

Your Spinal Cord Injury Resource Book

at Dodd Rehabilitation Hospital



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER



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Talk to your doctor or health care team if you have any questions about your care.

For a digital copy of this book, please visit go.osu.edu/pted3931.

For more health information, go to wexnermedical.osu.edu/patiented or contact the Library for Health Information at 614-293-3707 or health-info@osu.edu.

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Portions of this book were adapted from materials developed by the SCI Model System Dissemination Committee in collaboration with the University of Washington Model Systems Knowledge Translation Center in 2009 and 2015.

About Your Rehabilitation

Starting your recovery

After spinal cord injury, the goal of rehabilitation is to return you to the highest quality of life at home, at work, and in the community. We offer many types of therapy to help you with your recovery.

The therapy is tailored to you, so you will be involved in planning your treatment. While you are at Dodd Rehabilitation Hospital, our health care team will do all we can to support you, your family, and your caregivers as you recover.

This book will be used to help teach you while you are in the hospital and is yours to keep as a resource when you leave. If you do not understand anything, please let your health care team know and they will explain another way.

Therapy goals

Your therapy goals will depend on your injury. These may include improving your ability to:

- Swallow safely
- Communicate with family and friends
- Concentrate when doing tasks
- Do more than one task at a time
- Safely move around, such as getting out of bed, in to the car, or out of a shower
- Do an activity over a long period with no breaks
- Do daily tasks, such as bathing, getting dressed, and preparing meals.
- Do hobbies, leisure activities, and sports

Therapy strategies

Practice the skills and exercises you learn from your health care team members (doctors, nursing staff, dietitians, and therapists) when you are in your room. Your progress is reviewed by staff each week.

Strategies will:

- Focus on the tasks you are working on and are tailored to your physical needs and lifestyle
- Improve skills through a lot of practice
- Address the different ways in which you move
- Be challenging, so progress is made over the long term.

You may see the most improvement and recovery the first two years after your injury.

Spinal Cord Injury

As you learn about your spinal cord injury, it helps to know how your spinal cord works and what happens when it is damaged. You may hear staff use many words to describe the spine and your injury. This book will help explain them. If you would like more information or have any questions, please ask.

Parts of the spine

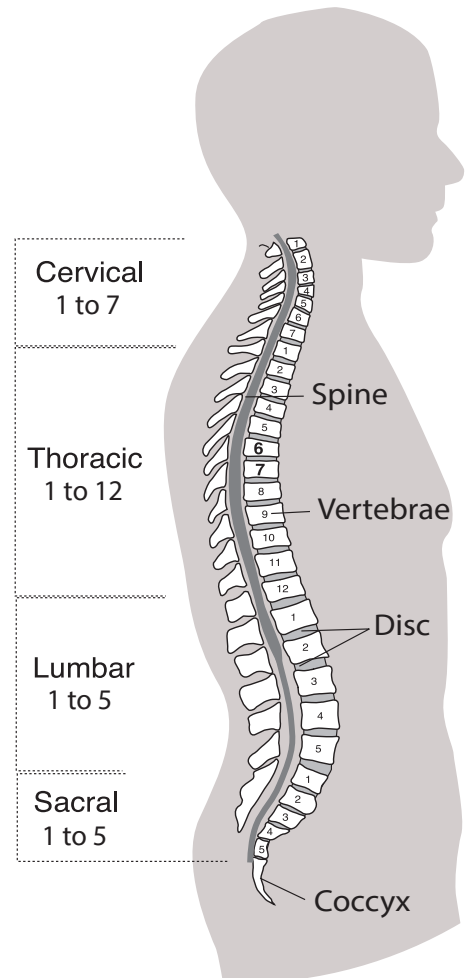
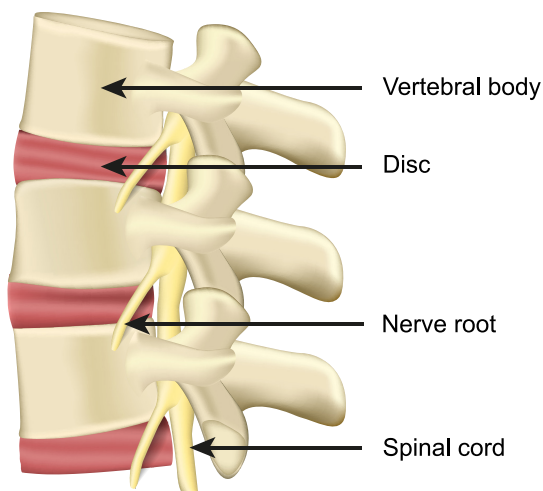
The spine is made up of your spinal cord and spinal column.

The spinal cord is a bundle of nerves and fibers that send messages to and from the brain to the rest of your body. It connects to a system of nerves to control your body functions. The spinal cord is about as thick as your finger. It attaches to the brain at the brain stem and extends to the lower back.

The spinal column is 33 vertebrae or back bones that protect the spinal cord. Each bone has a name and number. It has four groups or regions: cervical, thoracic, lumbar, and sacral. The vertebrae are numbered starting at 1 through the number in that region.

These are:

- Cervical: vertebrae 1 through 7
- Thoracic: vertebrae 1 through 12
- Lumbar: vertebrae 1 through 5
- Sacral: vertebrae 1 through 5



Between these bones are tissue pads, called discs, that act as shock absorbers and allow the spine to be flexible. There are also strong tissue bands, called ligaments, that hold the vertebrae together and protect the discs. At the very bottom of the spine is the coccyx, or tailbone, that attaches to muscles and ligaments.

When the spinal cord is injured

When there is damage to your spinal cord, the messages cannot be sent or received normally. Where the damage affects how your body functions. Many functions can be affected, including bladder, bowel, and sexual functions. Other effects depend on the extent of injury. You may have temporary or permanent loss of movement or feeling.

Level of Injury

The level of injury refers to the vertebrae of the spinal cord where the injury occurred. These may be referred to by the first letter of the region and the vertebrae number where the injury is, such as cervical region at vertebrae number 5, or C5.

The level of injury is the lowest point on your body where you still have normal muscle movement and feeling.

Complete or Incomplete Injury

A complete spinal cord injury (SCI) fully severs the spinal cord at the site of the injury, while an incomplete spinal cord injury only partially severs the spinal cord. This impacts how much loss of function there is after an injury.

- A **complete injury** is when your brain is not able to send messages to your body below the level of where your spinal cord is injured.
- With an **incomplete injury**, your brain can send partial messages through the level of injury, so there may be some movement or sensation.

Types of paralysis

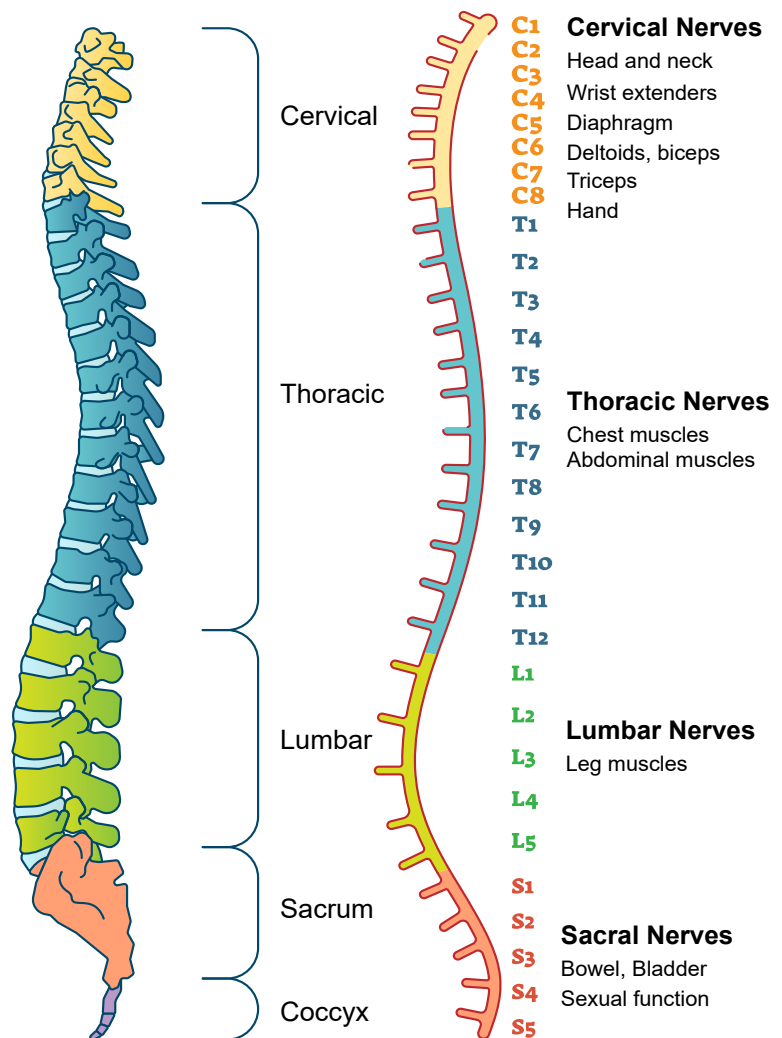
Paralysis is the loss of the ability to control muscle movement, but it often includes the loss of other functions of the body. The higher up on the spine that the injury occurs, the greater the amount of paralysis.

Tetraplegia

Tetraplegia, also called quadriplegia, is paralysis caused by an injury to the cervical region of the spine. It includes some paralysis in both the upper body (shoulders, arms, hands, and fingers) and lower body (chest, legs, feet, and toes).

Paraplegia

Paraplegia describes paralysis because of an injury to the thoracic, lumbar, or sacral regions of the spine. It causes some paralysis in the lower body (chest, legs, feet, and toes).



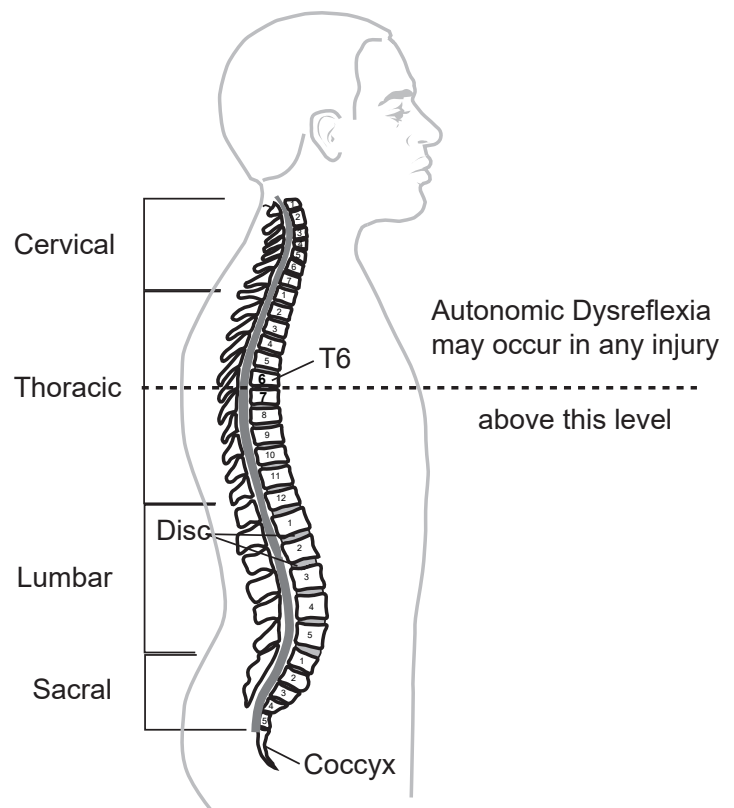
Autonomic Dysreflexia

Autonomic dysreflexia is a sudden nervous system response to pain or other things that irritate the body. It can happen to people with a spinal cord injury that is at or above the thoracic 6 level (T6). It is a medical emergency that causes a rise in blood pressure so high that it can cause death if not taken care of right away. This condition may also be called autonomic hyperreflexia.

Causes

Autonomic dysreflexia may be caused by any irritation to the body that happens below the place of the spinal cord injury. Irritations can be caused by:

- A full bladder (most common cause)
- A full bowel or constipation
- Bladder infection or bladder stones
- Genital stimulation
- Pain
- Tight clothing or shoes
- Tests done on the bladder
- Labor and delivery
- Broken bones
- Ingrown toenails
- Pressure sore or skin infection
- Abdominal problems, like gall stones, appendicitis, kidney stones, or ulcers



Signs

You may have one or more of the following signs:

- Sudden severe rise in blood pressure
- Pounding headache
- A change in heart rate
- Flushed skin or shivering above level of injury
- Anxious feeling
- Sweating above or below level of injury
- Blurred vision
- Stuffy nose
- Pale skin or goose bumps below level of injury

What to do when this happens

Sit up.

Find source of irritation:

- Remove tight clothing.
- Catheterize: put lidocaine gel in urethra, wait 5 minutes, then catheterize yourself.
- Check stool: insert generous amount of lidocaine gel into rectum, wait 5 minutes, then check for stool. If stool is there, gently do bowel program.
- Check for ingrown toenails, pressure sores, or skin breaks.

What to do if the signs do not go away

- Take the medicines ordered by your doctor for dysreflexia. Certain medicines to lower blood pressure that act quickly and last a short period of time may be prescribed, such as:
 - Nitropaste, a type of nitroglycerin, is placed on the skin. Your doctor may order this medicine to be wiped off once your blood pressure improves to reduce the chance of your blood pressure falling too low. This medicine is not an option if you have taken Viagra, Revatio, Levitra, or Staxyn within 24 hours, or Cialis within 48 hours. Tell your doctor if you take any of these medicines.
 - Procardia, a brand of nifedipine, that your doctor may instruct you to “bite and swallow” for more regular absorption in your body.
- Call your doctor and go to the emergency department.
- Tell the doctor or emergency department staff about your signs, what you have done, and how your signs have changed.

How to lessen your chances of this happening

- Do your regular schedule of bladder and bowel programs.
- Do routine skin care and nail care.
- Avoid extreme heat or cold.
- Take prescribed medicines.
- Know your normal blood pressure.

Keep the autonomic dysreflexia wallet card with you at all times.

Autonomic dysreflexia is a serious medical emergency. Know the signs and what to do if it happens. Carry the autonomic dysreflexia wallet card given to you at the hospital to help you react quickly. On the back over of this book, there is a version you can take a picture of with your phone to keep with you. You can also get a copy at go.osu.edu/pted2158.

Pain with Spinal Cord Injury

Many people with spinal cord injury have pain that does not go away, lasting months or years. The exact cause may not be known, although it is often due to nerve damage.

There are different types of pain that can be felt in different places. Controlling your pain is an important part of treatment and your overall quality of life. Work with your doctor on a plan.



Types

- **Neuropathic Pain**

Neuropathic pain is caused by your brain getting the wrong signals from the damaged nerves in your spinal cord. Your brain interprets pain messages as much stronger than they really are. You may also feel pain coming from areas where you have little or no other feeling.

- **Musculoskeletal Pain**

Musculoskeletal pain is caused by strain on your joints, muscles, and bones. For people with a spinal cord injury, this may be due to the strain from movements, such as using a wheelchair or transferring your body from a chair to a bed.

- **Visceral Pain**

Pain in your abdomen is called visceral pain. It is usually felt as cramping or aching. It can be triggered by constipation, ulcers, kidney stones, or other medical problems in your abdominal area.

Assessing your pain

Your doctor will ask you questions about your pain to help determine the best treatment, such as:

- Where does it hurt? (location)
- What does the pain feel like? (burning, sharp, dull, stabbing, spasms, or aching)
- How strong does the pain feel? (intensity)
- How long do you feel pain? How often does your pain happen? (duration)
- What makes the pain worse? (cause)
- What makes your pain better? What do you use for the pain? (relief)

You can use a pain rating scale to help explain the pain you feel and to set goals for relief. If you do not have one, your nurse or therapist can provide one to you.

