

# Do not take NSAIDs

for one week before and two weeks after surgery.

Fusion patients must **not take NSAIDs** for **six months after surgery.**

**No NSAIDs**



**No NSAIDs**



**Nonsteroidal  
anti-inflammatory  
drugs include:**

Advil  
Aleve  
Aspirin  
Celebrex  
Diclofenac  
Ibuprofen  
Meloxicam  
Motrin  
Naproxen  
And any other NSAID

**These medications cause bleeding, which may be life-threatening and lead to severe nerve injury, resulting in additional surgery.**

# Lumbar Spine Surgery Patient Guide

This Lumbar Surgery Patient Guide represents the cooperative efforts of many individuals who are involved in your medical care during your stay with us. It contains a wealth of information about spinal diagnoses, surgeries, anesthesia, hospital stay, rehabilitation and recovery.

The medical staff, nursing and hospital staff are very dedicated individuals working in our community and committed to making sure your spinal surgery is successful and without complication.

Our team thanks you for the trust you have extended by choosing us for your medical care.

## The purpose of this manual

Training, education, continuity of care and a preplanned discharge are needed for best results in spine surgery. Communication is key for this process to be successful. This manual is a communication tool for patients, physicians, nurses and physical and occupational therapists. It is designed to educate you so that you know:

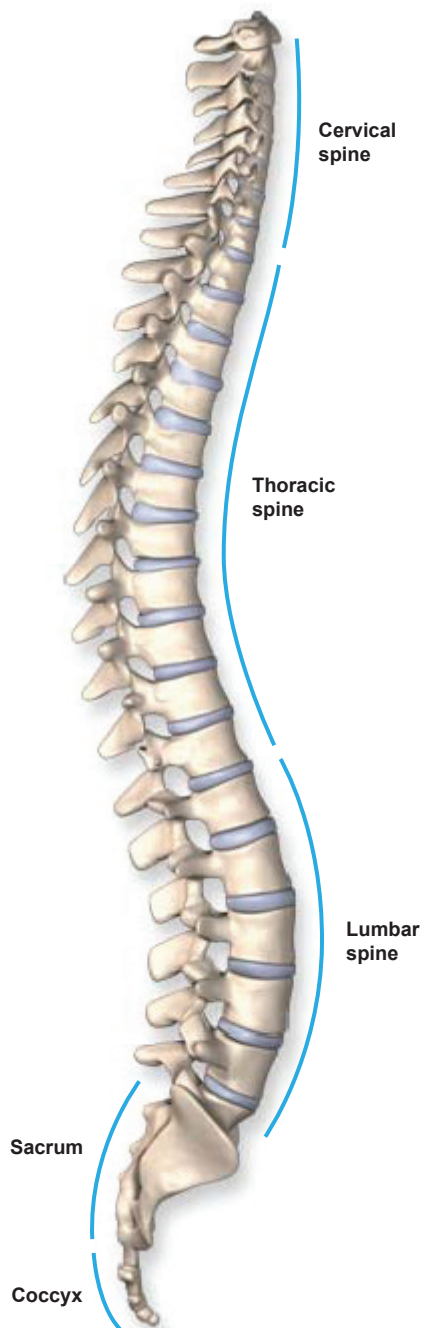
- What to expect every step of the way.
- What you need to do before and after surgery.
- How to care for your back for life.

**Remember, this is just a guide.** Your doctor, nurse or therapist may add to or change many of the suggestions. Always use their recommendations first. Ask questions if you are unsure of any information. Keep your manual as a handy guide for at least the first year after your surgery.

# Anatomy of the spine

## Overview

The spinal column is the body's main support structure. Its 33 bones, called vertebrae, are divided into five regions: cervical, thoracic, lumbar, sacral and coccygeal.



## Cervical region

The cervical region consists of seven vertebrae labeled C1 to C7. The first cervical vertebra is called the atlas. The second is called the axis. Together, the atlas and axis form the joint that connects the spine to the skull and allows the head to swivel and nod.

## Thoracic region

The thoracic region, located in the midback, consists of 12 vertebrae labeled T1 to T12. These vertebrae serve as attachment points for the ribcage.

## Lumbar region

The lumbar region, commonly called the lower back, consists of five vertebrae labeled L1 to L5. This is the main weight-bearing section of the spinal column.

## Sacral region

The sacral region consists of five fused vertebrae labeled S1 to S5. These vertebrae form a solid mass of bone, called the sacrum, which provides the attachment point for the pelvis.

## Coccygeal region

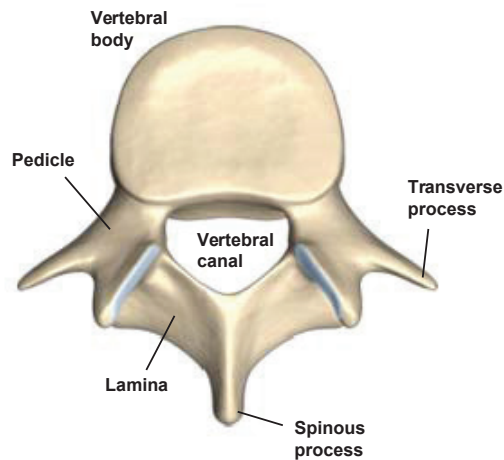
The coccygeal region, commonly called the tailbone, consists of four small vertebrae. These tiny bones may be fused or separate. Together they form the coccyx, an attachment point for various muscles, tendons and ligaments. The coccyx also helps support the body when a person is sitting.

## Vertebrae

All together, the vertebrae of the spine's five regions support the weight of the body and protect the spinal cord and nerve roots. Each individual vertebra has a complex set of structures necessary to the overall function of the spine.

## Vertebral body

The main structure of a vertebra is the vertebral body – a cylinder-shaped section of bone at the front of the vertebra. It is the main weight-bearing section of the vertebra.



## Vertebral canal

Behind the vertebral body is the vertebral canal. The spinal cord travels through this channel.

## Spinal cord

The spinal cord is the main bundle of nerve fibers connecting the brain to the rest of the body. The spinal cord ends near the L1 and L2 vertebrae, where it divides into bundles of nerve roots called the cauda equina.

## Nerve roots

Exiting the sides of the spine are nerve roots, thick nerve branches that transmit signals between the spinal cord and the other parts of the body.

## Pedicles

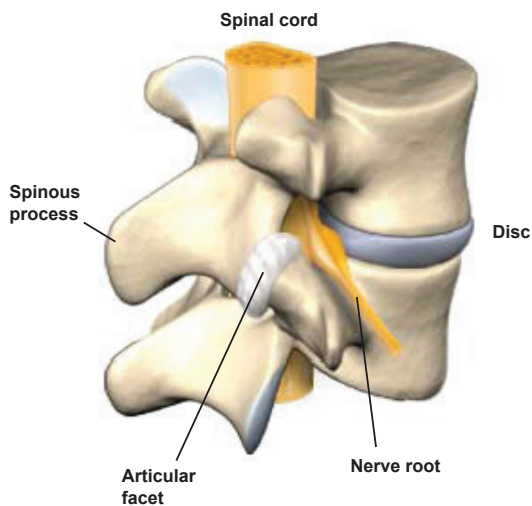
On either side of the vertebral canal are pedicle bones, which connect the vertebral body to the lamina.

## Laminae

The laminae create the outer wall of the vertebral canal, covering and protecting the spinal cord.

## Spinous process

Protruding from the back of each lamina is the spinous process. It provides an attachment point for muscles and ligaments that move and stabilize the vertebrae.



## Transverse processes

Transverse processes protrude from the sides of each vertebra. Muscles and ligaments that move and stabilize the vertebrae attach to the transverse processes.

## Articular facets

The articular facets form the joints where each vertebra connects with the vertebrae above and below it. Each vertebra has four facets (two superior facets and two inferior facets). The facet joints have a covering of cartilage, which allows movement.

## Intervertebral discs

Between the vertebral bodies are the tough, elastic spinal discs. They provide a flexible cushion, allowing the vertebrae to bend and twist. Each disc has a tough outer wall called the annulus fibrosus and a soft interior called the nucleus pulposus.

## Facet joints

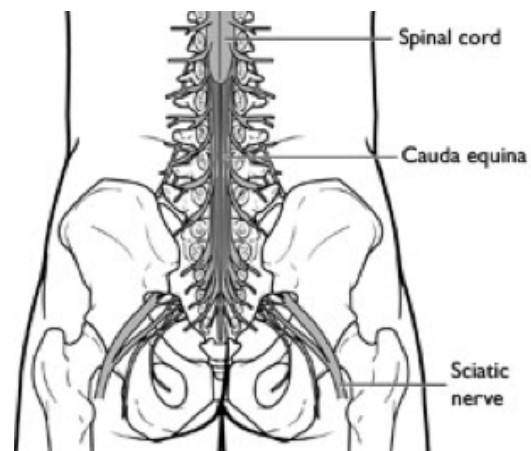
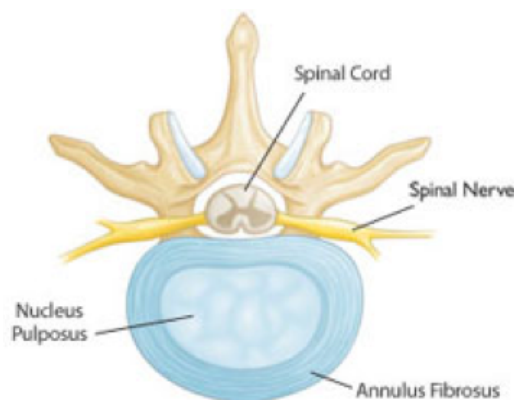
Facet joints provide a connection with adjacent vertebrae to bring stability to the spine. Four facet joints are associated with each vertebra: a pair that faces upward and another pair that faces downward. These facet joints have a cartilage surface, similar to a hip or knee joint. Just as with larger hip or knee joints, the facet joints can develop arthritis and become a source for low back or neck pain. The vertebrae are separated by intervertebral discs that act as cushions between the bones. They are flat, round and about a half-inch thick. Each disc is made up of two components:

## Nucleus pulposus

This is the center of the disc and is jelly-like in texture. The nucleus pulposus is partly made of water and gives the disc flexibility and strength. It essentially acts as the shock absorber for the spine.

