



The following excerpt has been taken from the Christopher & Dana Reeve Foundation Paralysis Resource Center website.

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

Skin Care (Pressure Sores)

People with paralysis are at high risk of developing skin problems. Limited mobility, coupled with impaired sensation, can lead to pressure sores, or ulcers, which can be a devastating complication.

The skin, the largest organ system in the body, is tough and pliable. It protects the underlying cells against air, water, foreign substances, and bacteria. It is sensitive to injury and has remarkable self-repair capabilities. But skin just can't take prolonged pressure.

A pressure ulcer involves damage to the skin and underlying tissue. Pressure ulcers are also called bedsores, decubiti or decubitus ulcers, and range in severity from mild (minor skin reddening) to severe (deep craters that can infect all the way to muscle and bone). Unrelieved pressure on the skin squeezes tiny blood vessels, which supply the skin with nutrients and oxygen. When skin is starved of blood for too long, the tissue dies and a pressure ulcer forms.

Other factors cause pressure ulcers too. Sliding in a bed or chair can cause blood vessels to stretch or bend, leading to pressure ulcers. An abrasion can occur when pulling across a surface instead of lifting. A bump or fall may cause damage to the skin that may not show up right away. Pressure sores can also be caused by clothing, braces, or hard objects that put pressure on your skin. Also, people with limited sensation are prone to skin injuries from burns.

Skin damage from pressure usually begins on the body where the bones are close to the skin surface, such as the hip. These bony prominences apply pressure on the skin from within. If there is a hard surface on the outside too, the skin is pinched off from circulation. Because the rate of circulation is also reduced by paralysis, less oxygen gets to the skin, lowering the skin's resistance. The body tries to compensate by sending more blood to the area. This may result in swelling, putting even more pressure on the blood vessels.

A skin sore begins as a red area on the skin. This reddened area may feel hard and/or hot. If you have black skin, the area may appear shiny. At this stage, the progression is reversible: the skin returns to its normal color if the pressure is removed.

If pressure is not removed, a blister or scab may form – this means that the tissue underneath is dying. Remove all pressure over the area and see your physician.

In the next stage, a hole (ulcer) forms in the dead tissue. Frequently, this dead tissue is small on the skin surface. Damaged tissue may extend to the bone.

A skin sore can mean several weeks of hospitalization or bed rest in order for the sore to heal. Complex pressure sores may require surgery or skin grafting. All of this can cost thousands of dollars and mean valuable time away from your job, school or family.

It is important to note that skin problems are almost always preventable with routine skin inspection, and with right equipment. A wide variety of pressure-relieving support surfaces, including special beds, mattresses, mattress overlays, or seat cushions, are available to support your body in bed or in a chair.

The first line of defense is to be responsible for your skin care.

Skin stays healthy with good diet, good hygiene, and regular pressure relief. First, keep skin clean and dry. Skin which is moist from sweat or bodily discharges is more likely to break down.

Drink plenty of fluids. A healing wound or sore can lose more than a quart of water each day. Drinking 8-12 cups of water a day might not be too much. Note: beer and wine do not count Alcohol actually causes you to *lose* water or become dehydrated.

Watch weight, too. Being too thin causes you to lose the padding between your bones and your skin and makes it possible even small amounts of pressure to break down the skin. Getting too heavy is risky, too. More weight may mean more padding but it also means more pressure.

Don't smoke. It narrows blood vessels which limits nutrients to the skin. Research has shown that heavy smokers are more prone to skin sores.

Sources:

The Spinal Cord Injury Information Network, Craig Hospital, The National Library of Medicine, the University of Washington School of Medicine, Department of Rehabilitation

Web Sites

<http://www.craighospital.org/SCI/METS/skin.asp>

Craig Hospital article: Skin It's Too Much Pressure

www.spinalcord.uab.edu/show.asp?durki=32069&site=1021&return=24467

Spinal Cord Injury Information Network

The Spinal Cord Injury Information Network website provides information on *skin care* and other topics relating to paralysis medicine, lifestyle and resources.

http://sci.washington.edu/info/pamphlets/skin_1.asp

http://sci.washington.edu/info/pamphlets/skin_2.asp

http://sci.washington.edu/info/pamphlets/pressure_sores.asp

University of Washington School of Medicine

The University of Washington School of Medicine/Department of Rehabilitation maintains a very useful website with information on *skin care*, bowel and bladder management and other topics of concern to people with paralysis. See the above three pamphlets on pressure sores and skin care.

<http://www.spinalcord.org/news.php?dep=17&page=94&list=1183>

National Spinal Cord Injury Association's Fact Sheet on pressure sores.

<http://www.disaboom.com/spinal-cord-injury-sci-information/secondary-condition-skin-and-pressure-ulcers>

Disaboom: Spinal Cord Injury Secondary Conditions—Skin and Pressure Ulcers

<http://aahd.webchoices.us/page.php?pname=publications/newsletters/2004/spring/PressureSores2>

American Association on Health and Disability's Health and Disability News, Spring 2004 article "Preventing Pressure Sores".

