

Protecting Your Skin

WHAT IS IT?

Your skin acts as a protective barrier for germs, foreign objects, and ultraviolet rays from the sun. When your skin is cut or damaged, germs can enter your body through the opening, putting you at risk for infection. If the infection is not treated effectively, this can lead to a serious blood infection, amputation, and even death.

YOUR SPINAL CORD INJURY PUTS YOU AT RISK FOR SKIN INJURIES IN SEVERAL WAYS:

- Your feeling/or sensation to parts of your body may be absent or limited. You will not feel if something is too hot or if your bottom hurts from bumping the tire when you transferred. You have to rely on your eyes to check for trauma to these areas.
- You are not moving around as much as you were before your injury. There is pressure on certain areas of your body from sitting or lying down for long periods of time. This can lead to pressure sores.
- Your circulation may not be as good in the areas affected by your spinal cord injury. The blood that carries oxygen and nutrients to your skin may be decreased to those areas affected by your SCI; putting your skin at more risk for injury.
- Moisture from bladder and bowel accidents can weaken your skin and cause skin to break down more quickly.
- Transfers can rub the skin and cause damage.

KEEPING YOUR SKIN HEALTHY

- Good nutrition is important to your skin: make sure you are eating healthy foods.
- Drink 6-8 glasses of fluid every day.
- Keep your skin clean and moisturized. Pay special attention to skin creases and the armpit areas as they get less air flow.
- Check your skin in the morning before you get out of bed and in the evening when returning to bed. Look for areas of redness, breaks in the skin, and bruising.
- Avoid smoking: This decreases the oxygen going to your skin making it less healthy
- Maintain healthy blood sugar levels if you have diabetes.
- Keep your skin dry: Wet skin is more fragile.

THINGS NOT TO DO:

- Do not use a rubber air ring or doughnut. These cause a lot of pressure and block the flow of blood to skin inside the ring.
- Do not wear clothes that are tight or have heavy seams. Also, do not use nylon underwear.
- Do not put items in your pockets or on the seat of your wheelchair.

Remember: Protecting your skin is the best defense against skin infections.

WHAT ARE PRESSURE SORES?

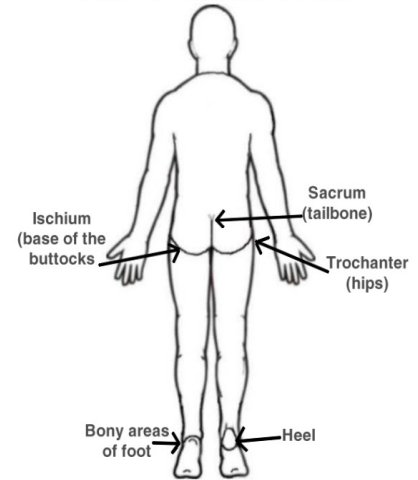
These are areas of skin breakdown that occur from too much **pressure**, **shearing**, or **friction**. It is estimated that up to 80% of individuals with spinal cord injuries will have a pressure sore during their lifetime and up to 30% will have more than one pressure sore.

Pressure: The weight of your body pushes your bones against your blood vessels and can cut off the blood flow to these areas which can lead to skin cells dying, and a pressure sore developing.

Shearing: Occurs when two layers of skin are pulled in opposite directions. The blood vessels are pulled tight and close off. One example of shearing is when you are sitting in bed and slip down in the bed.

Friction: Occurs when your skin is rubbed hard on the surface you are moving on. This can occur when you are being moved up in the bed or during a transfer.

Most common areas where pressure sores occur on individuals with SCI



AVOIDING PRESSURE SORES

When in bed:

- Change positions at least every two hours.
- Use pillows to decrease pressure on boney areas.
- Lie on your stomach if possible to decrease pressure on hips, tailbone and heels.
- If moving up or down in bed, try not to drag yourself along the bed. If having help, have caregivers lift with a sheet instead of sliding your skin against the bed.
- Avoid sitting in your bed for long periods of time to decrease the sliding forces on your skin.

When in your wheelchair:

- Perform pressure reliefs at least every 15 minutes(ask your therapist for ways to perform these effectively)
- Maintain your wheelchair cushion as instructed
- Make sure your legs and feet are not leaning or pressing against the metal on the wheelchair.
- Make sure your wheelchair fits you properly: your hips are not rubbing against the sides of the chair or the tires.
- Protect your feet on the foot pedals by wearing shoe ware.

When transferring:

- If using a transfer board: Try to lift your bottom up if able to decrease friction on your bottom.
- Avoid bare skin on the board if whenever possible: Use powder on board if bare skinned and unable to lift bottom.
- Be extra careful that your bottom does not bump the wheelchair tire when you transfer.

