

# CARE FOR U PLUS

177 Franklin Corner Rd, Ste 2B  
Lawrenceville, NJ 08648  
Phone: 609-985-0188  
Fax: 609-895-0729

800 N. Kings Hwy, Ste 507  
Cherry Hill, NJ 08034  
Phone: 856-330-4797  
Fax: 856-330-4806

100 Plainfield Ave, Ste 5  
Edison, NJ 08817  
Phone: 732-603-0020  
Fax: 732-603-0025

## Pressure Ulcers and Skin Care for Elderly

A pressure sore (also called pressure ulcer, decubitus ulcer, decubiti (plural), bedsore or skin breakdown) is an area of the skin or underlying tissue (muscle, bone) that is damaged due to loss of blood flow to the area. Blood flow to the skin keeps it alive and healthy. If the skin does not get blood, it will die.

### Why do pressure sores happen?

Normally the nerves send messages of pain or discomfort to your brain to let you know when to move to relieve pressure, stay away from hot surfaces, or shift your weight. After injury, messages from the sensory nerves may not normally reach the brain. With little or no feeling, you have no warning signs to tell you that you have been in one position too long and that something is pressing against your skin causing it harm.

### How do pressure sores happen?

- **Too much pressure on the skin for too long**, as in sitting or lying too long in one position. Unrelieved pressure is the most common cause of pressure sores in SCI. The extended pressure cuts off the blood supply to the skin, leading to tissue damage, skin breakdown and a pressure sore. Common high-pressure situations:
  - Sitting too long without shifting weight.
  - Lying too long without turning.
  - Not enough padding in bed (to protect bony areas of the body, such as the heels).
  - Clothing and shoes that fit too tightly.
  - Sitting or lying on hard objects, such as catheter connectors and clamps, bulky seams, or buttons on mattresses.
- **Shearing** occurs when the skin moves one way and the bone underneath it moves another way. This can result from slouching while sitting, sitting at a 45 ° angle (as in bed), or sliding during a transfer instead of lifting your body. Shearing can also happen during spasms.
- **Trauma** of any kind (cuts, bumps, burns, scrapes, rubbing)
  - *Abrasion or friction*: Cut or scratch; sliding across sheets or transfer board with bare skin.
  - *Bump or fall*: Bumping toes into doorways; bumping your buttocks off the tire during transfers; bumping knees under desks.

### What Puts Me at Risk of Getting a Pressure Sore?

- **Loss of muscle mass.** With paralysis the muscles tend to shrink, become less bulky and get smaller (atrophy). Muscle mass or bulk serves as a natural cushion over the bony areas. A decrease in muscle mass leads to less protection over bony surfaces and more pressure on the thin skin layers.

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- **Being over- or underweight.** When you are underweight, you have less natural padding to protect your body areas, so your skin can break down from even small amounts of pressure. But when you are overweight, it is harder to shift your weight and do pressure reliefs, and all that fat uses oxygen and nutrients that could be nourishing your skin.
- **Decreased circulation.**
  - *Blood flow to the paralyzed limbs decreases* due to the lack of muscle movement and results in less nutrients and oxygen getting to the skin. The skin does not heal well if there is poor circulation.
  - *Edema or swelling* is caused by fluid collecting in the tissues, usually in a part of the body that is not moved frequently and is below the level of the heart (feet, legs and hands). Skin over areas of edema becomes thin and pale and injures easily.
  - *Smoking* is terrible for your circulation.
  - *Diabetes, high blood pressure and high cholesterol* decrease circulation. If you have these diseases, pay particular attention to your feet and ankles. They are farthest away from the heart and are likely to be affected first or worst.
- **Illness or poor overall health.** This includes fevers, infections (such as UTIs), poor nutrition, and chronic diseases such as diabetes.
- **Moisture.** Wet skin (from urine, stool, sweat, water) is more likely to break down.
- **Dry, flaky skin** can crack and become inflamed and infected.
- **Aging** causes skin to become thinner, dryer, and more fragile. You may need to adjust your pressure relief schedule or switch to a different type of cushion when you get older.
- **Previous skin breakdown.** Scar tissue is more fragile than normal skin.
- **Spasticity** can cause your arms or legs to bump against an object and be injured, or rub against a surface (such as the sheets on your bed), which could produce an open sore.
- **Extreme heat or cold.**
- **Alcohol (or drug) use** often causes people to neglect their pressure reliefs and other personal care needs.
- **Depression** is also a risk factor for developing pressure sores.

## How can I Avoid Getting a Pressure Sore?

**Do regular pressure reliefs (also called weight shifting, pressure redistribution and pressure reduction)**

- Pressure relief is moving or lifting yourself to take the pressure off areas that have been under pressure, usually from sitting or lying in one position, so blood can circulate.
- When sitting in your wheelchair you should do pressure reliefs every 15 to 30 minutes for a duration of at least 30 to 90 seconds. Continue to perform pressure reliefs when sitting in a car or on other surfaces (such as on sports equipment).
- If you are unable to perform a pressure relief independently, instruct the person who helps you with your daily care (family, attendant) to move you and reduce pressure over areas at risk for pressure sores consistently, routinely.