Managing pain

There are different options for treating pain. Choosing the best option for you depends on the type of pain you are having and how well you do with various treatments. It may take time to find the one that helps, or it may take a combination of things to give you relief.

Non-drug therapy

- **Changes in your mobility equipment and movement**, such as your wheelchair or how you transfer positions, can lessen your pain if they are causing strain on muscles and joints.
- **Physical therapy** can help treat musculoskeletal pain, including stretching and range of motion exercises.
- **Massage** of your muscles can relieve tightness that may be causing pain.
- **Acupuncture** is the use of tiny needles inserted into the skin at set points that are thought to block the flow of pain messages.

Medicines

There are different kinds of medicines used to treat pain caused by spinal cord injury. Talk with your doctor about the benefits, risks, and side effects of each kind.

- **Nonsteroidal anti-inflammatory drugs (NSAIDs)** are used to treat pain by reducing inflammation around muscles and joints.
- **Antidepressants** are used to treat depression and pain caused by nerve damage, also called neuropathic pain.
- **Antiseizure medicines** can be used to treat pain caused by nerve damage.
- **Narcotics or opiates** are medicines that reduce the pain signals that reach the brain. To lower the risk of any problems with taking this type of medicine, your doctor will treat your pain with the lowest dose of medicine for the shortest amount of time possible.
- **Muscle relaxants or anti-spasticity** medicines are used to treat musculoskeletal pain or painful muscle spasms.
- **Anesthetics** are used on the surface of the skin to relieve pain from skin pressure or irritation.

Surgery

- **Dorsal column stimulator** is a device placed under your skin that sends small electrical pulses to your spinal cord that change or stop the nerve signals of pain.
- **Intrathecal pump** is a small device placed near your spinal cord that delivers pain medicine directly to the area affected.

Things you can do to help reduce pain

Stress and anxiety can make pain worse. You can learn relaxation techniques to reduce stress and anxiety. Try different techniques to find what works best for you. Practice these techniques often, and your ability to relax will improve over time. These exercises alone may not lower your pain, but they can help relax tense muscles that may add to the pain. See page 47 for types of relaxation techniques to try.

Portions of this document were adapted from materials produced by the SCI Model Systems.

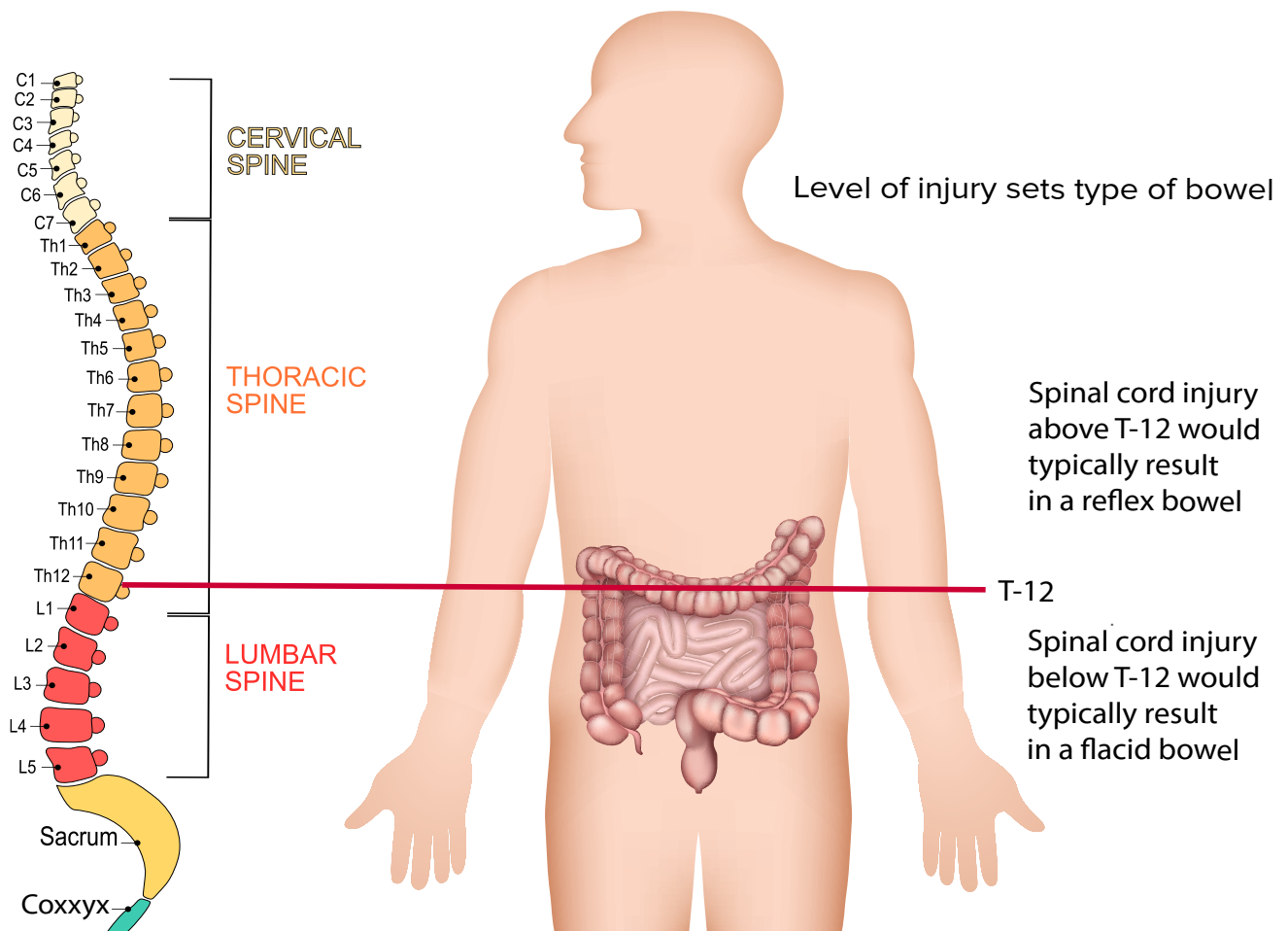
Neurogenic Bowel

What is neurogenic bowel

After a spinal cord injury, your bowel may not work well because of nerve problems in the lower part of your colon, called **neurogenic bowel**. Your lower colon is where food waste or stool is stored until your body gets rid of it through a bowel movement. When these nerves are damaged, your colon is not able to store and move waste as it should, called a flaccid bowel. This can cause constipation or bowel accidents, which can affect your quality of life.

Neurogenic bowel may cause

- Loss of control of bowel movements (BM)
- Loss of feeling when you need to have a BM
- Diarrhea or liquid BM
- Constipation or hard BM
- Unplanned BM or leaking stool



Bowel programs

A bowel program retrains your body to have regular bowel movements. A plan is designed for you by your health care team. It may include changes in your diet, medicine, or ways to stimulate the rectum, called rectal stimulation.

Goals of a Bowel Program

The goals of a bowel program include:

- Passing a stool every day or every other day
- Preventing unplanned bowel movements
- Emptying your bowel around the same time of day (e.g., morning, afternoon, or evening)
- Passing medium or large stool (about 2 cups) every time you have a bowel movement
- Emptying all or most of your rectum each day
- Having stools that are soft, formed, and bulky
- Emptying your bowel completely within 30 minutes (or 60 minutes, at most) after eating

Timing

A bowel program is best when done every day or every other day. The program involves:

- Eating a good diet and drinking plenty of fluids
- Using bowel medicines as recommended by your doctor
- Practicing techniques that activate the reflex to empty your rectum
- Using methods to clean out stools

Diet and fluids

Eating a good diet and drinking plenty of fluids are important to bowel health:

- Natural fiber from fruits and vegetables increases the bulk of stool, making it easier to move through the colon. Doctors recommend 38 grams of fiber per day for men and 25 grams per day for women.
- When eating a diet high in fiber, you should drink plenty of fluids. Water is best. You may get constipated if you don't drink enough fluids. You should drink at least 2 or 3 quarts of fluids every day unless told otherwise by your doctor.
- You should limit your intake of liquids with caffeine (e.g., coffee, tea, or energy drinks). These drinks actually remove fluids from your body.



Medicine

Your doctor may have you take 1 or more medicines, either orally or rectally:

- Stool softeners make stools soft and easy to move.
- Stimulant laxatives stimulate the colon to move stools.
- Bulking laxatives add shape and form to stools and prevent diarrhea (watery stools).
- Rectal laxatives help with rectal movement and emptying.

Techniques

You can do one or more techniques to help you have a bowel movement and empty your rectum. You can do these at home or with help from a caregiver or nursing aide:

- **Rectal stimulation:**

- Rectal stimulation should be done every day at the same time to help to train your body to get on a schedule for your bowel movements.
- A medication is placed into the rectum to cause the colon to contract and push the stool out. You may be sitting up or lying down.
- Insert a gloved, lubricated finger into the rectum and slowly rotate it around for 1 to 2 minutes to help move the stool down and out. This stimulation should be done every 10 to 15 minutes up to 3 times per bowel movement.

- **Removal of stool:**

- Use your finger to manually remove stool from your rectum. This will speed up your ability to empty the rectum.

If your injury makes you unable to follow a bowel program, then surgery may be an option.

Portions of this document were adapted from materials produced by the SCI Model Systems.

Constipation

About constipation

Constipation means having fewer bowel movements or a hard time having a bowel movement. Some common causes include:

- Nerve damage, such as injury to the spinal cord
- Eating a diet low in fiber
- Not drinking enough water
- Lack of physical activity
- Changes in lifestyle, schedule, routine, or travel
- Repeatedly ignoring the urge to have a bowel movement
- Consuming large amounts of milk or cheese products
- Use of certain medicines, such as narcotic pain medicines, antacids with aluminum, antidepressants, iron supplements, allergy medicines with antihistamines, and anticonvulsants
- Pregnancy
- Underactive thyroid gland, also called hypothyroidism
- Neurologic disorders, such as multiple sclerosis (MS) or parkinson's disease (PD)

Prevention

Normal bowel movement habits are different for each person. How often you have bowel movements can vary from 3 stools a day to 3 stools a week.

- Eat a well balanced diet that is high in fiber, such as:
 - Whole-grain breads and cereals
 - Fresh fruits and vegetables
 - Bean and legumes, such as lentils and peas

Other things you can do:

- Limit cheese products and refined grain products, such as white flour, white bread, and white rice.
- Drink at least 8 (8-ounce) glasses of fluid a day.
- Stay active.
- Respond right away to the urge to have a bowel movement. Do not ignore the urge.
- Laxatives are a last resort. Only use laxatives if your doctor tells you to take them.

Talk to your doctor or nurse about any changes in your bowel habits, such as the consistency, color, frequency, or change in stool size.



Neurogenic Bladder

What is neurogenic bladder

After a spinal cord injury, your bladder may not function normally because of nerve problems, called **neurogenic bladder**.

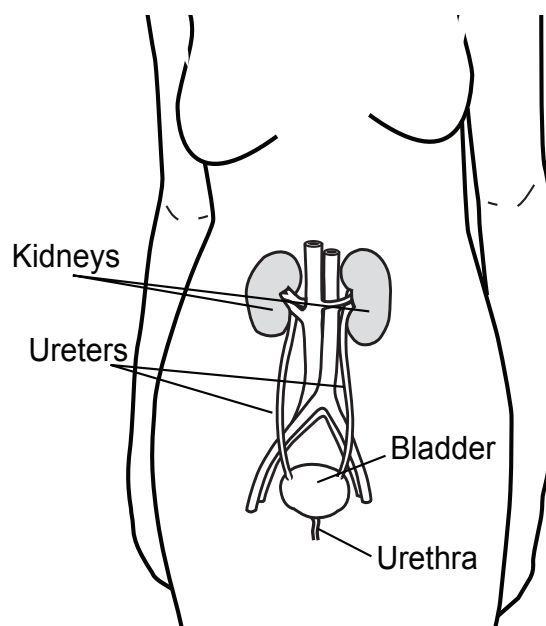
Because your brain sends and get signals from your bladder through your spinal cord, you may not be able to control when you urinate or empty your bladder.

Your injury may cause problems, such as:

- Not being able to control when the bladder empties of urine or not being aware of the need to use the toilet, called incontinence.
- Not being able to fully empty the bladder of urine, called retention.

Neurogenic bladder may cause

- Problems holding urine
- Problems releasing urine
- Thickening of the walls of the bladder
- Swollen kidneys, kidney stones, or kidney damage
- A higher risk of urinary tract infection (UTI)



Treatment

Your health care team will work with you to develop a daily bladder care program to improve bladder control and reduce your risk of UTI.

Based on your injury, your treatment may include:

- Using the toilet or bedside commode at regular times during the day and night.
- Not drinking anything 2 to 4 hours before bed and emptying your bladder before bedtime.
- Rehab exercises to improve your pelvic muscle tone.
- **Intermittent catheterization**, also called **self catheterization** or straight cath, which is a tube put into the bladder to drain urine and removed after the bladder is empty.
- Medicine to relax the bladder muscles and prevent spasm (involuntary tightening of muscles).
- Surgery to control holding in and releasing urine.
- Using products, such as pads and adult diapers.
- Placing a permanent catheter.

Portions of this document were adapted from materials produced by the SCI Model Systems.

Recording Your Bladder Function

In order to choose the best treatment for your bladder problems, it is important to know how well your bladder functions. You will record your bladder activity by keeping this record with the help of the nursing staff.

How to track your bladder function

Each time you urinate or take in fluids for the next 3 days, you will write it on the record. You will also write down other details, which are explained below. If you have any questions about the record or what you should write, please ask the nurse.

The nurse will check how much urine is left in your bladder after you urinate by using a bladder scanner. Gel is put on your skin and the round end of the scan wand is placed on your belly just above your pubic bone. You may feel vibration as the scan takes the reading.

Record for 3 days

Follow each step for the column with that number on the record sheet:

1. Time	2. Result C, I, R, or I/C	3. Amount	4. Scan	5. If Wet	6. Urge or No	7. Self or Other	8. Fluids ml
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- 1. Time** – Find the hour on the chart for when you are taking in fluids or urinate. Stay in the same row and record the next things listed.
- 2. Amount** – If you urinate, mark either a **C, I, R, or I/C**:
 - **C, if you were continent**, meaning you were able to urinate without an accident
 - **I, if you were incontinent**, meaning you lost control and urinated accidentally
 - **R, if you are retaining urine**, meaning you feel the urge, but are not able to urinate
 - **I/C, if you had some loss of urine**, but can still urinate more in the bathroom
- 3. Record** – Write the amount of urine:
 - Write the milliliters (ml) of urine you urinate or the amount from a catheterization.
 - If you had an accident, mark the amount as:
 - Small - a wet spot no bigger than 3 inches
 - Medium - a wet spot no bigger than 8 inches
 - Large - a wet spot bigger than 8 inches or saturated pad
- 4. Scan** – Write in the amount of urine in your bladder from the bladder scan.
- 5. If wet** – Write what you were doing when you had the accident, such as coughing or sleeping.
- 6. Urge or no** – Write “urge” if you felt the need to urinate. Write “no” if you were not aware of the need to urinate.

- 7. Self or other** – Write “self” if you decided to urinate on your own. Write “other” if someone else prompted you to urinate, such as a family member or staff.
- 8. Fluids** – Write in the type and amount of fluid. If you do not know the amount in milliliters (ml), mark the amount and the nursing staff will change it to milliliters.
- The staff will total the amounts at the end of the day.

