



# COMMONWEALTH of VIRGINIA

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Commissioner

### Office of Integrated Health Health & Safety Alert/Information

## Skin Integrity and Pressure Injury Health & Safety Alert

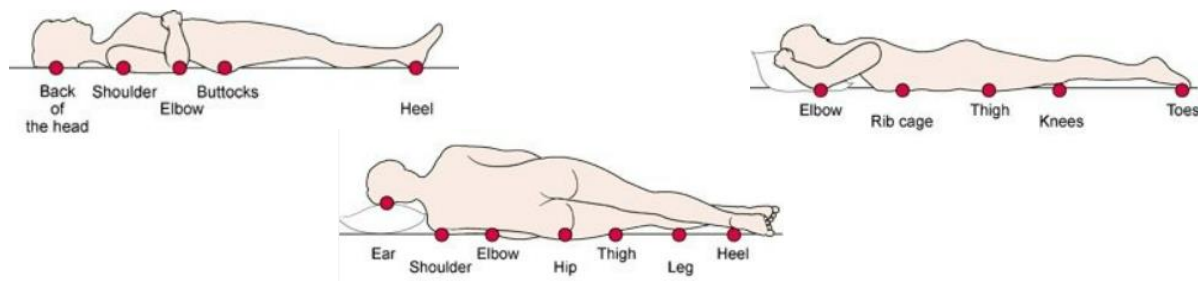
### Introduction

Through the years a “pressure injury” (PI) has been referred to as a decubitus ulcer, a bedsore, and a pressure ulcer. Currently, the Mayo Clinic defines a PI as “an injury to the skin and the underlying tissue resulting from prolonged pressure” (12) (28).

The National Pressure Injury Advisory Panel (NPIAP) defines a PI as “localized injury to the skin and/or underlying tissue usually occurring over a bony prominence or related to medical or other devices” (36) (21).

Often the localized damage to skin and/or underlying tissue occurs over a bony prominence, such as the elbows, heels, hips, sacral area (tail bone), and are due to increased and prolonged pressure at these points (21) (28). Figure 1 shows common bony prominences on the body.

Figure 1: Common Bony Prominences



Prolonged pressure to the skin results in poor circulation, lack of effective tissue oxygenation (ischemia) and tissue breakdown (21) (28).

The injury itself can present as intact skin or an open ulcer, and it may or may not be painful (12) (21). To understand pressure injury it’s important to know something about skin integrity and the layers of the skin.

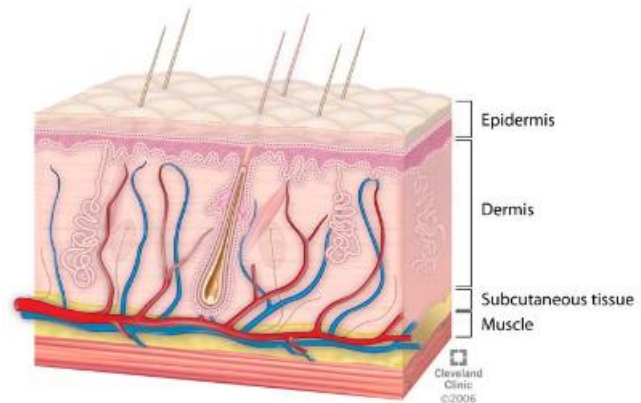
## Skin Integrity

The skin covers the entire outside of the body and is considered the largest organ. The medical term for the skin is the integumentary system which means a body's outer covering (7) (49).

The skin is considered the first line of defense against infection, chemicals, and injury. It helps to regulate the amount of water in the body and the body's temperature (7) (49).

There are three layers of the skin, which are all made up of water, protein, fats and minerals. The epidermis is the top layer of the skin. The dermis is the middle layer and the hypodermis is the bottom or fatty layer also known as subcutaneous tissue (7) (49).

