Skin Integrity and Wound Care

ASSESSING YOUR UNDERSTANDING

FILL-IN-THE-BLANKS

1. The nurse is changing the dressing on a patient's incision. This type of wound is commonly known as a(n) ________ wound.

2. The nurse notes swelling and pain occurring from an incision. These symptoms are most likely caused by an accumulation of ________.

3. A patient's wound is in the inflammatory cellular phase, meaning that ________ or ________ cells arrive first to ingest bacteria and cellular debris.

4. New tissue found in a wound that is highly vascular, bleeds easily, and is formed in the proliferative phase is known as ________ tissue.

5. The nurse is measuring the depth of a patient's wound and discovers an abnormal passage from an internal organ to the skin. This wound condition is known as ________.

6. When cleaning a wound, the nurse might choose sterile 9% ________ as the cleansing solution.

7. The nurse anchors a bandage by wrapping it around the patient's body part with complete overlapping of the previous bandage turn. This procedure is the ________ method of bandage wrapping.

8. A nurse assessing a patient's wound documents a localized area of tissue necrosis. This type of wound is known as a(n) ________.

MATCHING EXERCISES

Match the term in Part A with the correct definition in Part B.

PART A
a. Dehiscence
b. Ischemia
c. Eschar
d. Wound
e. Exudate
f. Granulation tissue
g. Epithelialization
h. Scar
i. Hemorrhage
j. Evisceration
k. Serous wound drainage
l. Sanguineous wound drainage
m. Purulent wound drainage
n. Red wounds
o. Yellow wounds
p. Black wounds
q. Dressing
PART B

1. The partial or total disruption of wound layers
2. New tissue, pink-red in color, composed of fibroblasts and small blood vessels that fill an open wound when it starts to heal
3. Natural act of healing of dermal and epidermal tissue in which a protective membrane forms over a wound.
4. The protrusion of viscera through the incisional area
5. Composed of fluid and cells that escape from the blood vessels and are deposited in or on tissue surfaces
6. Wounds in the proliferative stage of healing that are the color of granulation tissue
7. Wound drainage that is composed of the clear, serous portion of the blood and drainage from serous membranes
8. Wounds that are covered with thick eschar, which is usually black but may be brown, gray, or tan
9. May occur from a slipped suture, a dislodged clot from stress at the suture line, infection, or the erosion of a blood vessel by a foreign body (such as a drain)
10. Wound drainage that is made up of white blood cells, liquefied dead tissue debris, and both dead and live bacteria
11. Wounds that are characterized by oozing from the tissue covering the wound, often accompanied by purulent drainage
12. Necrotic tissue
13. A disruption in the normal integrity of the skin
14. Avascular collagen tissue that does not sweat, grow hair, or tan in sunlight
15. Wound drainage that consists of large numbers of red blood cells and looks like blood

Match the wound care dressings and wraps in Part A with their definition/indication listed in Part B. Some answers may be used more than once.

PART A

a. Telfa
b. Gauze dressings
c. Sof-Wick
d. ABDs, Surgipads
e. Transparent dressings
f. Bandages
g. Binders
h. Roller bandages

PART B

16. Strips of cloth, gauze, or elasticized material used to wrap a body part
17. A special gauze that covers the incision line and allows drainage to pass through and be absorbed by the center absorbent layer
18. Wraps designed for a specific body part
19. Used to prevent outer dressings from adhering to the wound and causing further injury when removed
20. Commonly used to cover wounds; they come in various sizes and are commercially packaged as single units or in packs.
21. Placed over the smaller gauze to absorb drainage and protect the wound from contamination or injury
22. Precut halfway to fit around drains or tubes
23. Applied directly over a small wound or tube, these dressings are occlusive, decreasing the possibility of contamination while allowing visualization of the wound.
24. They may be made of cloth (flannel or muslin) or an elasticized material that fastens together with Velcro.
25. The type of dressing often used over intravenous sites, subclavian catheter insertion sites, and noninfected healing wounds

SHORT ANSWER

1. List six major functions of the skin.
   a. ____________________________
   b. ____________________________
   c. ____________________________
   d. ____________________________
   e. ____________________________
   f. ____________________________
2. Describe how the following mechanisms contribute to pressure ulcer development.
   a. External pressure: ____________________________
   b. Friction and shearing forces: ____________________________

3. Give an example of how the following factors affect the likelihood that a patient will develop a pressure ulcer.
   a. Nutrition: ____________________________
   b. Hydration: ____________________________
   c. Moisture on the skin: ____________________________
   d. Mental status: ____________________________
   e. Age: ____________________________
   f. Immobility: ____________________________

4. When visiting a patient recovering from a stroke in her home, you notice a pressure ulcer developing on her coccyx. Develop a nursing care plan for this patient that involves the family in the treatment of the ulcer.