How do I know its happening?

Any redness that does not go away in 10 -15 minutes is considered the beginning of a pressure sore. Even if the redness goes away, you need to find out what caused it so you can avoid this leading to a sore.

What do I do?

- Remove all pressure from the area
- Keep pressure off the area until redness is gone
- Keep the area clean and dry
- Consult your physician for treatment and monitoring of the skin.
- Find out the cause of the sore and work on a plan to avoid it from happening again. This may mean a change in transfer method, a need for a different wheelchair or cushion, or turning in bed more frequently. Use your therapists, nurse, and doctor to help you figure out the best plan for you.

Treatment of a pressure sore

The treatment for a pressure sore ranges from extended bed rest to surgery. You must keep weight off the area for it to heal. This means you must take time off work and limit your activities. Pressure sores also can lead to infection, surgery or even amputation. Treatment can be very costly in lost wages or additional medical expenses.

Your doctor will determine the best type of treatment needed and instruct you on how to clean and dress the pressure sore; cleaning helps to remove dead tissue, skin or fluid draining from the sore.

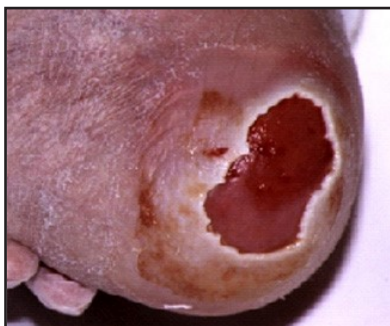
Remember to always wash your hands (or instruct the person who is changing the bandage to wash their hands) before cleaning the sore and changing the bandage.



Stage 1: Damage is limited to the top two layers of skin. The skin is not broken and the redness does not turn white when touched.



Stage 2: Damage extends beyond the top two layers of the skin and adipose (fat) tissue. The skin is slightly broken. The sore appears to be an abrasion, blister or small crater.



Stage 3: Damage extends through all the superficial (upper) layers of the adipose tissue, down to and including the muscle. The ulcer appears as a deep crater and damaged adjacent tissue may be present.



Stage 4: Damage includes destruction of all soft tissue structures and involves bone or joint structures.

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Additional Information

- _____ 1. Rehabilitation Institute of Chicago. *Skin Care: Relieving Pressure on the Skin*. November 2006.
<http://lifecenter.ric.org/content/25/25.pdf>
- _____ 2. Rehabilitation Institute of Chicago. *Skin Care: Preventing Pressure Sores*. November 2006.
<http://lifecenter.ric.org:16080/content/19/>
- _____ 3. Yes, You Can! 3rd Ed. (2000). Chapter 2- Skin Care. This Manual is available through www.pva.org and is a standard Patient educational tool.



Autonomic Dysreflexia

WHAT IS IT?

This is a life-threatening medical condition that can occur in people who have a spinal cord injury at the T6 level or above.

WHAT CAUSES THIS?

In 85% of cases, it is caused by bladder issues. Other causes are bowel issues, skin-related disorders and anything which the body would interpret as painful or irritating.

HOW DO I KNOW ITS HAPPENING?

Any of the following symptoms:

- High blood pressure
- Pounding headache
- Profuse sweating
- Blurred vision or seeing spots
- Reddened face
- Slow heart rate
- Nasal stuffiness
- Goosebumps
- Restlessness/anxiety
- Chest tightness or difficulty breathing
- Red blotches on skin
- Cold, clammy skin
- Nausea
- Chills without fever
- Pale skin

WHAT DO I DO?

- Remove all clothing including TEDs, catheter straps, abdominal binder, podus boots, etc...
- Sit up or raise the head of the bed
- Catheterize your bladder
- Check Foley for kink or obstruction
- Check if leg bag is overfilled
- Perform bowel program
- Check for noxious stimuli such as pressure irritation, in grown toenails

IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION IMMEDIATELY!

FROM THE REHABILITATION INSTITUTE OF CHICAGO– SPINAL CORD INJURY TEAM

Reviewed November 2009

WHAT IS AUTONOMIC DYSREFLEXIA?

Autonomic Dysreflexia, also known as going "hyper", happens to those who have injuries at or above Thoracic 6. This includes those of you with a cervical lesion or thoracic lesions 1 to 6. You go "hyper" when something happens to your body below the level of your injury, most commonly a full bladder, a full rectum or something pinching or harming your skin. This triggers a reflex reaction (like kicking your leg when a doctor hits your knee with a hammer) which causes your blood pressure to go up. As your blood pressure goes up your pulse (heartbeat) slows and may become irregular. Because of your spinal cord damage the nervous system is unable to fix this situation. The only thing that will fix this and return your blood pressure to normal is finding the cause and getting rid of it, such as emptying your bladder, emptying your bowels or relieving the pressure or damaging to your skin.