The epidermis is the outer most layer of the skin which acts as a protective barrier, and contains melanin which gives the skin its color. The dermis, or middle layer, makes up 90% of the skin's thickness. It is made up of the hair follicles, nerve ending, sweat glands, and blood supply. The hypodermis, or bottom layer (subcutaneous tissue), is made up of fat cells, and connective tissue to the muscles. (7) (49).



## Pressure Injury Risk Factors

There are several risk factors, which may increase each individual's chance of acquiring a PI.

### Moisture

Skin can become moist from a variety of reasons. Incontinence and sweat can be major contributors to moisture. Moisture trapped between skin and fabrics places the individual at a higher risk of developing a PI (43) (38).

Evidence indicates urinary incontinence increases the risk of a PI in individuals (17) (38). Keeping an incontinent individual dry and moisture-free lowers their overall risk of developing a PI. Developing a regular monitoring schedule of incontinent individuals reduces the time an individual remains in wet or soiled clothing and/or briefs.

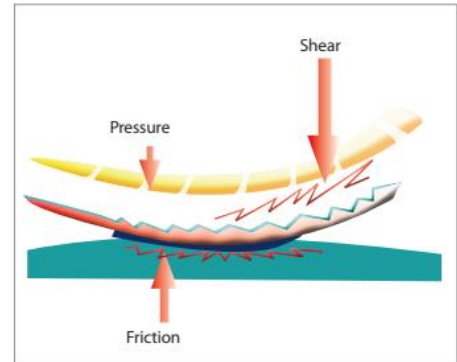
Occasionally, inflammation of the skin (dermatitis) is mistaken for a PI (38). Changes in the skin's appearance and the diagnosis of a PI vs. dermatitis is made by a physician. Always document and report changes in an individual's skin appearance to the individual's primary care provider (PCP) as soon as possible.

## Shearing

Shearing is the physical force which acts on an area of skin in a direction parallel to the body's surface (8) (50).

It occurs during repositioning when the body is not lifted off the surface completely, which then pulls the bones in one direction and the layers of the skin in the other (Figure 2).

The person is typically positioned at an angle when a shearing injury occurs. When the head of the bed is elevated, it increases shear injury in deep tissue and may account for the high incidence of sacral pressure injuries seen in individuals (8) (50).



It is best practice to lower the head of the bed, if the individual can tolerate being on a flat surface, before repositioning to reduce the chances of shearing from occurring (14) (44).

A shear injury is not seen on the outside of the body, because it happens beneath the skin when the blood supply is cut off to the tissue under the skin surface, which results in cell death (necrosis) (21).

## Friction

Friction is the resistance to motion and is similar to shear in many ways. However, unlike a shearing injury, a friction injury can be seen on the outside of the body. Friction injuries occur when the skin is dragged or pulled across a surface, such as when an individual is moved or slid across bed sheets (8) (50) (Figure 2).

If the skin is moist from incontinence or after a bath, the friction of each surface will be higher, so the risk for a friction injury will be greater, resulting in more extensive skin and tissue damage (8) (50). Great care should be taken when moving an individual if their skin is damp or moist, in order to avoid injury.

## Individuals at Highest Risk for Pressure Injury (PI)

Some individuals are at greater risk for developing PI. Older individuals, those who have limited ability to move independently, individuals with nerve damage or spinal issues, individuals with chronic health conditions and those who can't communicate discomfort are all at increased risk for PI (21).

### Non-Ambulatory Individuals

An individual who is unable to ambulate (walk) independently and/or change their body position independently are the individuals at highest risk of developing a PI and is the most common reason for developing PI (21).

The use of durable medical equipment (DME), such as wheelchairs, standers, hospital beds, can cause pressure injuries if proper precautions are not taken (13).

However, individuals do not have to be completely non-ambulatory or immobile to be at increased risk for PI. If an individual who can ambulate suddenly becomes less ambulatory or non-ambulatory, due to an injury, illness or surgery, they will then be at increased risk of developing a PI.

### **Older Individuals**

Individuals over age 65 are at greater risk of pressure injuries as the body's built-in natural protective agents such as fat and muscle begins to wither and reduce (37) (19) (23) (21).

