The skin is the largest organ in the human body, covering approximately 20 square feet and making up roughly 15% of our body weight.

Through its variety of nerve endings, the skin allows us to experience sensations. It also protects the inner structures of the body from injury, prevents bacteria from entering, and stores water and fat. Additionally, it helps regulate our body temperature and blood pressure. Vitamin D3 production also occurs in the skin when activated by ultraviolet light.

As we age, so does our skin. The epidermis (outermost layer of skin) thins and pales thanks to decreases in the number of cells that give the skin pigment (color). The remainder of these cells increase in size, creating age spots. The subcutaneous fat (innermost layer) also thins, reducing insulation and padding. This results in less protection from injury and hampers the body’s ability to maintain a consistent temperature. The collagen in the dermis (middle layer) breaks down, reducing the skin’s strength and elasticity, while vessels become more fragile, allowing bruising to occur more easily. In addition to deterioration associated with aging, there are many disease processes that threaten the skin’s integrity, ability to heal, nutritional status, susceptibility to infections, strength, and sensation. For these reasons, the skin of nursing home residents is often jeopardized not only by their age, but also by the other conditions for which they’re receiving care.

Pressure ulcer risk factors common among SNF residents include:

- Problems with blood delivery to an area
- Comatose or semicomatose state
- Urinary and/or bowel incontinence
- Malnutrition and dehydration
- Vascular diseases
- Immobility
- Friction and shearing from clothing, bedding, or medical devices
- Sustained pressure on the skin (e.g., from the weight of the body or a body part pushing down on a pressure point)

### Staging pressure ulcers

Pressure ulcers are classified using a staging system that identifies the degree of tissue damage present. Below are some common signifiers of each stage:

- **Stage 1:** A stage 1 pressure ulcer has intact skin with a localized area of redness that does not go away or turn white (blanch). In addition to demonstrating abnormal blanching, the affected area can be painful, firm, soft, warm, or cool.

To check whether blanching is occurring normally, the Northwest Regional Spinal Cord Injury System at the University of Washington...
recommends pressing on the reddened area with your finger. The area should turn white. Remove your finger, and the area should return to its reddened state within a few seconds, indicating good blood flow. Dark skin may not have visible blanching even when healthy but may exhibit other signs of damage (e.g., color changes or hardness). Check blanching 45–60 minutes after pressure has been relieved from the area in question.

- **Stage II:** A stage II pressure ulcer signals damage to the dermis layer of the skin. It can look like a very shallow, dry, open sore with a red or pink wound bed. Alternatively, it may resemble an intact or ruptured (open) liquid-filled blister. Ulcers at this stage are devoid of slough (a type of dead necrotic tissue that is yellowish in color with a thin, stringy consistency) or bruising.

- **Stage III:** Stage III pressure ulcers have progressed through the dermis and epidermis, but do not leave bone, tendon, or muscle exposed. If slough is present, it does not obscure the depth of tissue loss.

  The depth of this ulcer will vary by location. For example, although the wound may progress all the way to the subcutaneous fat layer at some areas of the body, other areas have thin skin and no subcutaneous fat, such as the bridge of the nose, the ear, and certain portions of the foot. Because of this lack of subcutaneous fat, stage III ulcers are very shallow at these locations. In contrast, areas with significant subcutaneous tissue can develop very deep ulcers.

- **Stage IV:** Stage IV pressure ulcers leave bone, tendon, or muscle exposed. Slough or eschar (a second type of dead necrotic tissue that is often dark in color with a thick, hard consistency) may be present in part of the wound. As with stage III ulcers, the depth of a stage IV ulcer varies by location.

- **Unstageable:** Unstageable pressure ulcers have a wound bed that is covered with slough or eschar. Wounds with this classification cannot be staged until enough of the dead tissue is removed to render the wound bed visible for examination. However, this process differs when eschar is present on the heels. Because eschar in this hard-to-heal location often serves as a protective mechanism, it's usually treated by "painting" it with Betadine (a topical medication) and reducing pressure rather than by removing the eschar itself.

- **Suspected deep tissue injury:** Ulcers in this final classification group appear as localized areas of intact skin that are purple or maroon in color. Alternatively, they can look like blood-filled blisters. They can cause individuals pain and feel firm, mushy, boggy, warm, or cool to the touch. The condition of the affected area may worsen rapidly, even with treatment. This type of ulcer, which may be covered in eschar, usually breaks down to a stage III or IV ulcer. Deep tissue injury may be difficult to identify in people with dark skin. For these individuals, the ulcer may have a dark appearance with a thin blister over the wound bed.

The current version of this staging system was developed in 2007 by The National Pressure Ulcer Advisory Panel, a group of experts in pressure ulcer care. You can visit the panel’s website at www.npuap.org for more up-to-date information and current clinical practice guidelines regarding pressure ulcers.

**Prevention and treatment**

As part of the nursing home admission process, each resident should be assessed for skin integrity and risk factors that can lead to the development of pressure ulcers. As a member of the frontline team, it is your responsibility to know your facility’s policies and procedures for caring for these residents, as well as your specific role in the prevention of pressure ulcers.

