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## Skin Care and Pressure Injuries: Prevention and Treatment

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After reading the newsletter, the home health aide should be able to:

1. Define pressure injury and four stages that may occur.
2. Describe risk factors and forces that increase the risk of pressure injury.
3. Discuss the home health aide's role in prevention and early detection of pressure injuries in the home care client.

The skin is the largest organ in the human body, and accounts for about 1/6 of an adult's body weight. Skin is critical to life, providing a physical barrier between the inside of the body and the outside world. This protects the body from injury and infection, keeps water both inside and outside, and helps to regulate body temperature. Skin also produces vitamin D and provides sensation that helps to warn of danger and possible injury.



When skin is damaged, it is unable to maintain all of these functions, which can be harmful. Pressure is a common cause of skin injury among the elderly and those with health problems, fatigue or decreased mobility. Healthcare providers must be concerned with prevention and early detection of pressure injuries in clients at risk.

This newsletter will discuss prevention and treatment of pressure injuries in home care clients. A brief overview of types of pressure injuries and risk factors will be presented, as well as common treatments. The role of the home health aide in preventing pressure injuries and observing and reporting changes in skin condition will also be covered.

### Pressure Injuries and Risk Factors

The skin has three main layers of tissue. The top layer is the *epidermis*, made mainly of dead skin

cells. The next layer is the *dermis* which has oil and sweat glands and nerve endings. Below the dermis is the fatty *subcutaneous tissue*, which protects from injury and heat loss. These skin layers stay healthy by the constant supply of oxygen and nutrients brought in by the blood. Pressure injury is caused when the blood supply to an area is cut off. The tissue does not get the oxygen and nutrients it needs, and it dies.

The National Pressure Ulcer Advisory Panel (NPUAP) defines pressure injury as "localized damage to the skin and/or underlying soft tissue, usually over a bony prominence or related to a medical or other device." The severity of pressure injuries depends on how many tissue layers are affected:

- **Stage 1, intact skin:** Skin is intact and reddened or dark; does not blanch (turn lighter) when pressed.
- **Stage 2, partial thickness skin loss:** A shallow ulcer forms down to the dermis, with moist, pink or red tissue visible.
- **Stage 3, full thickness skin loss:** The ulcer extends down to the subcutaneous tissue and fat.
- **Stage 4, full thickness skin and tissue loss:** The ulcer extends past the subcutaneous tissue, exposing muscle, bone and other tissues.

Two main forces cause pressure injuries: *pressure* and *shearing*. Pressure occurs when the person lies in one position for too long,

decreasing blood flow to the area. This often occurs over bony areas, such as the hips, sacrum (tailbone), and heels. Shearing occurs when the client slides down or is pulled across a surface, causing skin layers to be pulled away from underlying muscle and bone. This pinches off the blood vessels in the area, such as when the head of the bed is raised too high or the client is slumped down in a wheelchair. Moisture, such as from incontinence or perspiration, increases the risk of damage and pressure injury.

There are many factors that increase the risk of pressure injuries, but the most important is immobility. Other risk factors include:

- advanced age
- obesity
- poor nutrition and hydration
- incontinence, which causes increased moisture
- poor circulation, such as due to heart failure
- decreased sensation, such as diabetic neuropathy

### **Prevention and Care**

Pressure injuries may result in pain, infection, loss of function, high healthcare costs, and even death. Therefore, careful monitoring of skin condition and preventive measures are essential. Pressure injuries are often slow to heal, and are much easier to prevent than to treat. Not all pressure injuries can be prevented, due to client condition, but most can be.

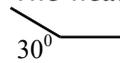
As you work with your clients, take note of their skin condition. Look for any abnormalities, such as red areas, breaks, swelling, discomfort, growths or rashes. Also watch for dark or purplish areas, and feel for changes in the skin texture, such as firmer or softer than surrounding areas. Any abnormalities should be reported to the nurse and documented. Pay careful attention to the skin as you change the client's position. When turning, for example, look at the bony areas that are likely to experience pressure, such as the hips, shoulder blades, sacrum and heels. If red areas appear, position the client so that there is no weight on that area, and check it again in an hour or two. If the redness has not gone away, and especially if it does not blanch to pressure, let the nurse know promptly. Whenever possible, the client should be positioned to avoid bearing weight on any reddened area. Also, make sure that any medical equipment, such as tubing, is not pressing on the client's skin or mucous membranes.