As a natural part of aging, the fatty layer under the skin (dermis) begins to thin. Fluids in the body serve as a natural insulator and cushioning agent for the body's organs, bones and tissues.

However, as the body ages, the thirst instinct becomes reduced which leads to a higher risk of dehydration, and the functioning of taste buds reduces leading to lower nutritional and fluid intake overall.

In addition, as the body ages an individual is at greater risk of chronic health conditions such as diabetes, cardiovascular disease, osteoporosis, arthritis, or cancer, which can leave the body in a more weakened state overall (19) (40).

Individuals who take more than seven medications a day (polypharmacy); those who have experienced repeated hospitalizations; and/or those who suffer from reduced immobility for whatever reason, are also at increased risk for developing a PI (37) (19) (23) (21)

### **Diagnosis of Diabetic Neuropathy**

This condition occurs when people diagnosed with diabetes experience a loss of sensation in their hands, feet and legs (extremities), due to poor metabolic balance of sugar within their bodies.

Due to this lack of sensation in the hands, feet and legs, people with neuropathy lose the ability to sense pain or discomfort, which typically cues the brain to reposition the body in healthy, well-functioning individuals. Decreased repositioning or lack of repositioning, increases the risk of a PI (39) (21).

### **Diagnosis of Peripheral Arterial Disease (PAD)**

People with this condition have a narrowing or blockage of the vessels which carry blood from the heart to the legs. The buildup of fatty plaques in the arteries is called atherosclerosis (33).

Overtime, the blockage can cause damage, which results in a loss of sensation. When a person experiences the loss of sensation in any part of their body (neuropathy), they are at an increased risk of developing a PI, because the sensation of discomfort or pain is the brain's cue to reposition the body (47) (21).

## **Spinal Cord Injuries (SCI) or Paralysis**

Research indicates people with SCI are more likely to develop a PI. Individuals with SCI have impaired blood circulation, reduced movement in their digestion, difficulty identifying sensations, loose muscle tone and muscle atrophy. PI is the most common complication of for individuals with SCI (24) (11).

An individual with SCI and constipation, would likely spend an extended period of time sitting on a toilet seat, which as a result, increases their risk for PI to their sacral area (26).

## **Severe Cognitive Impairment or Brain Injury**

Individuals with severe cognitive impairments such as dementia, stroke, traumatic brain injuries (TBI), or medication side effects which alter brain function, are at a higher risk of developing a PI due to their compromised ability to perceive pain and/or pressure (21).

Cognitive impairments are linked closely with diminished mobility. The more cognitively impaired an individual is, the less likely they are to ambulate, move and/or to reposition themselves independently. Their lack of movement is the primary reason cognitively impaired individuals are more inclined to develop PI (21).

## **Incontinence**

People who suffer from bowel or bladder incontinence typically experience skin dampness or moistness and may frequently suffer skin breakdown and/or dermatitis (skin inflammation). Due to these skin-related complications, they are at a higher risk of developing a PI (48) (17) (38).

## **Communication Difficulties**

Individuals who are unable to communicate effectively are at a higher risk of developing a PI. Someone who is non-verbal (i.e. has no intelligible speech) and is unable to use an assistive device for communication, is not able to effectively express their pain or discomfort level to their caregiver.

Facial expressions and sounds are often misinterpreted as a request for something completely different than what the individual desires and/or is trying to communicate. Since pain is an early sign of a developing PI, an inability to communicate pain, puts someone at higher risk for the development of a PI (21).