## Annulus fibrosis

This is the flexible outer ring of the disc and is made of several layers, similar to elastic bands. There are many nerve endings that supply the annulus and, as a result, an injured annulus can be painful.



www.viewmedica.com © 2013 Swarm Interactive. Unauthorized duplication is strictly forbidden

### Ruptured or herniated discs

Ruptured or herniated discs occur when the soft nucleus spurts out through a tear in the annulus and can compress a nerve root. The nucleus can squirt out on either side of the disc or, in some cases, both sides. The amount of pain associated with a disc rupture often depends upon the amount of nucleus that breaks through the annulus, and whether it compresses a nerve. To help alleviate the pain, **a laminotomy or microdiscectomy** may be performed.

### Spinal cord and nerves

The spinal cord extends from your skull to your lower back, traveling through the middle part of each vertebra within the central canal. Nerves branch out from the spinal cord through the foramen, which are openings at each level of the spine. The spinal cord ends around the 1st and 2nd lumbar vertebrae in the lower back and continues as nerve roots. This bundle of nerve roots is called the cauda equina. Just like other nerve roots, they exit the spinal canal through vertebral foramen. In the pelvis, some of the nerves group together to form the sciatic nerve, which extends down the leg.

### Muscles and ligaments

Muscles and ligaments provide support and stability for your spine and upper body. There are strong ligaments to connect the vertebrae and to help keep the spinal column in the correct position or alignment.

# Why does my back hurt?

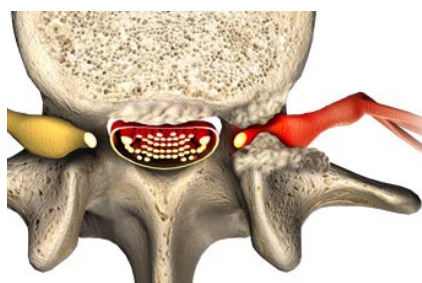
Back pain can be caused by many different conditions. The most common surgical conditions are **degenerative disc disease** and/or a **herniated disc** with or without instability and spinal stenosis. Conservative medical care, such as medications and therapies, are usually initiated first. If these treatments do not provide marked relief, more diagnostic tests are ordered to establish a definitive diagnosis. Once a clear diagnosis is confirmed, a patient may require a **laminectomy**, **microdiscectomy** and/or **spine fusion with instrumentation**.

**Degenerative disc disease (DDD)** is the gradual degeneration of the discs that reside between the vertebrae in the spine. Over time, the intervertebral discs break down. This is a natural part of aging. A disc herniation or bulging disc can cause pain and/or numbness by extruding into the spinal canal.

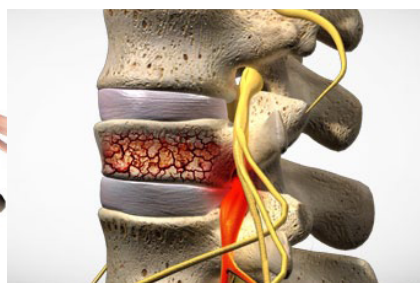
The degenerative disc then causes chronic back pain by compressing the nerve roots and giving the spinal cord and nerves less room to function normally. There is no cure for DDD. In fact, “disease” is a bit of a misnomer in this case because disc degeneration is a normal part of the aging process.

**Spinal stenosis** is defined as “narrowing of the spinal canal.” The most common causes of spinal stenosis are age-related changes, including a bulging or collapsed disc, increase in the size of your bones and joints, formation of bone spurs and hardening or thickening of the ligaments that help support your spine.

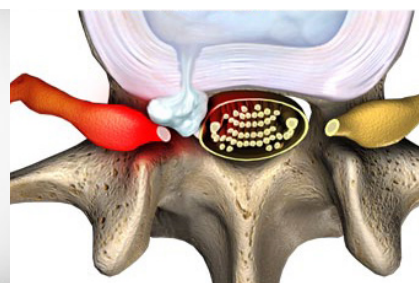
Nerves can become pinched and irritated, causing symptoms including back or neck pain, pain that radiates down your leg, arm or leg weakness, a weakening of the foot called foot drop and muscle cramping or numbness that appears in your back, neck, arms, legs, buttocks or shoulders.



Excess bone growth



Fracture



Ruptured disc

www.viewmedica.com © 2013 Swarm Interactive.

## Lumbar radiculopathy (sciatica)

This condition, also known as “pinched nerve,” is an irritation or compression of one or more nerve roots in the lumbar spine. Because these nerves travel to the hips, buttocks, legs and feet, an injury in the lumbar spine can cause symptoms in these areas. Sciatica may result from a variety of problems with the bones and tissues of the lumbar spinal column.

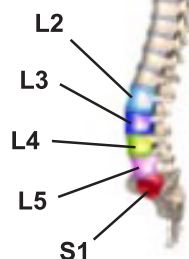
### Causes

Herniated discs, degenerative disc disease, inflamed muscles and spinal stenosis can put pressure against the nerve roots, causing lumbar radiculopathy.

### Symptoms

Nerve root injury may occur at any of the five vertebrae in the lumbar spine (L1 through L5), or at the level of the sacrum (the upper portion of which is S1). Symptoms may include pain, weakness, numbness and tingling and may vary depending on the level of the injury. For example, an injury at the L2 level can create thigh pain and hip weakness. An injury at the L3 level may result in thigh pain and knee and thigh weakness. Damage at the L4 level may cause pain from the lower back to the foot and also foot weakness. Damage at the L5 level can create pain from the outer leg to the top of the foot and also foot weakness. And finally, damage at the S1 level can create pain from the calf to the outer foot and also foot weakness.

### LEVELS OF THE LUMBAR SPINE



### DAMAGE TO THE LUMBAR SPINE

**L2 LEVEL**  
Pain in thigh,  
weakness in hip

**L3 LEVEL**  
Pain in thigh, weakness  
in knee and thigh

**L4 LEVEL**  
Pain in lower back down  
to knee, foot. Weakness  
in foot

**L5 LEVEL**  
Pain on outside of leg  
to top of foot, big toe.  
Weakness in foot

**S1 LEVEL**  
Pain back of calf to outside of foot  
and little toe Weakness in foot

# Frequently asked questions

## **Q: What is a spine fusion with instrumentation?**

**A:** A fusion is the creation of a living bridge of bone to bypass a joint or disc space in the spine. A spine fusion with instrumentation is the use of metal devices to help stabilize the spine during the time it takes for a fusion to heal solidly at the problem site in the spine. In rare cases, an iliac crest bone graft (ICBG) may be required. The spine fusion can be performed from the back, from the front or a combination of both. Your spine surgeon will discuss with you all your options regarding this important decision.

## **Q: How long will this spine fusion last, and will the metal pieces be removed?**

**A:** We expect that once the bone has fused solidly, it should remain solid. The titanium can remain in place for a lifetime, since it is compatible with the human body. Occasionally, patients may feel discomfort from the screws and rods or plates. In that situation, they can choose to have them removed easily through surgery.

## **Q: Why do fusions occasionally fail?**

**A:** The most common reason for failure of this surgery is that the bone graft does not heal properly and fails to create a solid fusion. Many factors can influence healing, including your general health, weight, age and smoking status. Your spine surgeon will discuss these factors with you.

## **Q: What are the major risks?**

**A:** Spine surgery, especially fusion, is complex. It is a major surgery and involves risks, as all surgeries do. These risks include, but are not limited to, continued pain, temporary or permanent nerve injury, bleeding, infection, breakage or loosening of the internal fixation, failure of the fusion to heal and become solid and leakage of spinal fluid. A less invasive surgery such as microdiscectomy presents fewer risks and frequently can be performed in an outpatient setting.

## **Q: Will I need blood?**

**A:** A cell saver — a medical device that collects, processes and returns a patient's own blood during surgery — may be used during surgery to return blood lost during surgery. In rare cases, a blood transfusion may be required after surgery. Your physician will closely monitor your lab results to determine if a blood transfusion is necessary.

# Checklist of things to do before surgery:

## ○ Visit to your spine surgeon's office

- Schedule surgery date.
- Schedule pre-admission visit, typically two to three weeks before your surgery date.
- Schedule Spine Surgery Pre-Operative Education Class.
- Obtain precertification from insurance company (handled by the surgeon's office staff).

