Many of your patients or residents will be at risk for developing pressure ulcers. Preventing pressure ulcers is a major concern of the nursing team because pressure ulcers are painful, hard to treat, and potentially fatal. In this chapter, you will learn about your role in preventing pressure ulcers. Pressure ulcers are just one type of wound you may see when you are caring for patients and residents. In this chapter, you will also learn about how the health care team cares for people with wounds and your role in assisting the nurse with wound care.
PREVENTING PRESSURE ULCERS

What will you learn?

When you are finished with this section, you will be able to:

1. Explain how pressure ulcers form.
2. Discuss what conditions may increase a person’s risk of developing a pressure ulcer.
3. Describe why preventing pressure ulcers is so important.
4. Describe changes in the skin that could be an early sign of a pressure ulcer.
5. Describe how nursing assistants help to prevent residents and patients from developing pressure ulcers.
6. Describe special equipment that may be used to help prevent pressure ulcers.
7. Define the words pressure ulcer and pressure points.

How pressure ulcers form

Many patients and residents are not able to change position easily due to weakness, disability, or illness. This inability to change position without help places the person at high risk for developing a pressure ulcer. Pressure ulcers form when pressure points press against a mattress, chair, or other surface (Fig. 19-1). The pressure squeezes the tissues in between the bone and the surface the person is lying or sitting on. As a result, blood flow to the tissues decreases. The tissues do not receive enough nutrients and oxygen, and they die. The dead tissue peels off or breaks open, creating an open sore or ulcer. Pressure ulcers develop in four stages (Box 19-1).

The longer a person remains in one position, the more likely that person is to develop a pressure ulcer. Many people with limited mobility also have other risk factors for developing a pressure ulcer, such as:

- **Old age.** The skin of an older person is fragile and thin, with less blood flow.
- **Poor nutrition and lack of fluids.** For skin to remain healthy, good nutrition and adequate fluid intake are essential.
- **Moisture.** Prolonged contact with water, urine, feces, or sweat causes the epidermis to soften and break down (leading to “skin breakdown”).
- **Cardiovascular or respiratory problems.** People with cardiovascular or respiratory problems are at high risk for developing pressure ulcers because their medical condition prevents their tissues from receiving the full amount of oxygen and nutrients.
- **Friction and shearing injuries.** Friction (rubbing) and shearing (pulling) forces can injure the skin and lead to skin breakdown. Friction and shearing forces are described in more detail in Chapter 14.

Since the Omnibus Budget Reconciliation Act (OBRA), one of the criteria used to evaluate the quality of care given by long-term care facilities that
receive government funding is the health care team’s ability to prevent residents from getting pressure ulcers. The nurse is responsible for assessing each resident’s risk for developing pressure ulcers when the resident is admitted to the long-term care facility. The nurse also documents any existing pressure ulcers. OBRA expects the health care team to maintain or improve the person’s condition. This means that the health care team works to heal existing pressure ulcers and takes measures to prevent new pressure ulcers from forming. Nursing assistants help the health care team to achieve these goals by carefully following the person’s care plan.
Box 19-1 Stages of Pressure Ulcer Development

**Stage 1 pressure ulcer**
- First appears as a reddened area of skin that does not return to the normal color after the pressure is removed
- The reddened area may later become very pale or white, and shiny

**Stage 2 pressure ulcer**
- Looks like a blister, an abrasion, or a shallow crater
- The epidermis peels away or cracks open, creating a portal of entry for pathogens
- The dermis may be partially worn away as well

**Stage 3 pressure ulcer**
- The epidermis and dermis are gone, and the subcutaneous fat may be visible in the crater
- There may be drainage from the wound

**Stage 4 pressure ulcer**
- The crater of damaged tissue extends all the way through the tissues to the muscle or bone
Assisting with mobility and repositioning

Minimizing friction and shearing forces

Offering fluids

Using your observational skills

Anticipating toileting needs

Providing clean, dry, wrinkle-free linens

Providing good skin and perineal care

**FIGURE 19-2**

There are many things you can do to help prevent a person from getting a pressure ulcer.