## Memory Aid/Mnemonic Tools for Pressure Injury Monitoring

**NO ULCERS** is a mnemonic tool or memory aid which can help caregivers remember the steps needed for PI prevention.

<b>NO ULCERS</b>	<b>N</b> utrition and fluid status <b>O</b> bservation of skin <b>U</b> p and walking or assist with position changes <b>L</b> ift, don't drag <b>C</b> lean skin and continence care <b>E</b> levate heels <b>R</b> isk assessment <b>S</b> upport surfaces
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## Pressure Injury Diagnosis, Staging and Treatment

PI is defined, classified and identified through a staging system (10). A few of the early and most common signs of prolonged pressure to the skin include:



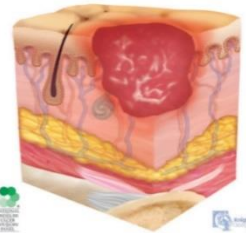

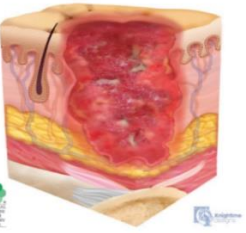

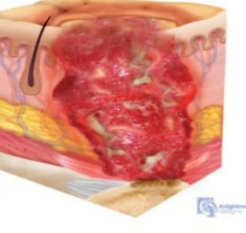



- Changes in color or appearance.
- Changes in texture.
- Swelling.
- Prolonged redness.
- Areas which don't blanch when touched.
- Areas which feel warmer or cooler the touch than other areas.
- Pain and soreness (28).

Early recognition of these signs should be brought to the attention of the individual's primary care provider (PCP), nurse, or wound care specialist immediately to halt tissue damage progression (21).

Once identification of a PI has occurred, the next step is called 'staging'. Staging of a PI occurs when a healthcare professional (physician, nurse, certified wound specialist) examines the skin at and around the site of an injury, and the injury is classified based on the extent of tissue damage observed (10) (1).

There are numerous assessment tools for PI identification. These tools include both skin visualization techniques and risk assessment tools (3) (1). Based on the criteria in the pressure injury staging diagram below, the healthcare provider will determine the severity of the PI (22). Once a PI has been identified and staged, a treatment protocol can begin (25).

## Pressure Injury Stages

<p><b>Stage 1:</b> Non-blanchable erythema of intact skin. Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Color changes do not include purple or maroon discoloration; these may indicate deep tissue PI.</p>	 
<p><b>Stage 2:</b> Skin is broken but there is no depth to the wound. Partial-thickness loss of skin with exposed dermis. The wound bed is viable, pink or red, moist, and may also present as an intact or ruptured serum-filled blister. Adipose (fat) is not visible and deeper tissues are not visible. Granulation tissue, slough and eschar are not present.</p>	 
<p><b>Stage 3:</b> Skin is broken, but there is obvious depth to the wound; fat tissue may be noted. Full-thickness loss of skin, in which adipose (fat) is visible in the wound and granulation tissue and epiboly (rolled wound edges) are often present.</p>	 
<p><b>Stage 4:</b> Skin is broken; muscle or bone may be visible. Full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage or bone in the wound. Slough and/or eschar may be visible. Epiboly (rolled edges), undermining and/or tunneling often occur.</p>	 
<p><b>Stage 5:</b> Severe tissue loss is noted; wound may appear as empty hole. Full-thickness skin and tissue loss in which the extent of tissue damage within the wound cannot be confirmed because it is obscured by slough or eschar.</p>	 

(34).

## Person-Centered Pressure Injury (PI) Treatment

Proper Treatment of a PI is a team-based approach which should be led by the individual's PCP (MD or Nurse Practitioner) and should be tailored to the individual's specific needs. Certified Wound Specialists (CWS) and/or Certified Wound Ostomy Care Nurses (CWOCN) are often part of the treatment team (1).

The PI treatment plan starts with a thorough assessment performed by the individual's PCP to determine the cause and diagnosis. The treatment options outlined below are offered as an overview of what a generic treatment plan for pressure injury might include (1).

### Wound Care

Wound healing is optimized when the wound is kept in a moist environment rather than air dried, dried under heat lamps or by using topically-applied drying agents (20) (35). There are many types of dressings on the market today. Which one to use, when to use it, and how long to use it, should be determined by the individual's PCP or wound care specialist.