Sample record

Here is a sample so you can see how the record is used.

- At 3 AM you awake and feel the need to urinate. You reach for the call light to have the nurse assist you to the bathroom, but you start to urinate.
- The nurse comes and helps you to the bathroom, and there is a 6 inch wet spot in your Depends. You are not able to urinate more in the bathroom.
- The nurse helps you back to bed and scans your bladder. The scan shows you have 56 ml left in your bladder. You take a drink of 100 ml of water before going back to sleep.

Bladder Function Record

Patient's Name: _____ (your name) _____ Date: _____ (today) _____

1. Time	2. Result C - Continent I - Incontinent R - Retention I/C - Wet but able to urinate	3. Amount Amount of urine (ml) -or- small, medium, or large spot.	4. Scan Amount from scan (ml).	5. If Wet If wet, what were you doing?	6. Urge or No Did you feel an urge or no urge?	7. Self or Other Did you go or did someone prompt you?	8. Fluids ml Amount and type of fluids you had.
12 AM							
1 AM							
2 AM							
3 AM	I	medium	56 ml	sleeping	urge	self	water 100 ml
4 AM							

The Bladder Function Record is on pages 58 to 60 or go to go.osu.edu/pted1634.

Self Catheterization

Daily routine

- Drink 8 ounces (oz) of fluid every 1 to 2 hours during the day and limit fluids for 2 hours before bedtime.
- Catheterize yourself _____ times a day at _____.
- Measure your urine a few times per week. There should be no more than _____ oz (_____ ml) in your bladder at one time. If you have more than _____ oz (_____ ml), either catheterize yourself more often, or limit your fluids.

Male: steps to follow

1. You may catheterize yourself while sitting on the toilet, in a wheelchair, in bed, or while standing.
2. Wash your hands well with soap and water or use an alcohol based hand sanitizer.
3. Wash the end of your penis well with soap and water. If you are not circumcised, be sure to pull back your foreskin and keep it back during the procedure.
4. Take the catheter out of the plastic bag. Put a small amount of lubricant on the tip of the catheter. Cover the tip and about 2 inches up the catheter.
5. In one hand, hold the catheter about 1 inch from the lubricated tip. With the other hand, hold your penis away from your body.
6. Gently put the catheter into the urinary opening (urethra).
7. About 6 inches into the urethra there is a ring of muscle tissue that the catheter must pass through.
8. At this point it may be a little harder to pass the catheter. Take a deep breath and gently apply steady pressure. The catheter should pass into the bladder.
9. Never use force to pass the catheter. If you are not able to pass the catheter without using force, stop and call your doctor.
10. Continue to put the catheter in until urine flows out. Then insert it another 1 to 2 inches. Let the urine flow into the urine container or into the toilet. An extension tube attached to the end of your catheter will give you the extra tubing needed to reach the toilet from a wheelchair.
11. When urine stops flowing, take deep breaths or press on your lower abdomen.
12. Slowly pull the catheter out. Stop pulling the catheter out any time urine starts to flow. Again, take some deep breaths or press on your lower abdomen. Repeat this step until the urine completely stops.

Supplies

- Catheter – clear or red rubber tube.
- Water-soluble lubricant, such as K-Y Jelly or Surgilube. Do not use Vaseline.
- Catheter extension tube if needed.
- Urine container if needed. Use any jug, bottle, or urinal, which can attach to the side of a bed, chair, or wheelchair, or can be held between your knees.

Female: steps to follow

1. You may catheterize yourself while sitting on the toilet, in a wheelchair, in bed, or while standing. Use a long catheter with an extension tube if you do self cath from a wheelchair.
2. Wash your hands well with soap and water or use an alcohol based hand sanitizer.
3. Take the catheter out of the plastic bag. Put a small amount of lubricant on the tip and about 2 inches up the catheter. Place it on a clean towel within easy reach.
4. Separate the skin folds of the labia with your 2nd and 4th fingers. Wash the urinary opening (urethra) with soap and water.
5. Keep your fingers holding the labia folds open. Find the urinary opening just above your vagina with your middle finger from the same hand. A mirror may be helpful to be able to see the area.
6. Use your other hand to pick up the catheter.
7. Put the catheter tip into the urinary opening next to your finger.
8. Push the catheter in about 2 to 3 inches until urine flows freely.
9. Let the urine flow into the container or the toilet. An extension tube attached to the end of your catheter will give you the extra tubing needed to reach the toilet from your wheelchair.
10. When urine stops flowing, take some deep breaths or press on your lower abdomen.
11. Slowly pull the catheter out. Continue to take deep breaths or press on your abdomen. Stop pulling the catheter out when urine starts flowing. Repeat this step until the urine stops.
12. Pinch the end of the catheter to keep urine from spilling on your clothes.
13. Slowly take the catheter out.
14. Wash your hands.

Tips for caregivers

- If you are a caregiver who catheterizes someone else, you would follow the same process described.
- Have the doctor or nurse walk you through the steps and ask questions about anything you do not understand.
- Wash your hands before and after and keep all of the supplies clean to prevent infection.
- Watch for signs of infection, listed below.
- Ask the person if they have pain or discomfort during the process.

When to call your doctor

Call your doctor if you have any problems or these signs of infection:

- Cloudy or foul smelling urine
- Chills or fever
- Leaking urine in between catheterization (if this is not normal for you)
- Not feeling well or feel tired or weak
- Pain or tenderness across the lower back
- Increased muscle or bladder spasms (pain)
- Red or swollen urinary opening
- Not able to pass the catheter through to the bladder

Urinary Tract Infection (UTI)

Urinary tract infections or UTIs happen when bacteria (germs) grow in the urinary tract. These germs come from outside the body and can travel into the urethra, bladder, and kidneys. Women are more at risk because the female urethra is short and close to the rectum. People with a spinal cord injury are also more at risk due to not having normal bladder function and from using catheters.

Causes of UTIs

- Injury to the urethra, the tube that comes from the bladder to the urinary opening
- Personal hygiene, such as how you wash or wipe after going to the bathroom
- Irritation caused by sexual intercourse
- Not being able to pass your urine caused by drugs, illness, or injury
- Wearing tight clothing, such as nylon underwear, that traps moisture
- Having a weakened immune system that increases a chance for infections
- Kidney stones
- Use of a catheter

Signs of infection

- Burning with urination (most common sign)
- Having to urinate often
- Having a strong urge to urinate, but not urinating much
- Lower abdominal pain
- Back pain
- Foul smelling urine
- Cloudy urine
- Blood in the urine
- Fever or chills (a sign infection may have reached your kidneys)
- Nausea or vomiting (a sign infection may have reached your kidneys)

The only way to know for sure if you have a UTI is to contact your doctor who will review your signs and test your urine.

Treatment for a UTI

Most UTIs can be easily treated with antibiotics, which kill the bacteria. Be sure to take the full course of antibiotics and not stop as soon as you feel better. If you do not take all of the medicine, your infection may not be cured.

Drink at least 8 (8-ounce) glasses of fluid every day. Extra fluid helps to rinse the bacteria out of the urinary tract. Water and fruit juices, especially cranberry juice, are helpful. Avoid coffee, tea, and soft drinks with caffeine. Food and fluids that have caffeine can make your symptoms worse.

If bacteria makes its way to the kidneys, it can become a kidney infection. This can be serious and damage your kidneys. In more serious cases, you may need to be treated in the hospital.

Preventing UTIs

- Drink plenty of water.
- Keep your genital area clean, but do not scrub too hard or use harsh soaps.
- Empty your bladder when you need to and empty it fully.
- Urinate before you go to sleep.
- Wash your genital area before and after sex.
- Use condoms during sex.
- Urinate after sex to flush away bacteria that may have entered your urethra.

Specific for Women

- Wipe from front to back after using the toilet.
- Do not douche or use feminine hygiene products.
- Shower instead of taking a bath.
- Do not wear tight pants and nylon underwear that can trap moisture and make it easier for bacteria to grow. Wear cotton underwear instead.

When Using a Catheter

- Wash your hands with soap and water or use alcohol-based hand sanitizer before and after touching your catheter.
- Clean your catheter after each use and store it in a clean dry bag or container.
- Keep the catheter and drain tubing free of twists or kinks. This allows the urine to flow into the drainage bag and not back up in the tubing.

Call your doctor right away if you have any of these signs:

- Fever greater than 101 degrees Fahrenheit (F)
- Nausea, vomiting, or chills
- Back pain

Preventing Pressure Sores

Pressure sores, also called bedsores or pressure injuries, happen when your skin and tissue are damaged by pressure. Pressure causes a loss of blood flow to an area. Pressure sores can be serious and hard to heal. Care must be taken to prevent them from forming.

Causes of pressure sores

Pressure on the skin is the most common cause of pressure sores, usually from lying or sitting in the same position too long or not having enough padding to protect these areas. Pressure limits blood flow to the tissue, causing tissue damage, a breakdown, of the skin and a sore. Damage can happen in 1 to 2 hours if the pressure is not removed.

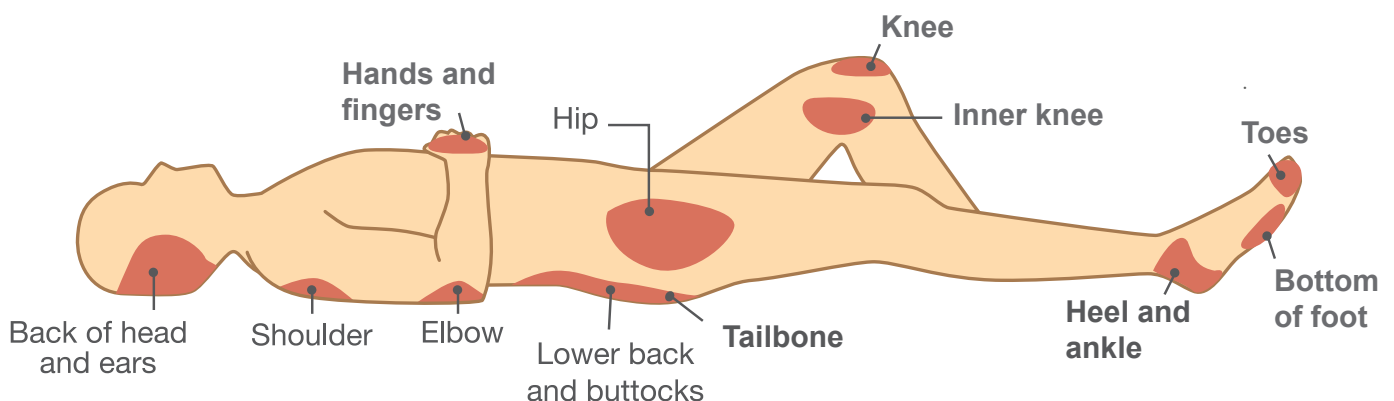
Who is at risk?

You may be more at risk for pressure sores if you:

- Are not able to move without help or have limited movement.
- Have a loss of feeling or nerve damage to parts of your body. This may prevent you from feeling pressure or soreness on your skin.
- Have skin that is often wet or soiled.
- Must stay in bed or a chair most of the time.
- Have poor blood flow or other severe illness.
- Are older or frail and have thin skin.
- Are not eating well or eat foods that do not provide enough nutrients.

High risk areas

Pressure sores can happen anywhere on the body, but they are most common on bony or firm areas, such as:



Types of pressure sores

Stages:

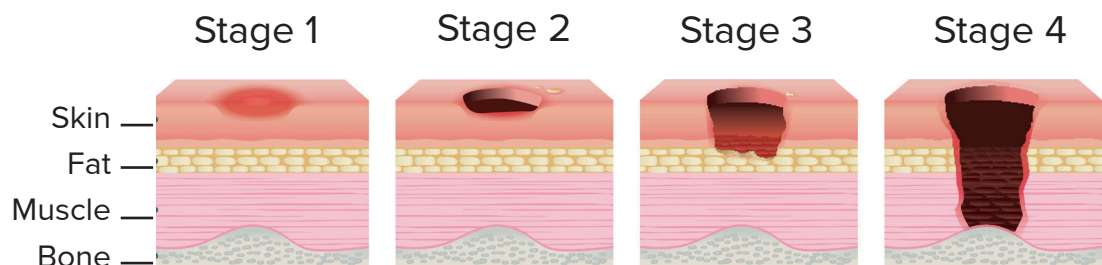
Pressure sores go through 4 stages as they get worse.

Stage 1: The skin may be red and painful, but is not broken. It may also feel harder or softer than the area around it.

Stage 2: The skin is broken, worn away, or may form a small hole, or crater. It may also have blisters filled with fluid.

Stage 3: The damage goes below the skin to make a deeper hole that can reach the fat layer.

Stage 4: The damage goes even deeper down to layers of muscle and bone.



Unstageable: The stage of the pressure sore can be hard to tell sometimes, called being unstageable. This is when the damage to the area cannot be seen because it is covered by dead tissue, called slough or eschar. This tissue may be white, yellow, grey, tan, green, or black.

Deep Tissue Injury: Deep tissue injury is an area of the skin that appears purple or maroon in color. It is not broken, but may have a blister filled with blood because of the damage to the skin and soft tissue from pressure.

How to prevent pressure sores

Stay aware of your skin and check it often:

- Check your skin often during the day if you are in bed or in a chair most of the time. Look for areas of redness over bony places, such as your tailbone, hips, elbows, heels, ears and ankles. If you need help, have another person check your skin each day or use a mirror to see.
- If you have any loss of feeling in your toes or feet, check your feet and between and under your toes at least 1 time each day. You may need a mirror or another person to help you.

Keep your skin clean and dry:

- Use moisture barrier products on skin that gets wet often from sweating or urine, such as a zinc oxide or silicone cream or spray.
- If sheets or wound dressings are wet, change them often to protect your skin from moisture.
- Do not use harsh soaps and skin care products that have alcohol in them.
- Put moisturizing lotion on your skin often.
- Gently pat your skin dry with a towel. Do not rub your skin.
- If you are incontinent (urine or stool), clean the skin gently and well after each time you have an accident.

Other things you can do for healthier skin:

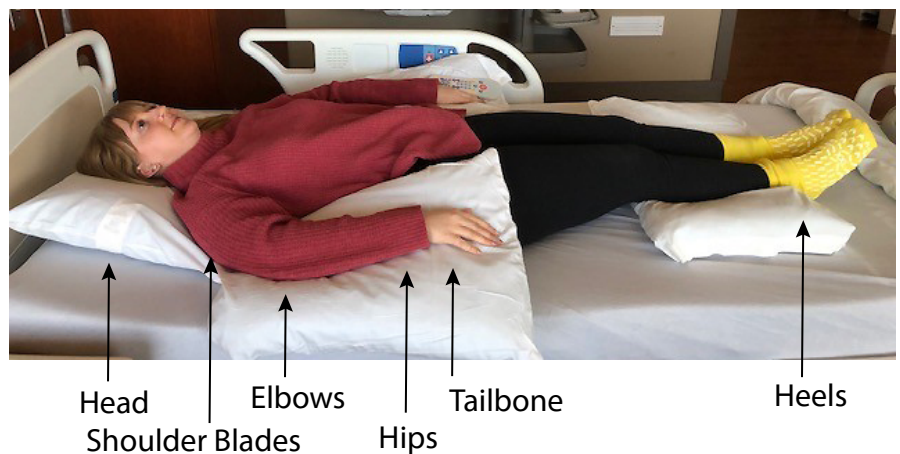
- Eat a well balanced diet and drink 8 (8-ounce) glasses of fluids each day to keep your skin healthy.
- Do not use hot water or heating pads.