(Photograph ©Garry Watson/Photo Researchers, Inc.)
The nursing assistant’s role in preventing pressure ulcers

Pressure ulcers are very painful and difficult to treat. Ultimately, they can cause a person to die. For these reasons, every effort must be made to prevent a pressure ulcer from forming. As a nursing assistant, there are many things that you can do to help keep a person’s skin healthy (Fig. 19-2). General guidelines for preventing pressure ulcers are given in Guidelines Box 19-1.

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**TELL THE NURSE !**

**PRESSURE ULCERS**

- A reddened area does not return to its normal color after the pressure is relieved
- A previously reddened area is hot to the touch or painful
- A previously reddened area is now pale, white, or shiny
- A pressure ulcer has changed in size or depth

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**Guidelines Box 19-1  Guidelines for Preventing Pressure Ulcers**

<table>
<thead>
<tr>
<th>What you do</th>
<th>Why you do it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reposition a person who must stay in bed or in a wheelchair at least every 2 hours, or according to the person’s care plan.</td>
<td>Regular repositioning prevents any one part of the person’s body from being under pressure for too long.</td>
</tr>
<tr>
<td>Take the bedpan out from underneath the person as soon as the person is finished using it.</td>
<td>The bedpan places pressure on the person’s lower spine, one of the pressure points.</td>
</tr>
<tr>
<td>Check the patient’s or resident’s skin for changes at every opportunity, including when you are assisting the person with repositioning, bathing, and dressing and when you are changing wet or soiled linens or giving a back massage. Report red, pale, white, or shiny areas over pressure points right away.</td>
<td>Redness over a pressure point that does not go away after 5 minutes or an area over a pressure point that was previously red but now is pale, white, or shiny could be a sign of a stage 1 pressure ulcer. Early recognition and treatment of a pressure ulcer is important so that measures can be taken to prevent the pressure ulcer from getting worse.</td>
</tr>
<tr>
<td>Provide good skin care. When bathing a person, clean the skin gently and thoroughly and rinse off the soap well. Make sure the skin is dried well and use lotion to keep the skin healthy and soft. Thoroughly clean and dry areas where skin touches skin, such as under the breasts, and apply a light dusting of powder to keep the skin dry.</td>
<td>Keeping the skin clean and dry is essential to preventing skin breakdown and pressure ulcer development.</td>
</tr>
</tbody>
</table>
### Guidelines Box 19-1  (Continued)

<table>
<thead>
<tr>
<th>What you do</th>
<th>Why you do it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide good perineal care, especially if the person is incontinent of urine or feces.</td>
<td>Urine and feces are irritating to the skin and can lead to skin breakdown. Prompt, thorough perineal care keeps the skin clean and dry, which is essential to preventing skin breakdown and pressure ulcer development.</td>
</tr>
<tr>
<td>Assist the person to the bathroom (or provide a bedpan or urinal) frequently. Check on incontinent people every hour so.</td>
<td>Contact with wet and soiled clothing or linens can cause skin breakdown, leading to pressure ulcers. Anticipating toileting needs helps to prevent patients and residents from soiling themselves. Checking on incontinent patients and residents frequently allows you to detect and change wet and soiled clothing or linens promptly.</td>
</tr>
<tr>
<td>Ask patients or residents who can walk to take a walk with you every 2 hours. Remind paralyzed patients or residents to change positions in the wheelchair or move to the bed for a while.</td>
<td>Exercise and movement promote blood flow to the tissues and prevent the person from staying in any one position for too long a time.</td>
</tr>
<tr>
<td>Make sure the bed linens are clean, dry, and wrinkle-free at all times.</td>
<td>Soiled, wet, or excessively wrinkled linens can lead to skin breakdown and pressure ulcers.</td>
</tr>
<tr>
<td>Provide frequent back massage.</td>
<td>Back massage helps to stimulate blood flow to the skin and gives you a chance to check the person’s skin for red, pale, white, or shiny areas.</td>
</tr>
<tr>
<td>Minimize skin injury caused by friction or shearing. Use lift devices and lift sheets when moving and repositioning people. Use devices such as elbow pads and heel booties according to the person’s care plan. Avoid raising the head of the bed more than 30 degrees.</td>
<td>Friction and shearing forces damage the skin and underlying tissues and can put the person at risk for a pressure ulcer. Lift devices and lift sheets help reduce friction by allowing you to lift or roll, instead of drag, the person. Elbow pads and heel booties reduce friction by preventing the skin from rubbing against sheets and other surfaces. Raising the bed no more than 30 degrees helps prevent shearing, which occurs when the person slides down in the bed.</td>
</tr>
<tr>
<td>Offer refreshing drinks frequently. Encourage your patients and residents to eat well.</td>
<td>Good nutrition and adequate fluid intake help to keep the skin healthy.</td>
</tr>
<tr>
<td>Use pressure-reducing devices according to the person’s care plan.</td>
<td>These devices help to distribute the person’s body weight more evenly, preventing any one area from bearing most of the pressure.</td>
</tr>
</tbody>
</table>
Devices such as elbow pads and heel booties help to prevent the skin from rubbing against sheets and other surfaces (Fig. 19-3).