### Pain Management

Pain management, for painful wounds, is an important part of the Plan of Care (POC) that should be addressed by the PCP. Pain can also be an indicator of infection. The amount and type of pain experienced needs to be conveyed to the treating physician. Pain, regardless of the cause, can be stressful. Addressing pain, should be part of a comprehensive treatment plan for pressure injuries (29) (18).

### Repositioning Protocol

Individuals at increased risk for PI should have an ongoing risk-prevention protocol in place for routine monitoring of their skin, which should include documenting and reporting (to a healthcare professional), any early signs of prolonged pressure.

An individual's response to pressure should guide repositioning frequency. Repositioning schedules or protocols need to be individualized based on tissue tolerance, patient rights, and the specific support surface being used (42) (14).

All support surfaces, regardless of their quality or pressure-reducing abilities, still apply **some** pressure to the skin's surface. No support surface provides complete pressure relief. Standard repositioning protocols call for repositioning every two hours (42) (14).

### Transferring Protocol

Using a draw sheet or cloth/absorbent bed pads will significantly reduce friction and shearing during transfers. "Slide sheets" or "transfer sheets" are specially made pieces of fabric which can be positioned between the patient and the regular mattress sheet. These sheets are made of a treated fabric which allows them to slide easily in all directions (27).

This transferring method requires the individual to be lifted off the underlying surface during the repositioning procedure by two staff. This can be difficult at times due to the weight of the



individual, staff strength, height of bed vs. staff, etc. and requires the uses of good body mechanics (27).

### Nutrition/Dietician Consultation

Nutrition and proper hydration are vital parts of wound healing and management which requires a consultation with a Nutritionist or a Dietician. Blood tests may be ordered to assess hemoglobin levels, iron levels, etc. Making sure an individual has adequate levels of protein, vitamins, minerals and water in their diet is an important part of the wound healing process (6) (32).

### Physical and or Occupational Therapy Consultation

A physical and/or occupational therapist (PT/OT) may be consulted to address an individual's DME needs (wheelchair seating, positioning devices, etc.), and training of caregivers regarding positioning and transferring issues which will reduce the risk of a PI (31).

### Wound Care Specialists

Healthcare professionals who are qualified to stage a PI include physicians, nurses and board-certified wound specialists. A board-certified wound specialist is a healthcare professional who has received additional training and education in order to qualify for a national board certification examination (2). The American Board of Wound Management (ABWM) offers three levels of specialty certification for those who have additional training and expertise relating to wounds.

There are several types of wound care specialists.

- The Certified Wound Specialist Professional (CWSP) wound care certification is specifically developed for physicians (MD's, DO's and DPM's).
- Certified Wound Care Associates (CWCA's) are those professionals who demonstrate a distinct and specialized knowledge in wound management, which can promote the quality of care for persons with wounds.
- A Certified Wound Specialist (CWS) is someone who demonstrates a master's level knowledge and specialty practice in wound management.

If you are caring for an individual who has a PI, consultation with someone who has advanced training in wound care is considered "best practice" and is highly recommended. Please consult the individual's PCP for additional guidance or clarification, if needed.

Note: Most insurance companies are less likely to approve specialty Durable Medical Equipment (DME) used in the treatment of a PI (e.g. alternating pressure mattresses, gel wheelchair seat cushions, etc.); if the PI has not been evaluated, staged and documented by a wound care specialist or a licensed healthcare professional (an MD, an NP, an RN, etc.).

## Lowering the Risk of Pressure Injuries

### Caregivers/Care Team Collaboration

Educating all caregivers and direct support professional so they have a basic understanding of how pressure injuries occur is the first step. Individuals should have a person-centered plan in place to monitor and address areas of risk.

Developing a collaborative, multi-pronged PI prevention program designed by healthcare professionals is essential. All staff and caregivers should be fully trained on protocols, and routine competencies completed, to ensure proper care is being administered (4).