Protecting your skin in bed

If you must stay in bed, here are some more things you can do to protect your skin and prevent pressure sores:

- Change your body position at least every 2 to 4 hours. You may want to use an alarm or timer to help you remember to move.
- Use pillows or a foam wedge to keep bony parts from touching each other. For example:
 - Place a pillow between your legs at the knees when you are lying on your side.
 - Place a pillow under your lower legs to keep your heels off the bed.
- Keep the bottom sheet free from wrinkles. Be sure to remove any crumbs and avoid placing items on the bed.
Keep items on a bedside table instead.
- Do not massage over bony parts like the hips, tailbone, shoulders, and ankles. Massage may cause damage to the tissue under the skin.
- Ask about special equipment, beds, or pads that may help protect your skin.

Place Pillows to Prevent Pressure Sores in Bed



Pressure relief

- Pressure relief is moving or lifting yourself to take the pressure off areas and letting blood circulate. Your therapist or nurse will teach you how before you leave the hospital.
- If you cannot move yourself, teach the person who helps you with your daily care how to move you to prevent pressure sores.

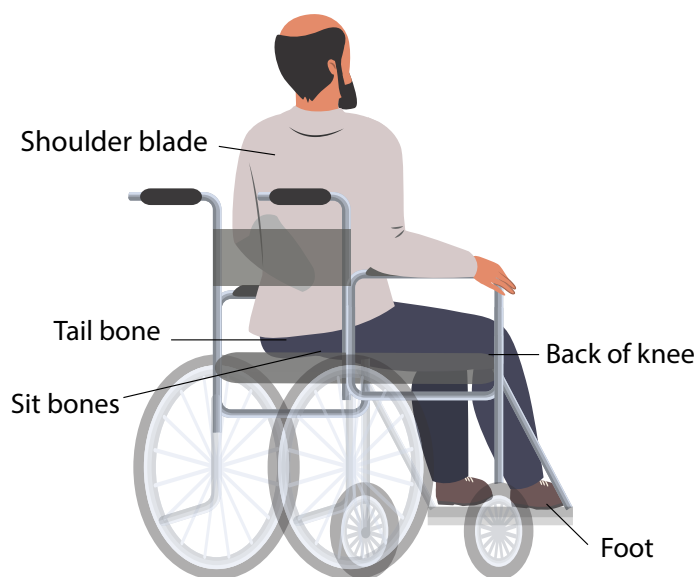
Protecting your skin in a chair

If you are in a chair or wheelchair, here are some more things you can do to protect your skin and prevent pressure sores:

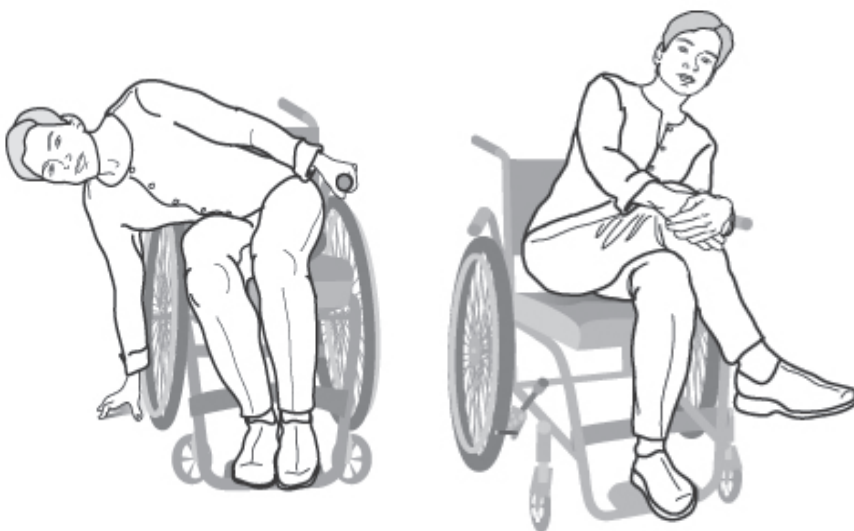
- Sit up straight in the chair and shift your weight from one side to the other every 15 minutes.
- Use a foot rest or foot stool to support your feet, so there is not too much pressure on the backs of your knees.
- Use a special seat cushion or pad made to reduce pressure. Do not use a ring or “donut” cushion to sit on. Do not use sheepskin.

Pressure Relief for Wheelchair Use

- How you do pressure relief in a wheelchair depends on your level of injury, the type of wheelchair you use, and how much movement and strength you have in your arms and shoulders.

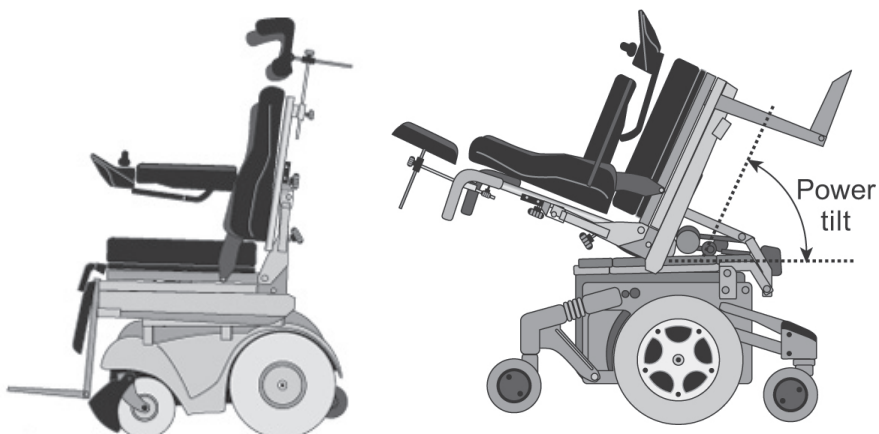


- If you are able to move yourself in your chair, here are 2 examples of pressure relief techniques. Leaning to one side can relieve pressure on one buttock at a time, shown in the picture on the left. The image on the right shows an example of doing this in a less obvious way.



Images courtesy of MSKTC

- If you are in a wheelchair and not able to do pressure relief on your own, you can use a power tilt wheelchair to tilt, recline, and raise your legs to relieve pressure. Your therapist can show you how to do this safely. Examples of power tilt chairs are shown here.



Images courtesy of MSKTC

Portions of this document were adapted from materials produced by the SCI Model Systems.

Checking Your Skin

Pressure sores and other skin breaks or sores can happen very quickly when you are sick or injured. You and your family, along with your health care team, can prevent pressure sores by doing skin checks often. Early treatment can often prevent very serious problems.

Helpful tips

- It is best to check your skin at least 2 times each day. Many people find it best to check in the morning and again in the evening.
- Check more often if the time you spend sitting or lying down has increased.
- Check under any splints, casts, or braces you have at least 2 times each day.
- If you are not able to do the skin checks yourself, have a family member or caregiver help. You may be able to check the front of your body, but you will need help with your back and sides.
- It is best to look and touch the skin to be sure you are able to see all areas well. Using a mirror with a long handle may be helpful.

What to look for

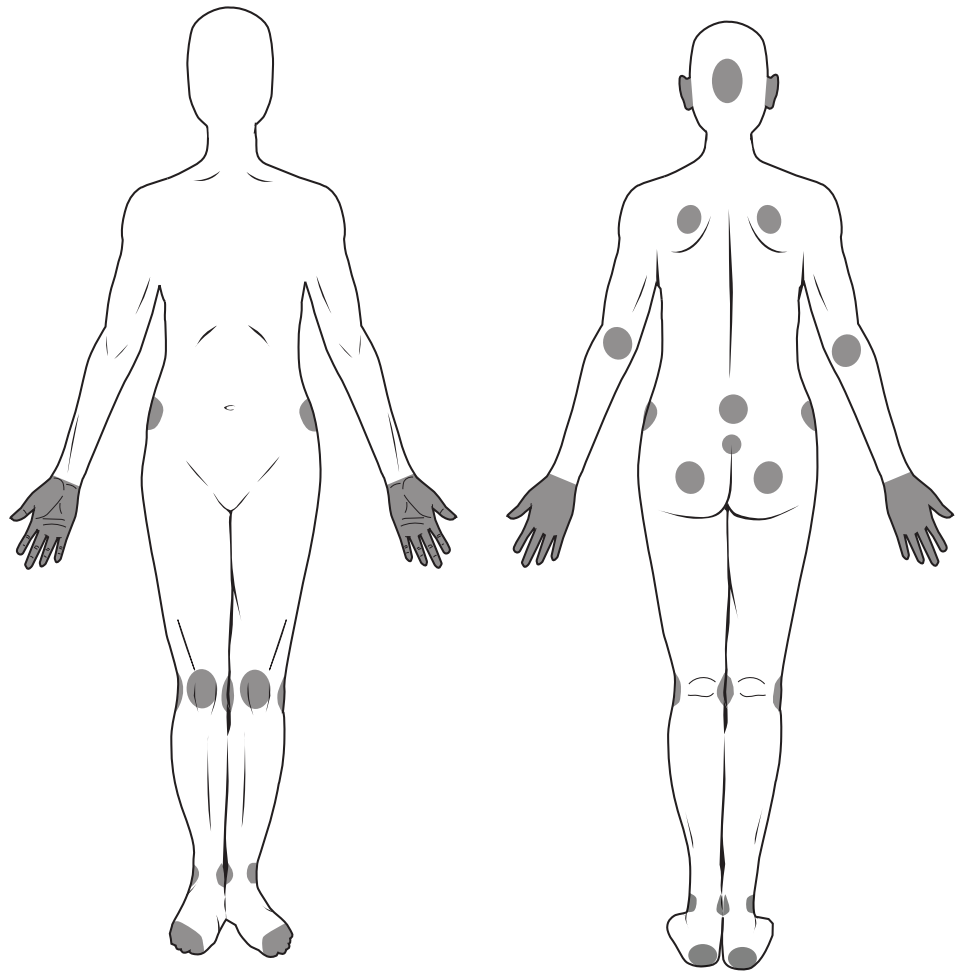
- Changes in color or appearance of the skin. Areas that are more pink, red, bluish, pale, or shiny than the skin around it.
- Blisters, bruises, cracks, or any opening in the skin surface.
- Damp or moist skin, or places where the skin is dry or flaky.
- Feel the skin and compare it to surrounding skin. Feel for any areas that may be:
 - Firm or hard
 - Swollen
 - Either warm or cool

Doing the check

- Wash your hands with soap and water or use an alcohol-based hand sanitizer before and after.
- Start at your head and work down to your toes.
- Check the front, back, and sides of your body.
- Check any newly healed skin because it may be more sensitive and more easily injured.
- Check under skin folds at the breasts.
- Check your belly, top of your legs, and buttocks.
- Check finger and toe nails for any ingrown, rough, or sharp nails.
- For men who wear external catheters, check the penis for sores or rashes.

- **Check all bony areas. These include:**

- Head, back of the head, and behind ears
- Shoulder blades
- Elbows
- Hands and fingers (between and under)
- Lower back
- Buttocks
- Hip bones
- Tailbone
- Knees
- Heels and ankles
- Bottoms of the feet
- Toes (between and bottoms)



Call your doctor if you have:

- Pink, red, purple, or blue areas on your skin from pressure.
- Skin over a bony area that feels firm, warm, or cool compared to the skin around it.
- Any open sores, shiny spots, or blisters.

Orthostatic Blood Pressure and Pulse

Having a spinal cord injury may cause you to have a drop in blood pressure when you go from lying down to standing or sitting up. You may faint, feel dizzy, or become light-headed. Orthostatic blood pressure (BP) and pulse means taking these measures after lying down.

Taking your orthostatic BP

Take your orthostatic BP and pulse _____ times each day.

- Check your BP before taking your BP medicine.
- Check your BP and pulse when lying, then sitting, and 2 more times when you stand.

Your goal BP is _____.

Normal BP is 120/80 or less and normal pulse is 60 to 100.

If you have an automatic BP cuff, your pulse will be measured at the same time. If you have a manual BP cuff, your nurse can show you how to take your pulse. Write down the result on page 61 of this book.



Automatic BP Monitor

Follow these steps

1. Do not eat or smoke for 30 minutes.
2. Lay down for 5 to 10 minutes.
3. Take your BP and pulse and record the numbers.
4. Sit for 2 to 3 minutes on the edge of the bed.
5. Take your BP and pulse and record the numbers.

If you are able to stand, continue with these steps:

6. Stand and take your BP and pulse right away, then record the numbers.
7. Wait 3 minutes.
8. Take your BP and pulse again and record the numbers.



Manual BP Monitor

Call the doctor if

- Your top number, called systolic blood pressure, is lower than your goal BP and you feel dizzy or light headed upon standing or sitting up.
- Your pulse is less than 60.

Compression Stockings

Why wear compression stockings

Compression stockings help control swelling, called edema, in your feet, ankles or lower legs. Swelling is caused by fluid build-up.

It is important to prevent fluid from building up, or edema, because it can:

- Cause pain in the leg or foot
- Prevent blood from circulating to skin surface
- Prevent wounds from healing

Use the stocking pressure level ordered by your doctor. Many require a prescription, but some can be purchased at a pharmacy or medical supply store. Ask the pharmacist if you need help getting the right strength.

Putting on and taking off

Stockings are made from special fabric fibers. To avoid damage, remove jewelry that can cause a hole or snag before putting them on.

1. Place the stocking on your foot, gently working it over the heel.
2. Gently pull the stocking up your leg. Do not pull or tug as this can cause a hole or run in the fabric. Smooth out wrinkles or folds to prevent skin irritation.
3. Wearing rubber kitchen gloves can help you grip the stockings if you have trouble pulling them up your legs.
4. To remove a stocking, gently roll it down the leg to the heel. Slide it off and around the ankle and foot.

When to wear stockings

- Put stockings on before getting out of bed in the morning to stop swelling before it starts.
- Wear stockings all day long.
- Remove right before taking a bath or shower.
- Take stockings off at night to sleep. Keep your feet higher than your heart to prevent swelling at night. Use pillows to prop up your feet.

How to care for your stockings

- Follow the care instructions for washing. Most can be washed in a washing machine. Use the gentle cycle and a mild detergent.
- To dry, lay flat on a towel to protect the shape of the stocking.
- Do not use petroleum based products, such as Vaseline. These products can damage stocking fibers.
- Compression stockings last about 6 months, then you will need to replace them.

When to contact your doctor

Contact your doctor if you have:

- Numbness or tingling that is not normal for you
- Pain or an increase in pain
- Changes in the color or temperature in your toes or feet
- New wounds that develop

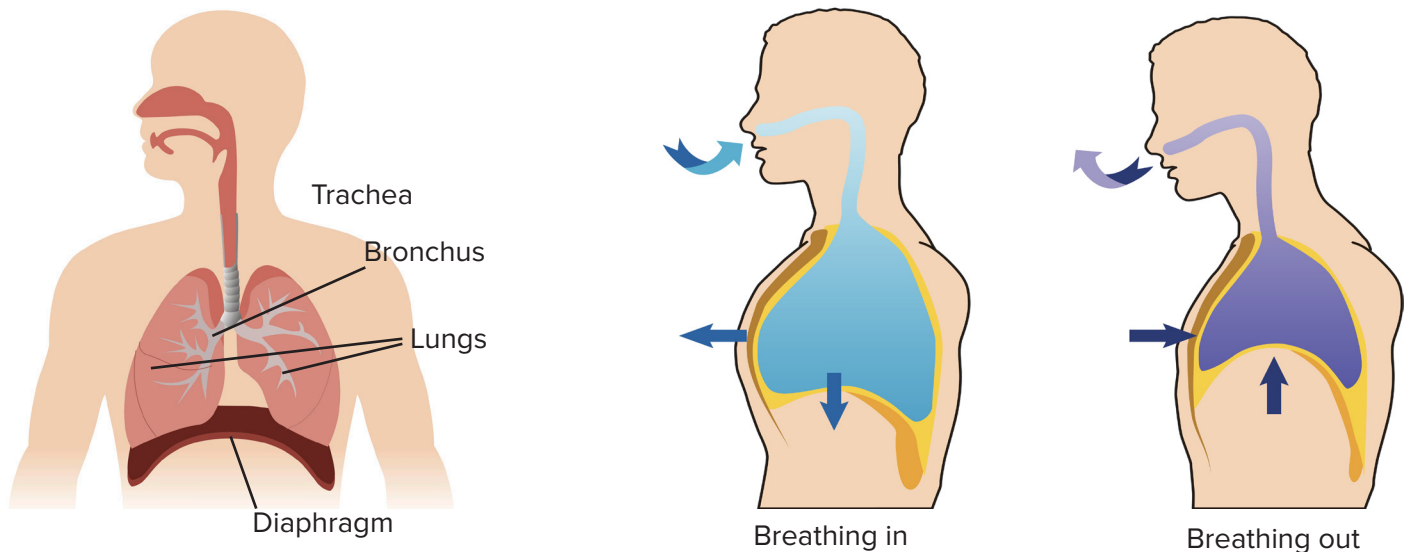
Respiratory Health with SCI

How you breathe

The air you breathe travels through your nose and mouth, trachea (windpipe), main bronchus (major airways), and lungs.