Note: Autonomic Dysreflexia is considered a medical emergency and demands immediate attention.

HOW TO PREVENT AUTONOMIC DYSREFLEXIA?

The best way to prevent it is to take good care of yourself and follow your management programs for bowel, bladder, and skin.

- Perform your bowel program at the right time.
- If on an intermittent catheterization program, catheterize at the right time or more often if you are drinking a lot of fluids.
- If you have an indwelling catheter, check and empty your leg bag frequently, check to make sure your tubing is straight each time you change positions.
- Change your catheter at least every four weeks, so that it does not plug.
- Keep your skin free from pressure sores.
- Make sure nothing is too tight against your skin such as clothing or leg bag straps.
- Prevent ingrown toenails (another trigger for going "hyper") by cutting your toenails straight across the top and not too short.
- Always tell your doctor and dentist about going "hyper" before any procedure.
- Following these suggestions will help decrease your chances of Autonomic Dysreflexia but it may still occur.

HOW TO TELL IF YOU ARE EXPERIENCING AUTONOMIC DYSREFLEXIA?

The most common thing people who are going hyper feel is a severe pounding headache that begins all of a sudden. This is from the high blood pressure. If you are able to check your blood pressure it will be 20-100 points above your normal blood pressure and can be as high as 200/100mmHg. Many people wonder if they will be able to tell a "hyper" headache from a regular headache. Most people who have experienced this say that the headache is very different from a regular headache, many times it is located around the eyes.

In addition to the headache, you may feel one of the following things:

- A stuffy nose or a heaviness in your sinuses (around your eyes).
- Sweating and/or flushing above your injury especially on your face, neck, and upper chest.
- Chills without fever.
- Goosebumps.
- Nausea.
- Blurry Vision.

Unless you get Autonomic Dysreflexia often, it is not usually necessary to purchase a blood pressure cuff. After having it one time, you will usually be able to recognize it without checking for high blood pressure.

WHAT TO DO IF YOU ARE GOING "HYPER"?

The most important thing is to lower your blood pressure as quickly as possible.

- Raise your head as high as you can, sitting straight up is best.
- Lower your legs.
- Remove abdominal binder and compression hose if you are wearing these.

This will temporarily lower your blood pressure and may help your headache and other symptoms while you search for and remove the cause of the dysreflexia.

OTHER POSSIBLE CAUSES

- Tight clothing--Remove tight clothing.
- Check legbag straps are not too tight and loosen if needed.
- Check for ingrown toenails. Skin near corners of toenails will appear red and swollen, unable to see nail corners, when pressed a pus type drainage may appear. If you think an ingrown toenail may be the problem apply anesthetic ointment and call your doctor.

WARNING: If you have tried all of the above and dysreflexia has not resolved or you are worried that your blood pressure is too high you will need to get to an emergency room. Remain in a seated position if at all possible. If you go in an ambulance make sure the drivers keep your head up as much as possible. The staff at the emergency room may have to give you medication to lower your blood pressure. If they are not familiar with Autonomic Dysreflexia bring this information sheet with you; have them contact your Physiatrist.

Autonomic Dysreflexia

Additional Information

- _____ 1. Consortium for Spinal Cord Medicine. **Autonomic Dysreflexia: What You Should Know.** Paralyzed Veterans of America.
<http://pva.convio.net/site/DocServer/ADC.pdf?docID=569>
- _____ 2. Arkansas Spinal Cord Commission. **Fact Sheet 25: Autonomic Dysreflexia.** October 3, 1995.
<http://www.spinalcord.ar.gov/Publications/FactSheets/sheets21-25/fact25.html>
- _____ 3. University of Alabama. Spinal Cord Injury Information Network: **Autonomic Dysreflexia - A possible life threatening situation.** 1997.
<http://www.spinalcord.uab.edu/show.asp?durki=21426>
<http://www.spinalcord.uab.edu/show.asp?durki=22408>



Bladder Management

The bladder stores urine until your brain sends a signal for it to empty. After a spinal cord injury, the messages may not be able to travel through the spinal cord. You may not feel the “urge” to urinate when the bladder is full. You may not be able to control the bladder and sphincter muscles to go on your own.

