
<td>Wounds with minimal exudate</td>
</tr>
<tr>
<td></td>
<td>Most require a secondary dressing to secure</td>
<td>Infected wounds</td>
</tr>
<tr>
<td>Alginates, such as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorbsan</td>
<td>Absorb exudate</td>
<td>Infected and noninfected wounds</td>
</tr>
<tr>
<td>AlgiCell</td>
<td>Maintain a moist wound environment</td>
<td>Wounds with moderate to heavy exudate</td>
</tr>
<tr>
<td>Curasorb</td>
<td>Facilitate autolytic debridement</td>
<td>Partial- and full-thickness wounds</td>
</tr>
<tr>
<td>AQUACEL</td>
<td>Requires secondary dressing</td>
<td>Tunneling wounds</td>
</tr>
<tr>
<td>KALGINATE</td>
<td>Can be left in place for 1 to 3 days</td>
<td>Moist red and yellow wounds</td>
</tr>
<tr>
<td>Melgisorb</td>
<td></td>
<td>Not for use with wounds with minimal drainage or dry eschar</td>
</tr>
<tr>
<td>Foams, such as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LYOfoam</td>
<td>Maintain a moist wound environment</td>
<td>Absorb light to heavy amounts of drainage</td>
</tr>
<tr>
<td>Alleyvin</td>
<td>Do not adhere to wound</td>
<td>Use around tubes and drains</td>
</tr>
<tr>
<td>Biatain</td>
<td>Insulate wound</td>
<td>Not for use with wounds with dry eschar</td>
</tr>
<tr>
<td>Mepilex</td>
<td>Highly absorbent</td>
<td></td>
</tr>
<tr>
<td>Optifoam</td>
<td>Can be left in place up to 7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some products need a secondary dressing to secure</td>
<td></td>
</tr>
</tbody>
</table>
**Fundamentals Review 8-4 continued**

## EXAMPLES OF WOUND DRESSINGS/PRODUCTS

<table>
<thead>
<tr>
<th>Type</th>
<th>Purposes</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobials, such as: SilvaSorb Acticoat Excilon Silverlon</td>
<td>• Antimicrobial or antibacterial action • Reduce infection • Prevent infection</td>
<td>• Draining, exuding, and nonhealing wounds to protect from bacterial contamination and reduce bacterial contamination • Acute and chronic wounds</td>
</tr>
<tr>
<td>Collagens, such as: BGC Matrix Stimulen PROMOGRAN Matrix</td>
<td>• Absorbent • Maintain a moist wound environment • Do not adhere to wound • Compatible with topical agents • Conform well to the wound surface • Require secondary dressing to secure</td>
<td>• Partial- or full-thickness wounds • Infected and noninfected • Skin grafts • Donor sites • Tunneling wounds • Moist red and yellow wounds • Wounds with minimal to heavy exudate</td>
</tr>
<tr>
<td>Composites, such as: Alldress Covaderm Stratasorb</td>
<td>• Combine two or more physically distinct products in a single dressing with several functions • Allow exchange of oxygen between wound and environment • May facilitate autolytic debridement • Provide physical bacterial barrier and absorptive layer • Semiadherent or nonadherent • Primary or secondary dressing</td>
<td>• Partial- and full-thickness wounds • Wounds with minimal to heavy exudate • Necrotic tissue • Mixed (granulation and necrotic tissue) wounds • Infected wounds</td>
</tr>
</tbody>
</table>


---

**Skill 8-1 Cleaning a Wound and Applying a Dry, Sterile Dressing**

The goal of wound care is to promote tissue repair and regeneration to restore skin integrity. Many times wound care includes cleaning of the wound and the use of a dressing as a protective covering over the wound. Wound cleansing is performed to remove debris, contaminants, and excess exudate. Sterile normal saline is the preferred cleansing solution.

There is no standard frequency for how often dressings should be changed. It depends on the amount of drainage, the primary practitioner’s preference, the nature of the wound, and the particular wound care product being used. It is customary for the surgeon or other advanced practice professional to perform the first dressing change on a surgical wound, usually within 24 to 48 hours after surgery.

*(continued)*
Cleaning a Wound and Applying a Dry, Sterile Dressing

**EQUIPMENT**
- Sterile gloves
- Clean disposable gloves
- Additional PPE, as indicated
- Gauze dressings
- Surgical or abdominal pads
- Sterile dressing set or suture set (for the sterile scissors and forceps)
- Sterile cleaning solution as ordered (commonly 0.9% normal saline solution, or a commercially prepared wound cleanser)
- Sterile basin (may be optional)
- Sterile drape (may be optional)
- Plastic bag or other appropriate waste container for soiled dressings
- Waterproof pad and bath blanket
- Tape or ties
- Bath blanket or other linens for draping patient
- Additional dressings and supplies needed or required by the physician’s order

**ASSESSMENT**
Assess the situation to determine the need for wound cleaning and a dressing change. Confirm any medical orders relevant to wound care and any wound care included in the nursing plan of care. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing to determine if it is intact. Assess for excess drainage, bleeding, or saturation of the dressing. Inspect the wound and the surrounding tissue. Assess the appearance of the wound for the approximation of wound edges, the color of the wound and surrounding area, and signs of dehiscence. Assess for the presence of sutures, staples, or adhesive closure strips. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.

**NURSING DIAGNOSIS**
Determine the related factors for the nursing diagnoses based on the patient’s current status. Appropriate nursing diagnoses may include:
- Risk for Infection
- Anxiety
- Disturbed Body Image
- Impaired Tissue Integrity
- Acute Pain
- Impaired Skin Integrity
- Deficient Knowledge
- Delayed Surgical Recovery

**OUTCOME IDENTIFICATION AND PLANNING**
The expected outcome to achieve when cleaning a wound and applying a dry, sterile dressing is that the wound is cleaned and protected with a dressing without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes that are appropriate include: the wound continues to show signs of progression of healing, and the patient demonstrates understanding of the need for wound care and dressing change.

**IMPLEMENTATION**

**ACTION**
1. Review the medical orders for wound care or the nursing plan of care related to wound care.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.
3. Perform hand hygiene and put on PPE, if indicated.

**RATIONALE**
Reviewing the order and plan of care validates the correct patient and correct procedure.
Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.
Hand hygiene and PPE prevent the spread of microorganisms.
PPE is required based on transmission precautions.
CHAPTER 8 Skin Integrity and Wound Care

4. Identify the patient.

5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness.

7. Place a waste receptacle or bag at a convenient location for use during the procedure.

8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

9. Assist the patient to a comfortable position that provides easy access to the wound area. Use the bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.

10. Check the position of drains, tubes, or other adjuncts before removing the dressing. Put on clean, disposable gloves and loosen tape on the old dressings (Figure 1). If necessary, use an adhesive remover to help get the tape off.

4. Identifying the patient ensures the right patient receives the intervention and helps prevent errors.

5. This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

6. Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

7. Having a waste container handy means the soiled dressing may be discarded easily, without the spread of microorganisms.

8. Having the bed at the proper height prevents back and muscle strain.

9. Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.

10. Checking ensures that a drain is not removed accidentally if one is present. Gloves protect the nurse from contaminated dressings and prevent the spread of microorganisms. Adhesive-tape remover helps reduce patient discomfort during removal of dressing.

11. Carefully remove the soiled dressings (Figure 2). If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove (Figure 3).

Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.

(continued)
12. After removing the dressing, note the presence, amount, type, color, and odor of any drainage on the dressings (Figure 4). Place soiled dressings in the appropriate waste receptacle. Remove your gloves and dispose of them in an appropriate waste receptacle (Figure 5).

The presence of drainage should be documented. Proper disposal of soiled dressings and used gloves prevents spread of microorganisms.

13. Inspect the wound site for size, appearance, and drainage. Assess if any pain is present. Check the status of sutures, adhesive closure strips, staples, and drains or tubes, if present. Note any problems to include in your documentation.

14. **Using sterile technique, prepare a sterile work area and open the needed supplies (Figure 6).**

Wound healing or the presence of irritation or infection should be documented.

Supplies are within easy reach and sterility is maintained.
15. Open the sterile cleaning solution. Depending on the amount of cleaning needed, the solution might be poured directly over gauze sponges over a container for small cleaning jobs, or into a basin for more complex or larger cleaning.

16. Put on sterile gloves (Figure 7).

**RATIONALE**
Sterility of dressings and solution is maintained.

Use of sterile gloves maintains surgical asepsis and sterile technique and reduces the risk for spreading microorganisms.

17. Clean the wound. **Clean the wound from top to bottom and from the center to the outside (Figure 8).** Following this pattern, use new gauze for each wipe, placing the used gauze in the waste receptacle. Alternately, spray the wound from top to bottom with a commercially prepared wound cleanser.

18. Once the wound is cleaned, dry the area using a gauze sponge in the same manner. Apply ointment or perform other treatments, as ordered (Figure 9).

**RATIONALE**
Cleaning from top to bottom and center to outside ensures that cleaning occurs from the least to most contaminated area and a previously cleaned area is not contaminated again. Using a single gauze for each wipe ensures that the previously cleaned area is not contaminated again.

Moisture provides a medium for growth of microorganisms. The growth of microorganisms may be inhibited and the healing process improved with the use of ordered ointments or other applications.
19. If a drain is in use at the wound location, clean around the drain. Refer to Skills 8-7, 8-8, 8-9, and 8-10.
20. Apply a layer of dry, sterile dressing over the wound (Figure 10). Forceps may be used to apply the dressing.
21. Place a second layer of gauze over the wound site.
22. Apply a surgical or abdominal pad (ABD) over the gauze at the site as the outermost layer of the dressing (Figure 11).

**FIGURE 10.** Applying dry dressing to site.

**FIGURE 11.** Applying a surgical pad over dressing and securing with tape.

23. Remove and discard gloves. Apply tape, Montgomery straps or roller gauze to secure the dressings. Alternately, many commercial wound products are self adhesive and do not require additional tape.
24. After securing the dressing, label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.
25. Remove PPE, if used. Perform hand hygiene.
26. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

**EVALUATION**

The expected outcome is met when the patient exhibits a clean, intact wound with a clean dressing in place; the wound is free of contamination and trauma; the patient reports little to no pain or discomfort during care; and the patient demonstrates signs and symptoms of progressive wound healing.
DOCUMENTATION

Guidelines

Document the location of the wound and that the dressing was removed. Record your assessment of the wound including approximation of wound edges, presence of sutures, staples or adhesive closure strips, and the condition of the surrounding skin. Note if redness, edema, or drainage is observed. Document cleansing of the incision with normal saline and any application of antibiotic ointment as ordered. Record the type of dressing that was reapplied. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered.

Sample Documentation

9/8/12 0600 Dressing removed from left lateral calf incision. Scant purulent secretions noted on dressing. Incision edges approximately 1 mm apart, red, with ecchymosis and edema present. Small amount of purulent drainage from wound noted. Area cleansed with normal saline, dried, antibiotic ointment applied per order. Surrounding tissue red and ecchymotic. Redressed with nonadhering dressing, gauze, and wrapped with stretch gauze. Patient reports adequate pain control after preprocedure analgesic; states pain is dull ache, 1/10 on pain scale.

—N. Joiner, RN

UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• The previous wound assessment states that the incision was clean and dry and the wound edges were approximated, with the staples and surgical drain intact. The surrounding tissue was without inflammation, edema, or erythema. After the dressing is removed, the nurse notes the incision edges are not approximated at the distal end, multiple staples are evident in the old dressing, the surrounding skin tissue is red and swollen, and purulent drainage is on the dressing and leaking from the wound: Assess the patient for any other signs and symptoms, such as pain, malaise, fever, and paresthesias. Place a dry sterile dressing over the wound site. Report the findings to the physician and document the event in the patient’s record. Be prepared to obtain a wound culture and implement any changes in wound care as ordered.

• After the nurse has put on sterile gloves, the patient moves too close to the edge of the bed and the nurse must support her with his hands to prevent the patient from falling: If nothing else in the sterile field was touched, remove the contaminated gloves and put on new sterile gloves. If you did not bring a second pair, use the call bell to summon a coworker to provide a new pair of gloves.

• The nurse has set up dressing supplies, removed the old dressing, and put on sterile gloves to clean the wound. The nurse then realizes that a necessary piece of dressing material has been forgotten: Ask the patient to press the call bell to summon a coworker to provide the missing supplies.

SPECIAL CONSIDERATIONS

General Considerations

• Instruct the patient, if appropriate, and ancillary staff members to observe for excessive drainage that may overwhelm the dressing. They should also report when dressings become soiled or loosened from the skin.

Older Adult Considerations

• The skin of older adults is less elastic and more sensitive; use paper tape, Montgomery straps (Refer to Skill 8-6), or roller gauze (on extremities) to prevent tearing of the skin.
Applying a Saline-Moistened Dressing

Gauze can be moistened with saline to keep the surface of open wounds moist. There are many commercially prepared wound care products that are also available to maintain a moist wound environment (see Fundamentals Review 8-4). This type of dressing promotes moist wound healing and protects the wound from contamination and trauma. A moist wound surface enhances the cellular migration necessary for tissue repair and healing. It is important that the dressing material be moist, not wet, when placed in open wounds. Dressing materials are soaked in normal saline solution and squeezed to remove excess saline so that the dressing is only slightly moist. The dressing can be loosely packed in the wound bed if appropriate, and then covered with a secondary dressing to absorb drainage.

Many commercially prepared dressing and wound care products are applied in a similar manner. It is very important for the nurse to be aware of the products available in a particular facility and be familiar with the indications for, and correct use of, each type of dressing and wound care product (see Fundamentals Review 8-4).

**Equipment**
- Clean disposable gloves
- Sterile gloves, if indicated
- Additional PPE, as indicated
- Sterile dressing set or suture set (for the sterile scissors and forceps)
- Sterile thin-mesh gauze dressing for packing, if ordered
- Sterile gauze dressings
- Surgical or abdominal pads
- Skin-protectant wipes
- Sterile basin
- Sterile cleaning solution as ordered (commonly 0.9% normal saline solution)
- Sterile saline
- Tape or ties
- Plastic bag or other appropriate waste container for soiled dressings
- Sterile cotton-tipped applicators
- Supplies for wound cleansing or irrigation, as necessary
- Waterproof pad and bath blanket

**Assessment**
Assess the situation to determine the need for a dressing change. Confirm any medical orders relevant to wound care and any wound care included in the nursing plan of care. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to previous dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing to determine if it is intact. Assess for excess drainage or bleeding or saturation of the dressing. Inspect the wound and the surrounding tissue. Assess the location, appearance of the wound, wound stage (if appropriate), drainage, and types of tissue present in the wound. Measure the wound. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.

**Nursing Diagnosis**
Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Impaired Skin Integrity. Other nursing diagnoses that may be appropriate include:
- Anxiety
- Risk for Infection
- Chronic Pain
- Deficient Knowledge
- Disturbed Body Image
- Impaired Skin Integrity
- Acute Pain
- Impaired Tissue Integrity

**Outcome Identification and Planning**
The expected outcome to achieve when applying a saline-moistened dressing (or similar dressing) is that the procedure is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes that are appropriate include wound healing is promoted; the surrounding skin is without signs of irritation, infection, and maceration; and the wound continues to show signs of progression of healing.
IMPLEMENTATION

ACTION

1. Review the medical orders for wound care or the nursing plan of care related to wound care.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.
3. Perform hand hygiene and put on PPE, if indicated.
4. Identify the patient.
5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.
6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness.
7. Place a waste receptacle or bag at a convenient location for use during the procedure.
8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).
9. Assist the patient to a comfortable position that provides easy access to the wound area. Position the patient so the wound cleanser or irrigation solution will flow from the clean end of the wound toward the dirtier end, if being used (see Skill 8-1 for wound cleansing and Skill 8-4 for irrigation techniques). Use the bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.
10. Put on clean gloves. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove.
11. After removing the dressing, note the presence, amount, type, color, and odor of any drainage on the dressings. Place soiled dressings in the appropriate waste receptacle.
12. Assess the wound for appearance, stage, the presence of eschar, granulation tissue, epithelialization, undermining, tunneling, necrosis, sinus tract, and drainage. Assess the appearance of the surrounding tissue. Measure the wound. Refer to Fundamentals Review 8-3.
13. Remove your gloves and put them in the receptacle.

RATIONALE

Reviewing the order and plan of care validates the correct patient and correct procedure.
Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.
Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.
Identifying the patient ensures the right patient receives the intervention and helps prevent errors.
This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.
Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.
Having a waste container handy means the soiled dressing may be discarded easily, without the spread of microorganisms.
Having the bed at the proper height prevents back and muscle strain.
Patient positioning and use of a bath blanket provide for comfort and warmth. Gravity directs the flow of liquid from the least contaminated to the most contaminated area. Waterproof pad protects underlying surfaces.
Gloves protect the nurse from handling contaminated dressings. Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.
The presence of drainage should be documented. Discarding dressings appropriately prevents the spread of microorganisms.
This information provides evidence about the wound healing process and/or the presence of infection.
Discarding gloves prevents the spread of microorganisms.
Applying a Saline-Moistened Dressing continued

**ACTION**

14. Using sterile technique, open the supplies and dressings. Place the fine-mesh gauze into the basin and pour the ordered solution over the mesh to saturate it.

15. Put on the sterile gloves. Alternately, clean gloves (clean technique) may be used to clean a chronic wound.

16. Clean the wound. Refer to Skill 8-1. Alternately, irrigate the wound, as ordered or required (see Skill 8-4).

17. Dry the surrounding skin with sterile gauze dressings.

18. Apply a skin protectant to the surrounding skin if needed.

19. If not already on, put on sterile gloves. Squeeze excess fluid from the gauze dressing. Unfold and fluff the dressing.

20. Gently press to loosely pack the moistened gauze into the wound (Figure 1). If necessary, use the forceps or cotton-tipped applicators to press the gauze into all wound surfaces (Figure 2).

**RATIONALE**

Gauze touching the wound surface must be moistened to increase the absorptive ability and promote healing.

Sterile gloves maintain surgical asepsis. Clean technique is appropriate when cleaning chronic wounds.

Cleaning the wound removes previous drainage and wound debris.

Moisture provides a medium for growth of microorganisms.

A skin protectant prevents skin irritation and breakdown.

Sterile gloves prevent contamination of the dressing material. The gauze provides a thin, moist layer to contact all the wound surfaces.

The dressing provides a moist environment for all wound surfaces. Avoid overpacking the gauze; loosely pack to prevent too much pressure in the wound bed, which could impede wound healing.

21. Apply several dry, sterile gauze pads over the wet gauze.

22. Place the ABD pad over the gauze.

23. Remove and discard gloves. Apply tape, Montgomery straps or roller gauze to secure the dressings. Alternately, many commercial wound products are self-adhesive and do not require additional tape.