The lungs take in oxygen from the air you breathe in (inhale) and circulate it in your bloodstream to meet your body's energy needs. When you breathe out (exhale), the lungs remove a waste gas, called carbon dioxide. This gas leaves your body through your bronchus, trachea, nose, and mouth.

The diaphragm muscle helps the lungs expand in the chest cavity when you inhale (breathe in) by contracting and pulling down. When you exhale (breathe out), the muscle relaxes to let air flow out of the lungs.



How spinal cord injury affects breathing

When the nerves that send signals from your brain to control your breathing are damaged, your brain is not able to control the muscles you use for breathing in and out.

Where your injury is affects how much muscle control you still have. If your injury is higher up on your spinal cord, you may need a:

- **Tracheostomy:** A hole goes through the front of your neck into your trachea (windpipe). A breathing tube, called a trach tube, is placed through the hole and into your windpipe to help you breathe.
- **Ventilator:** A machine that breathes for you.

Possible health problems

If you have lost some or all control of your respiratory muscles, your body may be working harder to get oxygen into your blood and to get rid of carbon dioxide. You may also have trouble getting rid of mucus that builds up in your lungs. This puts you at a higher risk for:

- **Bronchitis:** An infection in the tubes that lead to the air sacs in the lungs.
- **Pneumonia:** An infection in the air sacs of the lungs.
- **Atelectasis :** A build up of mucus in the lungs that causes your lung to partly or fully collapse.
- **Obstructive Sleep Apnea:** Airway closes during sleep, blocking the flow of air. This causes a drop in your blood's oxygen level and a rise in the carbon dioxide level.

Steps for better respiratory health

It is best to take steps to prevent infection and to make it easier for your body to breathe, including:

- Do not smoke and keep away from others who smoke.
- Aim to stay at a healthy weight. Being overweight makes your body work harder to breathe.
- Stay away from people who may have a cold or flu.
- Get your flu shot every year, a pneumonia shot, and other vaccinations recommended by your doctor.
- Prevent mucus from building up in your lungs. If you are not able to cough well enough to do this, you may need help from someone else or a machine.
- You may use a device, called an incentive spirometer, to help improve air flow, which reduces fluid in the lungs. Read more about this on page 34.

Watch for signs of a problem

- Watch for infection:
 - Fever and chills
 - Coughing or feeling the need to cough
 - Tightness in the chest
 - Shortness of breath
- Watch for signs of obstructive sleep apnea:
 - Other people tell you that you stop breathing at night
 - Loud snoring
 - Restless sleep
 - Wake up gasping for air

Portions of this document were adapted from materials produced by the SCI Model Systems.

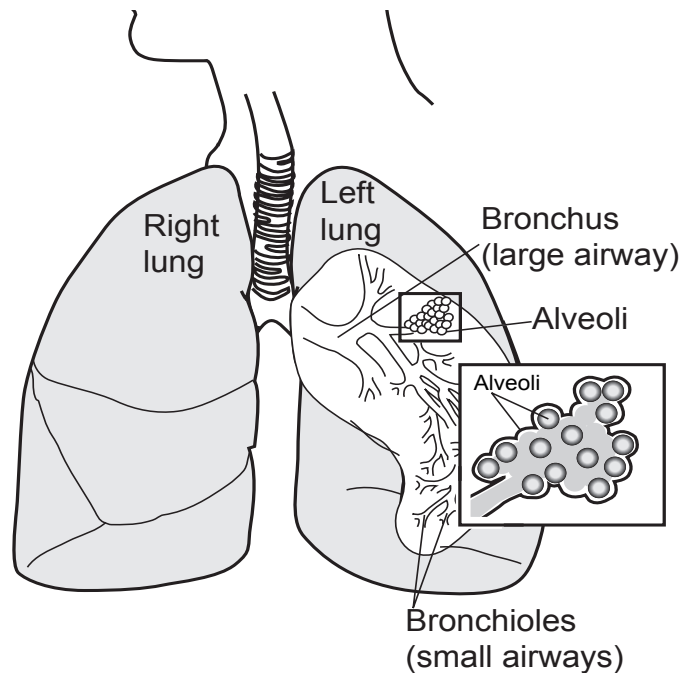
Pneumonia Care in the Hospital

About pneumonia

Pneumonia is an infection or inflammation of the lungs. The air sacs or some areas of bronchial tubes in the lungs fill with infection or other secretions. Pneumonia is caused by either bacteria or viruses, but is not usually passed from person to person.

Signs of pneumonia

- Shortness of breath
- Chest pain with deep breathing
- Fever
- A cough with mucus that is green or rust colored



Lungs with pneumonia

The main function of the lungs is to bring air and blood together, so oxygen can be added to the blood and carbon dioxide can be removed. Lungs with pneumonia do not exchange oxygen and carbon dioxide well.

Pneumonia can be caused by bacteria or viruses that enter the lungs and multiply in the small air sacs. Infection can spread quickly within the lobes of the lung. The lungs work hard to clear the bacteria using mucus, which is the liquid your body uses to trap germs. Your body uses mucus to get rid of germs when sneezing or clearing the throat. If the body makes too much mucus, it can make it harder to breathe.

In serious infections, bacteria can enter the bloodstream and make the rest of the body sick.

Ventilators and pneumonia

If someone is on a ventilator, they are at risk for pneumonia. A ventilator is a machine used to help a person breathe. It is also called a “respirator” or “vent.” The ventilator pushes oxygen into the trachea (windpipe), which then goes to the lungs. When someone is not breathing on their own, they are not able to clear their lungs. This makes it easier for germs to get into the lungs. Medical staff work hard to prevent ventilator pneumonia.

Testing

Blood Tests

Blood tests may be used to check for bacteria that cause pneumonia and to check how well other treatments work to treat the condition.

Laboratory Test of Sputum Culture

A sample of your mucus or liquid in the lungs may be taken to check for bacteria. You may also hear this called a mucus test.

Chest X-Ray

A chest X-ray may be used to see how much of the lungs are infected with pneumonia.

Chest CT Scan

A computed tomography (CT) is a special X-ray machine that creates pictures of thin slices or segments of the chest. Your doctor may have you take a medicine, called contrast, before the test to help certain structures show up on the test.

Treatment

Treatment for pneumonia depends on the person's health, and how well the pneumonia responds to medicines.

Medicine

Antibiotic medicines are used to treat bacterial pneumonia. Antiviral medicines are used to treat viral pneumonia. Medicines may be given through the intravenous (IV) tubes if the person cannot take them by mouth.

Other medicines may be given to reduce the amount of mucus in the lungs, to help with cough, or to reduce chest discomfort when breathing. Medicines may also be given to reduce fever.

Coughing

To help clear mucus out of the lungs, the person, if alert, may be asked to do deep breathing and then cough several times. The goal is to get mucus out of the lungs. Spit any mucus that comes out into a tissue.

Incentive Spirometry

To help improve air flow and reduce fluid in the lungs, a device called an incentive spirometer, may be used. The goal is to push as much air into the tube as possible. This may be done every few hours to promote healthy breathing and to check how well your lungs are working.

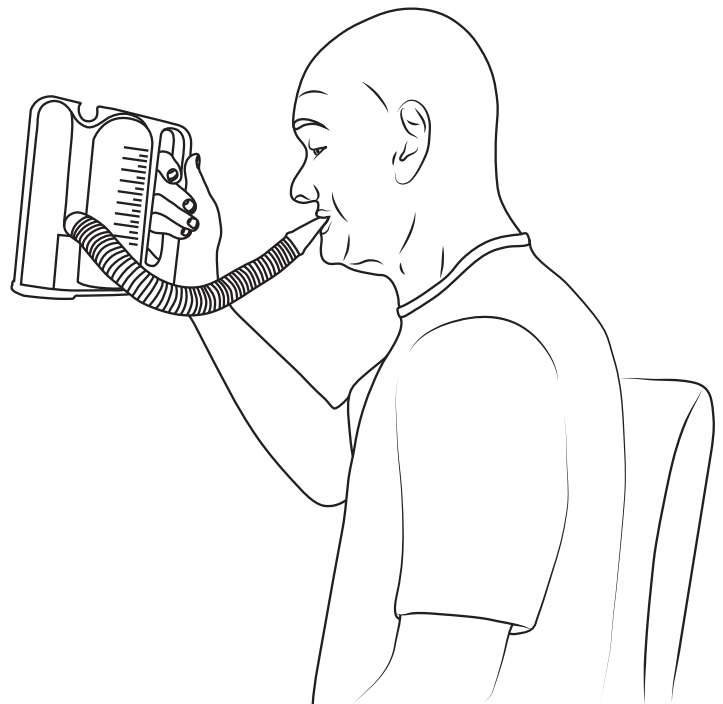


How to Use an Incentive Spirometer

Using the incentive spirometer, also called a breathing exerciser, helps you take deep breaths to open the air sacs in your lungs. This can help reduce the chance of developing breathing problems like pneumonia. It can also be used if you have a tracheostomy tube, also called a trach tube.

Steps for use

1. Sit up as straight as you can. Sit on the edge of a chair or your bed if possible.
2. Hold the incentive spirometer upright.
3. Breathe out.
4. Close your lips tightly around the mouthpiece
5. Take in a slow deep breath through your mouth slowly. Your incentive spirometer will tell you if you are breathing in too fast.
6. As you take a deep breath, the piston in the clear chamber of the incentive spirometer will rise.
7. After you breathe in as deeply as you can, hold your breath for 3 to 5 seconds.
8. Set the goal indicator tab at the level that you reached.
9. Take out the mouthpiece and breathe out slowly.
10. Relax and breathe normally for a few seconds until the piston returns to the bottom.
- 11. Repeat these steps for a total of 10 times every 1 to 2 hours or as directed by your doctor.**
12. If you start to feel light headed or dizzy, slow down your breathing and take more time between deep breaths.
13. After the 10 times, take another deep breath and cough to clear the mucus from your lungs.



Steps for use with tracheostomy

1. A one-way valve called a “T” piece will be placed on the open end of the clear tubing. The opening of the “T” piece will fit onto your tracheostomy tube.
2. Sit as straight up as you can.
3. Hold the incentive spirometer upright.
4. Your respiratory therapist or nurse will tell you how deeply you should breathe based on your sex, height, and age.

Your expected amount is _____ ml.

5. Attach the open port of the “T” piece to your tracheostomy tube.
6. Breathe out normally, then inhale slowly and deeply. This slow deep breath will raise the piston in the clear chamber of the spirometer. Your incentive spirometer will let you know if you are breathing in too fast.
7. Continue to breathe in, trying to raise the piston as high as you can. Read the volume you have reached at the top of the piston.
 - If you have had surgery on your chest or stomach area, do not be alarmed if your breath is not very deep. Each day you use your incentive spirometer, you should see improvement.
8. When you feel like you cannot breathe in any longer, hold your breath for 3 to 5 seconds and then breathe out slowly.
9. Breathe normally for a few breaths and let the piston return to the bottom of the chamber.
10. Set the goal indicator tab at the level that you reached.
11. Repeat the slow, deep breath in and slow breath out again.
- 12. Continue this cycle for a total of 10 breaths. If you start to feel light-headed or dizzy, slow down your breathing and take more normal breaths between the deep breaths.**
13. After you have taken 10 deep breaths on your incentive spirometer, cough to try to remove secretions that have built up in your lungs.
 - If you have had surgery on your chest or stomach area, place a pillow or a folded blanket over the top of the incision, and wrap your arms around it like you are hugging it. This will provide support and decrease some of the pain you feel when you cough.
14. Repeat steps 2 through 9 every 1 to 2 hours, or as ordered by your doctor.



Helpful hints

- Take medicine to control your pain. It is harder to take a deep breath if you are having pain.
- Keep the incentive spirometer within reach, so you remember to use it as directed.
- Use your incentive spirometer when you go home to help keep your lungs clear while you recover.

Learning to Take Your Medicines

As part of your rehabilitation, you will need to learn to take your own medicines. There are 3 steps in this program. You must finish 1 step before moving on to the next. Please ask your nurse if you have any questions. If taking your medicines is more complex, the nurse and hospital pharmacy may work more closely with you until you are able to take them on your own.

Step 1

Your nurse will teach you about each of your medicines. For each of your medicines, you will need to learn:

- Name of the medicine
- How much you are to take, called the dose or amount
- When you are to take it
- Why you are taking the medicine

Your nurse will give you written sheets on each of your medicines. These list side effects and any foods or medicines that may change the way your medicine works. They also list what you should do if you miss a dose of your medicine.



Step 2

Your nurse will give you a Medicine Record to record your medicines. Together, you will write:

- Name of the medicine
- Dose or amount of the medicine you are supposed to take
- Time(s) you are to take the medicine
- Reason you take the medicine

When you feel you know your medicines and can fill out the Medicine Record by yourself, talk to your nurse.

Step 3

Call your nurse when it is time to take your medicines. When your nurse brings them to you, check off the medicines you take on your Medicine Record, on page 62 of this book.

Enoxaparin or Heparin: Subcutaneous Injection

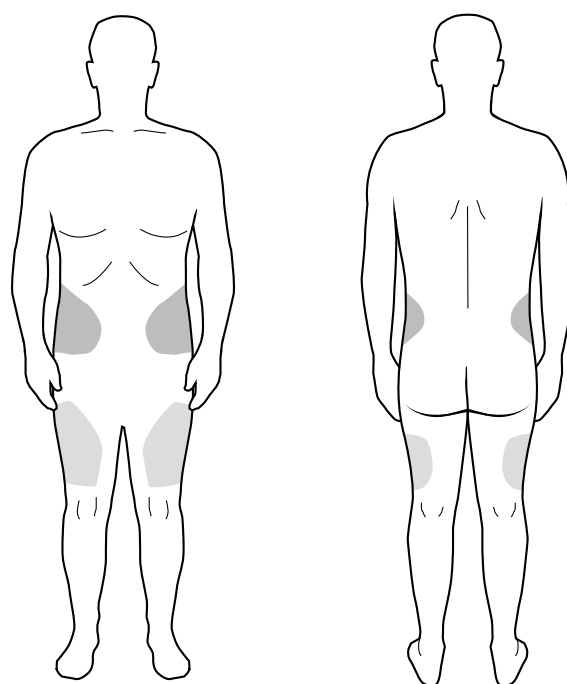
A subcutaneous injection, also called a sub Q shot, is one that is given into the layers of skin and fat on top of the muscle. These steps show how to give enoxaparin (brand name Lovenox) or heparin by subcutaneous injection. You may be using a prefilled syringe. If you do not have a prefilled syringe, go to the last section that explains how to fill a syringe yourself.