First, report skin changes to your supervisor. Report any of the following observations immediately:

- A red pressure area does not become normal after 20 minutes without pressure
- A skin area is warm or hot to the touch
- Swelling or opening in the skin is present
- Blisters, tears, craters, rashes, holes, scrapes, or abrasions are evident
- Drainage or weeping from the skin is present

As a CNA, you play a critical part in detecting such problematic developments, so never underestimate the
importance of your observations. Early detection of a stage I or stage II pressure ulcer can greatly reduce the risk of its progression to stage III or IV. In addition, taking the following steps during care delivery can help protect your residents from developing new pressure ulcers and prevent existing ones from worsening:

- Reposition at-risk residents often.
- Use incontinent skin barrier products for residents with incontinence.
- Use draw sheets to lift and turn residents.
- Avoid using foam rings, donuts, or sheepskin for pressure relief. Do not massage bony prominences.
- Ensure there is a note in the care plan for patients who cannot move themselves reminding staff to reposition frequently.
- Apply moisturizers regularly, including after a patient has bathed, to trap water in the epidermis, but avoid applying any lotion to bony prominences or reddened areas, as doing so may soften or irritate the skin, increasing the risk of breakdown.
- Keep the patient’s bed free of crumbs and wrinkles, both of which can irritate the skin.
- Check skin under medical devices and apply padding to prevent irritation.
- Encourage or assist residents to eat well, drink plenty of fluid, and exercise several times per day.

In addition to these general prevention guidelines, there are specific actions you can take as a CNA to reduce the risk for pressure ulcer development among residents with certain characteristics.

For residents that are in chairs most of the time:

- Encourage or assist with standing, walking, or shifting weight every 15 minutes.
- Teach them how to do chair pushups with their arms.
- Help them to sit with their knees at the same level as their hips and their thighs horizontal to the chair. This will distribute their weight along their thighs and away from pressure points.

For residents that are in bed most of the time:

- Teach them how to use side rails and the trapeze to change position frequently.
- When you are assisting a resident with changing position, move him or her carefully so you do not create friction and shearing.
- The head of the bed should be raised as little as possible and no more than 30 degrees to prevent sliding and pressure on bony areas. If the head must be raised higher for eating, it should be lowered an hour later.
- For residents that use special chair cushions or mattress overlay pads, check to be sure that the pads are thick enough to do their job. Place your hand under the pad while the resident is on top of it. If you can feel his or her body through the cushion, the pad is too thin.
- Relieve pressure from heels when the resident is in bed by positioning pillows or using other devices provided for that purpose.

Be especially alert when you are caring for residents who are frail, don’t move around much, or have poor nutrition. Keep a very close eye on residents with little or no feeling in parts of the body, such as stroke victims, because they don’t feel pressure spots and therefore often fail to change position when they should.

Once injury and wound healing have occurred, the skin can never regain its original strength. Therefore, when a patient has developed a pressure ulcer, he or she is at an even higher risk of breakdown in that area after the initial wound heals. Therefore, you should always refer to this area as a “healed pressure ulcer.”

In addition, because pressure ulcers are open wounds, frontline staff must look for signs of infection, which will prevent an ulcer from healing. An infected pressure ulcer may have increased swelling and pus. Other signs include fever, increased pain, and change in odor, although infection can still be present even in the absence of these signs. Infected pressure ulcers can be deadly, so careful monitoring is essential.

EDITOR’S NOTE
This issue of CNA Training Advisor was adapted in part from Nursing Procedure Guide for Long-Term Care, written by Barbara Acello, MS, RN.
CNA Professor

PRESSURE ULCERS QUIZ

Mark the correct response.

Name: ____________________________ Date: ____________________________

1. Which of the following bodily functions does the skin help facilitate?
   a. Sensation
   b. Regulation of body temperature
   c. Vitamin D3 production
   d. All of the above

2. Older people are at risk for pressure ulcers because
   a. they eat too much
   b. disease processes that are common among elders prevent skin breakdown
   c. skin becomes more fragile with age
   d. bones get sharper with age

3. Which of the following is NOT a common risk factor for pressure ulcers?
   a. Urinary incontinence
   b. Exercise
   c. Dehydration
   d. Friction and shearing

4. Slough is a type of necrotic tissue that is typically ________ in color.
   a. yellow
   b. black
   c. red
   d. white

5. A stage ________ pressure ulcer can leave bone, tendon, or muscle exposed.
   a. I
   b. II
   c. III
   d. IV

6. Which of the following skin conditions should be immediately reported?
   a. A skin area that blanches when touched
   b. A skin area that is warm or hot to the touch
   c. Swelling
   d. Both b and c

7. When sitting in a chair, a resident should ____________.
   a. sit with knees higher than hips
   b. get up or shift his or her weight every 15 minutes
   c. avoid shifting his or her weight in the chair too much
   d. stay seated as long as possible

8. People who are in bed most of the time should keep the head of their bed raised as high as possible.
   a. True
   b. False

9. People who have had strokes will most likely change position whenever they should.
   a. True
   b. False

10. Which of the following is NOT a typical sign of an infected pressure ulcer?
    a. Pus
    b. Fever
    c. Swelling
    d. Granulation tissue

A supplement to CNA Training Advisor