24. After securing the dressing, label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

25. Remove PPE, if used. Perform hand hygiene.

26. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

**FIGURE 1.** Gently pressing gauze into wound.

**FIGURE 2.** Using a cotton-tipped applicator to press gauze into all wound surfaces.

Dry gauze absorbs excess moisture and drainage.

The ABD pad prevents contamination.

Proper disposal of gloves prevents the spread of microorganisms. Tape or other securing products are easier to apply after gloves have been removed.

Recording date and time provides communication and demonstrates adherence to plan of care. Proper patient and bed positioning promotes safety and comfort.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.
CHAPTER 8  Skin Integrity and Wound Care  375

EVALUATION

The expected outcome when applying a saline-moistened dressing is met when the procedure is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes are met when sterile technique is maintained (if appropriate); wound healing is promoted; the surrounding skin is without signs of irritation, infection, and maceration; and the wound continues to show signs of progression of healing.

DOCUMENTATION

Guidelines

Document the location of the wound and that the dressing was removed. Record your assessment of the wound, including evidence of granulation tissue, presence of necrotic tissue, stage (if appropriate), and characteristics of drainage. Include the appearance of the surrounding skin. Document the cleansing or irrigation of the wound and solution used. Record the type of dressing that was reapplied. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered.

Sample Documentation

11/20/11  1645 Healing abdominal incision with granulating tissue noted. Open area 2 cm × 4 cm × 0.5 cm depth in center of incision. No evidence of necrosis or tunneling. Scant amount of serous drainage. Saline-moistened dressing applied to open wound; covered loosely with ABD dressing. Patient denies pain from incision. Instructed patient that moist saline gauze will facilitate the healing process and to notify nurse for any discomfort related to incision.

—R. Dobbins, RN

UNEXPECTED SITUATIONS AND RELATED INTERVENTIONS

•  When removing a patient’s dressing, the assessment reveals eschar in the wound: Notify the primary care provider or wound care specialist, as a different treatment modality and/or debridement may be necessary. The presence of eschar in a wound precludes the staging of the wound. The eschar must be removed for adequate pressure ulcer staging to be done. 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 (NPUAP, 2007a).
•  The wound assessment reveals several depressions or crater-like areas on inspection of a wound: Notify the primary care provider or wound care specialist, who may order the wound to be packed. Pack wound cavities loosely with dressing material. Overpacking may increase pressure and interfere with tissue healing.
•  The nurse notes that the wound dressing is dry upon removal: Reduce the time interval between changes to prevent drying of the materials, which may disrupt healing tissue.

SPECIAL CONSIDERATIONS

•  Make sure ancillary staff understand the importance of reporting excessive drainage from the dressing, and any soiled or loose dressings.
•  Guidelines from the Wound, Ostomy, Continence Nurses Society (WOCN) and National Pressure Ulcer Advisory Panel (NPUAP) recommend that clean gloves may be used to treat chronic wounds and pressure ulcers as long as the infection-control procedures are followed. The no-touch technique may be used within these guidelines. Clean gloves are used to handle dressing material. Irrigants and dressings are sterile. The wound is redressed by picking up dressing materials by the corner and placing the untouched side over the wound (NPUAP, 2007b; Wooten & Hawkins, 2005).
•  Many products are available to treat chronic wounds and pressure ulcers. Treatment varies based on facility policy, nursing protocol, clinical specialist referrals, primary care provider orders, and product in use.

EVIDENCE FOR PRACTICE


These guidelines are a collaborative effort of the Association for Professionals in Infection Control and Epidemiology (APIC) and the Wound, Ostomy, Continence Nurses Society (WOCN). Approaches for chronic wound care management are presented, including the definitions of and indications for ‘clean’ and ‘sterile’ technique. Cleansing of chronic wounds requires the use of handwashing, clean (nonsterile) gloves, sterile cleansing solution, and irrigation with sterile device. Routine dressing change without debridement requires the use of handwashing, clean (nonsterile) gloves, sterile solutions, sterile dressing supplies, and sterile instruments.

(continued)
Applying a Saline-Moistened Dressing


The guidelines from the NPUAP state that clean, nonsterile dressings are acceptable for pressure ulcer wound care. Pressure ulcers are nonsterile wounds; they are all contaminated with microorganisms. There is no need to use sterile dressings on these wounds. Clean dressings should be stored in their original packaging or other plastic wrap that protects them from moisture and dust. Care providers should wash their hands before removing dressings from the package in order to not contaminate the dressings by reaching into the package with soiled hands and/or gloves (NPUAP, 2007b, Question #309). Clean, nonsterile gloves can be used to treat multiple ulcers on the same patient. If this is done, start with the cleaner appearing wounds and move to the larger and/or most contaminated appearing wounds. When in doubt, change gloves between ulcers. Do not contaminate dressing supplies and wound care containers (e.g., solution bottles) with gloves that have been in contact with the ulcer (NPUAP, 2007b, Question #310).

Applying a Hydrocolloid Dressing

Hydrocolloid dressings are wafer-shaped dressings that come in many shapes, sizes, and thicknesses. An adhesive backing provides adherence to the wound and surrounding skin. They absorb drainage, maintain a moist wound surface, and decrease the risk for infection by covering the wound surface (Refer to Fundamentals Review 8-4). Many commercially prepared dressing and wound care products are applied in a similar manner. It is very important for the nurse to be aware of the products available in a particular facility and be familiar with the indications for, and correct use of, each type of dressing and wound care product.

**EQUIPMENT**

- Hydrocolloid dressing
- Clean disposable gloves
- Sterile gloves, if indicated
- Additional PPE, as indicated
- Sterile dressing instrument set or suture set (for the scissors and forceps)
- Sterile cleaning solution as ordered (commonly 0.9% normal saline solution)
- Skin-protectant wipes
- Additional supplies needed for wound cleansing
- Sterile cotton-tipped applicators
- Waterproof pad
- Bath blanket
- Measuring tape or other supplies, such as sterile flexible applicator, for assessing wound measurements, as indicated

**ASSESSMENT**

Assess the situation to determine the need for a dressing change. Check the date when the current dressing (if present) was placed. Confirm any medical orders relevant to wound care and any wound care included in the nursing plan of care. Assess the current dressing to determine if it is intact. Assess the patient’s level of comfort and the need for analgesics before wound care.

Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing to determine if it is intact. Assess for excess drainage or bleeding or saturation of the dressing. Inspect the wound and the surrounding tissue. Assess the location, appearance of the wound, stage (if appropriate), drainage, and types of tissue present in the wound. Measure the wound. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.
CHAPTER 8 Skin Integrity and Wound Care

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Impaired Skin Integrity. Other nursing diagnoses that may be appropriate include:

- Anxiety
- Risk for Infection
- Disturbed Body Image
- Chronic Pain
- Acute Pain
- Impaired Tissue Integrity

The expected outcome to achieve when applying a hydrocolloid dressing is that the procedure is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes that are appropriate include sterile technique is maintained (if appropriate); wound healing is promoted; the surrounding skin is without signs of irritation, infection, and maceration; and the wound continues to show signs of progression of healing.

### NURSING DIAGNOSIS

<table>
<thead>
<tr>
<th>OUTCOME IDENTIFICATION AND PLANNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Impaired Skin Integrity. Other nursing diagnoses that may be appropriate include:</td>
</tr>
<tr>
<td>- Anxiety</td>
</tr>
<tr>
<td>- Risk for Infection</td>
</tr>
<tr>
<td>- Disturbed Body Image</td>
</tr>
<tr>
<td>- Chronic Pain</td>
</tr>
<tr>
<td>- Acute Pain</td>
</tr>
<tr>
<td>- Impaired Tissue Integrity</td>
</tr>
</tbody>
</table>

### IMPLEMENTATION

**ACTION**

1. Review the medical orders for wound care or the nursing plan of care related to wound care.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.
3. Perform hand hygiene and put on PPE, if indicated.
4. Identify the patient.
5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.
6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.
7. Place a waste receptacle or bag at a convenient location for use during the procedure.
8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).
9. Assist the patient to a comfortable position that provides easy access to the wound area. Position the patient so the wound cleanser or irrigation solution will flow from the clean end of the wound toward the dirtier end, if being used (See Skill 8-1 for wound cleansing and Skill 8-4 for irrigation techniques). Use the bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.

**RATIONALE**

- Reviewing the order and plan of care validates the correct patient and correct procedure.
- Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.
- Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.
- Identifying the patient ensures the right patient receives the intervention and helps prevent errors.
- This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.
- Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.
- Having a waste container handy means the soiled dressing may be discarded easily, without the spread of microorganisms.
- Having the bed at the proper height prevents back and muscle strain.
- Patient positioning and use of a bath blanket provide for comfort and warmth. Gravity directs the flow of liquid from the least contaminated to the most contaminated area. Waterproof pad protects underlying surfaces.

(continued)
**Skill 8-3 Applying a Hydrocolloid Dressing continued**

**ACTION**

10. Put on clean gloves. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove.

11. After removing the dressing, note the presence, amount, type, color, and odor of any drainage on the dressings. Place soiled dressings in the appropriate waste receptacle.

12. Assess the wound for appearance, stage, the presence of eschar, granulation tissue, epithelialization, undermining, tunneling, necrosis, sinus tract, and drainage. Assess the appearance of the surrounding tissue. Measure the wound. Refer to Fundamentals Review 8-3.

13. Remove your gloves and put them in the receptacle.

14. Set up a sterile field, if indicated, and wound cleaning supplies. Put on sterile gloves. Alternately, clean gloves (clean technique) may be used when cleaning a chronic wound.

15. Clean the wound. Refer to Skill 8-1. Alternately, irrigate the wound, as ordered or required (see Skill 8-4).

16. Dry the surrounding skin with gauze dressings.

17. Apply a skin protectant to the surrounding skin.

18. Cut the dressing to size, if indicated, using sterile scissors. Size the dressing generously, allowing at least a 1" margin of healthy skin around the wound to be covered with the dressing.

19. Remove the release paper from the adherent side of the dressing. Apply the dressing to the wound without stretching the dressing. Smooth wrinkles as the dressing is applied (Figure 1).

20. If necessary, secure the dressing edges with tape. Apply additional skin barrier to the areas to be covered with tape, if necessary. Dressings that are near the anus need to have the edges taped. Apply additional skin barrier to the areas to be covered with tape, if necessary.

**RATIONALE**

Gloves protect the nurse from handling contaminated dressings. Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.

The presence of drainage should be documented. Discarding dressings appropriately prevents the spread of microorganisms.

This information provides evidence about the wound healing process and/or the presence of infection.

Discarding gloves prevents the spread of microorganisms.

Sterile gloves maintain surgical asepsis. Clean technique is appropriate for cleaning chronic wounds.

Cleaning the wound removes previous drainage and wound debris.

Moisture provides a medium for growth of microorganisms. Excess moisture can contribute to skin irritation and breakdown.

A skin protectant prevents skin irritation and breakdown.

These actions ensure proper adherence, coverage of the wound, and wear of the dressing.

Proper application prevents shearing force on the wound and minimizes irritation.

**FIGURE 1.** Hydrocolloid dressing in place.

Taping helps keep the dressing intact. Skin protectant prevents surrounding skin irritation and breakdown. Taping the edges of dressings near the anus prevents wound contamination from fecal material.
21. After securing the dressing, label dressing with date and
time. Remove all remaining equipment; place the patient in
a comfortable position, with side rails up and bed in the
lowest position.

22. Remove PPE, if used. Perform hand hygiene.

23. Check all wound dressings every shift. More frequent checks
may be needed if the wound is more complex or dressings
become saturated quickly.

**EVALUATION**

The expected outcome when applying a hydrocolloid dressing is met when the procedure is accom-
plished without contaminating the wound area, without causing trauma to the wound, and without
causing the patient to experience pain or discomfort. Other outcomes are met when sterile tech-
nique is maintained (if appropriate); wound healing is promoted; surrounding skin is without signs
of irritation, infection, and maceration; and the wound continues to show signs of progression of
healing.

**DOCUMENTATION**

Document the location of the wound and that the dressing was removed. Record your assessment of
the wound, including evidence of granulation tissue, presence of necrotic tissue, stage (if appropri-
ate), and characteristics of drainage. Include the appearance of the surrounding skin. Document the
cleansing or irrigation of the wound and solution used. Record the type of hydrocolloid dressing
that was applied. Note pertinent patient and family education and any patient reaction to this proce-
dure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analge-
sia if administered.

**Sample Documentation**

11/4/12 0930 Stage 3 wound on right hip area (3 x 2 x 2 cm) assessed. Granulation tissue
about 50%, no necrosis, undermining, or tunneling present. Minimal serous drainage on
old dressing. Wound cleansed with normal saline. Hydrocolloid dressing applied. Due to be
changed in 5 days. Skin barrier applied to surrounding intact skin. Prior to dressing change,
patient was medicated with Tylenol 650 mg PO for anticipated pain. Patient tolerated dress-
ing change. Stated “pain not so bad,” about a “3.” Instructed patient to call for nurse for
any discomfort related to dressing.

—M. Semet, RN

**EXPECTED SITUATIONS AND RELATED INTERVENTION**

- When removing a patient’s dressing, the assessment reveals eschar in the wound: Notify the pri-
mary care provider or wound care specialist, as a different treatment modality and/or debride-
ment may be necessary. The presence of eschar in a wound precludes the staging of the wound.
The eschar must be removed for adequate pressure ulcer staging to be done. Stable (dry, adher-
ent, intact, without erythema or fluctuance) eschar on the heels serves as “the body’s natural
(biological) cover” and should not be removed (NPUAP, 2007a).

- Guidelines from the Wound, Ostomy, Continence Nurses Society (WOCN) and National Pres-
sure Ulcer Advisory Panel (NPUAP) recommend that clean gloves may be used to treat chronic
wounds and pressure ulcers as long as the infection-control procedures are followed. The no-
touch technique may be used within these guidelines. Clean gloves are used to handle dressing
material. Irrigants and dressings are sterile. The wound is redressed by picking up dressing mate-
rials by the corner and placing the untouched side over the wound (NPUAP, 2007b; Wooten &
Hawkins, 2005).

- Many products are available to treat chronic and pressure ulcers. Treatment varies based on facility
policy, nursing protocol, clinical specialist referrals, and physician orders.
Applying a Hydrocolloid Dressing

**EVIDENCE FOR PRACTICE**


See Skill 8-2 for detailed information regarding these guidelines.

Performing Irrigation of a Wound

**EQUIPMENT**

- A sterile irrigation set, including a basin, irrigant container, and irrigation syringe
- Sterile irrigation solution as ordered by the physician, warmed to body temperature, commonly 0.9% normal saline solution
- Plastic bag or other waste container to dispose of soiled dressings
- Sterile gloves
- Sterile drape (may be optional)
- Clean disposable gloves
- Moisture-proof gown, mask, and eye protection
- Additional PPE, as indicated
- Sterile dressing set or suture set (for the sterile scissors and forceps)
- Waterproof pad and bath blanket as needed
- Sterile gauze dressings
- Sterile packing gauze as needed
- Tape or ties
- Skin-protectant wipes

**ASSESSMENT**

Assess the situation to determine the need for wound irrigation. Confirm any medical orders relevant to wound care and any wound care included in the nursing plan of care. Assess the current dressing to determine if it is intact. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to previous dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess for excess drainage or bleeding or saturation of the dressing. Inspect the wound and the surrounding tissue. Assess the location, appearance of the wound, stage (if appropriate), drainage, and types of tissue present in the wound. Measure the wound. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.

**NURSING DIAGNOSIS**

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis would be Risk for Infection. Other nursing diagnoses may include:

- Anxiety
- Acute Pain
- Deficient Knowledge
- Delayed Surgical Recovery
- Risk for Trauma
- Disturbed Body Image
- Chronic Pain
- Impaired Skin Integrity
- Impaired Tissue Integrity
CHAPTER 8 Skin Integrity and Wound Care

The expected outcome to achieve when irrigating a wound is that the wound is cleaned without contamination or trauma and without causing the patient to experience pain or discomfort. Other outcomes that might be appropriate include: the wound continues to show signs of progression of healing, and the patient demonstrates understanding about the need for wound irrigation.

OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when irrigating a wound is that the wound is cleaned without contamination or trauma and without causing the patient to experience pain or discomfort. Other outcomes that might be appropriate include: the wound continues to show signs of progression of healing, and the patient demonstrates understanding about the need for wound irrigation.

IMPLEMENTATION

<table>
<thead>
<tr>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review the medical orders for wound care or the nursing plan of care related to wound care.</td>
</tr>
<tr>
<td>2. Gather the necessary supplies and bring to the bedside stand or overbed table.</td>
</tr>
<tr>
<td>3. Perform hand hygiene and put on PPE, if indicated.</td>
</tr>
<tr>
<td>4. Identify the patient.</td>
</tr>
<tr>
<td>5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.</td>
</tr>
<tr>
<td>6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care and/or dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.</td>
</tr>
<tr>
<td>7. Place a waste receptacle or bag at a convenient location for use during the procedure.</td>
</tr>
<tr>
<td>8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).</td>
</tr>
<tr>
<td>9. Assist the patient to a comfortable position that provides easy access to the wound area. Position the patient so the irrigation solution will flow from the clean end of the wound toward the dirtier end. Use the bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.</td>
</tr>
<tr>
<td>11. Put on clean gloves. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewing the order and plan of care validates the correct patient and correct procedure.</td>
</tr>
<tr>
<td>Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.</td>
</tr>
<tr>
<td>Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.</td>
</tr>
<tr>
<td>Identifying the patient ensures the right patient receives the intervention and helps prevent errors.</td>
</tr>
<tr>
<td>This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.</td>
</tr>
<tr>
<td>Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.</td>
</tr>
<tr>
<td>Having a waste container handy means the soiled dressing may be discarded easily, without the spread of microorganisms.</td>
</tr>
<tr>
<td>Having the bed at the proper height prevents back and muscle strain.</td>
</tr>
<tr>
<td>Patient positioning and use of a bath blanket provide for comfort and warmth. Gravity directs the flow of liquid from the least contaminated to the most contaminated area. Waterproof pad protects underlying surfaces.</td>
</tr>
<tr>
<td>Using personal protective equipment such as gowns, masks, and eye protection is part of Standard Precautions. A gown protects clothes from contamination should splashing occur. Goggles protect mucous membranes of eyes from contact with irrigant fluid or wound drainage.</td>
</tr>
<tr>
<td>Gloves protect the nurse from handling contaminated dressings. Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.</td>
</tr>
</tbody>
</table>

(continued)
Performing Irrigation of a Wound  

**ACTION**

12. After removing the dressing, note the presence, amount, type, color, and odor of any drainage on the dressings. Place soiled dressings in the appropriate waste receptacle.