Things to know

- **If the needle bends or it is bent when you remove the needle cover, do NOT use it for an injection.** It may break off in the skin. Do NOT try to straighten the needle. Start over with a new needle, or a needle and syringe if needed.
- Store the medicine as you are directed by your health care provider or pharmacist. Some medicines need to be stored in the refrigerator or away from light.
- Keep your medicine, syringes, needles, and old needles and syringes away from children and pets. You can buy a needle disposal container at the drug store, or you can use an empty heavy plastic bleach or detergent bottle with a lid. Keep the container out of reach of children and pets.
- Ask your pharmacist or health care provider how you should throw away your container of used needles and syringes. You can also check with your garbage collector.
- **If you are the caregiver giving a shot,** you may want to wear gloves to avoid contact with blood.

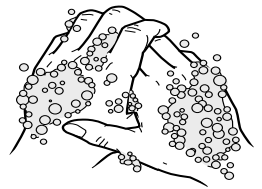
Select an injection site

- For enoxaparin or heparin, the areas to give the injection are the sides of your abdomen or stomach and around your waist toward the back. If you are not able to use those sites, use the front or side of your upper legs.
- Use a different spot for each injection in a given area. For example, if you use the left side of your abdomen, then use the right side of your abdomen the next time.
- Stay 1 inch away from any scar. Scars do not absorb the medicine.
- Stay 2 inches away from the navel (belly button).
- Do not use an area that is bruised, swollen, or tender.

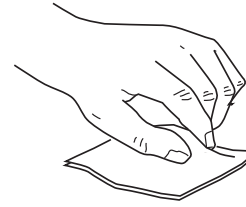


Giving the injection

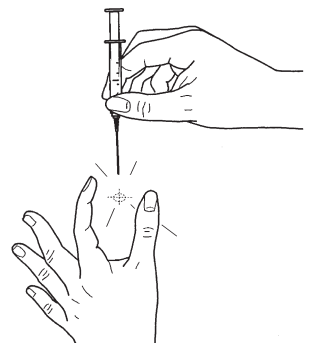
1. Wash your hands well with soap and warm water or use alcohol based hand sanitizer.



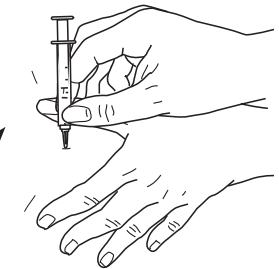
2. Clean your skin site with an alcohol pad. Let the alcohol dry. Do not fan or blow on it to dry it faster because you will add germs back on the skin.



3. Pick up the prefilled syringe and check the label to be sure it is the right medicine. Carefully remove the needle cover. **For enoxaparin or heparin, you should NOT remove the air bubbles** unless you need to adjust the dose. The air bubble helps to be sure you get all of the medicine out of the syringe when it is injected. The air will not harm you.



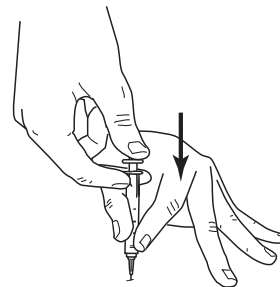
4. Hold the syringe like a dart and gently pinch up the skin at the site.



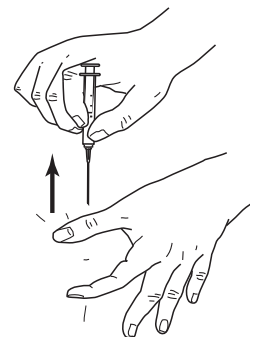
5. With a quick motion, push the needle straight into the skin. If you are thin or you are told to keep the skin pinched, keep the skin pinched up while you inject. Otherwise, let go of the skin.



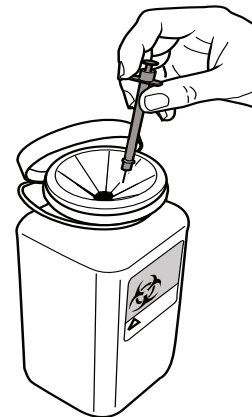
6. Inject the medicine slowly, over 20 to 30 seconds, by pushing in the plunger. A slower injection rate may cause less bruising. Leave the needle in place for about 10 seconds after the medicine is in the skin.



7. Remove the needle and quickly press the alcohol pad or your finger onto the site. **Do not rub the skin.** Rubbing can cause bruising. **Hold pressure on the site for a few seconds.** If you notice any bleeding or oozing, hold pressure on the site longer.



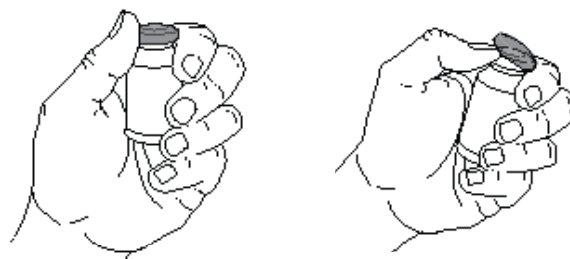
8. If your syringe has a needle shield, point the needle down and away from you and push on the plunger. You should hear a click as the shield comes down over the needle.
9. Put the used syringe and needle into a puncture proof container with a lid. Do not recap the needle.
10. Wash your hands well with soap and warm water or use alcohol based hand sanitizer.
11. Mark the date, time, and site of your injection on the calendar or record sheet.



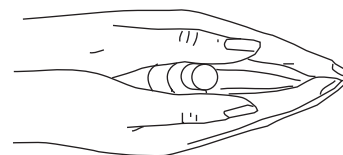
If you need to fill the syringe

1. Wash your hands well with soap and warm water or use alcohol based hand sanitizer.
2. Get your supplies:
 - Syringe with needle
 - Alcohol pad
 - Bottle of medicine (check the label to be sure it is the right medicine)

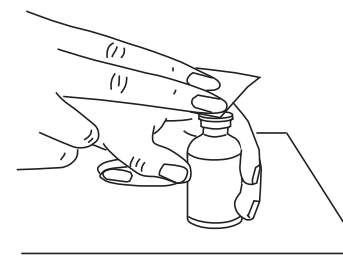
3. Remove the plastic cap from the medicine bottle if it is a new bottle.



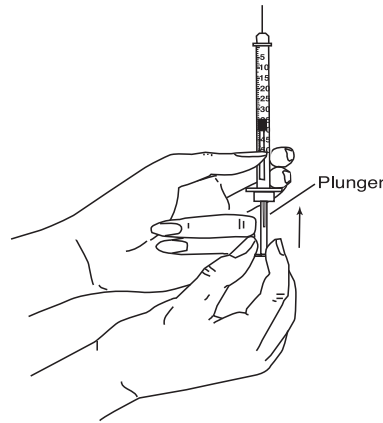
4. Roll the medicine bottle between your hands to mix it. Do not shake it because it could make too many bubbles.



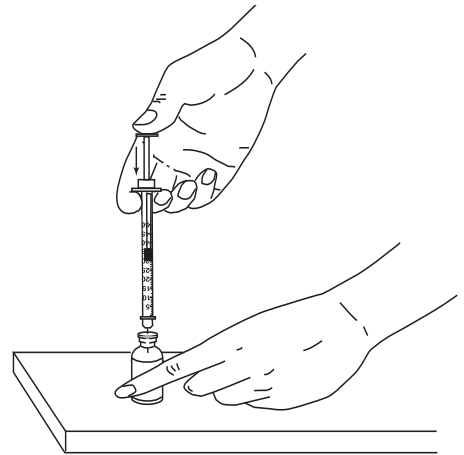
5. Clean the top of the medicine bottle with an alcohol pad. Rub the top with the alcohol pad for 10 to 15 seconds and let it air dry.



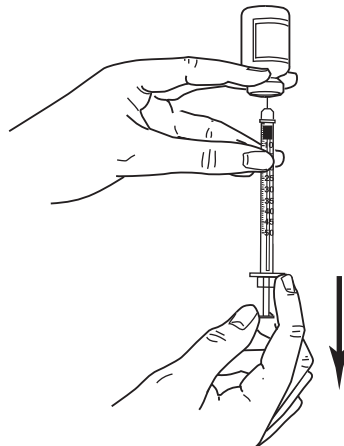
6. Pick up the syringe. Pull back on the plunger and draw air into the syringe equal to the amount of medicine needed.



7. Take off the needle cover or cap. Put the needle into the middle of the top of the medicine bottle. Push down on the plunger to inject the air into the bottle. This will make it easier to get the medicine out of the bottle.

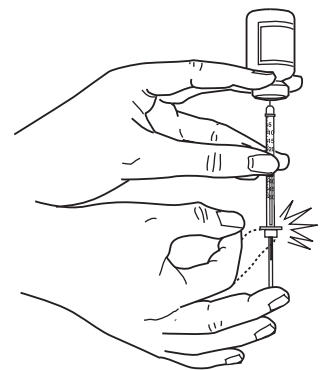


8. With the needle still in the bottle, carefully turn the bottle upside down, so the bottle is on top and the syringe is down in your hand. Support the needle so it does not bend.



9. With the needle in the medicine, pull back on the plunger to the amount ordered.

10. Check for any bubbles in the syringe. Tap the barrel of the syringe to move any bubbles toward the needle. Push the plunger to push the air bubbles out of the syringe. You want to have the bubbles out to be sure you get the full dose of your medicine. Adjust the plunger to draw up more medicine if needed.



11. Remove the needle from the bottle and set the medicine bottle down.
12. The syringe is ready for you to give the injection. If you are not going to give the injection right away, carefully replace the needle cover and set the syringe down.

You Are Still a Sexual Person

After a spinal cord injury (SCI), you may have a loss of movement, sense of touch, and sexual reflexes. How this loss affects arousal, orgasm, and fertility depends on your level of injury and whether your injury is complete or incomplete. You may need to change how you engage in sexual activity, but there are many options.

Everyone expresses their sexuality in different ways, and it is more than just having sexual intercourse. It also includes talking, fantasizing, touching, kissing, holding hands, and more.

You may not have a desire to be sexual at first, but this will likely improve over time as you heal, learn about your body, and explore how you can still be a sexual person.

How SCI can affect sexual function

Getting Aroused

People without SCI are usually aroused through 2 pathways:

- Reflex pathway: Arousal that occurs in response to sensual touching.
- Psychogenic pathway: Arousal that occurs from psychological sexual sensations, such as sexual thoughts, sights, smells, or sounds that turn you on sexually.

One or both of your pathways for arousal may be blocked.

Most people with SCI can be aroused by sensual touching. Try stimulating your body in sexual ways to find out if you become aroused. The more sensation you have in the area between your belly button and upper outer thigh, the more likely you are to be aroused in your genitals by sexual thoughts, sights, smells, or sounds.

If you have complete paralysis, you can explore other ways to be intimate and feel sexual, such as fantasizing with your partner. Talking and practicing are key to sexual enjoyment.

If You Have Problems Getting Aroused

Talk to your doctor. Changing your medicines may help with the problem. Medicines used for spasticity, pain, and depression can contribute to this. Other actions that might help include:

- Women — Having your partner perform oral sex may help increase vaginal lubrication enough for penetration. Using a water-based lubricant is another option.
- Men — Most men can get an erection with sensual touching after you take a medicine, such as sildenafil, tadalafil, or vardenafil. Other options include: using a constricting ring, vacuum suction device, injection of medications into the penis, or an implanted penile prosthesis.



Fear of being unattractive

Share your fears, wants, and needs with your partner. Your partner can help by being more open and expressive. Even though some things have changed, you are still loved and desired. You are more likely to feel desirable and want to express your sexuality if you understand your body and feel comfortable with yourself and your identity.

Having children after SCI

After SCI, you can decide to have children in much the same way as anyone else. You consider the demands and challenges of parenting and how you might manage them. Here are other facts to consider when deciding whether or not you want to have children:

- Men and women of all levels of injury have had children after their injury. You can too if you choose. The positive aspects of parenting usually outweigh the difficulties.
- You need to practice safe sex if you want to prevent pregnancy.
 - Condoms are considered the best choice for both men and women with SCI.
 - Talk to your doctor if you are interested in birth control options other than condoms. Intrauterine devices (IUD) and diaphragms are generally not ideal if you have problems with sensation and insertion. The pill is not usually recommended because it increases your risk for developing a blood clot (deep vein thrombosis).
- Some men with SCI can get their partners pregnant through sexual intercourse, but many men cannot. Urologists who are experienced in SCI can offer treatment options.

Adjusting to change

It can take time to understand how your body works and manage problem issues. Take the time to figure out what each of you finds pleasing and exciting. What you did before your injury may work for you. If not, you and your partner can explore new ways to find sexual satisfaction.

- Have fun. Using humor and being playful are keys to having a more pleasurable experience.
- Communicate your needs to each other. Talking about sex can be difficult, so you will want to communicate in a way that is comfortable for you and your partner. Try writing to each other.
- Couples often need time to get comfortable with each other. You will likely experience a few setbacks. Don't give up too soon. Keep talking and be flexible as you learn to manage these.
- Talk to your health care team about any problems you have. There are things to help, including medical devices that can help with having orgasms.
- If your romantic partner is also your caregiver, do what you can to keep the roles separate. Talking to a counselor, psychologist, social worker, or sex therapist may help you as an individual or couple to work through problems and find solutions. Here are some ideas:
 - Be as independent as possible. Learn to do as much as you can with your self care.
 - Have set times when caregiving tasks are needed and set other times, like a date night, when there is romance without caregiving.
 - Hire a personal care attendant (PCA) to take on some caregiving tasks if you can. You may qualify for programs that can help if you cannot pay for one.

Portions of this document were adapted from materials produced by the SCI Model Systems.

Feelings About Your Injury

Dealing with life after a spinal cord injury involves adjusting as you or a loved one learns to deal with the changes in your lives.

You may have feelings of shock, denial, anger, grief, and sadness.

These feelings usually do not last, but knowing about them can help you cope better and identify when there is a more serious problem.

Talk to your health care team, family, and friends about your feelings. Your health care team can also connect you to resources and support.



Grief

Grief is a natural reaction to any change and or loss in your life. Grief is a painful experience, but it is a healthy reaction. People who are grieving often have feelings of:

- **Shock and denial** – At first you may feel numb and pretend your injury did not happen.
- **Anger** – You may feel angry, especially if your injury seems unfair.
- **Guilt** – You may blame yourself for something you did or did not do related to the cause of your injury.
- **Loneliness** – Adjusting to these changes may make you feel alone and afraid.
- **Acceptance** – You may be able to look forward to the future again.

Adjusting takes time and healing happens slowly. You may have a wide range of emotions as you have setbacks, new challenges, and successes. There is no “normal” timetable for grieving. Some people start to feel better in weeks or months. For others, it may take years.

- Be patient with yourself and let the process happen.
- Seek help when you need it.

Depression

When emotions of sadness, anger, and grief last longer, they may change into depression.

Depression is a common emotional reaction to spinal cord injury, but it can hamper your recovery and rehabilitation.

When a person is depressed, they have several signs nearly every day that last at least 2 weeks. Some of these, however, may be as a result of the injury.