5. Briefly describe the phases of wound healing.
   a. Hemostasis: ____________________________
   b. Inflammatory phase: ____________________________
   c. Proliferative phase: ____________________________
   d. Maturation phase: ____________________________

6. List three goals for patients who are at risk for impaired skin integrity.
   a. ____________________________
   b. ____________________________
   c. ____________________________

7. Give two examples of interview questions that could be asked to assess a patient’s skin integrity in the following areas.
   a. Overall appearance of the skin: ____________________________
   b. Recent changes in skin condition: ____________________________
   c. Activity/mobility: ____________________________
   d. Nutrition: ____________________________
   e. Pain: ____________________________
   f. Elimination: ____________________________

8. Describe how you would assess the following aspects of wound healing.
   a. Appearance: ____________________________
   b. Wound drainage: ____________________________
   c. Pain: ____________________________
   d. Sutures and staples: ____________________________
9. List the purposes for wound dressings.
   ______________________
   ______________________
   ______________________

10. Describe the RYB color classification and care of open wounds.
    a. R = red = protect: ______________________
        ______________________
        ______________________
    b. Y = yellow = cleanse: ______________________
        ______________________
        ______________________
    c. B = black = débride: ______________________
        ______________________
        ______________________

11. Briefly describe the use of the following methods of applying heat and any advantages or disadvantages.
    a. Hot water bags or bottles: ______________________
        ______________________
        ______________________
    b. Electric heating pad: ______________________
        ______________________
        ______________________
    c. Aquathermia pad: ______________________
        ______________________
        ______________________
    d. Hot packs: ______________________
        ______________________
        ______________________
    e. Warm moist compresses: ______________________
        ______________________
        ______________________
    f. Sitz baths: ______________________
        ______________________
        ______________________
    g. Warm soaks: ______________________
        ______________________
        ______________________

APPLYING YOUR KNOWLEDGE

CRITICAL THINKING QUESTIONS
1. Develop a nursing plan to assist the following patients who are at high risk for pressure ulcers.
   a. A comatose 35-year-old man
   b. A frail elderly man who is confined to bed
   c. A 20-year-old woman who is in a lower body cast
   d. A premature baby on life support

What knowledge and skills do you need to prevent pressure ulcers in these patients?

2. Follow the wound care for three patients with different types of wounds (e.g., gunshot wound, a wound from surgery, a pressure ulcer). Help the nurse assess the wound each day and apply the dressings. Interview the patients to see how the wound has affected their mobility, sensory perception, activity, nutrition, and exposure to friction and shear. Keep a log of the daily changes in the wound.

REFLECTIVE PRACTICE: CULTIVATING QSEN COMPETENCIES

Use the following expanded scenario from Chapter 31 in your textbook to answer the questions below.

Scenario: Sam Bentz is a 56-year-old man admitted to the hospital for aggressive treatment of a bone infection that has not responded to usual methods. His wife has been taking care of him at home for the past 3 weeks. She states that the medicines the doctor prescribed made her husband feel sick to his stomach and occasionally made him throw up. She says her husband spent most of his day in bed and had no energy to get up to wash or eat. Mr. Bentz is 5 feet 4 inches tall and weighs more than 300 pounds. During the nursing assessment, he says, “Last time I was here, my skin got really irritated and I developed several skin wounds.”

1. What nursing intervention would be appropriate to prevent skin irritation and the development of pressure ulcers for Mr. Bentz?

2. What would be a successful outcome for this patient?
3. What intellectual, technical, interpersonal, and/or ethical/legal competencies are most likely to bring about the desired outcome?

4. What resources might be helpful for Mr. Bentz and his wife?

PATIENT CARE STUDY

Read the following patient care study and use your nursing process skills to answer the questions below.