13. Assess the wound for appearance, stage, the presence of eschar, granulation tissue, epithelialization, undermining, tunneling, necrosis, sinus tract, and drainage. Assess the appearance of the surrounding tissue. Measure the wound. Refer to Fundamentals Review 8-3.

14. Remove your gloves and put them in the receptacle.

15. Set up a sterile field, if indicated, and wound cleaning supplies. Pour warmed sterile irrigating solution into the sterile container. Put on the sterile gloves. Alternately, clean gloves (clean technique) may be used when irrigating a chronic wound.

16. Position the sterile basin below the wound to collect the irrigation fluid.

17. Fill the irrigation syringe with solution (Figure 1). Using your nondominant hand, gently apply pressure to the basin against the skin below the wound to form a seal with the skin (Figure 2).

**RATIONALE**

The presence of drainage should be documented. Discarding dressings appropriately prevents the spread of microorganisms.

This information provides evidence about the wound healing process and/or the presence of infection.

Discarding gloves prevents the spread of microorganisms.

Using warmed solution prevents chilling of the patient and may minimize patient discomfort. Sterile technique and gloves maintain surgical asepsis. Clean technique is appropriate for irrigating chronic wounds.

Patient and bed linens are protected from contaminated fluid.

Debris and contaminated solution flow from the least contaminated to most contaminated area. High-pressure irrigation flow may cause patient discomfort as well as damage granulation tissue. A catheter tip allows the introduction of irrigant into a wound with a small opening or one that is deep.

Irrigation removes exudate and debris.

Moisture provides a medium for growth of microorganisms. Excess moisture can contribute to skin irritation and breakdown.

18. Gently direct a stream of solution into the wound (Figure 3). Keep the tip of the syringe at least 1" above the upper tip of the wound. When using a catheter tip, insert it gently into the wound until it meets resistance. Gently flush all wound areas.

19. Watch for the solution to flow smoothly and evenly. When the solution from the wound flows out clear, discontinue irrigation.

20. Dry the surrounding skin with gauze dressings (Figure 4).
21. Apply a skin protectant to the surrounding skin.
22. Apply a new dressing to the wound (see Skills 8-1, 8-2, 8-3) (Figure 5).

**ACTION**

**RATIONALE**

**FIGURE 3.** Irrigating wound with a gentle stream of solution. Solution drains into collection container.

A skin protectant prevents skin irritation and breakdown.

**FIGURE 4.** Drying around wound, not in wound, with sterile gauze pad.

Dressings absorb drainage, protect the wound, and promote healing.

23. Remove and discard gloves. Apply tape, Montgomery straps, or roller gauze to secure the dressings. Alternately, many commercial wound products are self adhesive and do not require additional tape.

**FIGURE 5.** Applying a new dressing.

Tape or other securing products are easier to apply after gloves have been removed. Proper disposal of gloves prevents the spread of microorganisms.

(continued)
Performing Irrigation of a Wound  

**ACTION**

24. After securing the dressing, label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

25. Remove remaining PPE. Perform hand hygiene.

26. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

**RATIONALE**

Recording date and time provides communication and demonstrates adherence to plan of care. Proper patient and bed positioning promotes safety and comfort.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.

**EVALUATION**

The expected outcome is met when the wound irrigation is completed without contamination and trauma; the patient verbalizes little to no pain or discomfort; the patient verbalizes understanding of the need for irrigation; and the wound continues to show signs of progression of healing.

**DOCUMENTATION Guidelines**

Document the location of the wound and that the dressing was removed. Record your assessment of the wound, including evidence of granulation tissue, presence of necrotic tissue, stage (if appropriate), and characteristics of drainage. Include the appearance of the surrounding skin. Document the irrigation of the wound and solution used. Record the type of dressing that was applied. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered.

**Sample Documentation**

3/5/12 1700 Dressing removed from left outer heel area. Minimal serosanguineous drainage noted on dressings. Wound 4 x 5 x 2 cm, pink, with granulation tissue evident. Surrounding skin tone consistent with patient’s skin, no edema or redness noted. Irrigated with normal saline and hydrogel dressing applied.

—J. Lark, RN

**UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS**

- *The patient experiences pain when the wound irrigation is begun:* Stop the procedure and administer an analgesic as ordered. Obtain new sterile supplies and begin the procedure after an appropriate amount of time has elapsed to allow the analgesic to begin working. Note the patient’s pain on the nursing plan of care so that pain medication can be given before future wound treatments.

- *During the wound irrigation, the nurse notes bleeding from the wound. This has not been documented as happening with previous irrigations:* Stop the procedure. Assess the patient for other symptoms. Obtain vital signs. Report the findings to the primary care provider and document the event in the patient’s record.

**EVIDENCE FOR PRACTICE**


See Skill 8-2 for detailed information regarding these guidelines.
Collecting a Wound Culture

A wound culture may be ordered to identify the causative organism of an infected wound. Identifying the invading microorganism will provide useful information to select the most appropriate therapy. A nurse or other primary health care provider can perform a wound culture. Maintaining strict asepsis is crucial so that only the pathogen present in the wound is isolated. It is essential to use the correct swab, based on the tests ordered, for collection of a specimen to isolate aerobic and/or anaerobic organisms.

**EQUIPMENT**

- A sterile Culturette kit (aerobic or anaerobic) with swab, or a culture tube with individual sterile swabs
- Sterile gloves
- Clean disposable gloves
- Additional PPE, as indicated
- Plastic bag or appropriate waste receptacle
- Patient label for the sample tube
- Biohazard specimen bag
- Bath blanket (if necessary to drape the patient)
- Supplies to clean the wound and reapply a sterile dressing after obtaining the culture (Refer to Skills 8-1 through 8-4)

**ASSESSMENT**

Assess the situation to determine the need for wound culture. Confirm any medical orders relevant to obtaining a wound culture, as well as wound care, and/or any wound care included in the nursing plan of care. Assess the patient’s level of comfort and the need for analgesics before obtaining the wound culture. Inspect the wound and the surrounding tissue. Assess the location, appearance of the wound, stage (if appropriate), drainage, and types of tissue present in the wound. Measure the wound. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.

**NURSING DIAGNOSIS**

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis would be Risk for Infection. Other appropriate diagnoses may include:

- Acute Pain
- Impaired Skin Integrity
- Impaired Tissue Integrity
- Disturbed Body Image
- Delayed Surgical Recovery

**OUTCOME IDENTIFICATION AND PLANNING**

The expected outcome to achieve when collecting a wound culture is that the culture is obtained without evidence of contamination, without exposing the patient to additional pathogens, and without causing discomfort for the patient.

**IMPLEMENTATION**

**ACTION**

1. Review the medical orders for obtaining a wound culture.

2. Gather the necessary supplies and bring to the bedside stand or overbed table.

3. Perform hand hygiene and put on PPE, if indicated.

4. Identify the patient.

**RATIONALE**

Reviewing the order and plan of care validates the correct patient and correct procedure.

Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.

Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.

Identifying the patient ensures the right patient receives the intervention and helps prevent errors.

(continued)
Skill 8-5 Collecting a Wound Culture continued

ACTION

5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before obtaining the wound culture. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.

7. Place an appropriate waste receptacle within easy reach for use during the procedure.

8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

9. Assist the patient to a comfortable position that provides easy access to the wound. If necessary, drape the patient with the bath blanket to expose only the wound area. Place a waterproof pad under the wound site. Check the culture label against the patient's identification bracelet (Figure 1).

10. If there is a dressing in place on the wound, put on clean gloves. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove.

11. After removing the dressing, note the presence, amount, type, color, and odor of any drainage on the dressings. Place soiled dressings in the appropriate waste receptacle.

12. Assess the wound for appearance, stage, the presence of eschar, granulation tissue, epithelialization, undermining, tunneling, necrosis, sinus tract, and drainage. Assess the appearance of the surrounding tissue. Measure the wound. Refer to Fundamentals Review 8-3.

13. Remove your gloves and put them in the receptacle.

RATIONALE

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

Having the waste container handy means that soiled materials may be discarded easily, without the spread of microorganisms.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and use of a bath blanket provide for comfort and warmth. Checking the culture label with the patient’s identification ensures the correct patient and the correct procedure.

Gloves protect the nurse from handling contaminated dressings.

Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.

The presence of drainage should be documented. Discarding dressings appropriately prevents the spread of microorganisms.

This information provides evidence about the wound healing process and/or the presence of infection.

Discarding gloves prevents the spread of microorganisms.
CHAPTER 8  Skin Integrity and Wound Care

**ACTION**

14. Set up a sterile field, if indicated, and wound cleaning supplies. Put on the sterile gloves. Alternately, clean gloves (clean technique) may be used when cleaning a chronic wound.

15. Clean the wound. Refer to Skill 8-1. Alternately, irrigate the wound, as ordered or required (see Skill 8-4).


17. Twist the cap to loosen the swab on the Culturette tube, or open the separate swab and remove the cap from the culture tube. Keep the swab and inside of the culture tube sterile (Figure 2).

18. If contact with the wound is necessary to separate wound margins to permit insertion of the swab deep into the wound, put a sterile glove on one hand to manipulate the wound margins. Clean gloves may be appropriate for contact with pressure ulcers and chronic wounds.

19. Carefully insert the swab into the wound. Press and rotate the swab several times over the wound surfaces. Avoid touching the swab to intact skin at the wound edges (Figure 3). Use another swab if collecting a specimen from another site.

**RATIONALE**

Sterile gloves maintain surgical asepsis. Clean technique is appropriate when cleaning chronic wounds.

Cleaning the wound removes previous drainage and wound debris, which could introduce extraneous organisms into the collected specimen, resulting in inaccurate results.

Moisture provides a medium for growth of microorganisms. Excess moisture can contribute to skin irritation and breakdown. The use of a culture swab does not require immediate contact with the skin or wound, so clean gloves are appropriate to protect the nurse from contact with blood and/or body fluids.

Supplies are ready to use and within easy reach, and aseptic technique is maintained.

If contact with the wound is necessary to collect the specimen, a sterile glove is necessary to prevent contamination of the wound.

Cotton tip absorbs wound drainage. Contact with skin could introduce extraneous organisms into the collected specimen, resulting in inaccurate results. Using another swab at a different site prevents cross-contamination of the wound.

20. Place the swab back in the culture tube (Figure 4). Do not touch the outside of the tube with the swab. Secure the cap. Some swab containers have an ampule of medium at the bottom of the tube. It might be necessary to crush this ampule to activate. Follow the manufacturer’s instructions for use.

**FIGURE 2.** Removing cap from culture tube.

**FIGURE 3.** Swabbing the wound.
Collecting a Wound Culture

**ACTION**

21. Remove gloves and discard them accordingly.

22. Put on gloves. Place a dressing on the wound, as appropriate, based on medical orders and/or the nursing plan of care. Refer to Skills 8-1 through 8-3. Remove gloves.

23. After securing the dressing, label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

24. Label the specimen according to your institution’s guidelines and send it to the laboratory in a biohazard bag (Figure 5).

25. Remove PPE, if used. Perform hand hygiene. Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

**RATIONALE**

Removing gloves properly reduces the risk for infection transmission and contamination of other items.

Wound dressings protect, absorb drainage, provide a moist environment, and promote wound healing. Removing gloves properly reduces the risk for infection transmission and contamination of other items.

Recording date and time provides communication and demonstrates adherence to plan of care. Proper patient and bed positioning promotes safety and comfort.

Proper labeling ensures proper identification of the specimen.

**EVALUATION**

The expected outcome is met when the patient’s wound is cultured without evidence of contamination, and the patient remains free of exposure to additional pathogens.

**DOCUMENTATION Guidelines**

Document the location of the wound the assessment of the wound, including type of tissue present, presence of necrotic tissue, stage (if appropriate) and characteristics of drainage. Include the appearance of the surrounding skin. Document cleansing of the wound and the obtaining of the culture. Record any skin care and/or dressing applied. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered.
CHAPTER 8  Skin Integrity and Wound Care

Sample Documentation

6/22/12  2100 Wound noted on patient’s hand; 2 cm × 3 cm × 1 cm, red, tender, with purulent drainage present. Edges macerated, without erythema and tenderness. Wound cleaned with normal saline, culture obtained. Skin barrier applied to surrounding area, wound packed with moist saline gauze, dressed with dry gauze and Kling. Hand elevated. Culture labeled and sent to lab.

—J. Wentz, RN

UNELECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• The nurse has inserted the culture swab into the patient’s wound to obtain the specimen and realizes that the wound was not cleaned: Discard this swab. Obtain the additional supplies needed to clean the wound according to facility policy and a new culture swab. Cleaning the wound prior to obtaining a specimen for culture removes previous drainage, wound debris, and skin flora, which could introduce extraneous organisms into the specimen, resulting in inaccurate results. Clean the wound and then proceed to obtain the culture specimen.

• As the nurse prepares to insert the culture swab into the wound, the nurse inadvertently touches the swab to the patient’s bedclothes: Discard this swab, obtain a new culture swab, and collect the specimen.

Applying Montgomery Straps

Montgomery straps are prepared strips of nonallergenic tape with ties inserted through holes at one end. One set of straps is placed on either side of a wound, and the straps are tied like shoelaces to secure the dressings. When it is time to change the dressing, the straps are untied, the wound is cared for, and then the straps are retied to hold the new dressing. Often a skin barrier is applied before the straps to protect the skin. The straps or ties need to be changed only if they become loose or soiled.

Montgomery straps are recommended to secure dressings on wounds that require frequent dressing changes, such as wounds with increased drainage. These straps allow the nurse to perform wound care without the need to remove adhesive strips, such as tape, with each dressing change, thus decreasing the risk of skin irritation and injury.

EQUIPMENT

• Clean disposable gloves
• Additional PPE, as indicated
• Dressings for wound care as ordered
• Commercially available Montgomery straps or 2” to 3” hypoallergenic tape and strings for ties
• Cleansing solution, usually normal saline
• Gauze pads
• Skin-protectant wipe
• Skin-barrier sheet (hydrocolloidal or nonhydrocolloidal)

ASSESSMENT

Assess the situation to determine the need for wound cleaning and a dressing change. Assess the integrity of any straps currently in use. Replace loose or soiled straps or ties. Confirm any medical orders relevant to wound care and any wound care included in the nursing plan of care. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing to determine if it is intact. Assess for excess drainage or bleeding or saturation of the dressing. Inspect the wound and the surrounding tissue. Assess the appearance of the wound for the approximation of wound edges, the color of the wound and surrounding area, and signs of dehiscence. Assess for the presence of sutures, staples, or adhesive closure strips. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration. (continued)
Skill 8-6 Applying Montgomery Straps

NURSING DIAGNOSIS

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Risk for Impaired Skin Integrity. Other nursing diagnoses that may be appropriate include:

- Impaired Tissue Integrity
- Risk for Injury
- Acute Pain
- Deficient Knowledge
- Delayed Surgical Recovery
- Risk for Infection
- Anxiety
- Disturbed Body Image
- Impaired Skin Integrity

OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when applying Montgomery straps is that the patient’s skin is free from irritation and injury. Other outcomes that may be appropriate include that the care is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort, and the wound continues to show signs of progression of healing.

IMPLEMENTATION

**ACTION**

1. Review the medical orders for wound care or the nursing plan of care related to wound care.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.
3. Perform hand hygiene and put on PPE, if indicated.
4. Identify the patient.
5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.
6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.
7. Place a waste receptacle at a convenient location for use during the procedure.
8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).
9. Assist the patient to a comfortable position that provides easy access to the wound area. Use a bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.
10. Perform wound care and a dressing change as outlined in Skills 8-1 through 8-4, as ordered.
11. Put on clean gloves. Clean the skin on either side of the wound with the gauze, moistened with normal saline. Dry the skin.

**RATIONALE**

Reviewing the order and plan of care validates the correct patient and correct procedure.

Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.

Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.

Identifying the patient ensures the right patient receives the intervention and helps prevent errors.

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

Having a waste container handy means that the soiled dressing may be discarded easily, without the spread of microorganisms.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.

Wound care aids in healing and provides protection for the wound.

Gloves prevent the spread of microorganisms. Cleaning and drying the skin prevents irritation and injury.
12. Apply a skin protectant to the skin where the straps will be placed.

13. Remove gloves.

14. Cut the skin barrier to the size of the tape or strap. Apply the skin barrier to the patient’s skin, near the dressing. Apply the sticky side of each tape or strap to the skin barrier sheet, so the openings for the strings are at the edge of the dressing (Figure 1). Repeat for the other side.

Skin protectant minimizes the risk for skin breakdown and irritation.

Tape is easier to handle without gloves. Wound is covered with the dressing.

Skin barrier prevents skin irritation and breakdown.

15. Thread a separate string through each pair of holes in the straps. Tie one end of the string in the hole. Fasten the other end with the opposing tie, like a shoelace (Figure 2). Do not secure too tightly. Repeat according to the number of straps needed. If commercially prepared straps are used, tie strings like a shoelace. Note date and time of application on strap (Figure 3).

Ties hold the dressing in place. Tying the ties too tightly puts additional stress on the surrounding skin. Recording date and time provides a baseline for changing straps.
16. After securing the dressing, label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

17. Remove additional PPE, if used. Perform hand hygiene.

18. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

19. Replace the ties and straps whenever they are soiled, or every 2 to 3 days. Straps can be reapplied onto skin barrier. Skin barrier can remain in place up to 7 days. Use a silicone-based adhesive remover to help remove the skin barrier.

**EVALUATION**

The expected outcome when applying Montgomery straps is met when the patient’s skin is clean, dry, intact, and free from irritation and injury. Other outcomes are met when the patient exhibits a clean wound area free of contamination and trauma. In addition, the patient verbalizes minimal to no pain or discomfort, and the patient exhibits signs and symptoms indicative of progressive wound healing.

**DOCUMENTATION Guidelines**

Document the procedure, the patient’s response, and your assessment of the area before and after application. Record a description of the wound, amount and character of the wound drainage, and an assessment of the surrounding skin. Note the type of dressing that was applied, including the application of skin protectant and a skin barrier. Document that Montgomery straps were applied to secure the dressings. Record the patient’s response to the dressing care and associated pain assessment. Include any pertinent patient and family education.