## ○ Visit to your primary care doctor's office

Your surgeon may ask you to undergo a complete physical by your primary care provider, typically two to three weeks before your surgery date. This assures that conditions that may affect your health or that could interfere with your surgery or recovery are found and treated. This also enhances communication between your primary care provider and surgeon, informing them you are considering a surgical procedure.

## ○ Attend spine surgery class

Offered at Adventist Health Sonora. Please call 209-536-3421 to schedule in advance. This class is recommended for all patients undergoing spine surgery at Adventist Health Sonora. The class is designed to give patients a review of their surgery, what to expect and how to prepare to ensure good outcomes.

## ○ Preregistration

No less than seven days before your surgery, please go to the Adventist Health Sonora surgery department to preregister for your surgery and complete your preoperative tests. Please note that even if no preoperative tests are ordered, you must still preregister in person. You may also do this on the day of your Spine Surgery Pre-Operative Education class.

What to bring to preregistration:

- Insurance card
- Photo ID
- Health history
- List of medications

## ○ Preadmission testing

When you go to your hospital appointment for the preadmission visit, you will talk with admitting staff, complete information forms and undergo tests that are required to determine your safety for surgery: blood work, a urinary analysis (UA), an EKG and a chest X-ray.

## ○ Medications

Keep a list of current medications with you in your wallet or purse, so you can share them with your surgeon, primary care provider and the hospital staff. During your preop visit or with a phone call, the preop nurse will go over the medications to be continued, or those to be stopped, prior to surgery.

### ○ Social planning

You may need assistance for several weeks with tasks such as shopping, bathing and laundry. You will have spinal precautions that restrict you from bending down to low cabinets and lifting heavy items. You may want to rearrange frequently used items to maintain these precautions. If you live alone, arrange ahead of time with friends or family for assistance for two weeks or more. You may contact case management at 209-536-3393 before your surgery. The case manager can provide you with resources for hiring private caregiver services. These services are not covered by Medicare, Medi-Cal or most private insurances. Failure to arrange for appropriate help could delay scheduling of your surgery.

### ○ Home preparation

Safe preparation of your home environment is important to reduce the risk for falls.

- Tape down electrical cords.
- Pick up throw rugs and tack down loose carpeting.
- Cover slippery surfaces with carpet or rugs that are firmly anchored to the floor or that have nonskid backs.
- Set up your “base camp” in the room you plan on spending your daytime hours.
- Practice sitting in various chairs around your home. Do you have good support surfaces to push up from? Do you have sturdy chairs with armrests?
- Obtain pain medication prescriptions or other medications prior to surgery.

- Stock up on groceries or easily prepared foods.
- Move frequently utilized items to counter height. With spinal precautions, it may be difficult to access upper and lower cabinets.
- Provide good lighting throughout your home. Install night-lights in the bathrooms, bedrooms and hallways.

### ○ Travel and transportation

Arrange for someone to help you with your travel needs ahead of time. Please plan ahead! Areas of needed assistance could include:

- Someone to drive you home from the hospital
- Someone to run errands for you for several weeks after the surgery
- Assistance in traveling to your outpatient therapy visits, which generally start six to eight weeks after surgery.
- Handicapped-accessible parking permits in the first three months after your surgery. You may want to plan a trip to the Department of Motor Vehicles to obtain a permit prior to your surgery.

### ○ Smoking

If you are a smoker, there is never a better time than now to quit! Smoking puts you at higher risk for developing blood clots, pneumonia, infection, poor incision healing, heart attack and stroke — and could slow down your fusion and lead to nonunion. Please call pulmonary rehabilitation at 209-536-3726 for assistance finding a smoking cessation program.

### ○ Nutrition recommendations

Having a solid nutrition plan before and after your surgery will improve your healing process and reduce the risk of nutrition-related complications. Ensuring your nutrition plan is in place in preparation for surgery will help you to avoid potential obstacles that may impede your recovery. Before your surgery, be sure to consume a variety of nutrient-dense, healthful foods to assure you have adequate carbohydrate, protein, fluid, vitamin and mineral stores. When making your food choices, choose fresh foods instead of processed or junk foods.

- Recommended foods include:
  - Whole grains such as barley, whole wheat, quinoa or wild rice
  - Three to five servings or more of fresh, frozen and/or dried fruits and vegetables daily
  - Protein-rich foods at each meal, including chicken breast, tofu, eggs, lean cuts of beef, fish, milk, yogurt, cottage cheese, beans and legumes
  - A small amount of quality fats from nuts, seeds, avocado, olives, fatty fish or vegetable oils
- You may use nutrition supplements (such as Boost or Ensure) if you have difficulty consuming adequate calories before or after surgery.
- Your doctor may suggest that you supplement with vitamins or minerals to help you with your healing needs.

### ○ Advance medical directive

The law requires that everyone admitted to a medical facility have a chance to prepare advance directives. Advance directives document future decisions about medical care. If you have advance directives, please bring a copy with you to the hospital on the day of surgery.

# Potential equipment needed

## ○ Toileting

Transferring on/off standard toilet seat heights can be a challenge after surgery. Your occupational therapist (OT) will assist you in mastering this transfer before your discharge home. The OT may recommend a bedside commode or three-in-one commode. The commode is most commonly used over the toilet seat as a riser. The commode also can be used in a shower stall as an elevated seat to sit on during a shower. This piece of equipment is typically not covered by your insurance company. The case manager will be able to provide local resources for purchasing this item, if indicated.



## ○ Bathing

You may benefit from having a chair in your shower or tub to assist with bathing. A long-handled sponge and a shower hose also may be helpful. A bedside commode will work as a shower chair; however, it does not work as a chair inside a bathtub. If you have only a bathtub, a tub transfer bench may be needed. In general, the tub transfer bench is not covered by insurance companies. The tub transfer bench may not work in bathtubs with sliding doors or in clawfoot tubs. The OT will assist you in finding what works best in your home.



## ○ Reacher

A reacher can come in handy when you need to grasp objects that are too far above or below you. They can also be helpful in maintaining spinal precautions when dressing your lower body by reducing the need to bend over.

## ○ Long-handled shoe horn, sock aid

A long-handled shoe horn and a sock aid may be very helpful to reduce bending needed to slip on a shoe. The OT will assess your abilities to perform dressing tasks prior to discharge from the hospital. They will provide recommendations based on your specific needs.

## Back braces



The surgeon's office will likely fit you for an Aspen brace prior to lumbar or thoracic fusion. The thoracolumbar or lumbar support braces (TLSO or LSO) are designed to provide additional support and stabilization to your back while you heal. Bring this with you to the hospital.

The brace is to be worn when you are up moving around after surgery. You may loosen the brace when supported by the back rest of a chair when sitting. You may remove the brace while in bed. Therapy will review techniques with you and a caregiver for how to safely place and remove the brace. Follow your surgeon's recommendations for length of use postoperatively.

## Exercises before spine surgery

### Pre-surgery exercises

A successful spine surgery requires a quality exercise program. The better prepared you are before surgery, the easier your recovery (rehabilitation or rehab) is likely to be afterward. Preparation helps give you the strength and skills you will need after surgery and can improve your stamina and energy levels. So start now!

- **Low impact aerobic activity** (exercise that raises your heart rate) can improve fitness, stamina, and energy levels. Try low-impact exercises such as swimming, water aerobics, walking, or riding a stationary bicycle. It's normal to feel a little discomfort in your back but stop any exercise that causes increasing pain.

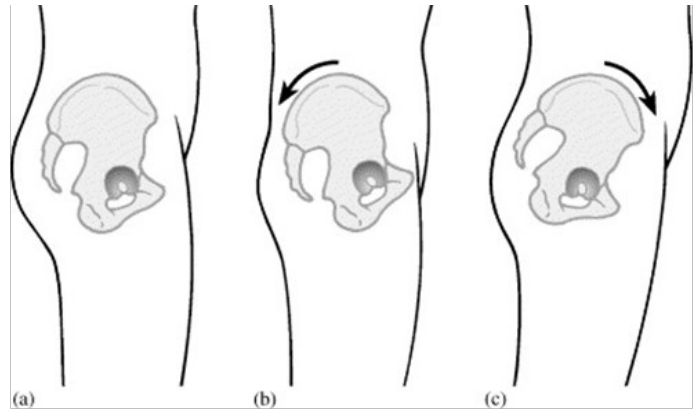
### Call your healthcare provider if:

- You're not sure how to safely do an exercise.
- Exercise causes sharp or increased back pain, dizziness, shortness of breath, or chest pain.

## Finding the neutral position of your spine

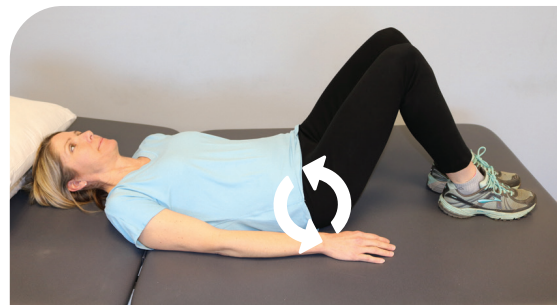
This is the position of comfort in which your back is not fully rounded forward or arched back. Once you find your neutral position, try to maintain this position during exercise and throughout your daily activities.