A quality PI prevention program includes individualized protocols, as well as standard policies and procedures aimed at addressing all of the following:

- Skin assessments (formal or informal) need to be performed regularly by all caregivers. Signs of redness, edema, localized heat, or induration (hardness) are warning signs of PI development.
- Complaints of pain to a specific area could be attributed to PI development. Caregivers should monitor individuals with a history of pressure injuries, skin breakdown or scars from surgery.
- Scar tissue is not as tolerant of pressure as the original skin tissue and will breakdown sooner. Two commonly used tools used by medical professionals for predicting PI risk are the Braden and the Norton Scale (21).
- Caregivers need to be trained to provide routine skin care. Caregivers should be taught the specific steps and methods needed in order to keep individual's skin clean, dry and free of urine, stool or sweat to maintain healthy skin.
- Individuals who are incontinent of urine and/or stool should be monitored at regular intervals throughout the day and night. A routine, scheduled protocol for checking individuals for soiling, (and documenting those checks) should be implemented to ensure individuals are kept clean and dry.
- Inspecting the skin and seeking treatment from a medical professional for changes in the skin can reduce long term complications including PI (40).
- Routine application of skin protectant products is an important step in maintaining healthy skin. Well lubricated skin prevents break down and reduces chances of skin becoming torn and/or infected. Applying a lubricant cream or lotion per a health care provider's prescription is a valuable part of skin care.
- Routine use of skin lotions, barrier creams, emollients and skin protectants to hydrate and protect the skin can promote skin health and can lower the risk of PI's (42) (41).

## Positioning Devices and Support Surfaces

Changing someone's position means the individual will be in a completely different position than they were previously. Meaning from sitting to lying down; sitting upright to fully reclined; standing in a stander to fully reclined, etc...

All individuals are supported or positioned by use of a "support surface", which is a generic term that encompasses all surfaces and specialized devices which are used for positioning and pressure redistribution, management of tissue loads, and management of temperature and moisture levels of the body (42).

A support surface can be powered or non-powered (i.e., specialty mattresses, mattress overlays, or customized wheelchair seat cushions, tilt-in-space wheelchairs, standers, etc.). Listed below are various support surfaces and a description of how each can be used to lower PI risk.

### Durable Medical Equipment (DME) Positioning Devices

Individuals with a history of PI, or those at high risk, should be evaluated for any/all types of DME positioning devices to help lower the risk of a reoccurring PI, or a future PI.

- **Standers:**

May be a good option for individuals who can bear weight but are at high risk for PI's. For those individuals who are non-ambulatory and those who spend a significant amount of time in wheelchairs; a prone stander can be especially beneficial at reducing pressure in the sacral area (tailbone/buttocks). Schedule an assessment with a PT or OT who can evaluate the appropriateness of this device for your individual (9).



- **Gait Trainers:**

These devices are very similar in overall function as a walker but are designed for individuals who need to have more trunk support in order to ambulate. Schedule an assessment with a PT or OT who can evaluate the appropriateness of this device for individuals (45).



- **Tilt-in-space Wheelchairs:**

These wheelchairs are designed for individuals who have decreased ability to reposition and/or have more significant postural needs. Wheelchairs with tilt and recline features can provide a change of both position and pressure to different areas of the body. A tilt feature on a wheelchair can also improve circulation in the lower extremities, thus bringing pressure relief and greater comfort to the user (52).