**Sample Documentation**

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/20/12</td>
<td>1930 Patient’s abdominal wound has large amounts of serosanguineous drainage, saturating multiple layers of gauze and ABDs, requiring dressing changes at least q 3 hours. Surrounding skin cleansed, skin protectant applied, and Montgomery straps applied to secure wound dressings. —D. Rightner, RN</td>
</tr>
</tbody>
</table>

**UNEXPECTED SITUATION AND ASSOCIATED INTERVENTION**

- A patient has had an abdominal wound for several weeks. Despite careful wound and skin care, the nurse observes signs of redness and irritation where the tape for the dressings has been repeatedly placed. Obtain the supplies listed in this skill. Apply Montgomery straps, being sure to move the skin barrier sheet at least 1” away from the area of irritation.
Caring for a Penrose Drain

Drains are inserted into or near a wound when it is anticipated that a collection of fluid in a closed area would delay healing. A Penrose drain is a hollow, open-ended rubber tube. It allows fluid to drain via capillary action into absorbent dressings. Penrose drains are commonly used after a surgical procedure or for drainage of an abscess. After a surgical procedure, the surgeon places one end of the drain in or near the area to be drained. The other end passes through the skin, directly through the incision or through a separate opening referred to as a stab wound. A Penrose drain is not sutured. A large safety pin is usually placed in the part outside the wound to prevent the drain from slipping back into the incised area. This type of drain can be advanced or shortened to drain different areas. The patency and placement of the drain are included in the wound assessment.

**EQUIPMENT**
- Sterile gloves
- Gauze dressings
- Sterile cotton-tipped applicators, if appropriate
- Sterile drain sponges
- Surgical or abdominal pads
- Sterile dressing set or suture set (for the sterile scissors and forceps)
- Sterile cleaning solution as ordered (commonly 0.9% normal saline solution)
- Sterile container to hold cleaning solution
- Clean safety pin
- Clean disposable gloves
- Plastic bag or other appropriate waste container for soiled dressings
- Waterproof pad and bath blanket
- Tape or ties
- Skin-protectant wipes if needed
- Additional dressings and supplies needed or as required for ordered wound care

**ASSESSMENT**
Assess the situation to determine the necessity for wound cleaning and a dressing change. Confirm any medical orders relevant to drain care and any drain care included in the nursing plan of care. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing to determine if it is intact, and assess for the presence of excess drainage, bleeding, or saturation of the dressing. Assess the patency of the Penrose drain. Inspect the wound and the surrounding tissue. Assess the appearance of the wound for the approximation of wound edges, the color of the wound and surrounding area, and signs of dehiscence. Note the stage of the healing process and the characteristics of any drainage. Assess the surrounding skin for color, temperature, and the presence of edema, ecchymosis, or maceration.

**NURSING DIAGNOSIS**
Determine the related factors for the nursing diagnosis based on the patient’s current status. An appropriate nursing diagnosis is Risk for Infection. Other nursing diagnoses may also be appropriate, including:
- Anxiety
- Disturbed Body Image
- Deficient Knowledge
- Impaired Tissue Integrity
- Acute Pain
- Impaired Skin Integrity
- Delayed Surgical Recovery

**OUTCOME IDENTIFICATION AND PLANNING**
The expected outcome to achieve when performing care for a Penrose drain is that the Penrose drain remains patent and intact; the care is accomplished without contaminating the wound area, or causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes that are appropriate may include: the wound shows signs of progressive healing without evidence of complications, and the patient demonstrates understanding about drain care.

*(continued)*
**Skilled Practice 8-7: Caring for a Penrose Drain**

**IMPLEMENTATION**

**ACTION**

1. Review the medical orders for wound care or the nursing plan of care related to wound/drain care.

2. Gather the necessary supplies and bring to the bedside stand or overbed table.

3. Perform hand hygiene and put on PPE, if indicated.

4. Identify the patient.

5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.

7. Place a waste receptacle at a convenient location for use during the procedure.

8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

9. Assist the patient to a comfortable position that provides easy access to the drain and/or wound area. Use a bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.

10. Put on clean gloves. Check the position of the drain or drains before removing the dressing. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove.

11. After removing the dressing, note the presence, amount, type, color, and odor of any drainage on the dressings. Place soiled dressings in the appropriate waste receptacle.

12. Inspect the drain site for appearance and drainage. Assess if any pain is present.

13. Using sterile technique, prepare a sterile work area and open the needed supplies.

14. Open the sterile cleaning solution. Pour the cleansing solution into the basin. Add the gauze sponges.

15. Put on sterile gloves.

**RATIONALE**

Reviewing the order and plan of care validates the correct patient and correct procedure.

Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.

Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.

Identifying the patient ensures the right patient receives the intervention and helps prevent errors.

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

Having a waste container handy means that the soiled dressing may be discarded easily, without the spread of microorganisms.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.

Gloves protect the nurse from handling contaminated dressings. Checking the position ensures that a drain is not removed accidentally if one is present. Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.

The presence of drainage should be documented. Discarding dressings appropriately prevents the spread of microorganisms.

The wound healing process and/or the presence of irritation or infection must be documented.

Sterility of dressings and solution is maintained.

Sterile gloves help to maintain surgical asepsis and sterile technique and prevent the spread of microorganisms.
16. Cleanse the drain site with the cleaning solution. Use the forceps and the moistened gauze or cotton-tipped applicators. Start at the drain insertion site, moving in a circular motion toward the periphery (Figure 1). Use each gauze sponge or applicator only once. Discard and use new gauze if additional cleansing is needed.

17. Dry the skin with a new gauze pad in the same manner. Apply skin protectant to the skin around the drain; extend out to include the area of skin that will be taped. Place a presplit drain sponge under the drain (Figure 2). Closely observe the safety pin in the drain. If the pin or drain is crusted, replace the pin with a new sterile pin. Take care not to dislodge the drain.

Using a circular motion ensures that cleaning occurs from the least to most contaminated area and a previously cleaned area is not contaminated again.

Drying prevents skin irritation. Skin protectant prevents skin irritation and breakdown. The gauze absorbs drainage and prevents the drainage from accumulating on the patient’s skin. Microorganisms grow more easily in a soiled environment. The safety pin ensures proper placement because the drain is not sutured in place.

18. Apply gauze pads over the drain (Figure 3). Apply ABD pads over the gauze.

The gauze absorbs drainage. Pads provide extra absorption for excess drainage and provide a moisture barrier.

(continued)
Caring for a Penrose Drain

**ACTION**

19. Remove and discard gloves. Apply tape, Montgomery straps, or roller gauze to secure the dressings.

20. After securing the dressing, label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

21. Remove additional PPE, if used. Perform hand hygiene.

22. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

**RATIONALE**

- Proper disposal of gloves prevents the spread of microorganisms. Tape or other securing products are easier to apply after gloves have been removed.
- Recording date and time provides communication and demonstrates adherence to plan of care. Proper patient and bed positioning promotes safety and comfort.
- Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.
- Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.

**EVALUATION**

The expected outcome is met when the patient exhibits a wound that is clean, dry, and intact, with a patent, intact Penrose drain. Other outcomes that are appropriate may include: the patient remains free of wound contamination and trauma; the patient reports minimal to no pain or discomfort; the patient exhibits signs and symptoms of progressive wound healing; and the patient verbalizes an understanding of the rationale for and/or the technique for drain care.

**DOCUMENTATION Guidelines**

Document the location of the wound and drain, the assessment of the wound and drain site, and intactness of the Penrose drain. Document the presence of drainage and characteristics on the old dressing upon removal. Include the appearance of the surrounding skin. Document cleansing of the drain site. Record any skin care and the dressing applied. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered.

**Sample Documentation**

3/13/12 1400 Patient medicated with morphine 3 mg IV as ordered prior to dressing change. Dressing to right forearm removed. Dressings noted with small amount of serosanguineous drainage. Forearm with gross edema and erythema. Penrose drain intact, with safety pin in place. Incision edges approximated, staples intact. Area irrigated with normal saline, dried, and redressed with gauze, ABD pads, and stretch gauze. Reinforced the importance of keeping arm elevated on pillows, with patient verbalizing understanding.

—P. Towns, RN

**SPECIAL CONSIDERATIONS**

- Evaluate a sudden increase in the amount of drainage or bright red drainage and notify the primary care provider of these findings.
- Wound care is often uncomfortable, and patients may experience significant pain. Assess the patient’s comfort level and past experiences with wound care. Offer analgesics as ordered to maintain the patient’s level of comfort.

**EXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS**

- Assessment of the drain site reveals significantly increased edema, erythema, and drainage from the site, in addition to drainage via the drain: Cleanse the site as ordered or per the nursing plan of care. Obtain vital signs, including the patient’s temperature. Document care and assessments. Notify the primary care provider of the findings.
- Assessment of the drain site reveals that the drain has slipped back into the incision: Follow facility policy and the medical orders related to advancing Penrose drains. Document assessments and interventions. Notify the primary care provider of the findings and interventions.
- When preparing to change a dressing on a Penrose drain site, the nurse’s assessment reveals that the drain is completely out, lying in the dressing material: Assess the site and the patient for symptoms of pain, increased edema/erythema/drainage. Provide site care as ordered. Notify the primary care provider. Often, depending on the patient’s stage of recovery, the drain is left out. Document the findings and interventions.
A biliary drain or T-tube (Figure 1) is sometimes placed in the common bile duct after removal of the gallbladder (cholecystectomy) or a portion of the bile duct (choledochostomy). The tube drains bile while the surgical site is healing. A portion of the tube is inserted into the common bile duct and the remaining portion is anchored to the abdominal wall, passed through the skin, and connected to a closed drainage system. Often, a three-way valve is inserted between the drain tube and the drainage system to allow for clamping and flushing of the tube if necessary. The drainage amount is measured every shift, recorded, and included in output totals.

**EQUIPMENT**

- Sterile gloves
- Clean disposable gloves
- Additional PPE, as indicated
- Sterile gauze pads
- Sterile drain sponges
- Cleansing solution, usually sterile normal saline
- Sterile cotton-tipped applicators (if appropriate)
- Transparent dressing
- Graduated collection container
- Waste receptacle
- Sterile basin
- Sterile forceps
- Tape
- Skin-protectant wipes
- Waterproof pad and bath blanket, if needed

**ASSESSMENT**

Assess the situation to determine the need for wound cleaning, a dressing change, or emptying of the drain. Confirm any medical orders relevant to drain care and any drain care included in the nursing plan of care. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing to determine if it is intact, and assess for evidence of excessive drainage or bleeding or saturation of the dressing. Assess the patency of the T-tube and the drain site. Note the characteristics of the drainage in the collection bag.

Inspect the wound and the surrounding tissue. Assess the appearance of the incision for the approximation of wound edges, the color of the wound and surrounding area, and signs of dehiscence. Note the stage of the healing process and characteristics of any drainage. Assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.
UNIT II Promoting Healthy Physiologic Responses

Skill 8-8 Caring for a T-Tube Drain continued

NURSING DIAGNOSIS

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Risk for Infection. Other nursing diagnoses may also be appropriate, including:

- Acute Pain
- Anxiety
- Deficient Knowledge
- Impaired Tissue Integrity
- Disturbed Body Image
- Impaired Skin Integrity
- Delayed Surgical Recovery

OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when performing care for a T-tube drain is that the drain remains patent and intact; drain care is accomplished without contaminating the wound area and/or without causing trauma to the wound; and the patient does not experience pain or discomfort. Other outcomes that are appropriate may include: the wound continues to show signs of progression of healing; the drainage amounts are measured accurately at the frequency required by facility policy and recorded as part of the intake and output record; and the patient demonstrates understanding about drain care.

IMPLEMENTATION

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review the medical orders for wound care or the nursing plan of care related to wound/drain care.</td>
<td>Reviewing the order and plan of care validates the correct patient and correct procedure.</td>
</tr>
<tr>
<td>2. Gather the necessary supplies and bring to the bedside stand or overbed table.</td>
<td>Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.</td>
</tr>
<tr>
<td>3. Perform hand hygiene and put on PPE, if indicated.</td>
<td>Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.</td>
</tr>
<tr>
<td>4. Identify the patient.</td>
<td>Identifying the patient ensures the right patient receives the intervention and helps prevent errors.</td>
</tr>
<tr>
<td>5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.</td>
<td>This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.</td>
</tr>
<tr>
<td>6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescibed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.</td>
<td>Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.</td>
</tr>
<tr>
<td>7. Place a waste receptacle at a convenient location for use during the procedure.</td>
<td>Having a waste container handy means that the soiled dressing may be discarded easily, without the spread of microorganisms.</td>
</tr>
<tr>
<td>8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).</td>
<td>Having the bed at the proper height prevents back and muscle strain.</td>
</tr>
<tr>
<td>9. Assist the patient to a comfortable position that provides easy access to the drain and/or wound area. Use a bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.</td>
<td>Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.</td>
</tr>
</tbody>
</table>

Emptying Drainage

10. Put on clean gloves; put on mask or face shield if indicated. | Gloves prevent the spread of microorganisms; mask reduces the risk of transmission should splashing occur. |

11. Using sterile technique, open a gauze pad, making a sterile field with the outer wrapper. | Using sterile technique deters the spread of microorganisms. |
12. Place the graduated collection container under the outlet valve of the drainage bag. **Without touching the outlet, pull the cap off and empty the bag’s contents completely into the container** (Figure 2). Use the gauze to wipe the outlet, and replace the cap (Figure 3).

**Rationale:** Draining contents into container allows for accurate measurement of the drainage. Touching the outlet with gloves or other surface contaminates the valve, potentially introducing pathogens. Wiping the outlet with gauze prevents contamination of the valve. Recapping prevents the spread of microorganisms.

**Figure 2.** Holding the collection container at the outlet valve.

**Figure 3.** Resealing the outlet valve.

13. Carefully measure and note the characteristics of the drainage. Discard the drainage according to facility policy.

14. Remove gloves and perform hand hygiene.

**Cleaning the Drain Site**

15. Put on clean gloves. Check the position of the drain or drains before removing the dressing. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove. Do not reach over the drain site.

16. After removing the dressing, note the presence, amount, type, color, and odor of any drainage on the dressings. Place soiled dressings in the appropriate waste receptacle. Remove gloves and dispose of in appropriate waste receptacle.

17. Inspect the drain site for appearance and drainage. Assess if any pain is present.

18. Using sterile technique, prepare a sterile work area and open the needed supplies.

19. Open the sterile cleaning solution. Pour the cleansing solution into the basin. Add the gauze sponges.

20. Put on sterile gloves.

**Rationale:** Gloves protect the nurse from handling contaminated dressings. Checking the position ensures that a drain is not removed accidentally if one is present. Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.

**Figure 2.** Holding the collection container at the outlet valve.

**Figure 3.** Resealing the outlet valve.

The presence of drainage should be documented. Proper disposal of gloves prevents spread of microorganisms.

Wound healing process and/or the presence of irritation or infection should be documented. Preparing a sterile work area ensures that supplies are within easy reach and sterility is maintained. Sterility of dressings and solution is maintained. Use of sterile gloves maintains surgical asepsis and sterile technique and reduces the risk of microorganism transmission.

*(continued)*
Caring for a T-Tube Drain continued

ACTION

21. Cleanse the drain site with the cleaning solution. Use the forceps and the moistened gauze or cotton-tipped applicators. **Start at the drain insertion site, moving in a circular motion toward the periphery. Use each gauze sponge only once. Discard and use new gauze if additional cleansing is needed.**

22. Dry with new sterile gauze in the same manner. Apply skin protectant to the skin around the drain; extend out to include the area of skin that will be taped.

23. Place a presplit drain sponge under the drain. Apply gauze pads over the drain. Remove and discard gloves.

24. Secure the dressings with tape as needed. Alternatively, before removing gloves, place a transparent dressing over the tube and insertion site. **Be careful not to kink the tubing.**

25. After securing the dressing, label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

26. Remove additional PPE, if used. Perform hand hygiene.

27. Check drain status at least every four hours. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

RATIONALE

Cleaning is done from the least to most contaminated area so that a previously cleaned area is not contaminated again.

Drying prevents skin irritation. Skin protectant prevents skin irritation and breakdown.

The gauze absorbs drainage and prevents the drainage from accumulating on the patient’s skin. Proper disposal of gloves prevents spread of microorganisms.

Kinked tubing could block drainage. Type of dressing used is often determined by facility policy.

Recording date and time provides communication and demonstrates adherence to plan of care. Proper patient and bed positioning promotes safety and comfort.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

Checking drain ensures proper functioning and early detection of problems. Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.

EVALUATION

The expected outcome is met when the patient exhibits a patent and intact T-tube drain with a wound area that is free of contamination and trauma. The patient verbalizes minimal to no pain or discomfort. Other outcomes that are appropriate may include: the patient exhibits signs and symptoms of progressive wound healing, with drainage being measured accurately at the frequency required by facility policy, and amounts recorded as part of the intake and output record; and the patient verbalizes an understanding of the rationale for and/or the technique for drain care.

DOCUMENTATION

Guidelines

Document the location of the wound and drain, the assessment of the wound and drain site, and patency of the drain. Note if sutures are intact. Document the presence of drainage and characteristics on the old dressing upon removal. Include the appearance of the surrounding skin. Document cleansing of the drain site. Record any skin care and the dressing applied. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered. Document the amount of bile drainage obtained from the drainage bag on the appropriate intake and output record.

Sample Documentation

8/9/12 1500 Dressing removed from T-tube site. No drainage noted on dressings. Drain site without redness, edema, drainage, or ecchymosis. Suture intact. Exit site cleaned with normal saline, dried, skin protectant applied, and redressed with dry dressing. Patient denies pain. Emptied collection bag of 20 mL bile-colored drainage.

—L. Saunders, RN
CHAPTER 8 Skin Integrity and Wound Care

UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• A patient’s T-tube has been consistently draining 30 to 50 mL a shift, but now there is no output for the current shift. You check the tubing and site and do not observe kinks or other exterior obstructions. Assess for signs of obstructed bile flow, including chills, fever, tachycardia, nausea, right upper quadrant fullness and pain, jaundice, dark foamy urine, and clay-colored stools. Obtain vital signs. Notify the primary care provider of the situation and findings and document the event in the patient’s record. Flushing of the tube with sterile saline via the three-way valve may be ordered as part of the patient’s care.

• Patient had a T-tube placed after surgery. The surgeon has asked that the tube be clamped for 1 hour before and after meals: This diverts bile into the duodenum to aid in digestion and is accomplished by turning the three-way access valve so the drain is closed to the drainage bag or occluding the tube with a clamp. Monitor the patient’s response to clamping the tube. If the patient reports new symptoms, such as right upper quadrant pain, nausea, or vomiting, unclamp the tube. Assess for other symptoms and obtain vital signs. Report the findings to the surgeon and document the intervention in the patient’s record.

• When the patient with a drain is ready to ambulate, empty and compress the drain before activity. Secure the drain to the patient’s gown below the wound, making sure there is no tension on the drainage tubing. This removes excess drainage, maintains maximum suction, and avoids strain on the drain’s suture line.