- Stand with your knees slightly bent (fig. a).
- Tighten your buttocks and move your pelvis forward so your lower back fully rounds out (fig. b).
- Next, tighten your lower back muscles and move your pelvis so your lower back fully arches (fig. c).
- Slowly wiggle your pelvis back and forth between these two extremes to find a position somewhere in the middle.
- Once you find your neutral position, try to keep it by contracting your abdominal muscles.



## Pelvic tilt

- Tighten your abdomen and buttocks and press your lower back towards the floor. This should be a small, subtle movement.
- Hold for 5 seconds. Release.
- Repeat 10 times.



## Piriformis muscle stretch

- Bend both knees and rest your right ankle on your left knee.
- Place a towel behind your left thigh and use it to pull the knee toward your chest. Feel the stretch in your buttocks.
- Hold for 30 – 60 seconds. Release.
- Repeat 3 times.
- Switch legs.

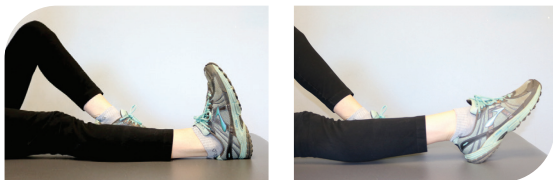


## Ankle pumps, quad sets, hip abduction, heel slides, knee bends

Please start these exercises before surgery. You can expect your physical therapist to review these same exercises after surgery. Unless you're told otherwise, try to do each exercise at least 10 times, twice a day.

### Ankle pumps

- Point, then flex both feet.
- This exercise helps prevent blood clots in your legs.



### Quadricep sets

- Lie on your back in bed, legs straight.
- Tighten the muscle at the front of the thigh as you press the back of your knee down toward the bed. Hold for a few seconds. Then relax the muscle.



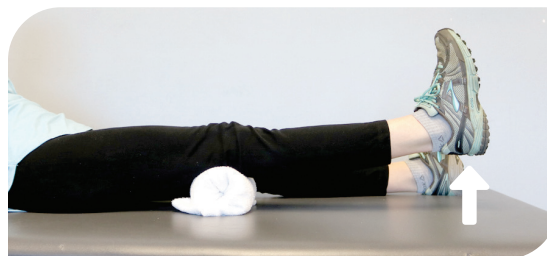
### Heel slides

- Lie down or sit with your legs stretched out in front of you. Put a plastic bag or cookie sheet under one foot to help it slide.
- Slide the heel toward your buttocks while keeping it on the floor. Move it as far as you comfortably can.
- Hold for a few seconds, then slide your heel back.



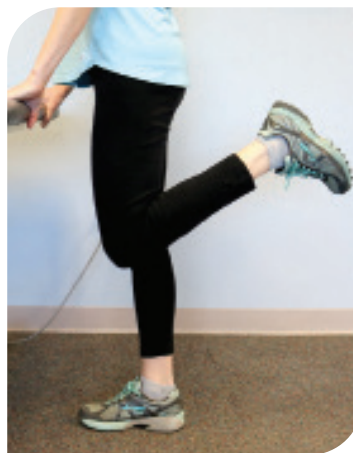
### Short-arc knee extensions

- Roll up several towels into a bump 6 – 8 inches thick. Lie in bed. Put the rolled-up towels under one knee.
- Bend the other knee. Keeping your knee on the roll of towels, lift your foot to straighten the knee. Hold for a few seconds. Then slowly lower the foot.



### Standing knee bends

- Stand while holding on to a steady surface, such as a table.
- Bend your knee back as far as it will go comfortably. Hold for a few seconds. Slowly lower the leg.

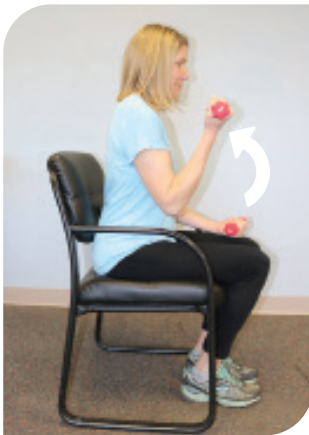


# Exercises to help with walker or crutch use

These exercises help build upper body strength, making it easier to use a walker after surgery. Be sure to exercise both arms. Your surgeon or PT may also tell you to use weights when doing these exercises.

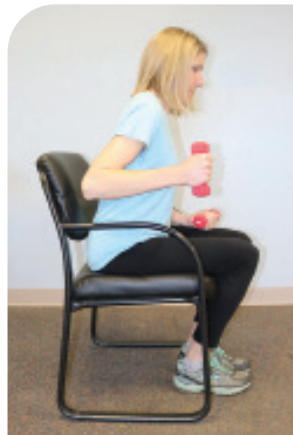
## Biceps curls

- Sit up straight. Keep your elbow close to your body and your wrist straight. Bend your arm, moving your hand up to your shoulder, then lower slowly.
- Do a set with each arm.



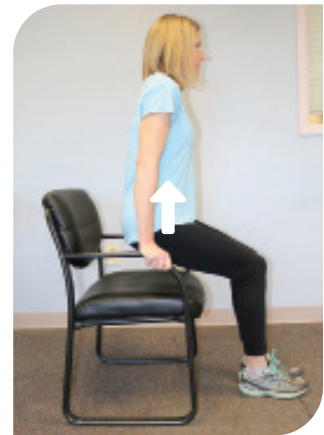
## Triceps curls

- Sit, leaning forward from the waist.
- Bend your elbow so that your forearm is parallel to the floor. Then straighten your elbow as you extend your arm behind you.
- Do a set with each arm.



## Seated press-ups

- Sit in a sturdy chair with armrests.
- With palms flat on the armrests, press down to lift your buttocks from the chair. Hold for 3 – 5 seconds.
- Bend your elbows to slowly ease back down.



# The day before and day of surgery

## The day before your surgery

- Shower the evening before surgery, following the instructions listed on this page.
- **After midnight the night before surgery, do not eat or drink anything, including water, chewing gum and lozenges.**
- **Do not drink alcohol or smoke/chew tobacco products for 24 hours before surgery.**

## The day of your surgery

- Shower again the morning of surgery, following the instructions listed on this page.
- Please do not eat or drink ANYTHING the morning of surgery; DO NOT have chewing gum, lozenges, coffee or juice. The anesthesiologist requires an empty stomach for your safety. Surgery will be cancelled if this directive is not followed.
- You may take prescribed medications with a sip of water the morning of surgery as directed by your surgeon or primary care physician.

### SHOWERING INSTRUCTIONS FOR SURGERY PATIENTS

Before surgery, you can play an important role in your own health. Because skin is not sterile, we need to be sure that your skin is as free of germs as possible. You can reduce the number of germs on your skin by washing carefully. Following these instructions will help ensure that your skin is clean.

**IMPORTANT:** You will need to shower with a special soap called chlorhexidine gluconate (CHG), active ingredient of Hibiclens.

**MORE IMPORTANT:** If you are allergic to chlorhexidine, do not use it!

1. Shower or bathe with CHG twice before your surgery, ideally the day before and the day of. The closer to your arrival, the better.
2. Do not shave the area of your body where your surgery will be performed within 24 hours of your arrival time.
3. Wash your hair as usual with your normal shampoo.
4. Shower and apply half of the CHG soap to your entire body **ONLY FROM THE NECK DOWN**. Use a clean washcloth.
5. Do not use CHG near your eyes or ears to avoid permanent injury to those areas. Wash thoroughly, paying special attention to the area where your surgery will be performed.
6. Turn water off to prevent rinsing the soap off too soon. Wash your body gently for five minutes. Do not scrub your skin too hard. Do not wash with your regular soap after CHG is used.
7. Turn the water back on and rinse your body thoroughly.
8. Pat yourself dry with a clean, soft towel.
9. Wear clean clothes.

## What to bring to the hospital

We want to make your hospital stay as comfortable as possible. Please bring the following items with you:

- Papers from the doctor's office, including this spine manual
- Your insurance card
- Robe and slippers/socks
- Clothes to wear home that will fit over a bulky bandage
- Personal toiletries
- Cases for glasses or contacts
- A copy of your advance directives

Do not wear makeup or jewelry to surgery, including piercings. You may keep nail polish on.

It is best to leave your personal items with your family until you have gone up to your hospital room. Leave valuables and money at home or with your family.

The hospital will provide you with a hospital gown, towels, and basic toiletries. If you have special items you use for daily care, feel free to bring them with you.

## Hospital arrival

Please arrive at the hospital at the scheduled time, 1.5 hours before your approximate surgery time, allowing time for nursing and anesthesia interviews, teaching, IV insertion and medications. Surgeries scheduled prior to yours may finish early or occasionally may be delayed.

## Surgery center

Finalize preregistration forms at the check-in desk.

## Preop preparation area

- You will be asked to change into a patient gown. You will place personal items in a patient belongings bag. The bag may remain with you, but is best given to family members until you are settled into your room after surgery.
- Remove glasses/contacts, braces/prosthesis, all jewelry/piercings, hairpins and dentures.
- An intravenous (IV) catheter and medications may be given to you at this time as ordered by your doctor.
- After the preop nurse completes your admission, your family/significant other may be with you until you are taken to surgery.
- When the operating room team has prepared your room for your surgery, you will be taken via gurney to the operating room.
- Your family will be directed to the surgical waiting area. The surgeon will visit with them after surgery is completed.