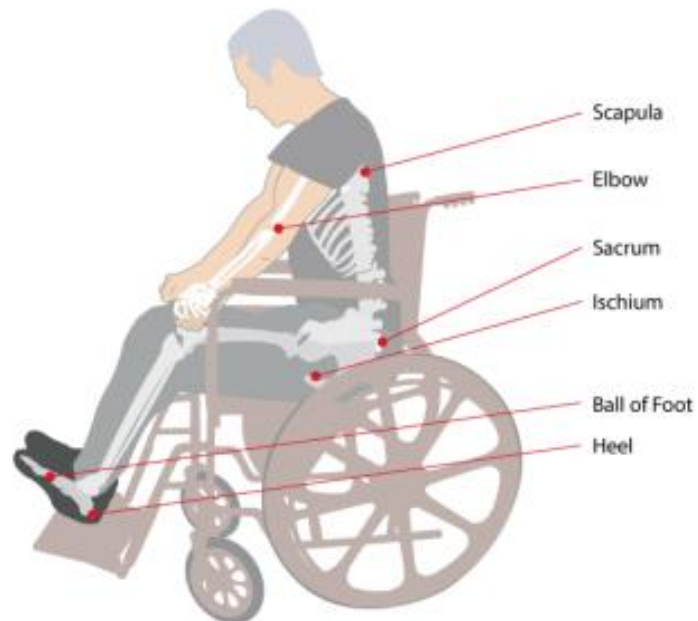
## Special Considerations for Wheelchair Users with a History of Pressure Injury

### Seating Assessments

Routine Seating Assessments are recommended for any individual who spends a significant amount of time in a wheelchair. Wheelchair seating is a dynamic process performed by a healthcare professional to monitor fit and function of the individual's DME and modify/customize options to match the individual's changing needs (16).

The most common sites for pressure injuries in wheelchair users are the:

- Scapula
- Sacrum/Coccygeal area
- Ischial tuberosity
- Heel
- Ball of the foot
- Back of the knee
- Elbow (46).



### Pressure Mapping

The use of a pressure mapping device during a seating assessment can help with the selection of the proper seat cushion or overlay for wheelchair users. If an individual has a history of any PI, pressure mapping should be included in their seating assessment.

A pressure mapping device is a square, pliable, fabric-like device that is placed in the seat section of a wheelchair (during a seating assessment), so the individual is sitting on it. The device contains thousands of micro-sensors which measure the pressure the seat of the wheelchair exerts on the individual.

As the information is collected via the sensors, it is transmitted to a computer screen. The computer displays a visual image of the specific pressure areas and gradients exerted on the individual's body.



## Customized/Specialty Cushions

Pressure-redistributing cushions reduce the incidence of sitting-induced pressure injuries in wheelchair users (30). Customized/specialty cushions require an evaluation by a PT or OT and a DME vendor/sales representative, to match the appropriate cushion with the individual. The vast majority of these surfaces are static and are available in different sizes and thicknesses.

The static pressure relieving materials are foams, gels, foam/gel combinations, air bladders (e.g. Roho cushions), silicone grids, or layers of honeycomb shaped cells. Some seat cushions are filled with multiple small envelopes of air which can be moved around from one section to another to match the individual's needs. A dynamic seat cushion is an air cushion which is battery operated and alternates pressure by inflating and deflating air chambers. All help lower the risk of PI to an individual.

## Specialty Beds/Mattresses

Specialty mattresses and beds are support systems which can be non-powered (e.g. foam/gel mattress overlays, water-filled mattresses, etc.); or powered (e.g. an alternating pressure mattress or an intermittent/alternating pressure pad (IPP/APP, etc.). Alternating pressure devices prevent any one area of the body from experiencing constant pressure for more than four minutes by inflating and deflating air chambers continuously (10).

## Resources

- For more information on the stages of pressure injuries, please go to the National Pressure Ulcer Advisory Panel website (35): <https://npuap.org/page/PressureInjuryStages>
- Information regarding board certified wound specialists and the services they can provide (2): <http://www.abwmcertified.org/>
- (National Alliance of Wound Care and Ostomy, (2019) <https://www.nawccb.org/wound-care-certification>
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To the best of the OIHSN Nursing Team's knowledge the information contained within this alert is current and accurate. If the reader discovers any broken or inactive hyperlinks, typographical errors, or out-of-date content please send email to [communitynursing@dbhds.virginia.gov](mailto:communitynursing@dbhds.virginia.gov) to include the title of the Health & Safety Alert with specifics details of concern.