The skin should be kept clean, dry, and well-moisturized. Urine and stool should be cleaned off promptly, using a mild, pH-balanced cleanser. Handle skin gently to avoid damage, and do not scrub or rub the



skin, or massage bony or reddened areas. Bed linen should be changed when it becomes dirty or wet, and kept smooth and wrinkle-free.

Clients who spend much of their time in bed should be re-positioned frequently enough that reddened areas do not develop, usually at least every two hours. A draw-sheet should be used to turn or lift the client up in the bed. This keeps the skin from being pulled across the sheets, which causes shearing. The head of the bed should be kept lower than 30°, except for brief periods (when the client eats, for example), to prevent shearing force. Pillows should be used to position the client so that body parts, such as knees, are not pressing against each other, and to keep heels from pressing on the bed.



Clients who sit in chairs much of the day must also shift position often. If they can't change position themselves, you'll need to help them do this every one to two hours. Donut-shaped cushions should not be used, as these can cause tissue damage, rather than prevent it. Talk with the nurse about equipment that will help to prevent pressure injuries, such as foam cushions, special mattresses, sheepskin pads, and heel/elbow protectors. A foam dressing may be applied to areas at risk for skin breakdown.

Treatment of pressure injuries focuses on removing pressure from the area, removal of dead tissue, infection control, and proper wound care. Good nutrition and hydration is also important, so clients may require extra protein and/or nutritional supplements to promote healing. Clients having pressure injuries will be regularly assessed and treated by the nurse. This may include cleaning and removal of dead tissue, followed by a sterile dressing. Other therapies, such as electrical stimulation, have also been used with good results. Some stage 3 and 4 injuries may require surgical treatment, such as a skin graft or muscle flap procedure.

With treatment and proper positioning, the pressure injury should show signs of healing within 2 weeks. Watch for signs of infection, such as swelling, redness, odor, or drainage, and report these immediately. Also let the nurse know if the pressure injury causes pain for the client, so that the pain can be treated.

As always, make sure to document all of the actions and observations you take to prevent and manage pressure injuries. Your good care and knowledge promotes prevention and early detection of pressure injuries.



## Skin Care and Pressure Injuries: Prevention and Treatment

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Directions: Place the letter of the one best answer in the space provided.

- \_\_\_\_ 1. Functions of the skin include:  
A. temperature regulation  
B. protection  
C. vitamin D production  
D. all of the above
- \_\_\_\_ 2. The skin layer that stores fatty tissue is the:  
A. epidermis  
B. subcutaneous  
C. connective tissue  
D. dermis
- \_\_\_\_ 3. Pressure injuries form because the blood supply to the area is decreased, causing death of the tissues.  
A. True  
B. False
- \_\_\_\_ 4. In a Stage 2 pressure injury, the wound is best described as:  
A. open down to the subcutaneous tissue  
B. an area of redness and warmth with intact skin  
C. open down to the dermis  
D. open down to the muscle and bone
- \_\_\_\_ 5. Shearing is best described as:  
A. pressure that cuts off blood supply to the skin  
B. skin damage caused by incontinence  
C. a force that increases skin circulation  
D. movement of skin over the muscle and bone

- \_\_\_6. Which of the following clients is at highest risk for pressure injuries?
- A. Mrs. B, who walks with assistance and sits a lot
  - B. Mr. P, who is sometimes incontinent
  - C. Mrs. R, who is obese and comatose
  - D. Mr. L, who sometimes uses a wheelchair
- \_\_\_7. The home health aide notices an area of redness on the client's sacrum that has not gone away with repositioning. The home health aide should do all of the following EXCEPT:
- A. notify the nurse
  - B. turn the client more often
  - C. keep the client off of the sacral area
  - D. massage the sacral area
- \_\_\_8. Which of the following is most likely to cause pressure injuries by shearing force?
- A. the head of the bed is kept at a 45° angle
  - B. the client lies in one position for prolonged periods of time
  - C. moisture stays near the skin, such as from wet clothing
  - D. the client's knees press together in bed
- \_\_\_9. Clients who sit in chairs most of the time should use donut-shaped cushions to help prevent pressure injuries.
- A. True
  - B. False
- \_\_\_10. When caring for a client with a pressure injury, the nurse should be notified if there is:
- A. pain
  - B. drainage
  - C. odor
  - D. any of the above