## Operating room

A nurse will take you to the operating room on a gurney. If needed, you will be assisted in moving onto an operating room bed. Heart and oxygen monitors will be placed on you. Special care will be taken to respect your privacy and make you comfortable with special padding and warming blankets.

## Recovery room/PACU

After completion of the surgery, you will be moved to the post-anesthesia care unit (PACU) for one to two hours. Depending on your response to medications given, you may or may not remember your time in the PACU. Here's what you can expect:

- A nurse will be with you to manage your pain and check your blood pressure, pulse, respiratory rate and overall progress.
- You will be asked questions about who and where you are.
- You will be asked to cough and deep breathe.
- The condition/sensation in your arms and legs will be checked. The nurse will ask you to describe the sensation in your arms and legs and to move your fingers and toes as the anesthesia (spinal or general) wears off.
- You will be moved to your hospital room when your condition is stable.
- Family members will be able to visit with you in your hospital room, but not in the PACU. A TV monitor in the waiting area allows family members to anonymously monitor when your surgery has been completed and you have arrived in the recovery room/PACU.
- Your surgeon will visit with your family after surgery is completed.



# It takes a team!

We strongly believe the best outcome after spinal surgery occurs with the coordinated efforts of a team of individuals, each specially trained and dedicated to providing you with excellent medical care.

## TEAM MEMBERS

### You

You are the most important member of the team. We are here to provide you with the tools and education needed to achieve the best possible result from your spinal surgery.

Our expectations are that you will educate and prepare yourself before the surgery by attending the Spine Surgery Preoperative Class. This will involve reading and studying the materials given to you at your doctor's office or at the class and preparing your home for your recovery. After surgery, we encourage you to enthusiastically involve yourself with team efforts to effectively manage your pain, mobilize quickly after surgery and return home to familiar surroundings for your recovery. We expect you to actively participate in the rehabilitation exercises on a daily basis (see page 32).

We recognize that your pain prior to surgery may have severely limited your activities. However, to achieve your best possible result, a change in activity levels is necessary after surgery. Daily walking activities, motion exercises and muscle-strengthening exercises are all needed, and we count on you to do your part for the team.

### Physician

The surgeon responsible for the surgery is board certified in orthopedic spine surgery. He or she will be part of your surgical care from the beginning (the preoperative office visit), through the hospital stay and through the follow up/postoperative office visits. The physician is the “coach” of your team. You also may see one of our hospitalists, a physician specializing in the care of hospitalized patients, who will co-manage your care along with your surgeon during your hospital stay.

### Physician assistant (PA)

Physician assistants (PAs) are board certified medical professionals with masters degrees in physician assistant studies who work under the direct supervision of your surgeon. You likely will see a PA with your physician at each of your appointments. The PA will help manage your care both before and after surgery and will assist your surgeon during your procedure.

### Anesthesia

A physician anesthesiologist or certified registered nurse anesthetist (CRNA) will visit with you in the preoperative holding area before the surgery. They will review all information needed to evaluate your general health. They also will discuss the risks and benefits of anesthesia and the various techniques used. Be aware that spinal surgery requires the use of general anesthesia, which comes with loss of consciousness.

Your anesthesiologist is responsible for your comfort and well-being before, during and immediately after your surgery. In the operating room, they will manage vital functions, including heart rate and rhythm, blood pressure, temperature and breathing. They are also responsible for fluid and blood replacement when needed.

### **Nursing**

Qualified registered nurses (RNs) are with you in the preop holding area before surgery, a specially trained surgical RN in the operating room with you during surgery and a specially trained recovery room RN with you in the PACU. A specially trained surgical technician is present during surgery to handle and organize all the special instruments needed during your surgery. During your hospital stay, qualified RNs, a lead nurse and certified nurse assistants (CNAs) will care for you. They have undergone additional specialized training in the care of spine surgery patients. Their goal is to be available to answer your questions, be your advocate during your stay and provide excellent nursing care through a team approach between nursing and physical/occupational therapy.

### **Physical therapy (PT)**

Your physical therapist will meet with you after surgery to begin efforts to walk. Your therapist will focus on making sure you are safely getting up out of bed, walking, negotiating stairs and getting stronger each day. They will instruct you in spinal precautions and ensure that you are able to maintain them with functional activities.

### **Occupational therapy (OT)**

Your occupational therapist will focus on helping you regain your independence in activities of daily living such as bathing, dressing and toileting. They will instruct you in techniques to safely fit your neck brace. In addition, your therapist will evaluate your need for adaptive equipment and assistive devices for your self-care at home.

### **Dietitian**

A dietitian is available for any questions or concerns about your dietary needs.

### **Pharmacist**

Pharmacy staff will monitor your medications throughout your hospital stay. They are available to the team for questions on prescribed medications, dosages and schedules.

### **Case manager**

A case manager will coordinate the many services you receive during your hospitalization, from preadmission through discharge. The case manager will assist with home equipment needs as determined by the physical or occupational therapists. After your surgery, your case manager will help you plan and coordinate your discharge needs, so that your transition to your home environment is safe and without problems.

### **Outpatient therapy and visiting nurse**

After your return home, a home physical therapist, occupational therapist, and visiting nurse may continue to work with you to safely continue your recovery and rehabilitation. If needed, the service will generally continue for 2 or 3 weeks after your return home.

# Becoming familiar with devices and equipment

During your hospital stay, you will encounter many devices and pieces of equipment used during your medical care. Let's review many of these so you are not surprised or startled by them.

## **Sequential compression devices (SCDs)**

The SCDs are plastic sleeves that wrap around the lower leg and create a gentle squeezing/massaging sensation as they slowly help pump the blood to the heart. They will be used after surgery to prevent blood clot formation in your legs. These are as effective as blood thinners in preventing clot formation.

## **Drain system (Hemovac)**

A drain system (Hemovac) may be placed during surgery and is used to remove any excess fluid or blood from the incision site and the soft tissues surrounding the spine. The drain will be removed a few days after surgery. It is small enough in size that discomfort is minor during removal of the tube.

## **Foley catheter**

For certain procedures, you may need a Foley catheter. This urinary catheter is a soft rubber tubing that is inserted into the bladder during surgery, after sedation and without you being aware. The tubing is attached to a measuring bag that drains to gravity. This system allows the bladder to empty spontaneously. Depending on the type of procedure you have, the catheter may be removed on the day of surgery or the following day.

When in place, you may feel a sensation of pressure in the bladder, or an urgent need to urinate. This is a result of bladder sensitivity and spasms due to the catheter tube and will disappear the following morning when the catheter is removed.

## **Incentive spirometer**

Commonly known as an "IS," this small breathing tool is an effective way to stimulate and promote good lung function after surgery. It reduces the risk for fever and pneumonia. The IS will be demonstrated to you by staff, and you will be encouraged to use it 10 times an hour while awake. You will take this device home, and continue using it at home for the first week after surgery.

### **IV (intravenous) catheter**

An IV is placed in a vein in your forearm or hand in the preop preparation area. Although a small needle is used to place the IV through the skin, the needle is removed and the soft plastic catheter is left in the vein. It allows all medicines and fluids to be given to you during your hospital stay. It is secured to the skin with tape or a clear dressing.

### **IV pump**

An IV pump is a device your nurse will use to regulate your IV fluids and pain medications. The pump and its tubing are connected to your IV site. The pump is placed on a pole that is able to be moved with you when you are walking. At times, the pump's alarm will go off with a "beeping" sound, alerting you and staff that fluids are empty or IV medications are completed. When this beep occurs, your nursing staff will respond, or you may notify them with your call button.

### **Oxygen**

Oxygen will be delivered through a nasal cannula (into your nose), secured by a loop around your ears. After surgery, your oxygen levels may be lower than usual because of the effects of medications and inactivity. Additional oxygen is therefore used to reduce stress on the heart, lungs or brain. The oxygen will be discontinued after surgery as you are able to maintain your blood oxygen levels independently.

### **Patient-controlled analgesia (PCA)**

PCA is a method that allows you to administer your own pain medication when needed. Pain medication is prescribed by your surgeon, and PCA is programmed by your nurse so that overdose is impossible.



# The recovery period

Throughout your spine surgery experience, we encourage you to participate actively in planning and carrying out your own health care. Your care team will work with you to help decide what treatment and recovery options are best for you. You are encouraged to ask questions about any of your concerns. You always have the right to refuse treatment.

Let's first review what to expect while recovering in the hospital, and then later at home.

## Hospital nursing care

After you return from the recovery room (PACU) to your hospital room, your registered nurse (RN) and certified nurse assistant (CNA) will closely work with you to:

- Manage your pain and anxiety effectively, with courtesy and respect for your well-being as their greatest concern.
- Ask for your input and listen to your concerns or fears about your surgery.
- Do everything they can to make you as comfortable as possible, using medications and ice packs and positioning your bed and pillows. This will allow you to comfortably participate in recovery activities such as sitting on the edge of the bed, getting up into a chair, standing and walking.
- Explain things to you so that you may understand why they are happening, using terms you can understand.
- Answer your call light as soon as they can to address your needs such as using the commode or getting out of bed.
- Explain why medicines are being used and what possible side effects might be.
- Work with your care team to help you get up out of bed, walk, sit in a chair and do your exercises.
- Answer family questions and concerns.