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- Your therapist or nurse will teach you how to do pressure reliefs before you leave the hospital. The methods and timing of pressure reliefs will vary somewhat according to your injury and skin tolerance.
- Each person's skin tolerance is different. Some people may need to relieve pressure very often, others may not need to do it very often—but they still need to do it! Building skin tolerance is a gradual process.

## **Skin inspection**

- Check your skin, or have your attendant or caregiver check your skin, a minimum of twice a day (morning and bedtime).
- Look for changes in skin color (redness or darkening), blisters, bruises, cracked, scraped or dry skin.
- Feel for hardness, swelling or warmth that may signal skin breakdown.
- Closely inspect areas that are at especially high risk for pressure sores because in some areas of the body the bones are close to the surface of the skin; the skin that is directly over bone is at highest risk:
  - sacrum (lower back)
  - coccyx (tailbone)
  - heel of the foot
  - ischium (the base of the buttocks, “seat bones”)
  - trochanter (hip, from lying on side, something rubbing, or tight clothes)
  - elbow (from leaning on it)
  - knee (from spasms or side-lying with one knee on top of other)
  - ankle (from lying on side)
  - toes and bony areas of foot (from tight-fitting shoes)
  - back of the head
- Inspect areas of skin that are in contact with casts or braces twice daily.
- Use a mirror to inspect skin in hard-to-see areas. Train the person who helps you to check your skin carefully and regularly.
- Pay attention to fingernails and toenails: an ingrown toenail or cut along your nail bed may lead to a sore which can easily be infected.
- As soon as you notice a discolored area, stay off the area until it returns to normal skin color.

## **Padding, positioning, and turning in bed**

- Use a regular schedule of turning at night. Depending on weight and skin tolerance, your turning schedule may vary from every 2 to every 6 hours. Ask your health care provider for advice about a turning schedule. When turning and moving in bed, lift rather than slide across sheets.
- Use pillows and foam pads (not folded towels or blankets) to protect bony areas. No two skin surfaces should rest against each other!

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- Unless your doctor tells you to do it, avoid elevating the head of your bed, which can put too much pressure on your buttocks and lower back areas.
- For individuals at the highest risk for pressure sores, your health care provider may prescribe a special mattress, mattress overlay or bed for long-term use.

## **Keep skin clean and dry**

- Bathe daily with mild soap and warm water and rinse and dry thoroughly. Pay particular attention to keeping the genital area and skin folds clean and dry.
- Immediately wash and dry skin and change clothing after any leakage of stool or urine.
- Avoid harsh soaps, skin agents with alcohol, and antibacterial or antimicrobial soaps. Do not use powders. Use a moisturizer that has been approved by your health care provider.

## **Get a proper seating evaluation at least every two years or sooner if your health or skin condition changes.**

- Make sure you have the proper cushion for your wheelchair and your seating tolerance.
- Make sure you have the appropriate wheelchair, one that has been measured specifically for you and is compatible with your level of mobility, activities, work and associated equipment.
- The therapist doing the seating evaluation should place a pressure map above your cushion and under your buttocks to see where your pressure-sensitive areas are. If at-risk areas on the pressure map are found, then the therapist may try a different cushion; alter the wheelchair seat, back or foot rest; or show you how to relieve pressure on the vulnerable areas by repositioning your body.
- Pressure mapping is an excellent way to visually demonstrate the effectiveness of weight shifts.
- If pressure mapping is unavailable, work with a seating professional and try several different cushions to see what works best for you.

## **Positioning and transferring**

- Sit as erect as possible in your wheelchair. Slouching can damage skin.
- Perform safe transfers. Do not drag or scrape your bottom when moving in and out of your wheelchair.
- If you need help during transfers, make sure the person who is helping you is very well trained to assist.

## **Clothing, shoes**

- Wear properly fitted clothing; avoid thick seams, rivets or bulky pockets and check for folds and wrinkles in areas of pressure.
- Shoes should be 1-2 sizes longer and wider than your pre-injury shoe size to allow for swelling of feet during the day.
- Use shoes with stiffer toes for protection when you bump into objects with your feet.
- Do not carry anything (comb, wallet, etc.) in your back pockets.

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## Hydration (fluid intake)

- Drink enough water every day to give your body the fluids it needs. Water intake may vary according to your bladder management routine — consult your health care provider for advice about how much water to drink.
- Avoid caffeinated drinks like coffee, tea and soft drinks, which are dehydrating and may trigger bladder spasms.

## Nutrition

- Eat a balanced diet that includes adequate protein, fruits and vegetables (fresh if possible). Poor nutrition prevents the body tissue from rebuilding, staying healthy and fighting infection.
- If there is any question about your nutritional status you may ask your doctor to order a blood test to check your protein, albumen, prealbumen, lymphocyte or hemoglobin levels.
- If you have any conditions that may be affected by your nutrition (such as diabetes or hypertension), please consult with your health care provider who may recommend a consultation with a dietician.