SPECIAL CONSIDERATIONS

Caring for a Jackson-Pratt Drain

A Jackson-Pratt (J-P) or grenade drain collects wound drainage in a bulblike device that is compressed to create gentle suction (Figure 1). It consists of perforated tubing connected to a portable vacuum unit. After a surgical procedure, the surgeon places one end of the drain in or near the area to be drained. The other end passes through the skin via a separate incision. These drains are usually sutured in place. The site may be treated as an additional surgical wound, but often these sites are left open to air after the first 24 hours after surgery. They are typically used with breast and abdominal surgery.

As the drainage accumulates in the bulb, the bulb expands and suction is lost, requiring recompression. Typically, these drains are emptied every 4 to 8 hours, and when they are half full of drainage or air. However, based on nursing assessment and judgment, the drain could be emptied and recompressed more frequently.

FIGURE 1. Jackson-Pratt drain.

(continued)
Skill 8-9  Caring for a Jackson-Pratt Drain  

EQUIPMENT

- Graduated container for measuring drainage
- Clean disposable gloves
- Additional PPE, as indicated
- Cleansing solution, usually sterile normal saline
- Sterile gauze pads
- Skin-protectant wipes
- Dressing materials for site dressing, if used

ASSESSMENT

Confirm any medical orders relevant to drain care and any drain care included in the nursing plan of care. Assess the situation to determine the need for wound cleaning, a dressing change, or emptying of the drain. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing. Assess for the presence of excess drainage or bleeding or saturation of the dressing. Assess the patency of the drain and the drain site. Note the characteristics of the drainage in the collection bag. Inspect the wound and the surrounding tissue. Assess the appearance of the incision for the approximation of wound edges, the color of the wound and surrounding area, and signs of dehiscence. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.

NURSING DIAGNOSIS

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Risk for Infection. Many other nursing diagnoses may also be appropriate, including:

- Anxiety
- Acute Pain
- Impaired Skin Integrity
- Impaired Tissue Integrity
- Disturbed Body Image
- Deficient Knowledge
- Delayed Surgical Recovery

OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when performing care for a Jackson-Pratt drain is that the drain is patent and intact. Care is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes that are appropriate may include: the wound continues to show signs of progression of healing; the drainage amounts are measured accurately at the frequency required by facility policy and recorded as part of the intake and output record; and the patient demonstrates understanding about drain care.

IMPLEMENTATION

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review the medical orders for wound care or the nursing plan of care related to wound/drain care.</td>
<td>Reviewing the order and plan of care validates the correct patient and correct procedure.</td>
</tr>
<tr>
<td>2. Gather the necessary supplies and bring to the bedside stand or overbed table.</td>
<td>Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.</td>
</tr>
<tr>
<td>3. Perform hand hygiene and put on PPE, if indicated.</td>
<td>Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.</td>
</tr>
<tr>
<td>4. Identify the patient.</td>
<td>Identifying the patient ensures the right patient receives the intervention and helps prevent errors.</td>
</tr>
</tbody>
</table>
5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.

7. Place a waste receptacle at a convenient location for use during the procedure.

8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

9. Assist the patient to a comfortable position that provides easy access to the drain and/or wound area. Use a bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.

10. Put on clean gloves; put on mask or face shield if indicated.

11. Place the graduated collection container under the outlet of the drain. Without contaminating the outlet valve, pull the cap off. The chamber will expand completely as it draws in air. Empty the chamber’s contents completely into the container (Figure 2). Use the gauze pad to clean the outlet. Fully compress the chamber with one hand and replace the cap with your other hand (Figure 3).

**Rationale**

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

Having a waste container handy means that the soiled dressing may be discarded easily, without the spread of microorganisms.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.

Gloves prevent the spread of microorganisms; mask reduces the risk of transmission should splashing occur.

Emptying the drainage allows for accurate measurement. Cleaning the outlet reduces the risk of contamination and helps prevent the spread of microorganisms. Compressing the chamber reestablishes the suction.

12. Check the patency of the equipment. Make sure the tubing is free from twists and kinks.

13. Secure the Jackson-Pratt drain to the patient’s gown below the wound with a safety pin, making sure that there is no tension on the tubing.

**Rationale**

Patent, untwisted, or unkinked tubing promotes appropriate drainage from wound.

Securing the drain prevents injury to the patient and accidental removal of the drain.

(continued)
Caring for a Jackson-Pratt Drain continued

**ACTION**

14. Carefully measure and record the character, color, and amount of the drainage. Discard the drainage according to facility policy. Remove gloves.

15. Put on clean gloves. If the drain site has a dressing, re-dress the site as outlined in Skill 8-8. Include cleaning of the sutures with the gauze pad moistened with normal saline. Dry sutures with gauze before applying new dressing.

16. If the drain site is open to air, observe the sutures that secure the drain to the skin. Look for signs of pulling, tearing, swelling, or infection of the surrounding skin. Gently clean the sutures with the gauze pad moistened with normal saline. Dry with a new gauze pad. Apply skin protectant to the surrounding skin if needed.

17. Remove and discard gloves. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

18. Remove additional PPE, if used. Perform hand hygiene.

19. Check drain status at least every four hours. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

**RATIONALE**

Documentation promotes continuity of care and communication. Appropriate disposal of biohazard material reduces the risk for microorganism transmission. Proper disposal of gloves deters transmission of microorganisms.

Dressing protects the site. Cleaning and drying sutures deters growth of microorganisms.

Early detection of problems leads to prompt intervention and prevents complications. Gentle cleaning and drying prevent the growth of microorganisms. Skin protectant prevents skin irritation and breakdown.

Proper removal and disposal of gloves prevents spread of microorganisms. Proper patient and bed positioning promotes safety and comfort.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

Checking drain ensures proper functioning and early detection of problems. Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.

**EVALUATION**

The expected outcome is met when the patient exhibits a patent and intact Jackson-Pratt drain with a wound area that is free of contamination and trauma. The patient verbalizes minimal to no pain or discomfort. Other outcomes that are appropriate may include: the patient exhibits signs and symptoms of progressive wound healing, with drainage being measured accurately at the frequency required by facility policy, and amounts recorded as part of the intake and output record; and the patient verbalizes an understanding of the rationale for and/or the technique for drain care.

**DOCUMENTATION**

Guidelines

Document the location of the wound and drain, the assessment of the wound and drain site, and patency of the drain. Note if sutures are intact. Document the presence of drainage and characteristics on the old dressing upon removal. Include the appearance of the surrounding skin. Document cleansing of the drain site. Record any skin care and the dressing applied. Note that the drain was emptied and recompressed. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered. Document the amount and characteristics of drainage obtained on the appropriate intake and output record.

Sample Documentation

2/7/12 2400 Right chest incision and drain open to air. Wound edges approximated, slight ecchymosis, no edema, redness, or drainage. Steri-Strips intact. J-P drain patent and secured with suture. Exit site without edema, drainage, or redness. Drain emptied and recompressed. 40 mL sanguineous drainage recorded.

—Carol White, RN
UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• A patient has a Jackson-Pratt drain in the right lower quadrant following abdominal surgery. The record indicates it has been draining serosanguineous fluid, 40 to 50 mL every shift. While performing your initial assessment, you note that the dressing around the drain site is saturated with serosanguineous secretions and there is minimal drainage in the collection chamber. Inspect the tubing for kinks or obstruction. Assess the patient for changes in condition. Remove the dressing and assess the site. Often, if the tubing becomes blocked with a blood clot or drainage particles, the wound drainage will leak around the exit site of the drain. Cleanse the area and redress the site. Notify the primary care provider of the findings and document the event in the patient’s record.

• Your patient calls you to the room and says, “I found this in the bed when I went to get up.” He has his Jackson-Pratt drain in his hand. It is completely removed from the patient: Assess the patient for any new and abnormal signs or symptoms, and assess the surgical site and drain site. Apply a sterile dressing with gauze and tape to the drain site. Notify the primary care provider of the findings and document the event in the patient’s record.

• Often patients have more than one Jackson-Pratt drain. Number or letter the drains for easy identification. Record the drainage from each drain separately, identified by the number or letter, on the intake and output record.

• When the patient with a drain is ready to ambulate, empty and compress the drain before activity. Secure the drain to the patient’s gown below the wound, making sure there is no tension on the drainage tubing. This removes excess drainage, maintains maximum suction, and avoids strain on the drain’s suture line.

SPECIAL CONSIDERATIONS

Caring for a Hemovac Drain

A Hemovac drain is placed into a vascular cavity where blood drainage is expected after surgery, such as with abdominal and orthopedic surgery. The drain consists of perforated tubing connected to a portable vacuum unit (Figure 1). Suction is maintained by compressing a spring-like device in the collection unit. After a surgical procedure, the surgeon places one end of the drain in or near the area to be drained. The other end passes through the skin via a separate incision. These drains are usually sutured in place. The site may be treated as an additional surgical wound, but often these sites are left open to air after the first 24 hours after surgery.

As the drainage accumulates in the collection unit, it expands and suction is lost, requiring recompression. Typically, the drain is emptied every 4 or 8 hours and when it is half full of drainage or air. However, based on the medical orders and nursing assessment and judgment, it could be emptied and recompressed more frequently.

FIGURE 1. Hemovac drain.

(continued)
Caring for a Hemovac Drain continued

**EQUIPMENT**

- Graduated container for measuring drainage
- Clean disposable gloves
- Additional PPE, as indicated
- Cleansing solution, usually sterile normal saline
- Sterile gauze pads
- Skin-protectant wipes
- Dressing materials for site dressing, if used

**ASSESSMENT**

Confirm any medical orders relevant to drain care and any drain care included in the nursing plan of care. Assess the situation to determine the need for wound cleaning, a dressing change, or emptying of the drain. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing. Assess for the presence of excess drainage or bleeding or saturation of the dressing. Assess the patency of the drain and the drain site. Note the characteristics of the drainage in the collection bag. Inspect the wound and the surrounding tissue. Assess the appearance of the incision for the approximation of wound edges, the color of the wound and surrounding area, and signs of dehiscence. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.

**NURSING DIAGNOSIS**

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Risk for Infection. Many other nursing diagnoses may also be appropriate, including:

- Anxiety
- Disturbed Body Image
- Impaired Skin Integrity
- Impaired Tissue Integrity

- Acute Pain
- Deficient Knowledge
- Delayed Surgical Recovery

**OUTCOME IDENTIFICATION AND PLANNING**

The expected outcome to achieve when performing care for a Hemovac drain is that the drain is patent and intact. Care is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes that are appropriate may include: the wound continues to show signs of progression of healing; the drainage amounts are measured accurately at the frequency required by facility policy and recorded as part of the intake and output record; and the patient demonstrates understanding about drain care.

**IMPLEMENTATION**

**ACTION**

1. Review the medical orders for wound care or the nursing plan of care related to wound/drain care.

2. Gather the necessary supplies and bring to the bedside stand or overbed table.

3. Perform hand hygiene and put on PPE, if indicated.

4. Identify the patient.

**RATIONALE**

Reviewing the order and plan of care validates the correct patient and correct procedure.

Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.

Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.

Identifying the patient ensures the right patient receives the intervention and helps prevent errors.
5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.

7. Place a waste receptacle at a convenient location for use during the procedure.

8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

9. Assist the patient to a comfortable position that provides easy access to the drain and/or wound area. Use a bath blanket to cover any exposed area other than the wound. Place a waterproof pad under the wound site.

10. Put on clean gloves; put on mask or face shield if indicated.

11. Place the graduated collection container under the outlet of the drain. Without contaminating the outlet, pull the cap off. The chamber will expand completely as it draws in air. Empty the chamber’s contents completely into the container (Figure 2). Use the gauze pad to clean the outlet. Fully compress the chamber by pushing the top and bottom together with your hands. Keep the device tightly compressed while you apply the cap (Figure 3).

**Rationale**

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

Having a waste container handy means that the soiled dressing may be discarded easily, without the spread of microorganisms.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.

Gloves prevent the spread of microorganisms; mask reduces the risk of transmission should splashing occur.

Emptying the drainage allows for accurate measurement. Cleaning the outlet reduces the risk of contamination and helps prevent the spread of microorganisms. Compressing the chamber reestablishes the suction.

**FIGURE 2.** Emptying Hemovac drain into collection device.

**FIGURE 3.** Compressing the Hemovac and securing the cap.

(continued)
Caring for a Hemovac Drain

**ACTION**

12. Check the patency of the equipment. Make sure the tubing is free from twists and kinks.

13. Secure the Hemovac drain to the patient’s gown below the wound with a safety pin, making sure that there is no tension on the tubing.

14. Carefully measure and record the character, color, and amount of the drainage. Discard the drainage according to facility policy.

15. Put on clean gloves. If the drain site has a dressing, re-dress the site as outlined in Skill 8-8. Include cleaning of the sutures with the gauze pad moistened with normal saline. Dry sutures with gauze before applying new dressing.

16. If the drain site is open to air, observe the sutures that secure the drain to the skin. Look for signs of pulling, tearing, swelling, or infection of the surrounding skin. Gently clean the sutures with the gauze pad moistened with normal saline. Dry with a new gauze pad. Apply skin protectant to the surrounding skin if needed.

17. Remove and discard gloves. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

18. Remove additional PPE, if used. Perform hand hygiene.

19. Check drain status at least every four hours. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

**RATIONALE**

Patient, untwisted, or unkinked tubing promotes appropriate drainage from wound.

Securing the drain prevents injury to the patient and accidental removal of the drain.

Documentation promotes continuity of care and communication.

Appropriate disposal of biohazard material reduces the risk for microorganism transmission.

Dressing protects the site. Cleaning and drying sutures deters growth of microorganisms.

Early detection of problems leads to prompt intervention and prevents complications. Gentle cleaning and drying prevent the growth of microorganisms. Skin protectant prevents skin irritation and breakdown.

Proper removal of gloves prevents spread of microorganisms. Proper patient and bed positioning promotes safety and comfort.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

Checking drain ensures proper functioning and early detection of problems. Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.

**EVALUATION**

The expected outcome is met when the patient exhibits a patent and intact Jackson-Pratt drain with a wound area that is free of contamination and trauma. The patient verbalizes minimal to no pain or discomfort. Other outcomes that are appropriate may include: the patient exhibits signs and symptoms of progressive wound healing, with drainage being measured accurately at the frequency required by facility policy, and amounts recorded as part of the intake and output record; and the patient verbalizes an understanding of the rationale for and/or the technique for drain care.

**DOCUMENTATION**

Document the location of the wound and drain, the assessment of the wound and drain site, and patency of the drain. Note if sutures are intact. Document the presence of drainage and characteristics of the old dressing upon removal. Include the appearance of the surrounding skin. Document cleansing of the drain site. Record any skin care and any dressing applied. Note that the drain was emptied and recompressed. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered. Document the amount and characteristics of drainage obtained on the appropriate intake and output record.

**Sample Documentation**

1/18/12 1000 Hemovac drain in place in left lower extremity, site open to air. Suture intact, exit site slightly pink, without redness, edema, or drainage. Surrounding skin without edema, ecchymosis, or redness. Exit site and suture cleansed with normal saline. Hemovac emptied of 90 mL sanguineous secretions and recompressed.

—A. Smith, RN
UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• A patient has a Hemovac drain placed in the left knee following surgery. The record indicates it has been draining serosanguineous secretions, 40 to 50 mL every shift. While performing your initial assessment, you note that the collection chamber is completely expanded. The nurse empties the device and compresses to resume suction. A short time later, the nurse observes that the chamber is completely expanded again:

   Inspect the tubing for kinks or obstruction. Inspect the device, looking for breaks in the integrity of the chamber. Make sure the cap is in place and closed. Assess the patient for changes in condition. Remove the dressing and assess the site. Make sure the drainage tubing has not advanced out of the wound, exposing any of the perforations in the tubing. If you are not successful in maintaining the suction, notify the primary care provider of the findings and interventions and document the event in the patient’s record.

• When the patient with a drain is ready to ambulate, empty and compress the drain before activity. Secure the drain to the patient’s gown below the wound, making sure there is no tension on the drainage tubing. This removes excess drainage, maintains maximum suction, and avoids strain on the drain’s suture line.

SPECIAL CONSIDERATIONS

Applying Negative Pressure Wound Therapy

Negative-pressure wound therapy (NPWT) (or topical negative pressure [TNP]) promotes wound healing and wound closure through the application of uniform negative pressure on the wound bed. NPWT results in reduction in bacteria in the wound and the removal of excess wound fluid, while providing a moist wound healing environment. The negative pressure results in mechanical tension on the wound tissues, stimulating cell proliferation, blood flow to wounds, and the growth of new blood vessels. An open-cell foam dressing is applied in the wound. A fenestrated tube is connected to the foam, allowing the application of the negative pressure. The dressing and distal tubing are covered by a transparent, occlusive, air-permeable dressing that provides a seal, allowing the application of the negative pressure. Excess wound fluid is removed through tubing, and it also acts to pull the wound edges together.

NPWT is used to treat a variety of acute or chronic wounds, wounds with heavy drainage, wounds failing to heal, or wounds healing slowly. Examples of such wounds include pressure ulcers, arterial, venous, and diabetic ulcers, dehisced surgical wounds, infected wounds, skin graft sites, and burns. NPWT is not considered for use in the presence of active bleeding; wounds with exposed blood vessels, organs, or nerves; malignancy in wound tissue; presence of dry/necrotic tissue; or with fistulas of unknown origin (Hess, 2008; Preston, 2008; Thompson, 2008). Cautious use is indicated in the presence of unrelieved pressure, anticoagulant therapy, poor nutritional status, and immunosuppressant therapy (Preston). Candidates must be assessed for preexisting bleeding disorders, use of anticoagulants and other medications, or use of supplements that prolong bleeding times, such as aspirin or ginkgo biloba (Malli, 2005; Preston, 2008). NPWT dressings are changed every 48 to 72 hours, depending on the manufacturer’s specifications and medical orders. Infected wounds may require dressing changes every 12 to 24 hours.

The following Skill outlines the procedure for V.A.C. Therapy (KCl), as an example of NPWT. There are many manufacturers of negative pressure wound therapy systems. The nurse should be familiar with the components of, and procedures related to, the particular system in use.

EQUIPMENT

• Negative pressure unit (V.A.C. ATS unit)
• Evacuation/collection canister
• V.A.C. Foam dressing
• V.A.C. drape
• T.R.A.C. Pad
• Skin-protectant wipes
• Sterile gauze sponge
• A sterile irrigation set, including a basin, irrigant container, and irrigation syringe

(continued)
Applying Negative Pressure Wound Therapy  

### ACTION

1. Review the medical order for the application of NPWT therapy, including the ordered pressure setting for the device.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.
3. Perform hand hygiene and put on PPE, if indicated.
4. Identify the patient.