## How to control pain

Experiences with pain levels after spine surgery vary widely from person to person. As a result, techniques to manage the pain must also be adjusted to each person's unique response.

We have observed that individuals who take the time and effort to educate themselves about the entire spine surgery experience are less anxious and better prepared to handle pain. Extremely anxious persons in general have wide swings in pain control and may need anti-anxiety medications in addition to pain-control medications.

Individuals on regular daily doses of pain pills are more resistant to the effects of normal postoperative pain medication doses. They may therefore require higher dosages of

medicine or more frequently administered medicines. This may require periods of dosage adjustments, and your patience is appreciated during these efforts. Current philosophies about pain management suggest that the highest levels of success are achieved with multiple methods of control, called the multi-modal approach. This approach uses a combination of pain medicines, anti-inflammatory medicines, muscle relaxants, anti-anxiety medications, icing and activity.

### **What to expect after surgery**

Please remember that a reasonable goal with pain management is to achieve a manageable or tolerable level of discomfort. To expect zero pain is unrealistic, as it would require you to be so heavily medicated that you would have difficulty talking and would not be able to get out of bed to use the commode, to walk or to participate in physical therapy exercises.

- Normal incision pain feels like soreness, burning or even sharp pain, with a sensation of tightness or pressure along the incision line.
- Swelling gives the feeling of a tight band around the incision.
- You may experience varying levels of neck or back pain.
- If you were experiencing radicular pain or arm/leg numbness prior to surgery, you may continue to experience these symptoms until the swelling/inflammation subsides.
- You may be given IV pain medicine for the day or night of surgery, but you will also be starting pain pills on the day of surgery.

### **What you can do**

Work closely with your nurse to manage your pain. Your surgeon wants you to take pain pills on a regular basis so that you are comfortable and can participate easily in exercise activities performed with the physical therapist.

- Keep in mind that you may have less pain lying in bed and more pain with movement out of bed. It is helpful to be premedicated prior to therapy.
- Tell the nurse how the pain medication is working.

### **Hospital diet progression**

Food and fluids are important for incisions to heal properly after surgery and to maintain adequate strength and energy for rehabilitation.

- What to expect:
  - You may do better with liquids for your first meal after surgery.
  - You will progress to more solid foods as you are able to tolerate them.
  - You may feel nauseated or sick to your stomach.
- What you can do:
  - Tell the nurse if you feel sick to your stomach. There are medications that can help with nausea.

- To prevent constipation:
  - Drink lots of fluids.
  - Increase your physical activity levels out of bed.
  - A stool softener or laxative will be given while in the hospital and will be continued at home.

### Antibiotics

IV antibiotic therapy is a standard infection-prevention tool for spine surgeries. Studies have shown that three dosages of antibiotics are very effective in reducing rates of surgical infections. You will receive the first dose in the preop area prior to surgery, and the following two doses during the day of the surgery. Ancef or Vancomycin are typical antibiotics used. Usage of antibiotics for longer time frames has not been shown to be effective.

# Therapy expectations in the hospital

## Day of surgery

Depending on what time you arrive to the medical/surgical floor, you may be asked to get out of bed with nursing or therapy help. After lumbar spine surgery, you likely will be able to walk in the hallway only hours after your surgery. You may feel somewhat unsteady on your feet the first time out of bed due to medication effects. A walker may be used to assist with gait stability.

## Day 1 and 2 after surgery

- Physical therapy will continue to work with you on safe walking techniques with or without an assistive device (walker/cane). If you have stairs, PT will review safe stair training with you and your family member.
- Occupational therapy (OT) and nursing will assist you with toileting. You will be expected to walk to the bathroom with assistance during your hospital stay. OT will also review techniques to safely bathe and dress yourself while also following spinal precautions.
- Nursing will continue to work with you to effectively manage your pain and answer your questions.
- It is recommended that you walk with assistance in the hallway outside your hospital room three to five times a day, gradually increasing your distance each time.



# Spinal precautions

The purpose of spinal precautions is to protect your spine after surgery. Your therapist will review these restrictions with you in more detail and will show you how to incorporate them into your daily activities.

## There are three activities you need to avoid after spinal surgery:

- 1. No bending at your lower back (or neck, if applicable):** Instead of bending at your back, bend at your knees to lower and raise your body. You may use a reacher to grasp low objects and a sock aid and long-handled shoe horn to put on and take off socks and shoes.
- 2. No heavy lifting:**
  - Do not lift any object that weighs more than 5 pounds.
  - Place items on a cart with wheels or in a walker basket.
  - Split up large bags of items into smaller amounts.
  - Slide objects along a counter top instead of lifting.
  - Only lift the amount of weight specified by your surgeon until you are medically cleared to lift more.
  - Ask for help if you need it.
- 3. No twisting:** Instead of twisting through your spine, turn your whole body by stepping with both feet to face the activity. Point your feet or hips toward what you are doing to avoid twisting your spine.

**Think of the “B.L.T.” No Bending, Lifting or Twisting**

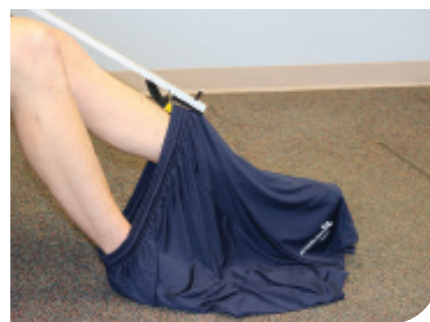
## Putting on socks

- Sit on a chair or the side of the bed.
- Pull the sock onto the sock aid. Your OT will be instructing you on how to do this properly before you leave the hospital.
- Hold the sock in front of your foot. Slip your foot into the sock. Pull the sock aid out of the sock.



## Putting on pants

- Sit on a chair or the side of the bed.
- Using a reacher, catch the waist of the underwear or pants with the grasper.
- Use the reacher to pull the pants over your feet and above your knees. Pull them to where you can reach them with your hands (without bending forward).
- Hold the pants with one hand. Push up from the chair or bed to stand. Steady yourself with your walker.
- With your hands, pull the pants the rest of the way up.



## Putting on shoes

- Wear slip-on shoes or shoes with elastic or velcro instead of laces so you don't have to bend.
- Sit on a chair. Put your foot into the shoe. Use a reacher or long-handled shoehorn to pull the shoe on

## Front-wheeled walker (FWW)

Insurance will pay for a FWW. The FWW will be ordered for you at the hospital and delivered to your hospital room.

## Negotiating stairs/curbs

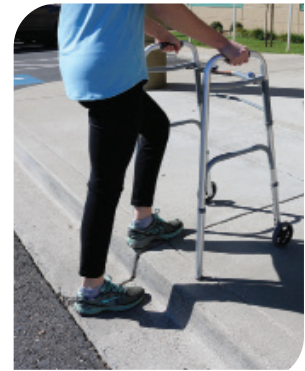
### Going up stairs

- Make sure the handrail is sturdy. Place one hand on the handrail and the other hand on the upside of the walker (knuckles forward).
- Step up with one leg.
- Step up with the other leg.
- Bring walker up to the next step.
- Repeat.



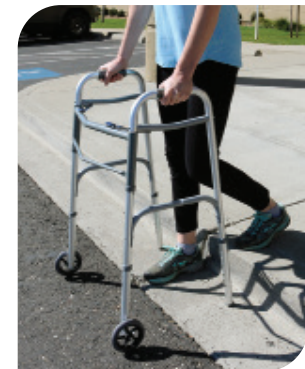
### Going up a curb

- Walk up to the curb.
- Place all legs of the walker up on the curb.
- Step up.



### Going down a curb

- Walk up to the curb.
- Place all legs of the walker on the ground below.
- Step down.



### Going down stairs

- Make sure the handrail is sturdy. Place one hand on the handrail and the other hand on the upside of the walker.
- Place walker on the lower step.
- Step down.
- Repeat.



### Getting into and out of bed: the “logroll” technique

1. Scoot over to one edge of the bed. Use your arms and legs to move your hips to one side.
2. Bend both knees up. To roll, lower your knees to one side and turn with your shoulders at the same time. Do not twist through the spine.
3. To get out of bed, logroll onto one side, then, lower both your legs over the side of the bed. Push with your elbow and hand to sit up.
4. To get back to bed, start by sitting at the edge of the bed. Lean down onto your elbows without rolling onto your back. Gently lift both legs up onto the bed. You should still be in the side-lying position. Once in side-lying, logroll onto your back.



## Therapy goals for discharge

Our goal is to return you to the safety and comfort of your own home after surgery. Insurance guidelines anticipate and encourage home discharge when you have met therapy goals, your pain is controlled with pain pills and your doctor determines you are medically stable.

### Standard physical therapy goals for discharge home:

1. Transferring in and out of bed without assistance
2. Walking 100 – 200 feet with supervision, with an assistive device if needed
3. Being able to complete stairs with the assistance of family/friend
4. Being independent with spine precautions and home exercise program

### Standard occupational therapy goals for discharge home:

1. Transferring on/off toilet without assistance
2. Dressing lower body without assistance
3. Being independent with precautions as they relate to self-care and home care tasks

# Discharge from the hospital

Depending on your medical status and progress with physical therapy, several discharge options are available to you:

- Discharge to your home with or without physical therapy/visiting nurse and occupational therapist
- Discharge to a skilled nursing facility or rehabilitation unit

## Home health services

These services may include skilled nursing (such as wound care and monitoring for signs of infection) or physical and occupational therapy. These services are generally covered by insurance for patients who are homebound.

