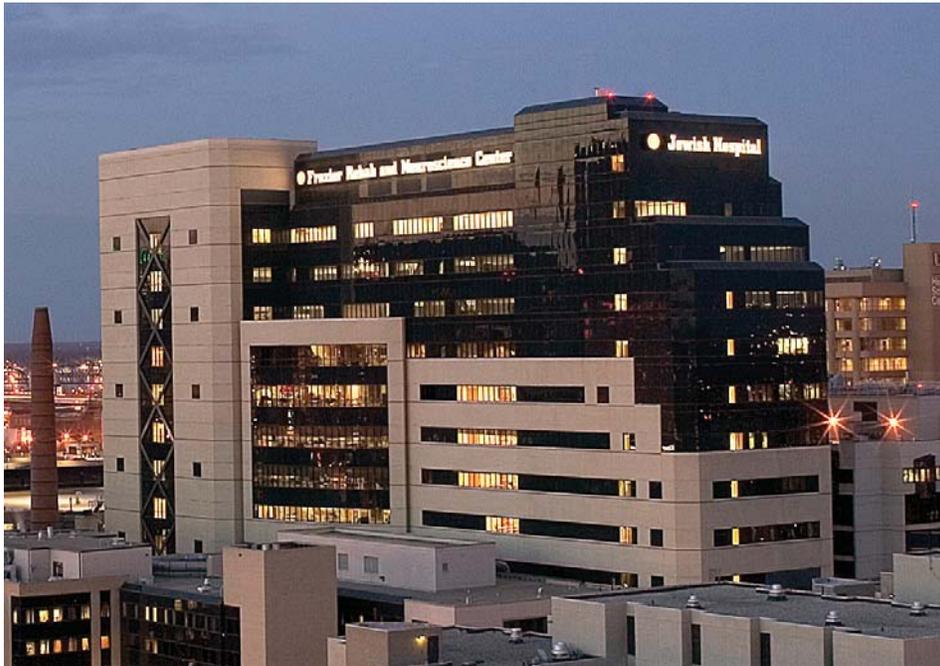


SPINAL CORD MEDICINE

HANDBOOK FOR PATIENT AND FAMILY



Skin Care



Frazier Rehab Institute

A service of Jewish Hospital & St. Mary's HealthCare

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Neuroscience Center
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THE PATIENT AND FAMILY HANDBOOK

This Handbook is designed to give you the information to better understand spinal cord injury and the tools needed to manage your health care needs successfully. Information is intended for you and your family because, those who love you, will often be involved in assisting you with your care needs while in the hospital, and in the home environment. As you read through the Handbook, your rehab team at Frazier is available to address your questions and provide you more information pertinent to your needs.

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A BRIEF NOTE ABOUT THE FOUNDER OF FRAZIER REHAB INSTITUTE

In her early 20's, Amelia Brown of Louisville sustained a spinal injury in a car accident in the 1940's. With no rehabilitation services in Louisville, she traveled to New York for treatment. After returning to Louisville, she married a physician, Dr. Harry Frazier. Believing Louisville needed its own rehabilitation facility, Mrs. Frazier founded the Frazier Institute of Physical Medicine and Rehabilitation in the early 1950s. Her son, Owsley Brown Frazier, served as Chairman of the Fund Raising Committee for Frazier's new building, named the Frazier Rehab and Neuroscience Center, which opened in 2006.

DISCLAIMER

The information contained herein is intended to be used in accordance with the treatment plan prescribed by your physician and with the prior approval of your physician. You should not begin using any of the methods described in this publication until you have consulted your physician. Jewish Hospital & St. Mary's HealthCare, Inc. D.B.A. Frazier Rehab Institute, its affiliates, associates, successors and assigns, as well as its trustees, officers, directors, agents and employees are not liable for any damages resulting from the use of this publication.

NOTE: Words *italicized* in the text below are defined in the Glossary at the end of this Chapter.

SKIN CARE

The skin is a protective covering that acts as a barrier between a person and the environment and has several important functions. The primary function is to prevent harmful bacteria from entering your body and help prevent fluid and water loss. The skin also helps in the regulation of body temperature both heating and cooling. Your skin also is an organ of sensation, including pain, touch and pressure, as well as hot and cold temperature.