A bed cradle is used to keep the top sheet, the blanket, and the bedspread off the patient’s or resident’s feet (Fig. 19-4). Sometimes, just the pressure of the top linens on the feet is enough to start the process of skin breakdown that leads to pressure ulcers.

A footboard is a padded board that is placed upright at the foot of the bed (Fig. 19-5). The person’s feet rest flat against the footboard, helping to keep the feet in proper alignment.

A bed cradle prevents the top linens from putting pressure on the person’s feet. (Fig. 19-4)
CHAPTER 19 Preventing Pressure Ulcers and Assisting With Wound Care

A footboard keeps the person’s feet in proper alignment.
(Courtesy of the Posey Company, Arcadia, California.)

An airflow bed supports the person on a fabric-covered layer of tiny beads. The beads are kept constantly in movement by a current of air. The moving beads create a fluid-like effect, much like a waterbed but without the water, that helps to prevent pressure ulcers by relieving pressure on pressure points. In addition, the circulating air keeps the person’s skin dry.

An alternating pressure bed supports the person on a series of compartments that fill with air and then deflate on a rotating basis. The moving areas of inflation shift the areas of pressure from place to place, helping to improve blood flow to the skin and underlying tissues and helping to prevent pressure ulcers.

A Wedge Turning Frame helps to prevent pressure ulcers by making it easier to reposition people who may be difficult to reposition often, such as people with spinal injuries or severe burns.

FIGURE 19-6
Specialty beds for preventing pressure ulcers.
Photos of Fluidair Elite® airflow bed and TheraPulse® ATP™ alternating pressure bed courtesy of Kinetic Concepts Inc. (KCI), San Antonio, Texas. Photo of Wedge Turning Frame courtesy of Stryker Corporation.
A bed board is a sheet of wood that is placed under the mattress to provide extra support. The bed board keeps the mattress from sagging, helping to keep the person's body properly aligned. Bed boards are most commonly used in the home health care and long-term care settings.

A pressure-relieving mattress may be placed on top of the regular mattress to help prevent skin breakdown in patients and residents who must stay in bed for long periods of time. Pressure-relieving mattresses may be made of foam or gel, or filled with air or water. Smaller gel pads are also available for wheelchair seats.

A special bed may be used for some patients or residents (Fig. 19-6).

Putting it all together!

Pressure ulcers form when soft tissues are squeezed between bone and a surface, such as a mattress or chair.

Immobility is the underlying cause of all pressure ulcers. Several factors, including old age, poor nutrition, and moisture trapped in the folds of the skin, can increase an immobile person's risk of developing a pressure ulcer.

Warning signs of pressure ulcers include a reddened area that does not return to its normal color after the pressure is relieved, a previously reddened area that is now hot to the touch or painful, or a previously reddened area that is now pale, white, or shiny.

Pressure ulcers develop in four stages. The sooner a pressure ulcer is recognized, the better, because then measures can be taken to prevent the pressure ulcer from getting worse. Nursing assistants are often the first members of the health care team to notice a change in a patient's or resident's skin that could be the beginning of a pressure ulcer.

Preventing pressure ulcers is extremely important because pressure ulcers are very painful, very hard to treat, and potentially fatal. Nursing assistants do many things to prevent patients and residents from developing pressure ulcers, including repositioning, observing, providing good skin and perineal care, changing wet and soiled linens and clothing promptly, and encouraging exercise.

ASSISTING WITH WOUND CARE

What will you learn?