<http://www.spinalcord.uab.edu/show.asp?durki=90249>

University of Alabama at Birmingham's Rehab Tip Sheets—Assisted Pressure Relief

<http://www.nlm.nih.gov/medlineplus/pressuresores.html>

MedlinePlus: Pressure Sores

<http://www.emedicine.com/med/topic2709.htm>

eMedicine: Decubitus Ulcers

http://www.intelihealth.com/IH/ihtIH?d=dmContent&c=211200&p=~br%2C|HW|~st%2C333|~r%2C|SIHW000|~b%2C*|

Aetna Intellihealth: Bedsores (Decubitus Ulcers) What is it?

http://www.findarticles.com/p/articles/mi_g2601/is_0001/ai_2601000184

Gale Encyclopedia of Medicine: Bedsores

<http://familydoctor.org/039.xml>

Family Doctor.org's Pressure Sores

<http://www.merck.com/mmpe/sec10/ch126/ch126a.html?qt=pressure%20sore&alt=sh>

Merck Manual of Diagnosis and Therapy: Pressure Sores

http://www.spinalinjury.net/html/_pressure_sores.html

Spinal Injury.net's Pressure Sores

http://www.sci-info-pages.com/skin_pres.html

SCI-Info-Pages: Spinal Cord Injury: Skin and Pressure Sores

www.kci1.com

Kinetic Concepts Inc (KCI) Wound Info

<http://www.kci1.com/35.asp>

Vacuum Assisted Closure (VAC) Therapy: An Advanced System for Wound Healing

<http://www.nawccb.org/>

National Alliance of Wound Care

Wound Care Certification and Preceptor Program for those in health care (RN, LPN, NP, PT & PTA, OT, physician & PA). They provide a registry of those they have certified.

<http://www.npuap.org/>

National Pressure Ulcer Advisory Panel

<http://www.medicaledu.com/>

Wound Care Information Network

Ask them for their booklet called "A Patient's Guide to Wound Care"

<http://www.wocn.org/>

Wound, Ostomy and Continence Nurses Society

<http://www.health.vic.gov.au/qualitycouncil/pub/improve/pupps.htm>

Victorian (Australia) Government Health Information: Pressure Ulcer Patient Information (available in several languages)

<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.chapter.9527>

HSTAT: Preventing Pressure Ulcers

www.hcup-us.ahrq.gov/reports/statbriefs/sb64.pdf

Hospitalizations Related to Pressure Ulcers Among Adults 18 Years and Older, 2006. Citation follows:

Russo, C.A. (Thomson Reuters), Steiner, C. (AHRQ) and Spector, W. (AHRQ). *Hospitalizations Related to Pressure Ulcers, 2006*. HCUP Statistical Brief #64. December 2008. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb64.pdf

The following books and videos are available for free loan from the PRC library. For more information, please see www.paralysis.org and click the Lending Library tab.

Books

- Consortium for Spinal Cord Medicine, Clinical Practice Guidelines. **Pressure Ulcer Prevention and Treatment Following Spinal Cord Injury: A Clinical Practice Guideline for Health-Care Professionals.** Washington, DC: Paralyzed Veterans of America, 2002. Written for the health care professional. Available for free download from PVA
www.pva.org
http://www.pva.org/site/PageServer?pagename=pubs_generalpubs
- Consortium for Spinal Cord Medicine, Clinical Practice Guidelines. **Pressure Ulcers: What You Should Know—A Guide for People with Spinal Cord Injury.** Washington, DC: Paralyzed Veterans of America, 2002. Written for the consumer. Available for free download from PVA
http://www.pva.org/site/PageServer?pagename=pubs_generalpubs
- **Decubitus Ulcers: A Medical Dictionary, Bibliography, and Annotated Research Guide to Internet References.** San Diego, CA: Icon Health, 2004.
- Hess, Cathy Thomas. **Clinical Guide to Wound Care.** Philadelphia: Lippincott, Williams & Wilkins, 2002.
- Maklebust, JoAnn and Mary Sieggreen. **Pressure Ulcers: Guidelines for Prevention and Management.** Springhouse, PA: Springhouse Corporation, 2001.
- Morison, Moya. **Chronic Wound Care: A Problem-Based Learning Approach.** Mosby-Year Book, 2004.
- Morison, Moya. **The Prevention and Treatment of Pressure Ulcers.** C.V. Mosby, 2000.
- Phillips, Jenny. **Access to Clinical Education: Pressure Sores.** New York, NY: Churchill Livingstone, 1997.
- **Pressure Sores: A Medical Dictionary, Bibliography, and Annotated Research Guide to Internet References.** San Diego, CA: Icon Health Publications, 2004.

- U.S. Department of Health and Human Services. **Treatment of Pressure Ulcers.** Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, 1994.

Videos

- **Mosby's Nursing Assistant Skills Video: Preventing and Treating Pressure Ulcers.** C.V. Mosby, 2001.
- **Pressure Ulcers.** Princeton, NJ: Films for the Humanities & Sciences, 2008. (28 min.)
- **Pressure Ulcers.** Information Television Network, 2006. DVD Healthy Body Healthy Mind TV series.
- **Skin Care: Preventing Pressure Ulcers.** Medlantic Research Institute. 20 min. Can be ordered from PVA.
- **Taking Care of Your Wound.** Kelowna, B.C. Canada: Thin Air Productions, 1999. 20 min. http://www.thinairproductions.ca/taking_care.html
- <http://www.spinalcord.uab.edu/show.asp?durki=97417>
University of Alabama at Birmingham's streaming video on Pressure Sores: Skin Care Prevention and Treatment (Part 1 is 41 minutes, Part 2 is 10 minutes.)

CD-ROMs

21st Century Complete Medical Guide to Pressure Sores, Bedsores, Decubitus Ulcers: Authoritative Government Documents, Clinical References, and Practical Information for Patients and Physicians. Progressive Management, 2004.

Keyword Searching Terms:

Bedsores, Pressure sores, Pressure ulcers, Decubitus ulcers, Wound care, Skin breakdowns

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care provider. Should you have any health care related questions, please call or see your physician or other qualified health care provider promptly. Always consult with your physician or other qualified health care provider before embarking on a new treatment, diet or fitness program. You should never disregard medical advice or delay in seeking it because of something you have read in this message.