Check if you or a loved one has had any of these signs for 2 weeks or more:

- Loss of interest and pleasure in activities you used to enjoy
- Feeling sad, blue, empty, or down in the dumps
- Crying more than usual
- Feeling slowed down or restless and unable to sit still
- Feeling worthless or guilty
- Feeling pessimistic or hopeless
- Feeling anxious or worried
- Changes in appetite or weight loss or weight gain
- Change in sleep patterns – being unable to sleep or sleeping too much
- Problems concentrating, thinking, remembering, or making decisions
- Withdrawing from people or events you normally enjoy
- Loss of energy or feeling tired all of the time
- Sexual problems

If you have any of these symptoms for more than 2 weeks, or if you have had thoughts of suicide or of trying to harm yourself or others, talk to your doctor.

Coping After a Spinal Cord Injury

Learning to cope with a spinal cord injury can be very difficult. It is common to have fear, stress, sadness, and confusion. Don't try to go through it alone. Talk about your feelings with people you feel close to and trust.

It is also normal to feel worried about how you will be in your relationships in the future as a spouse, parent, coworker, and other roles. Talk about these feelings and learn from what other people with spinal cord injury have done to adjust.

Tips to help you cope

- **Be kind to yourself.**
Pay attention to your health. Get plenty of rest, exercise, and eat a balanced diet. Do not use alcohol and other substances because they can add to your problems.
- **Take one day at a time.**
Do the best you can to get through each day. Have a schedule and try to do one important task each day. Try to eat a healthy diet and rest.
- **Learn about your injury.**
Understanding your injury and how to take care of yourself can lessen stress and prevent problems. Educate others to help them to support you and to lessen their fears.
- **Set goals.**
Start by listing some simple activities you want to do like writing letters or talking to friends. Later you can list future plans. Remember goals and plans can be changed.
- **Write in a journal.**
Write down your feelings about your losses. Write down things you are thankful for. You can also use your journal to track your progress. The more you recover, the better you will feel.
- **Do relaxation techniques.**
Relaxation techniques can help you to let go of the physical and emotional stress change causes in your life. Learn more about these on page 47.
- **Use leisure activities to find pleasure.**
Your therapist will work with you to identify the activities you enjoy and help you learn new skills.
- **Connect with others who have been through it.**
Your health care team can connect you to support groups. There are also communities of people who connect online to share experiences and support.
- **Be active.**
Being active can boost hormones that lower stress and create a sense of well being. Work with your therapist on how you can be active safely.



Where to get help

- **In the hospital**, talk with your nurse, doctor, psychologist, social worker, or therapist. They can provide or recommend help for you.
- **After discharge**, talk to your primary care doctor or social worker.
- **To make an appointment or get a referral**, call Ohio State Rehabilitation Psychology at 614-293-3830. They can give you information about available mental health services.
- **Counselors** : Your doctor, nurse, social worker, or hospital chaplain can provide counseling or help you find a counselor if you need one. Individual counseling, group therapy, or family counseling may be helpful.
- **Church, temple, mosque, or other place of worship**: These can be sources of fellowship and community. Many people find it helpful to talk with a spiritual leader about feelings of grief.
- **Social work organizations**: Social work organizations and local hospitals can help you find services and support groups in your area.
- **Mental health services**: Mental health organizations and centers may provide education and information about other available services.
 - Contact Mental Health America of Franklin County at 614-221-1441 or visit the website at www.mhafc.org for a resource directory and fact sheets.
 - Contact National Mental Health America at 1-800-969-6642 or visit the website at www.mentalhealthamerica.net for health information and help finding treatment and support groups.
- **Community resources**: Local organizations can help you find things like support groups.
 - LSS (Lutheran Social Services) 211 Central Ohio offers 24-hour referrals by calling 2-1-1, or visit the website at <https://lssnetworkofhope.org/211centralohio/>.
- **In an emergency**, call 911 or go to or call the Ohio State Emergency Department at 614-293-8333.

Help any time

If you have feelings of hurting yourself or others, get help right away. There are 24-hour hotlines that you can call any time.

- Free Crisis Hotline: 988
- Suicide Hotline: 614-221-5445
- Seniors Suicide Hotline: 614-294-3309
- Franklin County Youth Psychiatric Crisis Line: 614-294-3300
- Mental Health of America: 614-221-1441 (free counseling)
- Netcare Access Hotline: 614-276-CARE (614-276-2273)
- 24-hour crisis text hotline: Text the word “start” to 741-741 for crisis support (texting this number is free if you have Verizon, T-Mobile, AT&T, or Sprint)

Relaxation Techniques

Breathing exercises

1. Find a quiet room.
2. Turn on music that you find relaxing.
3. Get into a relaxing position, as much as possible.
4. Close your eyes and think of an image in your mind that will help you to relax, such as a calm, peaceful setting or a place you have enjoyed visiting.
5. Breathe in deeply. Hold your breath and tense your muscles. Keep them tense for a second or 2.
6. Relax your muscles as you breathe out.

Imagery exercises

Close your eyes and think of a time and place when you felt safe and comfortable. Imagine those surroundings, sights, smells, and sounds. Bring as much of that experience back to the here and now as possible. When you feel ready, take a deep breath and open your eyes.

Free guided imagery recordings at <https://wexnermedical.osu.edu/integrative-complementary-medicine/guided-imagery>

Aromatherapy

Aromatherapy is the use of essential oils from plants as therapy to improve your well-being. Some oils, such as lavender, are thought to produce a calming effect. They can be inhaled or diluted and put on to the skin. Dodd Rehabilitation Hospital has aromatherapy machines if you would like to try it.



Listening to music

Listen to your favorite music by itself or play music while using another relaxation technique. Look for new music, which you find soothing and helps you feel calm and relaxed, such as classical music or nature sounds. Also try guided meditation music.

Positive thinking

Thinking negative thoughts can affect your health, causing stress and muscle tension. Create some positive statements to replace negative self talk. Repeat these statements to yourself and use them to motivate you as you cope with changes. Some examples:

- I am doing the best that I can.
- I care for my well-being.
- I will try again.

With practice, positive thinking will help you to reduce stress as you learn to view yourself and your situation more positively.

Other resources

- Try books and mobile apps to support relaxation and stress reduction.
- Visit Integrative Health for free recordings: wexnermedical.osu.edu/integrative-health/resources.

Leisure as Part of Your Rehabilitation

As you recover from your injury or illness, talk to your health care team about your interests.

We will work with you to both build your skills and adjust the leisure activities you are interested in to fit your abilities.



What do you like to do?

I like to...

- | | |
|--|--|
| <input type="checkbox"/> do something meaningful | <input type="checkbox"/> laugh and enjoy |
| <input type="checkbox"/> be active | <input type="checkbox"/> make use of my skills |
| <input type="checkbox"/> feel commitment to something | <input type="checkbox"/> improve my skills |
| <input type="checkbox"/> be busy | <input type="checkbox"/> have something to show for my efforts |
| <input type="checkbox"/> do lots of different things | <input type="checkbox"/> get approval for what I do |
| <input type="checkbox"/> take it easy and relax | <input type="checkbox"/> be successful at what I do |
| <input type="checkbox"/> do something different from work and school | <input type="checkbox"/> have a feeling of personal worth |
| <input type="checkbox"/> be able to do what I want | <input type="checkbox"/> learn more about myself or a topic |
| <input type="checkbox"/> be spontaneous | <input type="checkbox"/> develop relationships with other people |
| <input type="checkbox"/> make and carry out plans | <input type="checkbox"/> be part of a group or team |
| <input type="checkbox"/> try my own methods of doing things | <input type="checkbox"/> meet new people |
| <input type="checkbox"/> compete with others | <input type="checkbox"/> develop friendships |
| <input type="checkbox"/> compete with myself to do better | <input type="checkbox"/> help others |
| | <input type="checkbox"/> be in attractive surroundings |

Leisure activities

Check the activities you enjoy or would like to try. Share this list with your health care team, family, and friends. Your community may have classes and programs available through libraries, park and recreation departments, senior centers, and fitness clubs.

Relaxation activities

- | | | |
|--|---|--|
| <input type="checkbox"/> House plants | <input type="checkbox"/> Listening to music | <input type="checkbox"/> Video games |
| <input type="checkbox"/> Computer / Internet | <input type="checkbox"/> Meditating | <input type="checkbox"/> Word search games |
| <input type="checkbox"/> Crossword puzzles | <input type="checkbox"/> Movies | <input type="checkbox"/> Writing |
| <input type="checkbox"/> Jigsaw puzzles | <input type="checkbox"/> Pet care | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Library | <input type="checkbox"/> Reading books | <input type="checkbox"/> _____ |

Creative activities

- | | | |
|---|--|---|
| <input type="checkbox"/> Acting | <input type="checkbox"/> Drawing | <input type="checkbox"/> Play musical instruments |
| <input type="checkbox"/> Art shows | <input type="checkbox"/> Flower arranging | <input type="checkbox"/> Pottery or ceramics |
| <input type="checkbox"/> Baking or cooking | <input type="checkbox"/> Home repair and improvement | <input type="checkbox"/> Quilting |
| <input type="checkbox"/> Ballet | <input type="checkbox"/> Jewelry making | <input type="checkbox"/> Making Scrapbooking |
| <input type="checkbox"/> Broadway plays | <input type="checkbox"/> Knitting | <input type="checkbox"/> Sewing |
| <input type="checkbox"/> Canning food | <input type="checkbox"/> Museums | <input type="checkbox"/> Singing |
| <input type="checkbox"/> Church activities | <input type="checkbox"/> Needlepoint | <input type="checkbox"/> Woodworking |
| <input type="checkbox"/> Collectibles | <input type="checkbox"/> Opera | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Community activities | <input type="checkbox"/> Painting | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Concerts | <input type="checkbox"/> Photography | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Crocheting | | |

Social activities

- | | | |
|---|--|---|
| <input type="checkbox"/> Bingo | <input type="checkbox"/> Darts | <input type="checkbox"/> Shopping |
| <input type="checkbox"/> Board Games | <input type="checkbox"/> Dominoes | <input type="checkbox"/> Socializing with friends |
| <input type="checkbox"/> Card games | <input type="checkbox"/> Eating out | <input type="checkbox"/> Traveling |
| <input type="checkbox"/> Checkers or chess | <input type="checkbox"/> Going to parties | <input type="checkbox"/> Volunteer work |
| <input type="checkbox"/> Clubs / organizations | <input type="checkbox"/> Politics | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Cornhole / bean bag toss | <input type="checkbox"/> Pool, billiards, or snooker | <input type="checkbox"/> _____ |

Physical activities

- | | | |
|---|---|---|
| <input type="checkbox"/> Aerobics | <input type="checkbox"/> Hockey | <input type="checkbox"/> Tennis |
| <input type="checkbox"/> Badminton | <input type="checkbox"/> Ice skating | <input type="checkbox"/> Volleyball |
| <input type="checkbox"/> Basketball | <input type="checkbox"/> Jogging or running | <input type="checkbox"/> Walking |
| <input type="checkbox"/> Bicycling or spinning | <input type="checkbox"/> Judo or other self defense | <input type="checkbox"/> Weight lifting |
| <input type="checkbox"/> Bocce | <input type="checkbox"/> Shuffleboard | <input type="checkbox"/> Yoga |
| <input type="checkbox"/> Bowling | <input type="checkbox"/> Skiing | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Football | <input type="checkbox"/> Soccer | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Frisbee | <input type="checkbox"/> Softball or baseball | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Golf | <input type="checkbox"/> Swimming | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Handball, racquetball, or squash | <input type="checkbox"/> Table tennis | <input type="checkbox"/> _____ |

Outdoor activities

- | | |
|---|---|
| <input type="checkbox"/> Auto repair | <input type="checkbox"/> Miniature golf |
| <input type="checkbox"/> Bird watching | <input type="checkbox"/> Roller blading |
| <input type="checkbox"/> Boating | <input type="checkbox"/> Sailing |
| <input type="checkbox"/> Camping | <input type="checkbox"/> Yard work |
| <input type="checkbox"/> Canoeing | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Fishing | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Gardening | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Hiking | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Horseback riding | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Horseshoes | |



Aging Well with Spinal Cord Injury

The natural process of aging can be more difficult for someone with a spinal cord injury (SCI). The common health problems seen as we age, such as heart disease, can happen earlier and be more dangerous. There are steps you can take to help lessen problems you may face as you age.

Heart health

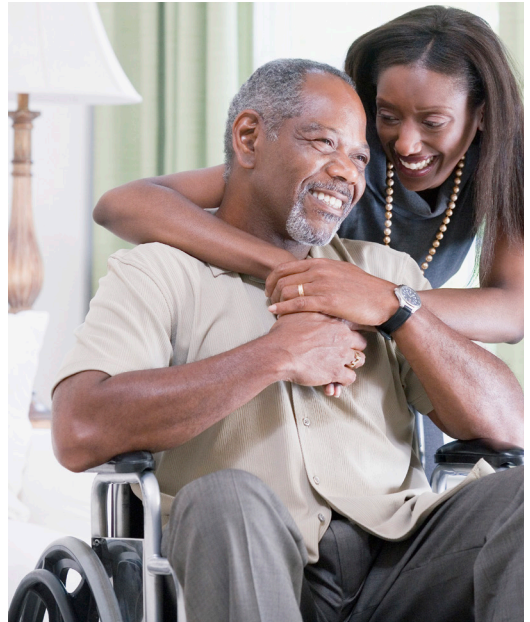
Heart disease is a leading cause of death for people in general, but SCI can worsen other risk factors, including:

- Obesity
- Diabetes and insulin resistance, meaning your cells do not use glucose properly
- High cholesterol
- High blood pressure

You can help lower your heart disease risk by:

- Keeping your weight down
- Changing your diet to decrease sugars and simple carbohydrates, fat, and cholesterol
- Staying active by finding ways to increase the total activity in your day

Talk with your doctor about whether or not you need medicines to maintain heart health.



Bladder and bowel health

Urinary tract infections (UTIs) are more common as people age with SCI. If not treated, a UTI can spread to the kidney, causing serious illness. Details about UTIs are on page 20. There is also a greater risk of bladder stones. The stones can block the tubes that carry urine from the kidneys to the bladder and cause urine to back up into the kidneys, which is a serious condition. Steps to maintain a healthy urinary system:

- Get a yearly check of your kidneys and urinary system
- Watch for signs of UTI and get treatment right away

You may have more challenges with your bowel care over time. Take steps to help keep your bowels healthy:

- Drink enough fluids to keep stools soft
- Eat enough fiber to have well formed stools
- Stay on schedule to empty your bowel and empty it fully
- Work with your doctor to adjust your bowel care plan as needed

Respiratory health

People are more at risk of respiratory problems from infections, such as flu and pneumonia, as they age. Someone with SCI can have an even higher risk of respiratory infections due to a weakened respiratory system and an inability to cough deeply enough to clear the lungs. Sleep apnea may also develop where you have pauses in breathing while sleeping that interrupt sleep and may even cause you to stop breathing. Read more on respiratory health on pages 30 to 35.

Steps for good respiratory health include:

- If you smoke, stop smoking
- Get a flu shot every year
- Get vaccinated against pneumonia
- Stay active and keep your weight down
- Take deep breaths to keep the chest expanded
- If you have sleep apnea, get it treated

Ability to move

Many people naturally have less ability to move around, or mobility, as they age. Issues such as arthritis, injury, being overweight, and years of wear and tear on the body are factors. For people with SCI, who have put added strain on their shoulders from years of moving in a wheelchair, they may feel these pains much earlier.

Take these steps to protect your mobility and your shoulders as you age:

- Keep your shoulders strong
- Make sure you are moving your wheelchair safely and efficiently
- Transition to a power chair before you begin feeling pain, but stay active
- Keep your weight down
- Avoid sleeping on your shoulder
- Stretch your front shoulder muscles and strengthen your back shoulder muscles
- Sit upright with your shoulders pulled back

Used with permission from the Northwest Regional Spinal Cord Injury System, Department of Rehabilitation Medicine, University of Washington, Seattle, WA; <http://sci.washington.edu>, 2017.