- Physical and/or occupational therapy services are generally two to three times per week for two to three weeks and continue with the rehabilitation program started in the hospital.
- Nursing and therapy visits are generally 30 – 60 minutes based on your individual needs.
- Your home health physical therapist will continue training you to safely get into and out of a car and assess when it is safe to return to driving.

## Skilled nursing facility (SNF)

Your physician strongly believes the safest and most comfortable place for your recovery is at home. However, the decision to go home or to a subacute rehab unit will be made together by you, the spine team and your insurance company. Using insurance guidelines, you may qualify for inpatient rehabilitation if you have not gained an appropriate level of skills and activity during your hospital stay to be able to safely return home.

Many patients may want to go to a subacute facility but may not have health benefits that cover this option. Also, you may progress beyond the requirements for admission. Please remember that many of our patients do well. They don't qualify for subacute rehab. Also keep in mind that insurance companies do not become involved in "social issues," such as lack of caregiver, animals, etc. These are issues you will have to deal with before admission. Other plans should be made before your surgery for care at home.

If your insurance company does not approve a subacute facility, you can always go to a facility and pay privately. It will be your choice. Qualifications for these facilities may vary but generally require higher levels of independent function and minimal day-to-day assistance.

# Rehabilitation exercises at home

## Walking program

After surgery it is very important to develop a daily walking routine. Not only is it good exercise for your cardiovascular system, it can be helpful in stimulating your digestive system as well. Immediately after surgery, your strength and endurance may allow you to tolerate only five minutes of walking. The goal is to gradually increase your tolerance over the first few weeks or months.

### Helpful tips:

- Find a good level area to walk. If your neighborhood is not accommodating, try a local school track or shopping center.
- Start with a slow comfortable pace, hydrating frequently.
- Wear good supportive shoes, preferably athletic/running/tennis shoes.
- Gradually increase your walk by two to five minutes a day. Work toward a goal of 30 minutes without rest breaks.

## Abdominal bracing

- Find your neutral position while you are lying flat on your back.
- Gently pull in your abdominal muscles to keep this position.
- Do not bear down or forcefully suck in your abdomen.



## Abdominal bracing with arms

Abdominal bracing with arms helps you hold the neutral position against resistance from the weight of your arms.

- Contract your abdominal muscles and find your neutral position.
- Keep contracting your abdomen as you begin to raise one arm over your head.
- As you lower the first arm, raise your other arm overhead.
- Remember to keep breathing and keep your movements even and steady.
- Keep your trunk from moving by contracting your abdominal muscles.

## Abdominal bracing with legs

Abdominal bracing with your legs increases the strength of your lower abdominal muscles, which are used to hold a neutral position against an increased force.



- Find your neutral position and contract your lower abdominal muscles.
- Raise one leg without lifting or rotating your hips. You will need to contract your abdominal muscles more tightly as you move your knee toward your chest.
- Do not let your hips rise up or rotate as you exercise.
- Remember to keep breathing and keep the motion as smooth as possible.
- Repeat with the other leg.

### Abdominal bracing with arms and legs

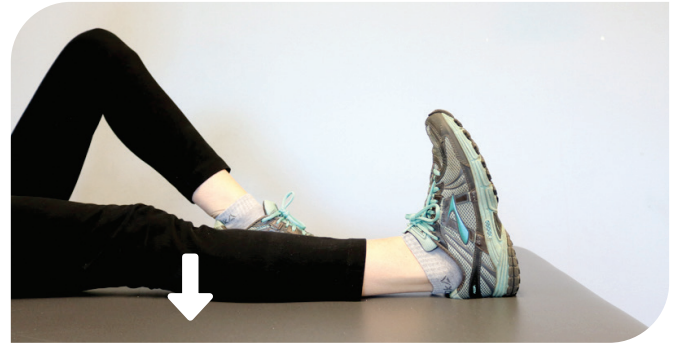
This exercise tests the strength of your abdominal muscles to hold your spine in a stable position while both arms and legs move independently.

- Get into the neutral position and firmly contract your abdominal muscles.
- Raise one arm and the opposite leg at the same time.
- Lower this arm and leg to the floor and repeat the exercise with the other arm and leg.
- Use your abdominal muscles to hold you firmly in a neutral position while you breathe freely.
- Move your arms and legs in a smooth, controlled motion.



### Quad sets

- While lying on your back in bed, press your knee into the mattress and tighten your muscle on the top of your thigh. Hold for a count of 5 – 10 seconds. Do not hold your breath.
- Repeat 10 times with each leg, two to three times per day.



### Ham sets

- While lying on your back in bed, keep one leg bent and the other leg straight. Tighten the muscle on the back of your bent leg and push the heel down into the bed. Hold for five seconds.
- Repeat 10 times with each leg, two to three times per day.



### Heel slides

- While lying on your back in bed, bend your knee and slide your heel toward your buttock. Slide it back out straight. Use a plastic bag under your foot if it is easier that way.
- Repeat 10 times with each leg, two to three times per day.



### Gluteal sets

- While lying on your back in bed, squeeze your buttock muscles together and hold for a count of 5 – 10 seconds.
- Repeat 10 times, two to three times per day.



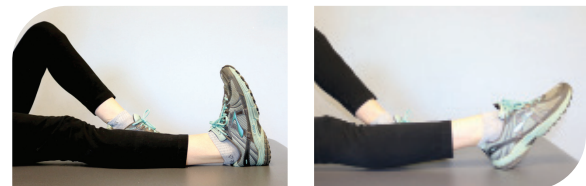
### Lying knee extension

- Lie on your back in bed. Place a towel roll under the lower part of your thigh. Lift your foot and straighten your knee. Do not raise your thigh off the roll.
- Repeat 10 times with both legs, two to three times per day.



### Ankle pumps

- While sitting in a chair or lying on your back in bed, straighten your knee and slowly push your foot forward and backward.
- Repeat 20 times with both ankles, two to three times per day.



### Sitting knee extension

- While sitting in a chair with your back against the chair back, straighten your knee and hold for a count of 5 – 10 seconds. Lower your leg back down to the floor.
- Repeat 10 times with both legs, two to three times per day.



### Mini squats

- While standing up, place your back against a wall. Slide down the wall until your knees are bent at 30 – 45 degrees. Slowly raise up to the straight position.
- Repeat 10 times, two to three times per day.



### Hip abduction/adduction

- While standing up, hold on to the back of a chair. Move your leg out to the side. Keep hip, knee and foot pointed straight forward and knee straight. Slowly lower it back down.
- Repeat 10 times with each leg, two to three times per day.



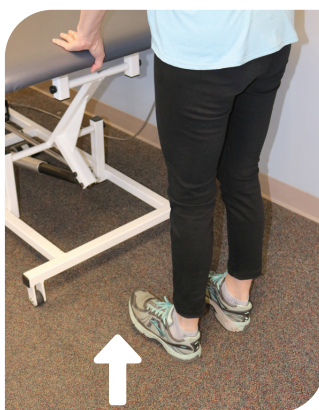
### Heel raises

- While standing up, hold on to the back of a chair. Raise up on your toes. Hold the position for a few seconds then slowly lower your heels back to the ground.
- Repeat 10 times, two to three times per day.



### Toe raises

- While standing up, hold on to the back of a chair. Lean body weight onto your heels. Toes should be off the ground. Slowly lower toes back to the ground.
- Repeat 10 times, two to three times per day.



### Knee raises

- While standing up, hold on to the back of a chair. Raise one knee at a time as if marching in place. Lift your knee to at least waist level. Hold your knee up for two to three seconds. Slowly lower it back down.
- Repeat 10 times with each leg, two to three times per day.



### Knee flexion

- While standing up, hold on to the back of a chair. Bend your knee back behind you. Slowly lower it back to the ground.
- Repeat 10 times with both legs, two to three times



# How to care for yourself at home

## HOME CARE FROM DAY 2 TO 28

### Self-care attitude

Over the years, it has been our observation that individuals with a motivated, independent, “do-it-myself” attitude have gotten the best results. For this reason, we feel the best mindset to promote is that the patient get up and move around when they need something, or to change locations, get something to eat or travel to the commode. Although family member assistance for safety is important, they should not wait on the patient’s every need. Taking pride in this independent attitude is a behavior we encourage: In our experience, it is associated with better outcomes.

### General recovery

Please remember that the rate of your healing and recovery is unique to you and your situation. Please don’t assume that something is wrong with your recovery just because it’s different than the person(s) you may have talked to before or after the surgery.

### Control your discomfort

- Avoid sitting for more than 20 – 30 minutes. Prolonged sitting increases the pressure on your lower back.
- Take your pain medication at least 30 minutes before doing your exercises or walking.
- Slowly wean yourself from prescription medications to Tylenol. You may take two extra-strength Tylenol instead of your prescription medication up to four times daily. (Not to exceed 4,000 mg/day)
- Change your position every hour throughout the day.