When you are finished with this section, you will be able to:

1. State observations that you may make related to wound care that should be reported to the nurse.
2. Demonstrate proper technique for assisting a nurse with a dressing change.
3. Define the word wound.
A pressure ulcer is a type of wound. Wounds can also be caused by surgery, trauma (such as car accidents, burns, or falls), and violence (such as when a person is shot or stabbed).

**Wound healing**

The skin is the body’s first line of defense against infection. A wound creates an opening that allows microbes to enter the body, putting the person at risk for infection. The wound must heal so that the skin is once again intact and able to protect the person. Several factors can delay healing:

- Multiple injuries
- Chronic illness
- A weakened immune system
- Very old or very young age
- Poor nutrition

The health care team does many things to help support the wound healing process. As a nursing assistant, your duties related to wound care will vary, depending on where you work. Your daily responsibilities, even if they are not directly related to wound care, will give you many chances to observe your patients or residents for problems with wound healing.

**Wound drains**

As part of the healing process, some wounds produce a lot of fluid, or drainage. Fluid that is allowed to collect in a wound can delay the healing process. Wound drains may be used to remove fluids from the wound (Fig. 19-7).

When repositioning a person with a drain, take care not to pull on the drain tubing. Pulling on the drain tubing could pull the drain out of the wound. The loss of the drain will allow fluid to collect in the wound until the doctor can replace the drain. Fluid in the wound delays wound healing.

**FIGURE 19-7**

Many different types of wound drains are used. A Hemovac drain is shown here. With this type of drain, the drainage tube is placed in the wound and attached to a suction device, which draws the fluid out of the wound.
Wound dressings

Sometimes dressings are applied to wounds to prevent microbes from gaining access to the body, to keep the wound dry during procedures such as bathing, or to absorb drainage from the wound.

Many dressings are secured with tape (Fig. 19-8). Tape can be adhesive, paper, plastic, or elastic. The type of tape used depends on the location of the wound and the needs of the person. When a wound is draining heavily and the dressing must be changed often, a Montgomery tie may be used instead of tape (see Fig. 19-8). The adhesive is applied and then left in place. The ties secure the dressing and can be easily untied when a new dressing is needed. Because there is no need to remove the tape to change the dressing, Montgomery ties help to protect the person’s skin from damage caused by the frequent removal and reapplication of tape.

Depending on where you work, assisting the nurse with dressing changes may be in your scope of practice. Procedure 19-1 explains how to assist a nurse with a dressing change.

Putting it all together!

- A wound is a break in the skin. Underlying tissues are usually affected as well.
- A break in the skin puts the person at risk for infection. Drains and dressings may be used to prevent infection and help a wound to heal.
- Nursing assistants have many chances to notice and report signs and symptoms that suggest that a wound has become infected or is not healing well, such as a foul-smelling discharge or excessive drainage or bleeding. Nursing assistants may also assist with dressing changes in some facilities.
PROCEDURE 19-1
Assisting the Nurse With a Dressing Change

Why you do it: Helping the nurse with a dressing change minimizes the chance that the nurse’s hands or other surfaces will become contaminated by the drainage on the soiled dressing. It also helps to ensure that the new dressing remains free of pathogens that could contaminate the wound.

Getting Ready

1. Complete the “Getting Ready” steps.

Supplies

- gloves
- gown (if necessary)
- mask (if necessary)
- paper towels or a bed protector
- plastic bag
- tape or Montgomery ties
- dressing
- scissors

Procedure

2. Cover the over-bed table with paper towels or the bed protector. Place the dressing supplies on the over-bed table. Fold the top edges of the plastic bag down to make a cuff. Place the cuffed bag on the over-bed table.

3. Make sure that the bed is positioned at a comfortable working height (to promote good body mechanics) and that the wheels are locked. If the side rails are in use, lower the side rail on the working side of the bed. The side rail on the opposite side of the bed should remain up.

4. Help the person to a comfortable position that allows access to the wound.

5. Fanfold the top linens to the foot of the bed. Adjust the person’s hospital gown or pajamas as necessary to expose the wound.

6. Put on the mask, gown, or both, if necessary. Put on the gloves.

7. The nurse will remove the old dressing. The nurse may ask you to take the old dressing and place it in the cuffed plastic bag. Be careful to keep the soiled side of the dressing out of the person’s sight. Do not let the dressing touch the outside of the plastic bag.