### RATIONALE

- **Reviewing the order validates the correct patient and correct procedure.**
- **Preparation promotes efficient time management and organized approach to the task.** Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.
- **Hand hygiene and PPE prevent the spread of microorganisms.** PPE is required based on transmission precautions.
- **Identifying the patient ensures the right patient receives the intervention and helps prevent errors.**

### ASSESSMENT

Confirm the medical order for the application of NPWT. Check the patient’s chart and question the patient about current treatments and medications that may make the application contraindicated. Assess the situation to determine the need for a dressing change. Confirm any medical orders relevant to wound care and any wound care included in the nursing plan of care. Assess the patient’s level of comfort and the need for analgesics before wound care. Assess if the patient experienced any pain related to prior dressing changes and the effectiveness of interventions employed to minimize the patient’s pain. Assess the current dressing to determine if it is intact. Assess for excess drainage or bleeding or saturation of the dressing. Inspect the wound and the surrounding tissue. Assess the location, appearance of the wound, stage (if appropriate), drainage, and types of tissue present in the wound. Measure the wound. Note the stage of the healing process and characteristics of any drainage. Also assess the surrounding skin for color, temperature, and edema, ecchymosis, or maceration.

### NURSING DIAGNOSIS

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Impaired Skin Integrity. Other nursing diagnoses that may be appropriate or require the use of this skill include:

<table>
<thead>
<tr>
<th>Nursing Diagnosis</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td></td>
</tr>
<tr>
<td>Acute Pain</td>
<td></td>
</tr>
<tr>
<td>Risk for Injury</td>
<td></td>
</tr>
<tr>
<td>Impaired Tissue Integrity</td>
<td></td>
</tr>
<tr>
<td>Disturbed Body Image</td>
<td></td>
</tr>
<tr>
<td>Risk for Infection</td>
<td></td>
</tr>
<tr>
<td>Deficient Knowledge</td>
<td></td>
</tr>
</tbody>
</table>

### OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when applying negative pressure wound therapy is that the therapy is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. Other outcomes that may be appropriate include: the vacuum device functions correctly; the appropriate and ordered pressure is maintained throughout therapy; and the wound exhibits progression in healing.
5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.

7. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

8. Assist the patient to a comfortable position that provides easy access to the wound area. Position the patient so the irrigation solution will flow from the clean end of the wound toward the dirty end. Expose the area and drape the patient with a bath blanket if needed. Put a waterproof pad under the wound area.

9. Have the disposal bag or waste receptacle within easy reach for use during the procedure.

10. Using sterile technique, prepare a sterile field and add all the sterile supplies needed for the procedure to the field. Pour warmed, sterile irrigating solution into the sterile container.

11. Put on a gown, mask, and eye protection.

12. Put on clean gloves. Carefully and gently remove the dressing. If there is resistance, use a silicone-based adhesive remover to help remove the drape. Note the number of pieces of foam removed from the wound. Compare with the documented number from the previous dressing change.

13. Discard the dressings in the receptacle. Remove your gloves and put them in the receptacle.

14. Put on sterile gloves. Using sterile technique, irrigate the wound (see Skill 8-4).

15. Clean the area around the skin with normal saline. Dry the surrounding skin with a sterile gauze sponge.

16. Assess the wound for appearance, stage, the presence of eschar, granulation tissue, undermining, tunneling, necrosis, sinus tract, and drainage. Assess the appearance of the surrounding tissue. Measure the wound. Refer to Fundamentals Review 8-3.

17. **Wipe intact skin around the wound with a skin-protectant wipe and allow it to dry well.**

18. Remove gloves if they become contaminated and discard them into the receptacle.

**RATIONALE**

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and draping provide for comfort and warmth. Gravity directs the flow of liquid from the least contaminated to the most contaminated area. Waterproof pad protects the patient and the bed linens.

Having the waste container handy means that soiled dressings and supplies may be discarded easily, without the spread of microorganisms.

Proper preparation ensures that supplies are within easy reach and sterility is maintained. Warmed solution may result in less discomfort.

Use of personal protective equipment is part of Standard Precautions. A gown protects your clothes from contamination if splashing should occur. Goggles protect mucous membranes of your eyes from contact with irrigant fluid.

Gloves protect the nurse from handling contaminated dressings. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Counting the number of pieces of foam assures the removal of all foam that was placed during the previous dressing change.

Proper disposal of dressings and used gloves prevents the spread of microorganisms.

Irrigation removes exudate and debris.

Moisture provides a medium for growth of microorganisms.

This information provides evidence about the wound healing process and/or the presence of infection.

Skin protectant provides a barrier against irritation and breakdown.

Proper disposal of gloves prevents spread of microorganisms.

*(continued)*
Applying Negative Pressure Wound Therapy

19. Put on a new pair of sterile gloves, if necessary. Using sterile scissors, cut the foam to the shape and measurement of the wound. Do not cut foam over the wound. More than one piece of foam may be necessary if the first piece is cut too small. Carefully place the foam in the wound. Ensure foam-to-foam contact if more than one piece is required. Note the number of pieces of foam placed in the wound.

20. Trim and place the V.A.C. Drape to cover the foam dressing and an additional 3 to 5 cm border of intact periwound tissue. V.A.C. Drape may be cut into multiple pieces for easier handling.

21. Choose an appropriate site to apply the T.R.A.C. Pad.

22. Pinch the Drape and cut a 2-cm hole through the Drape. Apply the T.R.A.C. Pad (Figure 1). Remove V.A.C. Canister from package and insert into the V.A.C. Therapy Unit until it locks into place. Connect T.R.A.C. Pad tubing to canister tubing (Figure 2) and check that the clamps on each tube are open. Turn on the power to the V.A.C. Therapy Unit and select the prescribed therapy setting.

Aseptic technique maintains sterility of items to come in contact with wound. Foam should fill the wound but not cover intact surrounding skin. Foam fragments may fall into wound if cutting is performed over the wound. Foam-to foam contact allows for even distribution of negative pressure. Recording the number of pieces of foam aids in assuring the removal of all foam with next dressing change.

The occlusive air-permeable V.A.C. Drape provides a seal, allowing the application of the negative pressure. T.R.A.C. Pad should be placed in the area where the greatest fluid flow and optimal drainage is anticipated. Avoid placing over bony prominences or within creases in the tissue. A hole in the drape allows for removal of fluid and/or exudate. The canister provides a collection chamber for drainage.

23. Assess the dressing to ensure seal integrity. The dressing should be collapsed, shrinking to the foam and skin.

24. Remove and discard gloves. Apply tape, Montgomery straps or roller gauze to secure the dressings. Alternately, many commercial wound products are self adhesive and do not require additional tape.

25. Label dressing with date and time. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

Shrinkage confirms good seal, allowing for accurate application of pressure and treatment. Tape or other securing products are easier to apply after gloves have been removed. Proper disposal of gloves prevents the spread of microorganisms.

Recording date and time provides communication and demonstrates adherence to plan of care. Proper patient and bed positioning promotes safety and comfort.
26. Remove PPE, if used. Perform hand hygiene.

27. Check all wound dressings every shift. More frequent checks may be needed if the wound is more complex or dressings become saturated quickly.

**EVALUATION**

The expected outcome is met when applying negative pressure wound therapy is accomplished without contaminating the wound area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. In addition, the vacuum device functions correctly; the appropriate and ordered pressure is maintained throughout therapy; and the wound exhibits progression in healing.

**DOCUMENTATION**

**Guidelines**

4/5/12
0800 NPWT dressing intact with good seal maintained, V.A.C. system patent, pressure setting 50 mm Hg. Purulent, sanguineous drainage noted in collection chamber and tubing. Surrounding tissue without edema, redness, ecchymosis, or signs of irritation. Patient verbalizes an understanding of movement limitations related to the system.

—B. Clark, RN

**UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS**

- While assessing the patient, the nurse notes that the seal between the transparent dressing and the foam and skin is not tight: Check the dressing seals, tubing connections, and canister insertion, and ensure the clamps are open. If a leak in the transparent dressing is identified, the appropriate pressure is not being applied to the wound. Apply additional transparent dressing to reseal. If this application does not correct the break, change the dressing.
- The patient complains of acute pain while NPWT is operating: Assess the patient for other symptoms, obtain vital signs, assess the wound, and assess the vacuum device for proper functioning. Report your findings to the primary care provider and document the event in the patient’s record. Administer analgesics as ordered. Continue or change the wound therapy as ordered.
- Change the wound dressing every 48 hours for noninfected wounds, or every 12 to 24 hours for infected wounds. Time dressing changes to allow for wound assessment by the other members of the healthcare team.
- Measure and record the amount of drainage each shift as part of the intake and output record.
- Be alert for audible and visual alarms on the vacuum device to alert you to problems, such as tipping of the device greater than 45 degrees, a full collection canister, an air leak in the dressing, or dislodgment of the canister.
- NPWT should operate for 24 hours. It should not be shut off for more than 2 hours in a 24-hour period. When NPWT is restarted, irrigate the wound per medical order or facility policy, and apply a new NPWT dressing.
- When maceration of the surrounding skin beneath the occlusive dressing occurs, this may be treated by placing a barrier/wafer dressing beneath the transparent dressing to protect the skin. Verify with facility policy as needed.
### Skill 8-12 Removing Sutures

Skin sutures are used to hold tissue and skin together. Sutures may be black silk, synthetic material, or fine wire. Sutures are removed when enough tensile strength has developed to hold the wound edges together during healing. The time frame varies depending on the patient’s age, nutritional status, and wound location. Frequently, after skin sutures are removed, adhesive wound closure strips are applied across the wound to give additional support as it continues to heal. The removal of sutures may be done by the primary care provider or by the nurse with a medical order.

#### EQUIPMENT
- Suture removal kit or forceps and scissors
- Gauze
- Wound cleansing agent, according to facility policy
- Clean disposable gloves
- Additional PPE, as indicated
- Adhesive wound closure strips
- Skin protectant wipes

#### ASSESSMENT
Inspect the surgical incision and the surrounding tissue. Assess the appearance of the wound for the approximation of wound edges, the color of the wound and surrounding area, presence of wound drainage noting color, volume, and odor, and for signs of dehiscence. Note the stage of the healing process and characteristics of any drainage. Assess the surrounding skin for color, temperature, and the presence of edema, maceration, or ecchymosis.

#### NURSING DIAGNOSIS
Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Risk for Infection. Other nursing diagnoses that may be appropriate include:
- Anxiety
- Delayed Surgical Recovery
- Acute Pain
- Impaired Skin Integrity
- Deficient Knowledge

#### OUTCOME IDENTIFICATION AND PLANNING
The expected outcome to achieve when removing surgical sutures is that the sutures are removed without contaminating the incisional area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. In addition, other outcomes that are appropriate include: the patient remains free of complications that would delay recovery; and the patient verbalizes an understanding of the procedure.

#### IMPLEMENTATION

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review the medical orders for suture removal.</td>
<td>Reviewing the order and plan of care validates the correct patient and correct procedure.</td>
</tr>
<tr>
<td>2. Gather the necessary supplies and bring to the bedside stand or overbed table.</td>
<td>Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.</td>
</tr>
<tr>
<td>3. Perform hand hygiene and put on PPE, if indicated.</td>
<td>Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.</td>
</tr>
<tr>
<td>4. Identify the patient.</td>
<td>Identifying the patient ensures the right patient receives the intervention and helps prevent errors.</td>
</tr>
<tr>
<td>5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient. Describe the sensation of suture removal as a pulling or slightly uncomfortable experience.</td>
<td>This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.</td>
</tr>
</tbody>
</table>
ACTION

6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before beginning the procedure. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.

7. Place a waste receptacle at a convenient location for use during the procedure.

8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

9. Assist the patient to a comfortable position that provides easy access to the incision area. Use a bath blanket to cover any exposed area other than the incision. Place a waterproof pad under the incision site.

10. Put on clean gloves. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove. Inspect the incision area (Figure 1).

11. Clean the incision using the wound cleanser and gauze, according to facility policies and procedures.

12. Using the forceps, grasp the knot of the first suture and gently lift the knot up off the skin.

13. Using the scissors, cut one side of the suture below the knot, close to the skin. Grasp the knot with the forceps and pull the cut suture through the skin (Figure 2). Avoid pulling the visible portion of the suture through the underlying tissue.

RATIONALE

Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.

Having a waste container handy means that the soiled dressing may be discarded easily, without the spread of microorganisms.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.

Gloves protect the nurse from handling contaminated dressings. Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.

Incision cleaning prevents the spread of microorganisms and contamination of the wound.

Raising the suture knot prevents accidental injury to the wound or skin when cutting.

Pulling the cut suture through the skin helps reduce the risk for contamination of the incision area and resulting infection.

FIGURE 1. Incision with sutures.

FIGURE 2. Using gloved hands to pull up on a suture with forceps and cutting the suture with sterile scissors.

(continued)
14. Remove every other suture to be sure the wound edges are healed. If they are, remove the remaining sutures as ordered. Dispose of sutures according to facility policy.

15. If wound closure strips are to be applied, apply skin protectant to skin around incision. **Do not apply to incision.** Apply adhesive closure strips. (Figure 3). Take care to handle the strips by the paper backing.

Removing every other suture allows for inspection of the wound, while leaving adequate suture in place to promote continued healing if the edges are not totally approximated. Follow Standard Precautions in disposing of sutures.

Skin protectant helps adherence of closure strips and prevents skin irritation. Adhesive wound closure strips provide additional support to the wound as it continues to heal. Handling by the paper backing avoids contamination.

**FIGURE 3.** Applying Steri-Strips on incision.

16. Reapply the dressing, depending on the medical orders and facility policy.

17. Remove gloves and discard. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

18. Remove additional PPE, if used. Perform hand hygiene.

19. Assess all wounds every shift. More frequent checks may be needed if the wound is more complex.

A new dressing protects the wound. Some policies advise leaving the area uncovered.

Proper removal of gloves prevents spread of microorganisms. Proper patient and bed positioning promotes safety and comfort.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

Checking drain ensures proper functioning and early detection of problems. Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.

**EVALUATION**

The expected outcome is met when the patient exhibits an incision area that is clean, dry, and intact without sutures; the incision area is free of trauma and infection; the patient verbalizes little to no pain or discomfort during the removal; and the patient verbalizes an understanding of the procedure.

**DOCUMENTATION Guidelines**

Document the location of the incision and the assessment of the site. Include the appearance of the surrounding skin. Document cleansing of the site and suture removal. Record any skin care and the dressing applied, if appropriate. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered.
Sample Documentation

3/4/12 1800 Right lower lateral leg surgical wound appears healed. Incision edges are approximated, without erythema, edema, ecchymosis, or drainage. Skin warm and pink. Sutures removed without difficulty; skin protectant applied to skin surrounding incision and adhesive wound closure strips applied. Patient instructed in how to care for wound and expectations regarding wound closure strips; patient and wife verbalized an understanding of information and asked appropriate questions.

—L. Downs, RN

UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• Sutures are crusted with dried blood or secretions, making them difficult to remove: Moisten sterile gauze with sterile saline and gently loosen crusts before removing sutures.
• Resistance is met when attempting to pull suture through the tissue: Use a gentle, continuous pulling motion to remove the suture. If the suture still does not come out, do not use excessive force. Report findings to the primary care provider and document the event in the patient’s record.
• Encourage the patient to splint chest and abdominal wounds during activity, such as changing position, ambulation, coughing, and sneezing. This provides increased support for the skin and underlying tissues and can decrease discomfort.

SPECIAL CONSIDERATIONS

Removing Surgical Staples

Surgical skin staples are made of stainless steel and are used to hold tissue and skin together. Staples decrease the risk of infection and allow faster wound closure. Surgical staples are removed when enough tensile strength has developed to hold the wound edges together during healing. The time frame for removal varies depending on the patient’s age, nutritional status, and wound location. After skin staples are removed, adhesive wound closure strips are applied across the wound to keep the skin edges approximated as it continues to heal. The removal of surgical staples may be done by the primary care provider or by the nurse with a medical order.

EQUIPMENT

• Staple remover
• Gauze
• Wound cleansing agent, according to facility policy
• Clean disposable gloves
• Additional PPE, as indicated
• Adhesive wound closure strips
• Skin protectant wipes

ASSESSMENT

Inspect the surgical incision and the surrounding tissue. Assess the appearance of the wound for the approximation of wound edges, the color of the wound and surrounding area, and signs of dehiscence. Note the stage of the healing process and the characteristics of any drainage. Assess the surrounding skin for color, temperature, and the presence of edema or ecchymosis.

NURSING DIAGNOSIS

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Risk for Infection. Other nursing diagnoses that may be appropriate include:

• Anxiety
• Impaired Skin Integrity
• Deficient Knowledge
• Acute Pain
• Delayed Surgical Recovery

(continued)
OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when removing surgical staples is that the staples are removed without contaminating the incisional area, without causing trauma to the wound, and without causing the patient to experience pain or discomfort. In addition, other outcomes that are appropriate include: the patient remains free of complications that would delay recovery; and the patient verbalizes an understanding of the procedure.

IMPLEMENTATION

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review the medical orders for staple removal.</td>
<td>Reviewing the order and plan of care validates the correct patient and correct procedure.</td>
</tr>
<tr>
<td>2. Gather the necessary supplies and bring to the bedside stand or overbed table.</td>
<td>Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.</td>
</tr>
<tr>
<td>3. Perform hand hygiene and put on PPE, if indicated.</td>
<td>Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.</td>
</tr>
<tr>
<td>4. Identify the patient.</td>
<td>Identifying the patient ensures the right patient receives the intervention and helps prevent errors.</td>
</tr>
<tr>
<td>5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient. Describe the sensation of staple removal as a pulling experience.</td>
<td>This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.</td>
</tr>
<tr>
<td>6. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before beginning the procedure. Administer appropriate prescribed analgesic. Allow enough time for analgesic to achieve its effectiveness before beginning procedure.</td>
<td>Pain is a subjective experience influenced by past experience. Wound care and dressing changes may cause pain for some patients.</td>
</tr>
<tr>
<td>7. Place a waste receptacle at a convenient location for use during the procedure.</td>
<td>Having a waste container handy means that the soiled dressing may be discarded easily, without the spread of microorganisms.</td>
</tr>
<tr>
<td>8. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8).</td>
<td>Having the bed at the proper height prevents back and muscle strain.</td>
</tr>
<tr>
<td>9. Assist the patient to a comfortable position that provides easy access to the incision area. Use a bath blanket to cover any exposed area other than the incision. Place a waterproof pad under the incision site.</td>
<td>Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.</td>
</tr>
<tr>
<td>10. Put on clean gloves. Carefully and gently remove the soiled dressings. If there is resistance, use a silicone-based adhesive remover to help remove the tape. If any part of the dressing sticks to the underlying skin, use small amounts of sterile saline to help loosen and remove. Inspect the incision area (Figure 1).</td>
<td>Gloves protect the nurse from handling contaminated dressings. Cautious removal of the dressing is more comfortable for the patient and ensures that any drain present is not removed. A silicone-based adhesive remover allows for the easy, rapid, and painless removal without the associated problems of skin stripping (Rudoni, 2008; Stephen-Haynes, 2008). Sterile saline moistens the dressing for easier removal and minimizes damage and pain.</td>
</tr>
<tr>
<td>11. Clean the incision using the wound cleanser and gauze, according to facility policies and procedures.</td>
<td>Incision cleaning prevents the spread of microorganisms and contamination of the wound.</td>
</tr>
<tr>
<td>12. Grasp the staple remover (Figure 2). <strong>Position the staple remover under the staple to be removed. Firmly close the staple remover. The staple will bend in the middle and the edges will pull out of the skin.</strong></td>
<td>Correct use of staple remover prevents accidental injury to the wound and contamination of the incision area and resulting infection.</td>
</tr>
</tbody>
</table>
13. Remove every other staple to be sure the wound edges are healed. If they are, remove the remaining staples as ordered. Dispose of staples in the sharps container.