### Medications

- Use pain medications as prescribed.
- If you feel nauseated: Over-the-counter medicines such as Prilosec, Pepcid, Tagamet or Gaviscon may be used. Elevation of your head and shoulders on several pillows may also reduce reflux and heartburn.
- If you had fusion surgery, DO NOT take Motrin, Advil, Aleve or any other anti-inflammatory medications (NSAIDS).
- If you are on chronic anticoagulation, follow specific orders from your physician regarding when to resume use.

### Constipation

The leading side effect of taking oral pain medication is constipation. Inactivity, anesthesia and stress can also contribute to constipation. With this in mind, we NEED and WANT you to take the prescribed medications to control your pain at home after your surgery. Increasing your oral intake of fluid (water) and fiber may not be enough to keep your bowels moving. Page 38 provides a guide on options to combat constipation.

Please note these are suggestions to help you be successful in your postoperative journey.

1. Increase oral fluids, especially WATER (for every caffeinated beverage, you must drink an equal size glass of water). Drinking eight to 10 glasses of water daily before and after your surgery is the goal.
2. Increase fiber in your diet: green leafy veggies, apple peels, potato skins, chia seeds, flax seed and granola added to an active culture yogurt are all good sources of fiber.

Top sources of fiber are: beans (all kinds), peas, chickpeas, black-eyed peas, artichokes, whole-wheat flour, barley, bulgur, bran, oatmeal, corn, raspberries, blackberries, pears, apples and prunes. Fiber is found in plant products, so consuming whole grains, fruits, vegetables, nuts and beans will help you achieve your fiber goals.

You may also consider Metamucil, Benefiber or FiberCon (over-the-counter): take as directed. Women should aim for 25 grams of fiber daily and men should aim for 30 – 35 grams daily.

3. Prunes (natural, canned, dried) or prune juice is a great natural remedy, if you can tolerate.
4. Medications: START AS SOON AS YOU GET HOME, TAKE EACH DAY
  - Stool softener (over-the-counter): one tablet, take twice a day (Ex: docusate sodium 250 mg cap)

#### Medications continued on day of discharge:

- A. Stool softener (over-the-counter): one tablet, take twice a day
- B. Miralax (or generic): take once daily, dissolved in liquid, as per directions

If no bowel movement in two days, add one of the following in addition to A and B:

- C. Senna or Senokot 8.6 mg (over-the-counter): take one tablet, up to twice daily

**OR**

- D. Milk of magnesia (over-the-counter): one dose daily, as per directions on bottle

**OR**

- E. Bisacodyl or glycerin rectal suppository (over-the-counter): one placed rectally daily

#### Other medications to consider:

- A. Fleets or mineral oil enema (over-the-counter), placed rectally

If you are having diarrhea, stop the use of stool softeners, laxatives or bowel assisting medications until stooling returns to normal.

Talk with your surgeon's office if you have questions or need further guidance.

#### Body changes

Your appetite may be decreased after surgery. However, nutrition is very important for your recovery. Your body needs more calories, protein and certain vitamins and minerals to help you heal and prevent infection.

- Try eating more frequent small meals and snacks (beef, chicken, fish, soy products, peanut butter, nuts, eggs, milk, cheese, yogurt, cottage cheese).
- Make sure you eat foods high in iron (lean red meats, fish, chicken, legumes, whole grains, iron-fortified breads and cereals).
- Focus on foods high in Vitamin A (fortified dairy products, tropical fruits, carrots, winter squash, sweet potatoes and green leafy vegetables).
- Focus on foods high in Vitamin C (citrus fruits and juice, kiwi fruit, strawberries, broccoli and bell peppers).
- Consider taking a multivitamin with mineral supplement. Check with your doctor about taking an iron supplement, although this may not be needed.
- Drink plenty of fluids to keep from getting dehydrated. Your desire for solid food will return.
- You may have difficulty sleeping. This is normal. Don't sleep or nap too much during the day.
- Your energy level will be decreased for the first month.

### Icing

You may use ice for pain control. Applying ice to the affected area will decrease discomfort. Do not use ice for more than 20 minutes at a time every two hours. You can ice before and after your exercise program. A flexible gel ice pack or a bag of frozen peas wrapped in a kitchen towel both are ideal.

Studies have indicated that the “warm-up response” following cold pack removal is most important. With the rush of warm blood coming into the cold area, the healing process is enhanced. That's why it's so important to continue the icing process for a minimum of six to 10 weeks.

### Exercises

Walking is the best exercise you can do. This will build up strength and endurance. Exercises listed under Rehabilitation (page 32) are also recommended. No formal outpatient physical therapy is recommended for a minimum of six to eight weeks after surgery.

Avoid **B**ending, **L**ifting, **T**wisting and overhead reaching.

### Walking tolerance

Initially after surgery, your walking tolerance may only be a couple of minutes. Slowly increase your walking tolerance on flat, even surfaces. It is recommended to increase your walk by two to five minutes per day, progressing toward 30-minute increments. You may need a walker right after surgery in order to walk comfortably. This will be determined by the physical therapist. A case manager will help make arrangements to order any equipment needed.

### Caring for your incision

- Your dressing will be changed on your day of discharge.
- Keep the dressing in place for three days after discharge from the hospital. It can then be removed and the wound left open to air.
- Sometimes the wound may leak a little or stick to clothing, in which case you may place a light gauze dressing over the wound and change it as needed.
- If you develop fevers over 101.5 degrees or significant wound drainage (e.g. drainage that continues to saturate dressings, soils clothing, or contains pus), you should contact your doctor immediately.
- You may shower on \_\_\_\_\_.
- Do not take baths or submerge the wound until four weeks after surgery.
- Contact your doctor immediately if you develop increased redness, increased clear draining, yellow/green draining or odor; or if the surrounding skin is hot to the touch.

### Driving

Driving is generally permitted four weeks after surgery when you have good mobility and strength. You must also have discontinued taking narcotic pain medications. **DO NOT** drive until cleared by your physician.

### Anticoagulation

After spinal surgery, you will not be sent home with DVT prophylaxis/anticoagulation. If you are on chronic anticoagulation medications (ie. Warfarin, Eliquis, Xarelto, Paradaxa), your surgeon will indicate on your discharge order set when you are cleared to resume use.

## Around the house: saving energy and protecting your spine

### Kitchen

- DO NOT get down on your knees to scrub floors. Use a mop or other long-handled brushes.
- Plan ahead! Gather all your cooking supplies at one time. Sit to prepare your meal.
- Place frequently used cooking supplies and utensils where they can be reached without too much bending or stretching.
- To provide a better working height, use a high stool, or put cushions on your chair when preparing meals.

## Bathroom

- DO NOT get down on your knees to scrub the bathtub. Use a mop or other long-handled brushes.

## Safety and avoiding falls

- Be aware of all floor hazards such as pets, small objects or uneven surfaces.
- DO NOT wear open-toed slippers or shoes without backs. They do not provide adequate support and can lead to slips and falls.
- Sit in chairs with arms. It makes it easier to get up.
- Rise slowly from either a sitting or lying position so as not to get lightheaded.
- DO NOT lift heavy objects for the first three months, and then only with your doctor's permission.
- Stop and think. Use good judgment.

## Dos and don'ts for the rest of your life

All spine patients need to have a regular exercise program. This is to maintain fitness and muscle health. With permission from your doctors, you should be on a regular exercise program. This program should be three to four times per week. It should last 20 – 30 minutes. Impact activities such as running or tennis may put too much load on the spine. They are not recommended. High-risk activities such as downhill skiing are likewise discouraged. Infections are always a potential problem. You may need antibiotics for prevention.

## Follow up with your surgeon

Two weeks after discharge, you will be seen for your first office visit after your surgery. The schedule of follow-up visits will depend on your progress. Many patients are seen at six weeks, 12 weeks and then every three months up to one year and then yearly. Your surgeon will let you know what they recommend as it can differ with each patient.

## What to do in general

Although the risk for postop infections is very low it is important to realize there is a risk. Spine instrumentation hardware could possibly attract bacteria from an infection located in another part of your body. If you should develop a fever of more than 101 degrees, call your doctor. If you have an injury such as a deep cut or puncture wound, you should call your doctor. You should clean it as best you can. Put a sterile dressing or Band-Aid over it. The closer the injury is to your instrumentation, the bigger the concerns. Occasionally, antibiotics may be needed. Surface scratches may be treated with topical antibiotic ointment. Notify your doctor if the area is painful or reddened.

When traveling, stop and change positions hourly. This prevents your joint from tightening. See your doctor yearly unless otherwise recommended.

### **What to do for exercise**

Choose a low-impact activity

- Recommended exercise classes
- Home program as outlined previously under Rehabilitation section (page 32)
- Regular one- to three-mile walks
- Home treadmill
- Stationary bike
- Regular exercise at a fitness center
- Low-impact physical activities: golf, bowling, walking, gardening, dancing, etc.

### **What not to do**

- Do not run or engage in high-impact activities.
- Do not participate in high-risk activities such as downhill skiing, etc.
- Avoid step stools and ladders.

### **Weight loss**

Controlling your weight is important to the longevity of your spine surgery. If you would like assistance getting back into a healthy exercise regimen, Adventist Health Sonora's Live Well Be Well Center offers an assortment of classes and programs to help you lose weight and maintain a healthy lifestyle.

Call the Live Well Be Well Center at 209-536-3727 for more information.