Planning for Discharge

from Dodd Rehabilitation Hospital

Your case manager and social worker will work with you and your family to prepare you for discharge from Dodd Rehabilitation Hospital. Your care needs will be reviewed by your health care team. They will make recommendations on your length of stay and your date for discharge. **You and your family are the most important members of the team. Talk honestly with staff about your care needs.**

Things to consider

- **Family and caregivers are required to take part in training** to learn the skills needed to provide care at home. Therapists provide training weekdays between 9 AM and 3 PM. Training by the nurses may be done in the evenings. Training can also be scheduled by appointment.
- **Most patients need ongoing therapy, care, and support.** Your case manager and social worker will help you to explore insurance coverage for needed services. There is a lot of variation in what insurance will and will not cover. Family members may need to provide 24 hour supervision.

Service options

Depending on your care needs and whether family and friends are available to help, these options may be considered:

- **Home with outpatient therapy:** Therapy appointments outside of the home, often 2 or 3 times each week.
- **Home with home health care:** Home visits by a therapist or nurse, often 1 to 3 times each week. Most insurance providers do not cover the cost of home health aides to help with personal care activities, such as bathing and grooming.
- **Skilled nursing facility:** If more services and special therapies are needed, a stay in a nursing facility may be recommended.

Most services may require a co-payment. Talk to your insurance provider for details. Your case manager and social worker will help you find services and advocate for you to get the care you need.

Medical equipment needs

Your case manager will help you to order the equipment needed for care. Insurance providers vary as to whether they'll cover the cost of bathing equipment, commodes, raised toilet seats, and a hospital bed. Often, they will cover either a wheelchair or walker, but not both.

Contact us

Please call your case manager or social worker if you have questions or concerns about your plans for discharge:

- **Case Manager at 614-366-1829**
- **Social Worker at 614-293-7209**

Support Programs and Resources

Support programs

Spinal Cord Injury Support Group

Please join our support group with patients who have had spinal cord injuries and their families. Meetings are first Thursday of each month at 4 PM. Groups are led by a spinal cord support leader. Call for more information at 614-293-7209 or 614-408-0085.

Spinal Cord Peer to Peer Program

Patients can visit or talk by phone with someone who will share their experiences and insights about adjusting to life after a spinal cord injury. Ask your team for a referral while you are at Dodd Rehabilitation Hospital. You can also contact the Christopher Reeve Foundation for referrals.

Area resources

Links to many resources in central Ohio. Listed below are some helpful resources as you return home. While they may be listed under one area, some provide services in many areas.

Home Health Services

Columbus Public Health

614-645-7417 or columbus.gov/publichealth

Offers many services including education, health and wellness, child health services, dental, and vision care for adults, and food services.

LifeCare Alliance

614-278-3130 or lifecarealliance.org

Provides home delivered meals to qualifying central Ohio residents, visiting nurses, nurse practitioners, dietitians, wellness center, senior centers, homemakers, and home health aides.

Housing

Creative Living

614-421-1226 or creative-living.org

Helps adults with severe physical disabilities live independently. It is a non-profit agency. Provides wheelchair accessible housing. Call or go to their website for information about facilities, residents, and programs.

Columbus Metropolitan Housing Authority

614-421-6091 or cmhanet.com

Helps people find affordable housing. Call or go to their website for more information.

Advocacy

United Spinal Association

718-803-3782 or unitedspinal.org

Offers its members many services including counseling, social services, sports and recreational opportunities, wheelchair and assistive technology consultation, veterans' services, peer coaching, health care and service information, self-advocacy coaching, and discounts on devices.

Legal Assistance

Columbus Bar Association

614-221-0754 or cbalaw.org

Provides free lawyer referrals. Call 8:30 AM to 5:00 PM weekdays and the operator will help match a lawyer to your need. Call or go to their website for more information.

Disability Rights Ohio

1-800-282-9181 or disabilityrightsohio.org

Protects and advocates for the rights of people with disabilities who live in Ohio. Provides help to people with disabilities who have been abused or neglected, denied services, or access to public facilities.

Legal Aid Society of Columbus

614-224-8374 or **614-241-2001** or columbuslegalaid.org

Provides legal support in civil cases for people with low income who cannot afford to hire an attorney. If you meet resource and income limits, there is no charge for services. You may need to pay for some court costs. Call for advice on housing problems, domestic violence, and other legal issues. They do not do criminal cases.

Return to Work or School

Columbus City Schools – Special Needs Education: Orthopedically Impaired

614-365-6001 or ccsoh.us/Page/1220

Learn the skills that will lead to an independent adult life. This includes skills in academic areas, functional daily living skills, pre-vocational and vocational skills, and job opportunities.

Columbus Urban League

614-221-0544 or cul.org

Offers programs including career services, education, and housing services.

Occupational Therapy Driver Rehabilitation Program

wexnermedical.osu.edu/physical-therapy-rehabilitation/rehabilitation-driving

Supports safe driving through vehicle adaptation and skills development.

Opportunities for Ohioans with Disabilities (OOD)

1-800-282-4536 or **614-438-1200** or ood.ohio.gov

Works with partners in business, education, and non-profit organizations to help Ohioans with disabilities to have quality employment and gain independence.

The Ohio State University, Office for Disability Services

614-292-3307 or ods.osu.edu

Offers a variety of services for students with disabilities. Services include exam accommodations, specialized adaptive equipment and technical training assistance, counseling, and advocacy.

Financial Assistance

Franklin County Department of Job and Family Services

614-462-4000 or franklincountyohio.gov/commissioners/jafs

Provides career and support services, and assists with signing up for programs, such as Medicaid and food assistance.

Medicare

800-633-4227, TTY/TDD 1-877-486-2048 or [medicare.gov](https://www.medicare.gov)

Provides health insurance to people aged 65 or older, people under the age of 65 with certain disabilities, and people with permanent kidney failure.

NeedyMeds

800-503-6897 or [needymeds.org](https://www.needymeds.org)

Provides information about discounted medicines or pharmacy assistance.

Ohio Best Rx Program

1-866-923-7879 or [ohiobestrxprogram.org](https://www.ohiobestrxprogram.org)

Helps low income, uninsured Ohio residents get free or discounted brand name medicines. Call or go to their website to determine your eligibility. If eligible, you will need to have your doctor approve and sign an application form, which you will then mail directly to the drug manufacturer.

Ohio State University Wexner Medical Center Financial Counseling

614-293-0860 or [wexnermedical.osu.edu](https://www.wexnermedical.osu.edu)

Provides help with completing applications for government sponsored programs, explains other assistance programs, or helps create a payment plan for medical treatment if you meet criteria.

Social Security – Local office

614-469-6855 1-800-772-1213, TTY 1-800-325-0778 or [ssa.gov](https://www.ssa.gov)

Provides financial assistance to people with disabilities with the Social Security Disability Insurance (SSDI) program and the Supplemental Security Income (SSI) program. Those with spinal cord injury can receive benefits from Social Security, SSI, and SSDI. Apply by calling or applying online as soon as you become disabled.

Drug/Alcohol Counseling Services

24 Hour Hotline

614-228-HOPE or 614-228-4673

Alcoholics Anonymous

614-253-8501 or [aa.org](https://www.aa.org)

Hours of operation are 8:30 AM to 8:00 PM, Monday through Friday and 8:30 AM to 1:00 PM Saturday. Call or go to their website for more information.

Integrated Services for Behavioral Health

614-869-0054 or [isbh.org](https://www.isbh.org)

Provides mental health and substance abuse counseling services. There is a sliding fee scale. They accept Medicaid and Medicare.

House of Hope for Alcoholics, Inc.

614-291-4691 or [hofhope.org](https://www.hofhope.org)

- Alcohol and drug abuse treatment services.
- Adult residential and outpatient programs. Call 614-276-4840.

Maryhaven

614-445-8131 or [maryhaven.com](https://www.maryhaven.com)

Provides drug and alcohol rehabilitation regardless of ability to pay. Provides programs across cultures, ages, and severity of addiction. Call or go to their website for more information.

Nicotine Anonymous

614-487-9025 or nicotine-anonymous.org

- Provides a program built off of Alcoholics Anonymous (12 steps).
- Provides meetings via telephone if you are unable to or if it is difficult to leave your home. Call to get the phone schedule and conference codes.
- Nicotine Anonymous World Services' toll free phone number is 1-877-879-6422.

Mental Health and Addiction Services Department

614-466-2596 or mha.ohio.gov

Call the number listed to learn about treatment options. Have the administrative assistant direct you to the appropriate party for your concerns. They should be able to mail you a list of service options in Columbus or elsewhere.

Parkside Behavioral Health Care

614-471-1601 or thewoodsatparkside.com

Provides alcoholism and drug addiction services. Call for more information.

Other Counseling Services

Catholic Social Services

614-221-5891 or colscss.org

Offers counseling, parenting services, and parenting counseling. Offers career development counseling specifically for the Hispanic community. Offers social worker consults for the elderly for housing, medical appointments, insurance, transportation, and other health care needs. Provides homemaker and transportation services for seniors. Provides bill payment assistance for seniors and individuals with disabilities.

North Central Mental Health Services

614-299-6600 or ncmhs.org

Provides mental health and recovery services. Offers an outpatient clinic for mental health and chemical dependence. Provides psychiatry consults. NCMHS Hotlines:

- Suicide Prevention Hotline: 614-221-5445
- Teen Hotline: 614-294-3300
- Senior Hotline: 614-294-3309

Syntero

syntero.org

Offers a comprehensive range of behavioral health care services to meet the needs of you and your family at 4 locations in central Ohio. Accepts a number of payer sources including private insurance, Medicaid, Medicare, self-pay, and a sliding fee scale for uninsured Franklin, Delaware, and Morrow County residents.

Ohio State Rehabilitation Psychology

614-293-3830

wexnermedical.osu.edu/physical-therapy-rehabilitation/rehabilitation-psychology

Rehabilitation Psychology focuses on behavioral and psychological treatment for patients and families coping with chronic illness, chronic pain, and injury. Our specialists treat adults with disabilities related to physical, sensory, cognitive, and emotional functioning.

Resource directories and coordinating agencies

Action for Children

614-224-0222 or actionforchildren.org

Helps individuals find local child care agencies. This is a free service. Call to request written materials or to make an appointment. You can also go to their website for more information.

Lutheran Social Services (formerly HandsOn Central Ohio)

Call 2-1-1 or visit lssnetworkofhope.org/211centralohio

Reach thousands of social service, government, and community resources in Franklin County to address any problem you may be facing or to be connected to volunteer opportunities.

Netcare Access

614-274-9500 or **614-276-2273 (crisis hotline)** or netcareaccess.org

Connects people to mental health, crisis intervention, and substance abuse services. Serves anyone regardless of income. Located at 199 S. Central Ave. and 741 E. Broad St., Columbus, Ohio.

Ohio Department of Job and Family Services

1-800-852-0010 or **614-466-2100** or jfs.ohio.gov

Assists people by connecting them with agencies like many of the ones in this directory. They help connect to employment, child care, medical services, financial and legal services, and housing.

Veterans Administration

1-877-222-8387 or **1-800-273-TALK (Suicide Hotline)** or va.gov

Assists veterans with issues on education, health care, insurance, burials, housing, etc. Helps locate local VA sites. Call or go to their website for more information.

Helpful websites

Adaptive Driving Alliance – www.adamobility.com

Nationwide group of wheelchair accessible vehicle dealers, provides information on ADA, purchasing, and financing for adaptive driving.

Christopher and Dana Reeve Foundation – christopherreeve.org

Information for people living with spinal cord injury and for their caregivers, including paralysis, research, news, and advocacy.

Spinal Cord Injury Model Systems – msktc.org/sci

Consumer factsheets on spinal cord injury topics are created through a collaboration between the MSKTC and the SCI Model System. The Ohio State University Wexner Medical Center is designated as a Model System for spinal cord injury.

United Spinal Association – Spinal Cord Resource Center – spinalcord.org

Keeps people updated with the latest news in spinal cord injuries, including helpful links to resources such as peer mentors and support groups.

Bladder Function Record – Day 1

Patient's Name: _____

Date: _____

For another copy of this record or for a digital copy, go to go.osu.edu/pted1634.

1. Time	2. Result C - Continent I - Incontinent R - Retention I/C - Wet but able to urinate	3. Amount Amount of urine (ml) -or- small, medium, or large spot	4. Scan Amount from scan (ml)	5. If Wet If wet, what were you doing?	6. Urge or No Did you feel an urge or no urge?	7. Self or Other Did you go or did someone prompt you to go?	8. Fluids Amount (ml) and type of fluids you had
12 AM							
1 AM							
2 AM							
3 AM							
4 AM							
5 AM							
6 AM							
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10 PM							
11 PM							

Bladder Function Record – Day 2

Patient's Name: _____

Date: _____

1. Time	2. Result C - Continent I - Incontinent R - Retention I/C - Wet but able to urinate	3. Amount Amount of urine (ml) -or- small, medium, or large spot	4. Scan Amount from scan (ml)	5. If Wet If wet, what were you doing?	6. Urge or No Did you feel an urge or no urge?	7. Self or Other Did you go or did someone prompt you to go?	8. Fluids Amount (ml) and type of fluids you had
12 AM							
1 AM							
2 AM							
3 AM							
4 AM							
5 AM							
6 AM							
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8 PM							
9 PM							
10 PM							
11 PM							

Bladder Function Record – Day 3

Patient's Name: _____

Date: _____

1. Time	2. Result C - Continent I - Incontinent R - Retention I/C - Wet but able to urinate	3. Amount Amount of urine (ml) -or- small, medium, or large spot	4. Scan Amount from scan (ml)	5. If Wet If wet, what were you doing?	6. Urge or No Did you feel an urge or no urge?	7. Self or Other Did you go or did someone prompt you to go?	8. Fluids Amount (ml) and type of fluids you had
12 AM							
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11 PM							

Orthostatic Blood Pressure and Pulse Record

[illegible]

Monthly Medicine Record

Name: _____ Month: _____

Mark each box as you take your medicine. For another copy of this record or for a digital copy, go to go.osu.edu/pted1377.

[illegible]

Medical Emergency: Autonomic Dysreflexia Card

Autonomic Dysreflexia (AD) is an emergency and can be fatal if you have a spinal cord injury at or above T6.

Take a picture of this page with your phone to keep with you.

Common causes:

- Full bladder
- Bladder infection
- Full bowel (constipation)
- Pressure sore
- Tight clothing or shoes
- Ingrown toenails
- Anything painful
- Genital stimulation

Watch for 1 or more signs:

- Sudden sharp rise in blood pressure
- Pounding headache
- Flushing
- Sweating
- Slow pulse rate
- Chills
- Goose bumps
- Stuffy nose
- Anxious feeling

What to do:

- Sit up.
- Find source of irritation:
 - Remove tight clothing.
 - Catheterize: put lidocaine gel in urethra, wait 5 minutes, then catheterize.
 - Check stool: insert generous amount of lidocaine gel into rectum, wait 5 minutes, then check for stool. If stool is there, gently do bowel program.
 - Check for ingrown toenails, pressure sores, or skin breaks.
- Take medicine ordered by doctor.
- **Call doctor or go to ER right away.**

Medical History

Baseline blood pressure: _____

Baseline body temp: _____

Location of injury: _____

Primary health care provider:

Provider phone number:

Allergies:

Emergency Contact

In case of emergency, call:

Relationship:

Phone number:

If cannot reach first contact, call:

Relationship:

Phone number:



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER

wexnermedical.osu.edu