Scenario: Mrs. Chijioke, an 88-year-old woman who has lived alone for years, was brought to the hospital after neighbors found her lying at the bottom of her cellar steps. She had broken her hip and underwent hip repair surgery 3 days ago. The nurse assigned to care for Mrs. Chijioke noticed during the patient’s bath that the skin of her coccyx, heels, and elbows was reddened. The skin returned to a normal color when pressure was relieved in these areas. There was no edema, nor was there induration or blistering. Although Mrs. Chijioke can be lifted out of bed into a chair, she spends most of the day in bed, lying on her back with an abductor pillow between her legs. At 5 feet tall and 89 pounds, Mrs. Chijioke looks lost in the big hospital bed. Her eyes are bright, and she usually attempts a warm smile, but she has little physical strength and lies seemingly motionless for hours. Her skin is wrinkled and paper thin, and her arms are bruised from unsuccessful attempts at intravenous therapy. She was dehydrated on admission because she had spent almost 48 hours crumpled at the bottom of her steps before being found by her neighbors, and she was clearly in need of nutritional, fluid, and electrolyte support. A long-time diabetic, Mrs. Chijioke is now spiking a fever (39.0°C, or 102.2°F), which concerns her nurse.

PRACTICING FOR NCLEX

MULTIPLE CHOICE QUESTIONS

Circle the letter that corresponds to the best answer for each question.

1. A female patient who is being treated for self-inflicted wounds tells the nurse that she is anorexic. What criteria would alert the health care worker to her nutritional risk?
   a. Albumin level of 3.5 mg/dL
   b. Total lymphocyte count of 1,500/mm³
   c. Body weight decrease of 5%
   d. Arm muscle circumference 90% of standard

2. The nurse is caring for a patient who has a pressure ulcer on his back. What nursing intervention would the nurse perform?
   a. The nurse places a foam wedge under his body to keep body weight off the patient’s back.
   b. The nurse uses a ring cushion to protect reddened areas from additional pressure.
   c. The nurse increases the amount of time the head of the bed is elevated.
   d. The nurse uses positioning devices and techniques to maintain posture and distribute weight evenly for the patient in a chair.
3. The nurse caring for a postoperative patient is cleaning the patient’s wound. Which nursing action reflects the proper procedure for wound care?
   a. The nurse works outward from the wound in lines parallel to it.
   b. The nurse uses friction when cleaning the wound to loosen dead cells.
   c. The nurse swabs the wound with povidone–iodine to fight infection in the wound.
   d. The nurse swabs the wound from the bottom to the top.

4. The nurse is changing the dressing of a patient with a gunshot wound. What nursing action would the nurse provide?
   a. The nurse uses wet-to-dry dressings continuously.
   b. The nurse keeps the intact, healthy skin surrounding the ulcer moist because it is susceptible to breakdown.
   c. The nurse selects a dressing that absorbs exudate, if it is present, but still maintains a moist environment.
   d. The nurse packs the wound cavity tightly with dressing material.

5. When giving a back rub to an older patient at home, the nurse notices a stage II pressure ulcer. What nursing interventions would the nurse perform next?
   a. Place a sterile dressing over the pressure ulcer.
   b. Use a wet-to-dry dressing on the pressure ulcer.
   c. Use a nonadherent dressing and changes it every 3 hours.
   d. Use normal saline to clean the pressure ulcer.

6. The nurse is caring for a Penrose drain for a patient post abdominal surgery. What nursing action reflects a step in the care of a Penrose drain that needs to be shortened each day?
   a. The nurse carefully cleans around the sutures with a swab and normal sterile saline solution prior to shortening the drain.
   b. The nurse empties and suctions the device, following the manufacturer’s directions prior to shortening the drain.
   c. The nurse pulls the drain out a short distance using sterile scissors and a twisting motion and cuts off the end of the drain with sterile scissors.
   d. The nurse compresses the container while the port is open, then closes the port after the device is compressed to empty the system before shortening the drain.

7. A patient’s pressure ulcer is superficial and presents clinically as an abrasion, blister, or shallow crater. How would the nurse document this pressure ulcer?
   a. Stage I
   b. Stage II
   c. Stage III
   d. Stage IV

8. The nurse is applying a heating pad to a patient experiencing neck pain. Which nursing action is performed correctly?
   a. The nurse uses a safety pin to attach the pad to the bedding.
   b. The nurse covers the heating pad with a heavy blanket.
   c. The nurse places the heating pad under the patient’s neck.
   d. The nurse keeps the pad in place for 20 to 30 minutes, assessing it regularly.