After spinal cord injury, the nerve cells in the spinal cord may be damaged, resulting in a decrease of sensation below your level of injury. The sensations of pain, touch, pressure, heat or cold may be altered, or lost, and skin injuries can occur quickly without you knowing they have occurred. One of the most common skin injuries is a *decubitus ulcer*. A decubitus ulcer is known by many names such as *pressure sore*, ischemic ulcer, and bed or skin sore. No matter what name it is given, it is a serious problem that can take days, weeks, months, or even longer to heal.

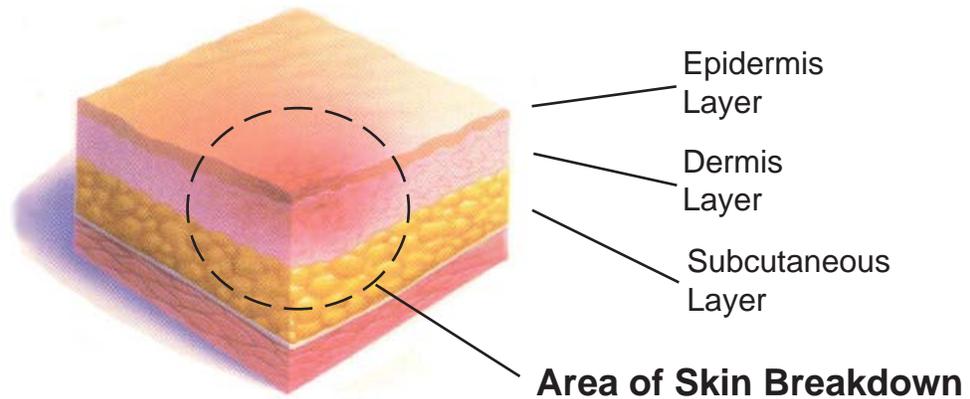
You can develop a decubitus ulcer when an area of the skin or underlying tissues does not get adequate blood flow and the skin or tissue dies. Specifically, a decubitus ulcer may develop when you are sitting in your wheelchair for a long period of time. Continuous pressure on your bottom keeps blood from flowing freely in that area and that can cause your skin to breakdown. However, if pressure is relieved in a timely fashion, blood begins to flow again and the skin can stay healthy.

Risk Factors for Developing a Decubitus Ulcer. After spinal cord injury, you are at greater risk for developing a decubitus ulcer or pressure sore. It is estimated that up to 80% of individuals with a spinal cord injury will develop a pressure sore during their lifetime, with up to 30% having more than one episode. This increased chance occurs for several reasons:

- You can place a great deal of pressure on your skin because you may not be able to move as you once did. If you do not perform pressure relief regularly and effectively you can damage your skin.
- Bowel and bladder accidents can further weaken the skin and cause skin to break down more easily. The moisture from accidents is very irritating to the skin.
- Spasticity and frequent transfers can cause shearing of the skin.

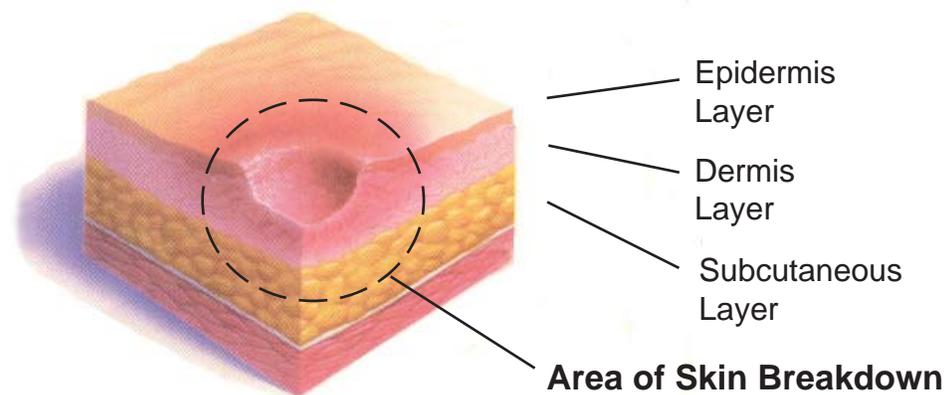
Stages of a Pressure Sore. The most common sign of a developing pressure sore is the appearance of a reddened area on the skin. Normally, this reddened area will clear within 30 minutes after pressure is relieved from this area. If the redness does not clear, a pressure sore has begun to form. A person with darker skin may see a change in their skin color. This area may become light, dry, flaky or ashy. There are four stages of pressure sore.