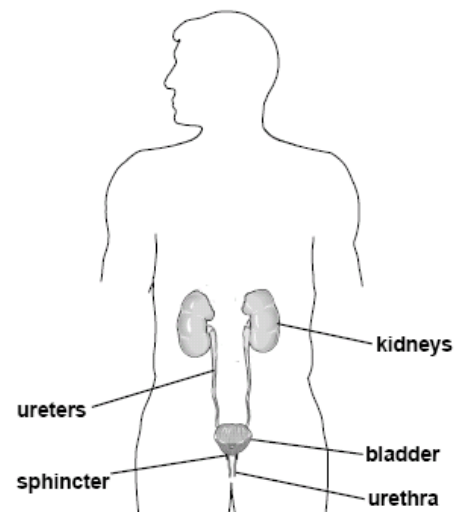
Spastic (Reflex) bladder: T12 or above

When your bladder fills with urine, a reflex automatically triggers the bladder to empty.

You do not know when, or if, the bladder will empty. The result is you may have frequent, small urinations with varying amounts of voluntary control, depending on the severity of your injury.

Reflexes of the bladder muscles are sluggish or absent. If you do not feel when the bladder is full, it can become stretched or over filled. Urine may leak or back up into the ureters and kidneys.

Complications due to UTI (urinary tract infection) are the #1 medical concern with individuals with SCI



PREVENTING INFECTION:

- Drink lots of fluids
- Empty your bladder regularly to prevent overfilling
- Use a clean cathing technique
- Take any medication as prescribed
- Keep your skin dry
- Have a regular urologic check-up

WARNING SIGNS OF INFECTION:

- Chills
- Fever
- Bloody Urine
- Frequent Urination
- Cloudy, thick urine
- Bad smelling urine
- Specks in urine
- Burning sensation when you urinate
- Increased muscle spasms
- Autonomic dysreflexia

WHAT TO DO IF SYMPTOMS OCCUR:

- Call your doctor
- Drink more water
- Stop drinking beverages with sugar, caffeine, and alcohol
- Catheterize more often

Bladder Program Schedule

DATE: _____

Cathing Time	How Much Collected?	Any Incontinence?	Comments

DATE: _____

Cathing Time	How Much Collected?	Any Incontinence?	Comments

Bowel Management

The digestive process breaks down what you eat and drink into nutrients your body uses and waste that you eliminate. The digestive process is controlled from the brain by reflex and voluntary action. After a spinal cord injury, messages between the brain and the digestive system may be blocked. You may not feel when you need to go or be able to control the muscles needed to go.

Reflexic bowel: Cervical or thoracic level

You may not be able to feel the need to have a bowel movement. Stool buildup in the rectum can trigger a reflex bowel movement without warning.

Areflexic bowel: Lumbar or sacral level

You may not be able to feel the need to have a bowel movement. Your rectum can't easily empty stool by itself.

YOUR BOWEL SYSTEM IS AFFECTED BY:

- What, how much, and when you eat and drink
- How much you move
- Medications
- Doing the bowel program at the same time and in the same way

YOUR BOWEL PROGRAM HELPS:

- Prevent or cut down on bowel accidents
- Eliminate enough stool each time
- Make bowel care go smoothly in an hour or less
- Keep you healthy
- You know when you need to go

Goal time frame: One hour or less from start to finish

If your SCI is at T6 or higher, autonomic dysreflexia could happen (See section on autonomic dysreflexia).

Date	Start Time	Finish Time	Position	Stimulation Method (medication, dig stim, etc)	Assistive	Stool Amount (amount and consistency)	Comments

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Bladder & Bowel Management

Additional Information

- _____ 1. Yes, You Can! 3rd Ed. (2000). Chapter 6—Bladder Management and Chapter 7– Bowel Management. This manual is available through www.pva.org and is a standard patient educational tool.
- _____ 2. Patient Education and Discharge Planning Manual. “clean” Intermittent Catheterization –Home Use. Aspen Publishers. 1995. October 3, 1995.
- _____ 3. Paralyzed Veterans of America. Bladder Management. Neurogenic Bowel: What you should know. March 1999. www.pva.org—click on publications. Call for more information at 1-800-424-8200
- _____ 4. Mentor. Clean Intermittent Catheterization. January 2004.
- _____ 5. Mentor Website (2002). Male Intermittent Catheterization –FAQs
- _____ 6. Mentor Website (2002). Female Intermittent Catheterization –FAQs

References:

UAB Department of Physical and Rehabilitation: Spinal cord injury info sheet 11–level consumer.

Consortium for Spinal Cord Medicine— Clinical Practice Guidelines— Neurogenic Bowel

Yes, You Can 3rd Ed. (2002) Chapters 6 & 7