9. The nurse is performing pressure ulcer assessment for patients in a hospital setting. Which patient would the nurse consider to be at greatest risk for developing a pressure ulcer?
   a. A newborn
   b. A patient with cardiovascular disease
   c. An older patient with arthritis
   d. A critical care patient

10. The nurse considers the impact of shearing forces in the development of pressure ulcers in patients. Which patient would be most likely to develop a pressure ulcer from shearing forces?
    a. A patient sitting in a chair who slides down
    b. A patient who lifts himself up on his elbows
    c. A patient who lies on wrinkled sheets
    d. A patient who must remain on his back for long periods of time

11. The nurse is assessing the wounds of patients in a burn unit. Which wound would most likely heal by primary intention?
    a. A surgical incision with sutured approximated edges
    b. A large wound with considerable tissue loss allowed to heal naturally
c. A wound left open for several days to allow edema to subside
d. A wound healing naturally that becomes infected.

**ALTERNATE-FORMAT QUESTIONS**

**Multiple Response Questions**

*Circle the letters that correspond to the best answers for each question.*

1. The nurse is assessing the wounds of patients. Which patients would the nurse place at risk for delayed wound healing? *(Select all that apply.)*
   a. An older adult who is bed-ridden.
b. A patient with a peripheral vascular disorder
c. A patient who is obese
d. A patient who eats a diet high in vitamins A and C
e. A patient who is taking corticosteroid drugs
f. A 10-year-old patient with a surgical incision

2. A med-surg nurse is assessing wounds of patients. Which wound complications are accurately described below? *(Select all that apply.)*
   a. Symptoms of wound infection, which are usually apparent within 1 to 2 weeks after the injury or surgery
b. Dehiscence, which is present when there is a partial or total disruption of wound layers
c. Evisceration, which occurs when the viscera protrudes through the incisional area
d. Delayed wound healing in patients who are thin and at greater risk for complications owing to a thinner layer of tissue cells
e. A wound with an increase in the flow of serosanguineous fluid between postoperative days 4 and 5, which is a sign of an impending evisceration
f. Postoperative fistula formation, most often the result of delayed healing, commonly manifested by drainage from an opening in the skin or surgical site

3. A nurse assessing patient wounds would document which examples of wounds as healing normally without complications? *(Select all that apply.)*
   a. The edges of a healing surgical wound appear clean and well approximated, with a crust along the edges.
b. A wound that takes approximately 2 weeks for the edges to appear normal and heal together
c. A wound with increased swelling and drainage that may occur during the first 5 days of the wound healing process
d. A wound that does not feel hot upon palpation
e. A wound that forms exudate due to the inflammatory response
f. Incisional pain during the wound healing, which is most severe for the first 3 to 5 days and then progressively diminishes

4. In which situations has the nurse used a dressing properly? *(Select all that apply.)*
   a. A nurse places a Surgipad directly over an incision.
b. A nurse places a transparent dressing over an ABD to help keep the wound dry.
c. A nurse places OpSite over a central venous access device insertion site.
d. A nurse uses appropriate aseptic techniques when changing a dressing.
e. A nurse places Sof-Wick around a drain insertion site.
f. A nurse applies Telfa to a wound to keep drainage from passing through to a secondary dressing.

5. Which interventions might a nurse be expected to perform when providing competent care for a patient with a draining wound? *(Select all that apply.)*
   a. Administer a prescribed analgesic 30 to 45 minutes before changing the dressing, if necessary.
b. Change the dressing midway between meals.
c. Apply a protective ointment or paste, if appropriate, to cleansed skin surrounding the draining wound.
d. Apply another layer of protective ointment or paste on top of the previous layer when changing dressings.
e. Apply an absorbent dressing material as the first layer of the dressing.
f. Apply a nonabsorbent material over the first layer of absorbent material.
6. A nurse is using the RYB wound classification system to document patient wounds. Which wounds would the nurse document as a Y (yellow) wound? (Select all that apply.)
   a. A wound that reflects the color of normal granulation tissue
   b. A wound that is characterized by oozing from the tissue covering the wound
   c. A wound with drainage that is a beige color
   d. A wound that requires wound cleaning and irrigation
   e. A wound that is covered with thick eschar
   f. A wound that is treated by using sharp, mechanical, or chemical débridement

7. Which teaching points would the nurse use to explain the development of pressure ulcers to patients and how to prevent them? (Select all that apply.)
   a. “Pressure ulcers usually occur over bony prominences where body weight is distributed over a small area without much subcutaneous tissue.”
   b. “Most pressure ulcers occur over the trochanter and calcaneus.”
   c. “Generally, a pressure ulcer will not appear within the first 2 days in a person who has not moved for an extended period of time.”
   d. “The major predisposing factor for a pressure ulcer is internal pressure over an area, resulting in occluded blood capillaries and poor circulation to the tissues.”
   e. “The skin can tolerate considerable pressure without cell death, but for short periods only.”
   f. “The duration of pressure, compared to the amount of pressure, plays a larger role in pressure ulcer formation.”