Stage One



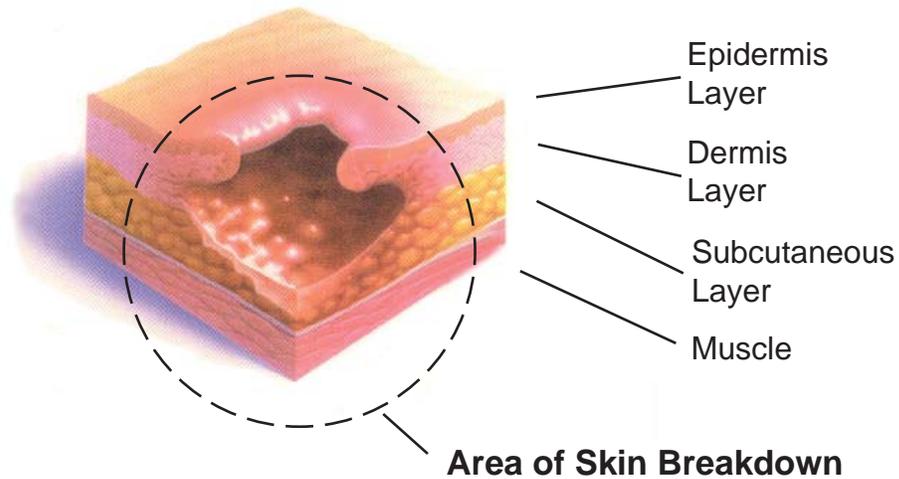
Stage 1: Damage is limited to the top 2 layers of the skin. These are the epidermal and dermal layers. At this stage, the skin is not broken, but the redness does not turn white when touched.

Stage Two



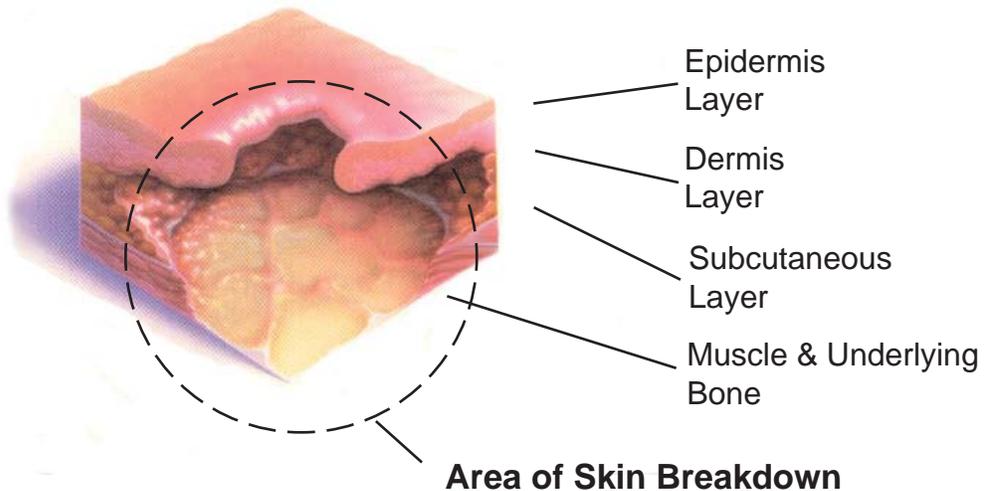
Stage 2: The skin is slightly broken. The sore appears to be an abrasion, blister or small crater. At this stage, the damage extends into the 3rd layer or subcutaneous tissue.

Stage Three



Stage 3: At this stage, the damage extends through all layers of the skin and into the muscle. This ulcer may appear as a deep crater and adjoining tissue may be damaged.

Stage Four



Stage 4: In this stage, damage extends through all tissues and involves the bone and joint structures. Osteomyelitis or bone infection can be a serious complication associated with this type of pressure ulcer.

Care and Treatment of Pressure Sores. If you happen to see signs of a decubitus ulcer or pressure sore as described above, remove all pressure from this area and call your physician.

Once you have a decubitus ulcer or pressure sore, you must keep weight off the damaged area to promote healing. Treatments range from pressure relief, extended bed rest, medication and surgery. Your physician will determine the best treatment needed which may also include cleaning and dressing the pressure sore on a regular schedule. Cleaning helps to remove dead tissue or waste products from the sore so healing will be more successful. Always remember to wash your hands and instruct others to do the same when providing care to the sore.