## Sun exposure

- Avoid getting sunburned. Some medicines make your skin more sensitive and may cause it to burn more easily. Use sunscreen and limit your time in the sun, or seek shade.

## Equipment

- Use prescribed, individualized equipment when seated or lying down. Have a doctor or qualified professional recommend what specialized equipment (seat cushion, mattress, pillows) you need to protect your skin.
- Check wheelchair, mattress, cushions and transfer boards daily for problems. Maintain, at a minimum, the manufacturer's recommendations for maintenance of all equipment.

## Temperature

- Compared to before your injury, you are more susceptible to frostbite in cold weather due to changes in circulation and lack of sensation.
- You are also more susceptible to burns. Avoid contact with hot objects (metal pipes, fireplaces, heater in your home or car, hot water in the shower, microwaved dishes or food items you might want to place on your lap).

## Circulation

- Quit smoking!
- Keep as active as possible.

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## How can I Tell if I have a Pressure Sore?

- **First signs.** One of the first signs of a possible skin sore is a reddened, discolored, or darkened area (an African American's skin may look purple, bluish or shiny). It may feel hard and warm to the touch.
- **A pressure sore has begun** if you remove pressure from the reddened area for 10 to 30 minutes and the skin color does not return to normal after that time. Stay off the area and follow instructions under Stage 1, below. Find and correct the cause immediately.
- **Test your skin with the blanching test:** Press on the red, pink, or darkened area with your finger. The area should go white; remove the pressure and the area should return to red, pink, or darkened color within a few seconds, indicating good blood flow. If the area stays white, then blood flow has been impaired and damage has begun.
- **Dark skin** may not have visible blanching even when healthy, so it is important to look for other signs of damage like color changes or hardness compared to surrounding areas.
- **Warning:** What you see at the skin's surface is often the smallest part of the sore, and this can fool you into thinking you only have a little problem. But skin damage from pressure doesn't start at the skin surface. Pressure usually results from the blood vessels being squeezed between the skin surface and bone, so the muscles and the tissues under the skin near the bone suffer the greatest damage. Every pressure sore seen on the skin, no matter how small, should be regarded as serious because of the probable damage below the skin surface.

## Stages of Pressure Sore

### *STAGE 1*

- **Signs:** Skin is not broken but is red or discolored or may show changes in hardness or temperature compared to surrounding areas. When you press on it, it stays red and does not lighten or turn white (blanch). The redness or change in color does not fade within 30 minutes after pressure is removed.
- **What to do:** Stay off the area and remove all pressure; keep the area clean and dry; eat adequate calories high in protein, vitamins (especially A and C) and minerals (especially iron and zinc); drink more water; find and remove the cause; inspect the area at least twice a day; call your health care provider if it has not gone away in 2-3 days.
- **Healing time:** A pressure sore at this stage can be reversed in about three days if all pressure is taken off the site.

### *STAGE 2*

- **Signs:** The topmost layer of skin (epidermis) is broken, creating a shallow open sore. The second layer of skin (dermis) may also be broken. Drainage (pus) or fluid leakage may or may not be present.
- **What to do:** Get the pressure off, follow steps in Stage 1, and see your health care provider right away.
- **Healing time:** Three days to three weeks.

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## ***STAGE 3***

- **Signs:** The wound extends through the dermis (second layer of skin) into the fatty subcutaneous (below the skin) tissue. Bone, tendon and muscle are not visible. Look for signs of infection (redness around the edge of the sore, pus, odor, fever, or greenish drainage from the sore) and possible necrosis (black, dead tissue).
- **What to do:** If you have not already done so, get the pressure off and see your health care provider right away. Wounds in this stage frequently need special wound care. You may also qualify for a special bed or pressure-relieving mattress that can be ordered by your health care provider.
- **Healing time:** One to four months.

## ***STAGE 4***

- **Signs:** The wound extends into the muscle and can extend as far down as the bone. Usually lots of dead tissue and drainage are present. There is a high possibility of infection.
- **What to do:** Always consult your health care provider right away. Surgery is frequently required for this type of wound.
- **Healing time:** Anywhere from three months to two years.

## ***SUSPECTED DEEP TISSUE INJURY***

- Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be surrounded by tissue that is painful, firm, mushy, boggy, warmer, or cooler as compared to nearby tissue.
- Deep tissue injury may be difficult to detect in individuals with dark skin tones. Progression may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar (scab). Progression may be rapid exposing additional layers of tissue even with optimal treatment.

## ***UNSTAGEABLE***

- Full thickness tissue loss in which the base of the ulcer is covered by slough (dead tissue separated from living tissue) of yellow, tan, gray, green or brown color, and/or eschar (scab) of tan, brown or black color in the wound bed.

## **Possible complications of pressure sores:**

- **Can be life threatening.**
- Infection can spread to the blood, heart, and bone.
- Amputations.
- Prolonged bed rest that can keep you out of work, school and social activities for months.
- Autonomic dysreflexia.
- Because you are less active when healing a pressure sore, you are at higher risk for respiratory problems or urinary tract infections (UTIs)
- Treatment can be very costly in lost wages or additional medical expenses.