8. Which would be appropriate actions for the nurse to take when cleaning and dressing a pressure ulcer? (Select all that apply.)
   a. Clean the wound with each dressing change using aggressive motions to remove necrotic tissue.
   b. Use povidone-iodine or hydrogen peroxide to irrigate and clean the ulcer.
   c. Use whirlpool treatments, if ordered, until the ulcer is considered clean.
   d. Keep the ulcer tissue moist and the surrounding skin dry.
   e. Use a dressing that absorbs exudate but maintains a moist healing environment.
   f. Pack wound cavities densely with dressing material to promote tissue healing.

9. Which nursing interventions reflect the accurate use of heat or cold during wound care? (Select all that apply.)
   a. The nurse makes more frequent checks of the skin of an older adult using a heating pad.
   b. The nurse places a heating pad on a sprained wrist that is in the acute stage.
   c. The nurse instructs the patient to lean or lie directly on the heating device.
   d. The nurse fills an ice bag with small pieces of ice to about two-thirds full.
   e. The nurse covers a cold pack with a cotton sleeve to keep it in place on an arm.
   f. The nurse applies moist cold to a patient’s eye for 40 minutes every 2 hours.

10. Which actions would a nurse be expected to perform when applying a saline-moistened dressing to a patient’s wound? (Select all that apply.)
    a. Put on clean gloves and squeeze excess fluid from the gauze dressing before packing it tightly in the wound.
    b. Position the patient so the wound cleanser or irrigation solution will flow from the clean end of the wound toward the dirtier end.
    c. Carefully and gently remove the soiled dressings; if there is resistance, use a silicone-based adhesive remover to help remove the tape.
    d. Apply one dry, sterile gauze pad over the wet gauze, and then place an ABD pad over the gauze pad.
    e. Using clean technique, open the supplies and dressings and place the fine-mesh gauze into the basin, pouring the ordered solution over the mesh to saturate it.
    f. Gently press to loosely pack the moistened gauze into the wound; if necessary, use forceps or cotton-tipped applicators to press gauze into all wound surfaces.
Prioritization Question

1. Place the following steps to collecting a wound culture in the order in which they should be performed.
   a. Using aseptic technique, don sterile gloves and clean wound. Remove sterile gloves.
   b. Explain the procedure to patient; gather equipment; perform hand hygiene.
   c. Apply clean dressing to wound.
   d. Perform hand hygiene. Remove all equipment and make patient comfortable.
   e. Remove gloves from inside out, and discard them in plastic waste bag. Perform hand hygiene.
   f. Twist cap to loosen swab in Culturette tube, or open separate swab and remove cap from culture tube, keeping inside uncontaminated. Don clean glove or new sterile glove, if necessary.
   g. Label specimen container appropriately, attach laboratory requisition to tube with a rubber band or place tube in plastic bag with requisition attached; send to lab within 20 minutes.
   h. Carefully insert swab into wound and roll gently. Use another swab if collecting specimen from another site.
   i. Place swab in Culturette tube, being careful not to touch outside of container. Twist cap to secure; if using Culturette tube, crush ampule of medium at bottom of tube.
   j. Don clean disposable gloves. Remove dressing and assess wound and drainage.
   k. Record collection of specimen, appearance of wound, and description of drainage in chart.
**NURSING PROCESS WORKSHEET**

<table>
<thead>
<tr>
<th>Health Problem (Title)</th>
<th>Expected Outcome*</th>
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<tr>
<td><strong>Related to</strong></td>
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<tr>
<td><strong>Etiology (Related Factors)</strong></td>
<td><strong>Nursing Interventions</strong></td>
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<tr>
<td><strong>As Manifested by</strong></td>
<td><strong>Evaluative Statement</strong></td>
</tr>
<tr>
<td><strong>Signs and Symptoms (Defining Characteristics)</strong></td>
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*More than one patient goal may be appropriate. For the purposes of this exercise, develop the one patient goal that demonstrates a direct resolution of the patient problem identified in the nursing diagnosis.**

**Be sure you are able to list the scientific rationale for each nursing intervention you ordered.**