14. If wound closure strips are to be applied, apply skin protectant to skin around incision. Do not apply to incision. Apply adhesive closure strips. Take care to handle the strips by the paper backing.

15. Reapply the dressing, depending on the medical orders and facility policy.

16. Remove gloves and discard. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

17. Remove additional PPE, if used. Perform hand hygiene.

18. Assess all wounds every shift. More frequent checks may be needed if the wound is more complex.

Removing every other staple allows for inspection of the wound, while leaving an adequate number of staples in place to promote continued healing if the edges are not totally approximated.

Skin protectant helps adherence of closure strips and prevents skin irritation. Adhesive wound closure strips provide additional support to the wound as it continues to heal. Handling by the paper backing avoids contamination.

A new dressing protects the wound. Some policies advise leaving the area uncovered.

Proper removal of gloves prevents spread of microorganisms. Proper patient and bed positioning promotes safety and comfort.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

Checking drain ensures proper functioning and early detection of problems. Checking dressings ensures the assessment of changes in patient condition and timely intervention to prevent complications.

The expected outcome is met when the patient exhibits an incision area that is clean, dry, and intact without sutures; the incision area is free of trauma and infection; the patient verbalizes little to no pain or discomfort during the removal; and the patient verbalizes an understanding of the procedure.

Document the location of the incision and the assessment of the site. Include the appearance of the surrounding skin. Document cleansing of the site and suture removal. Record any skin care and the dressing applied, if appropriate. Note pertinent patient and family education and any patient reaction to this procedure, including patient’s pain level and effectiveness of nonpharmacologic interventions or analgesia if administered.

(continued)
Removing Surgical Staples

Sample Documentation

3/4/12 1800 Left upper lateral leg surgical wound appears healed. Incision edges are approximated, without erythema, edema, ecchymosis, or drainage. Skin warm and pink. Staples removed without difficulty; skin protectant applied to skin surrounding incision and adhesive wound closure strips applied. Patient instructed in how to care for wound and expectations regarding wound closure strips; patient and wife verbalized an understanding of information and asked appropriate questions.

—S. Hoffman, RN

Unexpected Situations and Associated Interventions

• The wound edges appear approximated before staple removal but pull apart afterward: Report the findings to the primary care provider and document the event in the patient’s record. Apply adhesive wound closure strips according to facility policy or medical order.

• The staples are stuck to the wound because of dried blood or secretions: Per facility policy or medical order, apply moist saline compresses to loosen crusts before attempting to remove the staples.

Special Considerations

• Encourage the patient to splint chest and abdominal wounds (before and after removal) during activity, such as changing position, ambulation, coughing, and sneezing. This provides increased support for the skin and underlying tissues and can help decrease patient discomfort.

Applying an External Heating Pad

Heat applications accelerate the inflammatory response, promoting healing. Heat is also used to reduce muscle tension, relieve muscle spasm, and relieve joint stiffness. Heat also helps relieve pain. It is used to treat infections, surgical wounds, inflammation, arthritis, joint pain, muscle pain, and chronic pain.

Heat is applied by moist and dry methods. The medical order should include the type of application, the body area to be treated, the frequency of application, and the length of time for the applications. Water used for heat applications needs to be at the appropriate temperature to avoid skin damage: 115° to 125°F for older children and adults and 105° to 110°F for infants, young children, older adults, and patients with diabetes or those who are unconscious.

Common types of external heating devices include Aquathermia pads (one brand) and crushable, microwaveable hot packs. Aquathermia pads are used in healthcare agencies and are safer to use than heating pads. The temperature setting for an Aquathermia pad should not exceed 105° to 109.4°F, depending on facility policy. Microwaveable packs are easy and inexpensive to use but have several disadvantages. They may leak and pose a danger from burns related to improper use. They are used most often in the home setting.

Equipment

• Aquathermia heating pad (or other brand) with electronic unit
• Distilled water
• Cover for the pad, if not part of pad
• Gauze bandage or tape to secure the pad
• Bath blanket
• PPE, as indicated

Assessment

Assess the situation to determine the appropriateness for the application of heat. Assess the patient’s physical and mental status and the condition of the body area to be treated with heat. Confirm the medical order for heat therapy, including frequency, type of therapy, body area to be treated, and length of time for the application. Check the equipment to be used, including the condition of cords, plugs, and heating elements. Look for fluid leaks. Once the equipment is turned on, make sure there is a consistent distribution of heat and the temperature is within safe limits.
## NURSING DIAGNOSIS

Determine the related factors for the nursing diagnoses based on the patient’s current status. Nursing diagnoses that may be appropriate or require the use of this skill include:

- Chronic Pain
- Impaired Skin Integrity
- Delayed Surgical Recovery
- Risk for Injury
- Acute Pain
- Risk for Impaired Skin Integrity
- Impaired Tissue Integrity

## OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when applying an external heat source depends on the patient’s nursing diagnosis. Outcomes that may be appropriate include the following: the patient experiences increased comfort; the patient experiences decreased muscle spasms; the patient exhibits improved wound healing; the patient demonstrates a reduction in inflammation; and the patient remains free from injury.

## IMPLEMENTATION

### ACTION

1. Review the medical order for the application of heat therapy, including frequency, type of therapy, body area to be treated, and length of time for the application.

2. Gather the necessary supplies and bring to the bedside stand or overbed table.

3. Perform hand hygiene and put on PPE, if indicated.

4. Identify the patient.

5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Adjust bed to comfortable working height, usually elbow height of the caregiver (VISN 8, 2009).

7. Assist the patient to a comfortable position that provides easy access to the area where the heat will be applied; use a bath blanket to cover any other exposed area.

8. Assess the condition of the skin where the heat is to be applied.

9. Check that the water in the electronic unit (Figure 1) is at the appropriate level. Fill the unit two-thirds full or to the fill mark, with distilled water, if necessary. Check the temperature setting on the unit to ensure it is within the safe range.

10. Attach pad tubing to electronic unit tubing (Figure 2).

11. Plug in the unit and warm the pad before use. Apply the heating pad to the prescribed area (Figure 3). Secure with gauze bandage or tape.

### RATIONALE

Reviewing the order and plan of care validates the correct patient and correct procedure.

Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.

Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.

Identifying the patient ensures the right patient receives the intervention and helps prevent errors.

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Having the bed at the proper height prevents back and muscle strain.

Patient positioning and use of a bath blanket provide for comfort and warmth.

Assessment supplies baseline data for post-treatment comparison and identifies conditions that may contraindicate the application.

Sufficient water in the unit is necessary to ensure proper function of the unit. Tap water leaves mineral deposits in the unit. Checking the temperature setting helps to prevent skin or tissue damage.

Allows flow of warmed water through heating pad.

Plugging in the pad readies it for use. Heat travels by conduction from one object to another. Gauze bandage or tape holds the pad in position; **do not use pins, as they may puncture and damage the pad.**

(continued)
12. Assess the condition of the skin and the patient’s response to the heat at frequent intervals, according to facility policy. Do not exceed the prescribed length of time for the application of heat.

13. Remove gloves and discard. Remove all remaining equipment; place the patient in a comfortable position, with side rails up and bed in the lowest position.

14. Remove additional PPE, if used. Perform hand hygiene.

15. Remove after the prescribed amount of time. Reassess the patient and area of application, noting the effect and presence of adverse effects.

Maximum vasodilation and therapeutic effects from the application of heat occur within 20 to 30 minutes. Using heat for more than 45 minutes results in tissue congestion and vasoconstriction, known as the rebound phenomenon. Also, prolonged heat application may result in an increased risk of burns. Proper removal of gloves prevents spread of microorganisms. Proper patient and bed positioning promotes safety and comfort. Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms. Removal reduces risk of injury due to prolonged heat application. Heat applications are used to promote healing, reduce muscle tension, relieve muscle spasm, relieve joint stiffness, relieve pain, and treat infections, surgical wounds, inflammation, arthritis, joint pain, muscle pain, and chronic pain. Assessment provides input as to the effectiveness of the treatment.
EVALUATION

The expected outcome is met when the patient exhibits increased comfort, decreased muscle spasm, decreased pain, improved wound healing, and/or decreased inflammation. In addition, the patient remains free of injury.

DOCUMENTATION

Guidelines

Document the rationale for application of heat therapy. If patient is receiving heat therapy for pain, document the assessment of pain pre- and post-intervention. Specify the type of heat therapy and location where it is applied, as well as length of time. Record the condition of the skin, noting any redness or irritation before the heat application and after the application. Document the patient’s reaction to the heat therapy. Record any appropriate patient or family education.

Sample Documentation

9/13/12 2300 Patient complaining of pain, rating it 5 out of 10. Aquathermia pad applied to patient’s lower back for 30 minutes; now rating pain as 2 out of 10. Skin without signs of redness or irritation before and after application.

—M. Martinez, RN

UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• When performing a periodic assessment of the site during the application of heat, the nurse notes excessive swelling and redness at the site and the patient complains of pain that was not present prior to the application of heat: Remove the heat source. Assess the patient for other symptoms and obtain vital signs. Report your findings to the primary care provider and document the interventions in the patient’s record.

• Direct heat treatment is contraindicated for patients at risk for bleeding, patients with a sprained limb in the acute stage, or patients with a condition associated with acute inflammation. Use cautiously with children and older adults. Patients with diabetes, stroke, spinal cord injury, and peripheral neuropathy are at risk for thermal injury, as are patients with very thin or damaged skin. Be extremely careful when applying to heat-sensitive areas, such as scar tissue and stomas.

• Instruct the patient not to lean or lie directly on the heating device, as this reduces air space and increases the risk of burns.

• Check the water level in the Aquathermia unit periodically. Evaporation may occur. If the unit runs dry, it could become damaged. Refill with distilled water periodically.

• A hot water bag or commercially prepared hot pack may be used in the home to apply heat. If using a hot water bag, fill with hot tap water to warm the bag, then empty it to detect any leaks. Check the temperature of the water with the bath thermometer or test on your inner wrist, adjusting the temperature as ordered (usually 115°F – 125°F for adults). Checking the temperature ensures that the heat applied is within the acceptable range of temperatures. Fill the bag one-half to two-thirds full. Partial filling keeps the bag lightweight and flexible so that it can be molded to the treatment area. Squeeze the bag until the water reaches the neck; this expels air, which would make the bag inflexible and would reduce heat conduction. Fasten the top and cover the bag with an absorbent cloth. The covering protects the skin from direct contact with the bag. If using a commercially prepared hot pack, follow manufacturer’s directions and carefully assess skin before and after heat application.

SPECIAL CONSIDERATIONS

General Considerations

• Direct heat treatment is contraindicated for patients at risk for bleeding, patients with a sprained limb in the acute stage, or patients with a condition associated with acute inflammation. Use cautiously with children and older adults. Patients with diabetes, stroke, spinal cord injury, and peripheral neuropathy are at risk for thermal injury, as are patients with very thin or damaged skin. Be extremely careful when applying to heat-sensitive areas, such as scar tissue and stomas.

• Instruct the patient not to lean or lie directly on the heating device, as this reduces air space and increases the risk of burns.

• Check the water level in the Aquathermia unit periodically. Evaporation may occur. If the unit runs dry, it could become damaged. Refill with distilled water periodically.

• A hot water bag or commercially prepared hot pack may be used in the home to apply heat. If using a hot water bag, fill with hot tap water to warm the bag, then empty it to detect any leaks. Check the temperature of the water with the bath thermometer or test on your inner wrist, adjusting the temperature as ordered (usually 115°F – 125°F for adults). Checking the temperature ensures that the heat applied is within the acceptable range of temperatures. Fill the bag one-half to two-thirds full. Partial filling keeps the bag lightweight and flexible so that it can be molded to the treatment area. Squeeze the bag until the water reaches the neck; this expels air, which would make the bag inflexible and would reduce heat conduction. Fasten the top and cover the bag with an absorbent cloth. The covering protects the skin from direct contact with the bag. If using a commercially prepared hot pack, follow manufacturer’s directions and carefully assess skin before and after heat application.

Home Care Considerations

• Direct heat treatment is contraindicated for patients at risk for bleeding, patients with a sprained limb in the acute stage, or patients with a condition associated with acute inflammation. Use cautiously with children and older adults. Patients with diabetes, stroke, spinal cord injury, and peripheral neuropathy are at risk for thermal injury, as are patients with very thin or damaged skin. Be extremely careful when applying to heat-sensitive areas, such as scar tissue and stomas.

• Instruct the patient not to lean or lie directly on the heating device, as this reduces air space and increases the risk of burns.

• Check the water level in the Aquathermia unit periodically. Evaporation may occur. If the unit runs dry, it could become damaged. Refill with distilled water periodically.

• A hot water bag or commercially prepared hot pack may be used in the home to apply heat. If using a hot water bag, fill with hot tap water to warm the bag, then empty it to detect any leaks. Check the temperature of the water with the bath thermometer or test on your inner wrist, adjusting the temperature as ordered (usually 115°F – 125°F for adults). Checking the temperature ensures that the heat applied is within the acceptable range of temperatures. Fill the bag one-half to two-thirds full. Partial filling keeps the bag lightweight and flexible so that it can be molded to the treatment area. Squeeze the bag until the water reaches the neck; this expels air, which would make the bag inflexible and would reduce heat conduction. Fasten the top and cover the bag with an absorbent cloth. The covering protects the skin from direct contact with the bag. If using a commercially prepared hot pack, follow manufacturer’s directions and carefully assess skin before and after heat application.
Applying a Warm Compress

Warm moist compresses are used to help promote circulation, encourage healing, decrease edema, promote consolidation of exudate, and decrease pain and discomfort. Moist heat softens crusted material and is less drying to the skin. Moist heat also penetrates tissues more deeply than dry heat.

The heat of a warm compress dissipates quickly, so the compresses must be changed frequently. If a constant warm temperature is required, a heating device such as an Aquathermia pad (refer to Skill 8-14) is applied over the compress. However, because moisture conducts heat, a low temperature setting is needed on the heating device. Many facilities have warming devices to heat the dressing package to an appropriate temperature for the compress. These devices help reduce the risk of burning or skin damage.

**EQUIPMENT**

- Prescribed solution to moisten the compress material, warmed to 105°F to 110°F
- Container for solution
- Gauze dressings or compresses
- Alternately, obtain the appropriate number of commercially packaged prewarmed dressings from the warming device
- Clean disposable gloves
- Additional PPE, as indicated
- Waterproof pad and bath blanket
- Dry bath towel
- Tape or ties
- Aquathermia or other external heating device, if ordered or required to maintain the temperature of the compress

**ASSESSMENT**

Assess for circulatory compromise in the area where compress will be applied, including skin color, pulses distal to the site, evidence of edema, and the presence of sensation. Assess the situation to determine the appropriateness for the application of heat. Confirm the medical order for the compresses, including the solution to be used, frequency, body area to be treated, and length of time for the application. Assess the equipment to be used, if necessary, including the condition of cords, plugs, and heating elements. Look for fluid leaks. Once the equipment is turned on, make sure there is a consistent distribution of heat and the temperature is within safe limits. Assess the application site frequently during the treatment, as tissue damage can occur.

**NURSING DIAGNOSIS**

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Risk for Injury. Many other nursing diagnoses may be appropriate, including:

- Anxiety
- Acute Pain
- Impaired Skin Integrity
- Impaired Tissue Integrity
- Disturbed Body Image
- Chronic Pain
- Risk for Impaired Skin Integrity
- Deficient Knowledge

**OUTCOME IDENTIFICATION AND PLANNING**

The expected outcome to achieve when applying warm compresses is that the patient shows signs such as decreased inflammation, decreased muscle spasms, or decreased pain that indicate problems have been relieved. Other outcomes that may be appropriate include: the patient experiences improved healing, and the patient remains free from injury.

**IMPLEMENTATION**

**ACTION**

1. Review the medical order for the application of a moist warm compress, including frequency, and length of time for the application.

**RATIONALE**

Reviewing the order and plan of care validates the correct patient and correct procedure.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.

3. Perform hand hygiene and put on PPE, if indicated.

4. Identify the patient.

5. Assess the patient for possible need for nonpharmacologic pain-reducing interventions or analgesic medication before beginning the procedure. Administer appropriate analgesic, consulting physician’s orders, and allow enough time for analgesic to achieve its effectiveness before beginning procedure.

6. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

7. If using an electronic heating device, check that the water in the unit is at the appropriate level. Fill the unit two-thirds full with distilled water, or to the fill mark, if necessary. Check the temperature setting on the unit to ensure it is within the safe range (Refer to Skill 8-14).

8. Assist the patient to a comfortable position that provides easy access to the area. Use a bath blanket to cover any exposed area other than the intended site. Place a waterproof pad under the site.

9. Place a waste receptacle at a convenient location for use during the procedure.

10. Pour the warmed solution into the container and drop the gauze for the compress into the solution. Alternately, if commercially packaged pre-warmed gauze is used, open packaging.

11. Put on clean gloves. Assess the application site for inflammation, skin color, and ecchymosis.

12. Retrieve the compress from the warmed solution, squeezing out any excess moisture (Figure 1). Alternately, remove pre-warmed gauze from open package. Apply the compress by gently and carefully molding it to the intended area. Ask patient if the application feels too hot.

**Rationale**

Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.

Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.

Identifying the patient ensures the right patient receives the intervention and helps prevent errors.

Pain is a subjective experience influenced by past experience. Depending on the site of application, manipulation of the area may cause pain for some patients.

This ensures the patient’s privacy. Explanation relieves anxiety and facilitates cooperation.

Sufficient water in the unit is necessary to ensure proper function of the unit. Tap water leaves mineral deposits in the unit. Checking the temperature setting helps to prevent skin or tissue damage.

Patient positioning and use of a bath blanket provide for comfort and warmth. Waterproof pad protects underlying surfaces.