Watch for signs of infection in the sore. These may include redness around the edge, warm skin, colored drainage, odor, or an elevated temperature. You may be prescribed antibiotics if an infection develops. You may have to take time off work or limit your activities. However, this decreased activity level places you at higher risk for other complications such as respiratory compromise or infections. Stated briefly, you don't want a pressure sore; if you get one, it will take time to heal and your overall health may be affected in a negative way.

PREVENTION OF SKIN BREAKDOWN

Pressure Relief is Essential. While in the wheelchair, *pressure relief* should be completed at least every 20-30 minutes. This allows your skin to be re-nourished by blood flow supplying oxygen and nutrients, thus preventing prolonged pressure in one area. While in bed, you should be turned at least every 2 hours. If your injury is at the C₄ level or higher, you may need assistance to perform pressure relief. At C₅ or C₆ levels, you may be able to lean forward or side-to-side for regular pressure relief when in a wheelchair. At the C₇ level, you may be able to perform wheelchair push-ups. For more on various pressure relief techniques, see the Chapter on Mobility.

Always Utilize Proper Equipment When in a Seated Position or Lying Down. Your rehab team will make recommendations to assist you in obtaining proper wheelchair cushions, mattresses, and any other pressure relieving or protective equipment. Proper cushions and mattresses help ensure proper positioning and help alleviate pressure by distributing the weight over larger areas of the body.

Maintain Proper Skin Hygiene. Always keep your skin clean and dry. Moisture weakens the skin and causes it to breakdown more easily. The buildup of sweat, dirt, and other waste products, that are allowed to remain on the skin, make it more inviting for germs to invade the body. Wash and dry the skin right away after any bowel or bladder accidents. Change clothes when wet. Avoid heat from the sun, very hot water, kitchen appliances or an open fire. Try using lotion instead of powder on your skin. Spinal cord injury affects the normal control of blood vessels. Thus, the body doesn't regulate skin temperature as well and burns or frostbite can occur more easily.

Protect Your Skin. Avoid movements or activities that cut, scratch, or rub the skin. Avoid clothes and shoes that are too loose and too tight fitting. Avoid clothes with thick seams, buttons, or zippers that place pressure on the skin. Avoid slumping or slouching when seated in your wheelchair. Bad sitting posture places direct pressure on the sacrum or tailbone. Take special caution when perform-

ing transfers or participating in new activities or sports. Make sure any adaptive equipment or splints fit properly.

Maintain Adequate Fluid Intake and a Well Balanced Diet. Work with a dietician in planning meals that are high in protein, fiber, vitamins, and minerals. This will help maintain healthy skin and will promote faster healing if problems occur. Drink at least 8-10 glasses of water each day. Try to avoid caffeinated drinks and alcohol.

Avoid Smoking, Drugs or Alcohol. Smoking decreases oxygen to the skin and makes it more difficult for skin to heal. Drugs and alcohol can also damage your skin and can lead to other more serious health problems.

Skin Inspection. Check your skin at least twice a day, usually once in the morning and once at bedtime. Carefully look for any changes in skin color or damage. Pay close attention to the bony areas. These are the areas that are more susceptible to breakdown. These areas include the sacrum or tailbone, heels, hips and base of the buttocks.

In conclusion, almost all decubitus ulcers and pressure sores are preventable. The key is to maintain healthy skin, which is a life long process. Know what to look for, know how to direct others in proper skin care, know when to limit your activities and know when to consult your physician. Maintaining healthy skin should be an everyday event and should not prevent you from leading an active healthy life.

RESOURCES

<http://www.spinalcordcenter.org/manual/index.html> - Skin care

http://www.paralysis.org/site/c.erJMJUOxFmH/b.1306547/k.F280/Skin_Care.htm - Skin care

GLOSSARY

DECUBITUS ULCER - A breakdown in the skin that starts as a red spot on the skin and can grow into a hole that can extend down to the bone if not properly cared for.

Often caused by unrelieved pressure while lying in bed without turning or sitting in a chair in one position. Sometimes called a pressure sore.

PRESSURE RELIEF - The act of taking weight off a part of the body that has sustained pressure for a long period of time.

PRESSURE SORE - See decubitus ulcer.