8. Remove your gloves and dispose of them in a facility-approved waste container.

9. Wait while the nurse inspects the wound and measures it, if necessary.


11. Assist as the nurse applies a new dressing.

- Open the wrapper containing the dressing and hold it open so that the nurse can remove the dressing. Do not touch the dressing. Dispose of the wrapper in a facility-approved waste container.

- If the dressing will be secured with tape, cut four pieces of tape for securing the dressing. For a 4 × 4 dressing, each piece of tape should measure 8 inches long. Hang the tape from the edge of the over-bed table.

(Continued)
STEP 11a - Hold the wrapper open so that the nurse can remove the dressing.

c. If the nurse asks you to, use the tape strips to secure the dressing by placing one piece of tape along each side of the dressing. Center each piece of tape equally over the dressing and the person’s skin.

STEP 11c - The dressing is secured by placing one piece of tape along each side.

12. Remove your gloves (and gown and mask, if using) and dispose of them in a facility-approved waste container. Wash your hands.

13. Re-cover the wound with the hospital gown or pajamas. Help the person back into a comfortable position, straighten the bottom linens, and draw the top linens over the person.

14. Make sure that the bed is lowered to its lowest position and that the wheels are locked. If the side rails are in use, return the side rail to the raised position on the working side of the bed.

15. Dispose of disposable items in a facility-approved waste container. Clean equipment and return it to the storage area.

Finishing Up - CLsONWR

16. Complete the “Finishing Up” steps.
What did you learn?

Multiple Choice

Select the single best answer for each of the following questions.

1. Where are pressure ulcers most likely to form?
   a. On the heels, ankles, and toes
   b. On the elbows and shoulder blades
   c. On the spine
   d. All of the above

2. Why is it important to prevent pressure ulcers from forming?
   a. Pressure ulcers are disgusting to see
   b. People who have pressure ulcers require more care than people who do not, and this is expensive for the facility
   c. Pressure ulcers are difficult to treat and can lead to a person's death
   d. Pressure ulcers interfere with the skin's ability to make vitamin D

3. What is the underlying cause of all pressure ulcers?
   a. Continuous pressure applied to one area
   b. Poor nutrition
   c. Incontinence
   d. All of the above

4. Which of the following factors can increase a person's risk of getting a pressure ulcer?
   a. Advanced age
   b. Incontinence
   c. Poor nutrition
   d. All of the above

5. Mr. Underwood has developed a white, shiny area on his left hip about the size of a quarter. Yesterday, this same area was red and hot to the touch. If you were Mr. Underwood’s nursing assistant, what would be your biggest concern?
   a. That Mr. Underwood has the chickenpox
   b. That Mr. Underwood has a stage 1 pressure ulcer
   c. That Mr. Underwood’s wound is not healing properly
   d. That Mr. Underwood has jaundice

6. You are caring for Mrs. Kling, a 93-year-old grandmother who has limited mobility following a stroke. What should you do to minimize Mrs. Kling's chances of developing a pressure ulcer?
   a. Dry Mrs. Kling's skin thoroughly after each bath
   b. Reposition Mrs. Kling regularly, according to the nursing care plan
   c. Encourage Mrs. Kling to eat well
   d. All of the above

7. What do you call a metal frame that is placed between the bottom and top sheets to keep the bed linens from resting on the person's feet?
   a. A bed board
   b. A pressure-relieving mattress
   c. A bed cradle
   d. A footboard

8. Why is it important to keep the skin healthy?
   a. The skin protects the body from pathogens and helps to maintain the body's fluid balance
   b. The skin protects the body from sunburn
   c. It is easier to detect signs of disease in a person with healthy skin
   d. Keeping the skin healthy helps to prevent wrinkles in old age

Stop and Think!

Richard is providing care to Mr. O'Meara, who has just been transferred to Willow Wood Care Center. Mr. O'Meara is confined to a wheelchair. While giving Mr. O'Meara a back massage as part of evening care, Richard notices a reddened area at the base of Mr. O'Meara’s spine. What are the possible explanations for this finding? Discuss measures that Richard can take to help keep Mr. O'Meara from developing a pressure ulcer.