# Skin Integrity & Pressure Injury Quiz/Evaluation

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email Address: \_\_\_\_\_

## Quiz:

1. The National Pressure Injury Advisory Panel (NPIAP) defines a pressure injury (PI) as...
  - a. Bruising to the skin over a bony prominence.
  - b. Localized damage to the skin and underlying soft tissue usually over a bony prominence or related to a medical or other device.
  - c. An injury to the skin caused by a fall or a burn.
  - d. An injury to the skin caused by moisture.
2. Prolonged pressure to the skin results in...
  - a. Poor circulation, lack of effective tissue oxygenation (ischemia) and tissue breakdown.
  - b. Pain, poor nutrition, and poor fluid intake.
  - c. Scar tissue build-up.
3. The layers of the skin are...
  - a. Hair follicles, nerve ending, sweat glands, and blood supply.
  - b. Water, protein, fats and minerals.
  - c. Epidermis, dermis, and hypodermis.
  - d. Subcutaneous tissue, fat, and muscle.
4. Moisture which produces skin breakdown can be from...
  - a. Incontinence.
  - b. Sweat.
  - c. Bathing.
  - d. A, B, & C.
5. Shearing forces on the skin are defined as:
  - a. Skin which is resistant to motion.
  - b. The physical force which acts on an area of skin in a direction parallel to the body's surface
  - c. Skin which is dragged or pulled across a surface.
  - d. Blood supply is cut off to the tissue under the skin surface.
6. Non-ambulatory individuals are at higher risk for pressure injury because...
  - a. They are sitting for long periods of time.
  - b. They are unable to reposition without assistance.
  - c. They use durable medical equipment.
  - d. A, B, & C.
7. Individuals at higher risk for pressure injury are...
  - a. Individuals with no chronic conditions.
  - b. Individuals diagnosed with Cerebral Palsy.
  - c. Individuals with spinal cord injuries (SCI) or paralysis.
  - d. Individuals who can ambulate without assistance.
8. Why are individuals with communication difficulties at higher risk for pressure injury?
  - a. They are able to communicate exactly what they need.
  - b. They are unable to communicate when/if they are experiencing pain or pressure.
  - c. Staff easily know what the problem is when/if an individual is yelling.

# Skin Integrity & Pressure Injury Quiz/Evaluation

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email Address: \_\_\_\_\_

9. The earliest signs of pressure injury is/are:
  - a. A change in color or appearance.
  - b. Swelling.
  - c. Pain or soreness.
  - d. A, B, & C.
10. A pressure injury is classified, defined, and identified using:
  - a. The Braden scale.
  - b. The level of pain associated with the pressure injury.
  - c. A staging process.
11. Best practice pressure injury treatment should include:
  - a. Wound care, pain management, a repositioning protocol, nutrition and fluid monitoring.
  - b. Glucose monitoring, insulin, a balanced diet, and regular exercise.
  - c. Range of motion exercise, administration of medications, and vital sign monitoring.
12. It is best practice to include which medical professional on the team to treat pressure injuries?
  - a. QMHP
  - b. CWSP
  - c. ECG
  - d. ABWM
13. To lower the risk of pressure injury caregivers should:
  - a. Leave an individual in the same position all day.
  - b. Reposition an individual every 2 hours.
  - c. Give the individual a bath every day.
14. Routine skin care should include...
  - a. Regular inspection.
  - b. Keeping the skin dry and clean.
  - c. A, B, & C.
  - d. Using moisturizers.
15. Interventions which may help to reduce pressure injury for individuals in a wheelchair include...
  - a. Pressure mapping .
  - b. Lateral supports.
  - c. Customized or specialty cushions.
  - d. A, B, & C.

## Evaluation:

1. Was the information presented in this Health & Safety Alert helpful?
  - a. Yes
  - b. No
2. Will you use this Health & Safety Alert information to train other staff?
  - a. Yes
  - b. No
3. What topic(s) would you like to have presented in a Health & Safety Alert for CNE's?

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4. What topic(s) would you like to have presented in a Health & Safety Alert for CNE's?

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5. Other Comments:

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