Having a waste container handy means that the used materials may be discarded easily, without the spread of microorganisms. Prepares compress for application.

Gloves protect the nurse from potential contact with microorganisms. Assessment provides information about the area, the healing process and about the presence of infection and allows for documentation of the condition of the area before the compress is applied.

Excess moisture may contaminate the surrounding area and is uncomfortable for the patient. Molding the compress to the skin promotes retention of warmth around the site.
UNIT II Promoting Healthy Physiologic Responses

Skill - 8-15 Applying a Warm Compress continued

**ACTION**

13. Cover the site with a single layer of gauze (Figure 2) and with a clean dry bath towel (Figure 3); secure in place if necessary.

14. Place the Aquathermia or heating device, if used, over the towel.

15. Remove gloves and discard them appropriately. Perform hand hygiene and remove additional PPE, if used.

**RATIONALE**

FIGURE 2. Applying single layer of gauze.

Towel provides extra insulation.

FIGURE 3. Applying clean bath towel.

Use of heating device maintains the temperature of the compress and extends the therapeutic effect.

Hand hygiene prevents the spread of microorganisms. Removing PPE properly reduces the risk for infection transmission and contamination of other items.
EXTENDED USE OF HEAT RESULTS IN AN INCREASED RISK FOR BURNS FROM THE HEAT. IMPAIRED CIRCULATION MAY AFFECT THE PATIENT’S SENSITIVITY TO HEAT.

GLOVES PROTECT THE NURSE FROM POTENTIAL CONTACT WITH MICROORGANISMS.

ASSESSMENT PROVIDES INFORMATION ABOUT THE HEALING PROCESS; THE PRESENCE OF IRRITATION OR INFECTION SHOULD BE DOCUMENTED.

REPOSITIONING PROMOTES PATIENT COMFORT AND SAFETY.

REMOVING PPE PROPERLY REDUCES THE RISK FOR INFECTION TRANSMISSION AND CONTAMINATION OF OTHER ITEMS. HAND HYGIENE PREVENTS THE SPREAD OF MICROORGANISMS.

THE EXPECTED OUTCOME IS MET WHEN THE PATIENT REPORTS RELIEF OF SYMPTOMS, SUCH AS DECREASED INFLAMMATION, PAIN, OR MUSCLE SPASMS. IN ADDITION, THE PATIENT REMAINS FREE OF SIGNS AND SYMPTOMS OF INJURY.

DOCUMENTATION

GUIDELINES

7/6/12 0900 Left forearm with positive radial pulse, sensation and movement within normal limits, skin pale with brisk capillary refill. Left medial forearm (IV access infiltration site) positive for redness, edema; no evidence of maceration or drainage. Moist saline compress applied with Aquathermia pad set at 100ºF for 30 min. Site assessed every 10 min; no evidence of injury noted. Left arm elevated on pillows.

—S. Tran, RN

SAMPLE DOCUMENTATION

UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

1. The nurse is monitoring a patient with a warm compress. Procedure requires that the nurse check the area of application every 5 minutes for tissue tolerance. The nurse notes excessive redness and slight maceration of the surrounding skin, and the patient verbalizes increased discomfort: Stop the heat application. Remove the compress. Assess the patient for other symptoms. Obtain vital signs. Report the findings to the primary care provider and document the event in the patient’s record.

2. Patients with diabetes, stroke, spinal cord injury, and peripheral neuropathy are at risk for thermal injury, as are patients with very thin or damaged skin.

3. Be extremely careful when applying to heat-sensitive areas, such as scar tissue and stomas.
A sitz bath can help relieve pain and discomfort in the perineal area, such as after childbirth or surgery and can increase circulation to the tissues, promoting healing.

**EQUIPMENT**

- Clean gloves
- Additional PPE, as indicated
- Towel
- Adjustable IV pole
- Disposable sitz bath bowl with water bag

**ASSESSMENT**

Review any orders related to the sitz bath. Determine patient’s ability to ambulate to the bathroom and maintain sitting position for 15 to 20 minutes. Prior to the sitz bath, inspect perineal/rectal area for swelling, drainage, redness, warmth, and tenderness. Assess bladder fullness and encourage patient to void before sitz bath.

**NURSING DIAGNOSIS**

Determine related factors for the nursing diagnosis based on the patient’s current status. Possible nursing diagnoses may include:

- Acute Pain
- Risk for Infection
- Risk for Hypothermia
- Impaired Tissue Integrity

**OUTCOME IDENTIFICATION AND PLANNING**

The expected outcome to achieve when administering a sitz bath is that the patient states an increase in comfort. Other outcomes that may be appropriate include the following: the patient experiences a decrease in healing time, maintains normal body temperature, remains free of any signs and symptoms of infection, and exhibits signs and symptoms of healing.

**IMPLEMENTATION**

**ACTION**

1. Review the medical order for the application of a Sitz bath, including frequency, and length of time for the application.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.
3. Perform hand hygiene and put on PPE, if indicated.
4. Identify the patient.
5. Close curtains around bed and close door to room if possible.
6. Put on gloves. Assemble equipment; at the bedside if using a bedside commode or in bathroom.
7. Raise lid of toilet or commode. Place bowl of sitz bath, with drainage ports to rear and infusion port in front, in the toilet (Figure 1). Fill bowl of sitz bath about halfway full with tepid to warm water (37°C–46°C [98°F–115°F]).
8. Clamp tubing on bag. Fill bag with same temperature water as mentioned above. Hang bag above patient’s shoulder height on the IV pole.
9. Assist patient to sit on toilet or commode and provide any extra draping if needed. Insert tubing into infusion port of sitz bath. Slowly unclamp tubing and allow sitz bath to fill.

**RATIONALE**

Reviewing the order and plan of care validates the correct patient and correct procedure.

Preparation promotes efficient time management and organized approach to the task. Bringing everything to the bedside conserves time and energy. Arranging items nearby is convenient, saves time, and avoids unnecessary stretching and twisting of muscles on the part of the nurse.

Hand hygiene and PPE prevent the spread of microorganisms. PPE is required based on transmission precautions.

Identifying the patient ensures the right patient receives the intervention and helps prevent errors.

This ensures the patient’s privacy.

Gloves prevent exposure to blood and body fluids. Organization facilitates performance of task.

Sitz bath will not drain appropriately if placed in toilet backwards. Tepid water can promote relaxation and help with edema; warm water can help with circulation.

If bag is hung lower, the rate of flow will not be sufficient and water may cool too quickly.

If tubing is placed into sitz bath before patient sits on toilet, patient may trip over tubing. Filling the sitz bath ensures that the tissue is submerged in water.
10. Clamp tubing once sitz bath is full. Instruct patient to open clamp when water in bowl becomes cool. **Ensure that call bell is within reach. Instruct patient to call if she feels light-headed or dizzy or has any problems. Instruct patient not to try standing without assistance.**

11. Remove gloves and perform hand hygiene. **Cool water may produce hypothermia. Patient may become light-headed due to vasodilation, so call bell should be within reach.** Hand hygiene deters the spread of microorganisms.

12. When patient is finished (in about 15–20 minutes, or prescribed time), put on clean gloves. Assist the patient to stand and gently pat perineal area dry. Remove gloves. **Gloves prevent contact with blood and body fluids. Patient may be light-headed and dizzy due to vasodilation. Patient should not stand alone, and bending over to dry self may cause patient to fall.**

13. Put on gloves. Empty and disinfect Sitz bath bowl according to agency policy. **Proper equipment cleaning deters the spread of microorganisms.**

14. Remove gloves and any additional PPE, if used. Perform hand hygiene. **Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.**

**EVALUATION**

The expected outcomes are met when the patient verbalizes a decrease in pain or discomfort, patient tolerates sitz bath without incident, area remains clean and dry, and patient demonstrates signs of healing.

**DOCUMENTATION Guidelines**

Document administration of the sitz bath, including water temperature and duration. Document patient response, and assessment of perineum before and after administration.

**Sample Documentation**

7/30/12 1620 Perineum assessed. Episiotomy mediolateral; edges well approximated, no drainage noted. Patient assisted to sitz bath. Patient took warm water sitz bath (temperature 99°F) for 20 minutes. Denies feeling light-headed or dizzy. Assisted back to bed after bath. Patient states pain level has dropped “from a 5 to a 2.”

—C. Stone, RN (continued)
UNIT II Promoting Healthy Physiologic Responses

Skill - 8-16 Assisting With a Sitz Bath continued

UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

- Patient complains of feeling light-headed or dizzy during sitz bath: Stop sitz bath. Do not attempt to ambulate patient alone. Use call bell to summon help. Let patient sit on toilet until feeling subsides or help has arrived to assist patient back to bed.
- Temperature of water is uncomfortable: The water may be too warm or cold, depending on the patient’s preference. If this happens, clamp the tubing, disconnect the water bag, and refill it with water that is comfortable for the patient, but no warmer than 115°F (46°C).

Skill - 8-17 Applying Cold Therapy

Cold constricts the peripheral blood vessels, reducing blood flow to the tissues and decreasing the local release of pain-producing substances. Cold reduces the formation of edema and inflammation, reduces muscle spasm, and promotes comfort by slowing the transmission of pain stimuli. The application of cold therapy reduces bleeding and hematoma formation. The application of cold, using ice, is appropriate after direct trauma, for dental pain, for muscle spasms, after muscle sprains, and for the treatment of chronic pain. Ice can be used to apply cold therapy, usually in the form of an ice bag or ice collar, or in a glove. Commercially prepared cold packs are also available. For electronically-controlled cooling devices, see the accompanying Skill Variation.

EQUIPMENT

- Ice
- Ice bag, ice collar, glove
- Commercially prepared cold packs
- Small towel or washcloth
- PPE, as indicated
- Disposable waterproof pad
- Gauze wrap or tape
- Bath blanket

ASSESSMENT

Assess the situation to determine the appropriateness for the application of cold therapy. Assess the patient’s physical and mental status and the condition of the body area to be treated with the cold therapy. Confirm the medical order, including frequency, type of therapy, body area to be treated, and length of time for the application. Assess the equipment to be used to make sure it will function properly.

NURSING DIAGNOSIS

Determine the related factors for the nursing diagnoses based on the patient’s current status. An appropriate nursing diagnosis is Acute Pain. Other nursing diagnoses that may be appropriate or require the use of this skill include:

- Impaired Skin Integrity
- Ineffective Tissue Perfusion
- Delayed Surgical Recovery
- Chronic Pain

OUTCOME IDENTIFICATION AND PLANNING

The expected outcome to achieve when applying an external cold source depends on the patient’s nursing diagnosis. Outcomes that may be appropriate include the following: the patient experiences increased comfort; the patient experiences decreased muscle spasms; the patient experiences decreased inflammation; and the patient does not show signs of bleeding or hematoma at the treatment site.

IMPLEMENTATION

ACTION

1. Review the medical order or nursing plan of care for the application of cold therapy, including frequency, type of therapy, body area to be treated, and length of time for the application.

RATIONALE

Reviewing the order validates the correct patient and correct procedure.
2. Gather the necessary supplies and bring to the bedside stand or overbed table.

3. Perform hand hygiene and put on PPE, if indicated.

4. Identify the patient. Determine if the patient has had any previous adverse reaction to hypothermia therapy.

5. Close curtains around bed and close door to room if possible. Explain what you are going to do and why you are going to do it to the patient.

6. Assess the condition of the skin where the ice is to be applied.

7. Assist the patient to a comfortable position that provides easy access to the area to be treated. Expose the area and drape the patient with a bath blanket if needed. Put the waterproof pad under the wound area, if necessary.

8. Prepare device:
   - Fill the bag, collar, or glove about three-fourths full with ice (Figure 1). Remove any excess air from the device. Securely fasten the end of the bag or collar; tie the glove closed, checking for holes and leakage of water. Prepare commercially prepared ice pack if appropriate.

   **FIGURE 1.** Filling ice bag with ice.

   (continued)
Skill 8-17 Applying Cold Therapy continued

**ACTION**

9. **Cover the device with a towel or washcloth (Figure 2).**
   (If the device has a cloth exterior, this is not necessary.)
10. **Position cooling device on top of designated area and lightly secure in place as needed (Figure 3).**

**RATIONALE**

The cover protects the skin and absorbs condensation.

Proper positioning ensures the cold therapy to the specific area of the body.

**FIGURE 2.** Wrapping ice bag with cover.

**FIGURE 3.** Applying cloth-wrapped bag and securing in place.

11. **Remove the ice and assess the site for redness after 30 seconds. Ask the patient about the presence of burning sensations.**
12. **Replace the device snugly against the site if no problems are evident. Secure it in place with gauze wrap, ties, or tape.**
13. **Reassess the treatment area every 5 minutes or according to facility policy.**
14. **After 20 minutes or the prescribed amount of time, remove the ice and dry the skin.**

15. **Remove PPE, if used. Perform hand hygiene.**

**RATIONALE**

These actions prevent burn injury.

Wrapping or taping stabilizes the device in the proper location.

Assessment of the patient’s skin is necessary for early detection of adverse effects, thereby allowing prompt intervention to avoid complications.

Limiting the time of application prevents injury due to overexposure to cold. Prolonged application of cold may result in decreased blood flow with resulting tissue ischemia. A compensatory vasodilation or rebound phenomenon may occur as a means to provide warmth to the area.

Removing PPE properly reduces the risk for infection transmission and contamination of other items. Hand hygiene prevents the spread of microorganisms.

**EVALUATION**

The expected outcome is met when the patient reports a relief of pain and increased comfort. Other outcomes that may be appropriate include: the patient verbalizes a decrease in muscle spasms; the patient exhibits a reduction in inflammation; and the patient remains free of any injury, including signs of bleeding or hematoma at the treatment site.
CHAPTER 8  Skin Integrity and Wound Care

DOCUMENTATION

Guidelines

Document the location of the application, time of placement and time of removal. Record the assessment of the area where the cold therapy was applied, including the patient’s mobility, sensation, color, temperature, and any presence of numbness, tingling, or pain. Document the patient’s response, such as any decrease in pain or change in sensation. Include any pertinent patient and family education.

Sample Documentation

11/1/12 1430 Swelling noted on right lower extremity from mid-calf to foot. Toes warm, pink, positive sensation and movement, negative for numbness, tingling, and pain. Ice bags wrapped in cloth applied to right ankle and lower calf. Patient instructed to communicate any changes in sensation or pain; verbalizes an understanding of information.

—L. Semet, RN

11/1/12 1450 Ice removed from right lower extremity; neurovascular assessment unchanged. Right lower extremity elevated on two pillows.

—L. Semet, RN

UNEXPECTED SITUATIONS AND ASSOCIATED INTERVENTIONS

• When performing a skin assessment during therapy, the nurse notes increased pallor at the treatment site and sluggish capillary refill, and the patient reports alterations in sensation at the application site: Discontinue therapy, obtain vital signs, assess for other symptoms, notify the primary care provider, and document the event in the patient’s record.

• The patient may experience a secondary defense reaction, vasodilation, that causes body temperature to rebound, defeating the purpose of the therapy.

• Older adults are more at risk for skin and tissue damage because of their thin skin, loss of cold sensation, decreased subcutaneous tissue, and changes in the body’s ability to regulate temperature. Check these patients more frequently during therapy.

SPECIAL CONSIDERATIONS

General Considerations

Older Adult Considerations

Skill Variation  Applying an Electronically-Controlled Cooling Device

Electronically controlled cooling devices are used in situations to deliver a constant cooling effect. Postoperative orthopedic patients as well as other patients with acute musculoskeletal injuries may benefit from this therapy. A medical order is required for use of this device. Initial assessment of the extremity is involved, as well as ongoing assessment throughout the period of use. As with application of any electronic device, ongoing monitoring for proper functioning and temperature regulation is necessary.

1. Gather equipment and verify the medical order.
2. Perform hand hygiene. Put on PPE, as indicated.
3. Identify the patient and explain the procedure.
4. Assess the involved extremity or body part.
5. Set the correct temperature on the device.
6. Wrap the cooling water-flow pad around the involved body part.
7. Wrap Ace bandage or gauze pads around the water-flow pads.
8. Assess to ensure that the cooling pads are functioning properly.
9. Remove PPE, if used. Perform hand hygiene.
10. Recheck frequently to ensure proper functioning of equipment.
11. Unwrap at intervals to assess skin integrity of the body part.
2. Reassure the patient regarding her wound status. Explain this is a significant change in the patient’s assessment.

Suggested Answers for Developing Critical Thinking Skills

1. While providing wound care for Lori Downs’ foot ulcer, you note that the drainage, which was scant and yellow yesterday, is now green and has saturated the old dressing. Should you continue with the prescribed wound care?

2. Three days ago Tran Nguyen underwent a modified radical mastectomy. She has three Jackson-Pratt drains at her surgical site. She has started asking questions about her surgery and anticipates discharge home. Until this morning, she has avoided looking at her surgical site. You are helping her with her bathing and dressing. As you help her remove her gown, she becomes visibly upset and anxious and exclaims, “Oh no! What’s wrong? I’m bleeding from the cuts!” You realize she is looking at her drains. How should you respond?

3. Arthur Lowes has come to his surgeon’s office today for a follow-up examination after a colon resection. After he sees the physician, you, the treatment nurse, will remove the surgical staples from the incision and apply adhesive wound strips. As you prepare to remove the staples, Mr. Lowes comments, “I hope my stomach doesn’t pop out now!” What should you tell him?

Developing Critical Thinking Skills

1. This is a significant change in the patient’s assessment. Perform a thorough wound assessment and obtain vital signs. Assess the patient for any new symptoms, such as increased pain, chills, or abnormal sensation (such as numbness, tingling). Report findings to the primary care provider; a change in wound care, additional assessments (such as diagnostic tests, laboratory tests), or change/addition of medication may be required.

2. Reassure the patient regarding her wound status. Explain what the drains are, how they work, and the intended purpose. Provide information regarding wound care, drain care, and recording of drainage amounts. Discuss anticipated care requirements at home and potential arrangements to ensure required care is performed, either by the patient or significant other.

3. Reassure the patient regarding his wound status. Explain the purpose of the staples, the process of wound healing, and the purpose of adhesive wound strips. Discuss the patient’s responsibilities for wound care at this point in his healing.

Taylor Suite Resources

The Taylor Suite offers these additional resources to enhance learning and facilitate understanding of this chapter:

- thePoint online resource, http://thepoint.lww.com/Lynn3e
- Student DVD-ROM included with the book
- Skill Checklists for Taylor’s Clinical Nursing Skills
- Taylor’s Video Guide to Clinical Nursing Skills: Skin Integrity and Wound Care
- Fundamentals of Nursing: Chapter 32, Skin Integrity and Wound Care

BIBLIOGRAPHY


