SPINE VENTURE

PREMIER SURGERY CENTER

WELCOME

We are pleased that you have chosen us to assist in your care. Premier Surgery Center is a freestanding, outpatient surgery facility that combines the latest surgical technology with a comfortable and relaxed atmosphere. Our skilled staff will provide you with the high-quality, compassionate medical attention you deserve.

We offer a unique and personalized experience that is suitable for all ages from children to active adults and seniors. After visiting with your surgeon and scheduling your procedure, Premier Surgery Center staff will assist with preparing you for surgery.

We are committed to providing you and your surgeon with all the services and support needed to make your total joint replacement surgery a success. This guide will provide you with a lot of information about your surgery and hopefully answer many of your questions. It is yours to take home, study and keep as a resource to help you prepare for your surgery and recovery.

We understand you may have questions about your surgery. Our goal is to make sure all your questions are answered and that your surgery experience is as pleasant as possible. If you have a specific concern that is not addressed satisfactorily, please feel free to call Premier Surgery Center of Georgia at (912) 264-9029.

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BEFORE SURGERY

We believe the more you know the better you will feel about your upcoming visit to our facility and your overall surgery experience. Being informed about your experience will reduce your anxiety leading up to surgery, which has shown to improve your health the day of surgery. Being well-informed also gives you plenty of time before your surgery to plan and prepare for things that can help you recover well and have a successful outcome.

Please take the time to read this guide as soon as possible, ask questions of our Spine Coordinator/Pre-admission Nurse, and get yourself prepared for surgery.

THE IMPORTANCE OF YOUR COACH

Family and friends are a major part of everyone's life, and during your spine experience their involvement is very important. We highly recommend you to choose a family member or a trusted friend to act as your coach as you go through surgery and recovery. Their help and support will make your journey easier. Your coach can help you prepare before surgery, support you day of surgery and help guide you through your post-operative care. After discharge, your coach will be by your side keeping you motivated, and generally doing what is necessary to get you back on your feet and enjoying the benefits that should come from surgery.

Here are a few suggestions of things your coach can do to help you:

Before surgery

- Help you understand what to expect by reading this information guide and joining you in conversations with your care team.
- Make sure you follow your pre-operative instructions, particularly during the 24-36 hours before your scheduled surgery time.
- Prepare for your return home, using the Pre-Op Checklist following this section.

Day of Surgery

- Come to the facility with you, spend time with you and encourage you prior to surgery.
- Comfort and encourage you after surgery.
- Assist with comfortably getting you back home after discharge.

Following Surgery Discharge

- Make sure you follow your post-operative instructions, including medications, appointments and activity.
- See that you use any ordered equipment according to your surgeon's instructions throughout your recovery process.
- Comfort and encourage you to increase your activity level and do things gradually as your strength improves according to the directions of your surgeon.

PRE-OP HOME CHECKLIST

Preparing for your homecoming prior to your surgery will make your post-op days go much smoother. Being prepared is the key to a relaxed and successful recovery.

Complete the list below before your surgery:

- ☐ Make arrangements to have someone stay with you until you are comfortable being alone.
- ☐ Have enough food on hand and/or arrange for someone to go shopping for you. Prepare meals ahead of time and freeze, as you will not be able to cook right away.
- ☐ Do the laundry, change the linens, and complete other housework before your scheduled surgery.
- ☐ Be prepared with additional pillows for supporting your spine.
- ☐ Have a pair of closed toe/closed heel shoes with good support and non-skid soles.
- ☐ Install a handrail, if possible, for any steps you may be using routinely.
  - — A handrail on each side of the steps is preferable.
- ☐ Make arrangements for walking your pets, mowing the lawn, and bringing in the mail.
- ☐ Remove any obstacles that may cause you to trip: throw rugs, extension cords, pets, pet toys, or low hanging bedspreads.
- ☐ Make sure you have adequate lighting especially at night.
- ☐ Fill your routine prescriptions.
- ☐ Take care of any financial matters such as bills, having cash on hand, etc.
- ☐ Due to bending/lifting restrictions, arrange for plates, pans, and kitchen utensils to be within reach as well as any other items you may frequently need around your home.
- ☐ Have a phone within reach and pre-program important contacts and emergency numbers.
- ☐ Have a comfortable chair with arms to help you when rising. **DO NOT use a chair with wheels under any circumstance.**
- ☐ Have a full tank of gas in your vehicle before and after your scheduled procedure.
- ☐ Make arrangements for someone to drive you to follow-up appointments until released to drive by your doctor.
  - — Timeframe varies based on your procedure and how quickly you are recovering. Questions regarding driving should be addressed with your surgeon's office.

Other Important Information

- **DO NOT** eat, drink, smoke, use tobacco or take medications after midnight on the night before your surgery unless otherwise instructed by your surgeon or pre-admission nurse.
- Talk with the pre-admission nurse and/or surgeon about your diabetic medication, blood thinners, and other medications to stop prior to surgery.
- Most spine surgeries usually last at least 2 hours depending on how many levels the surgeon is working on. Every patient is different. The surgery may take longer in some instances.
- Post-operative recovery time will also vary patient by patient.

PREPARING FOR SURGERY

Diet and Nutrition

- Healthy eating and proper nutrition before and after surgery aids in the healing process.
- Drink plenty of fluids and stay hydrated.
- Eat more fiber to help avoid constipation (often caused by pain medications). Foods that contain fiber include corn, peas, beans, avocados, broccoli, almonds, whole wheat pasta and breads. Avoid fiber supplements such as Metamucil or Benefiber.
- Eat foods rich in iron, such as lean red meat, dark leafy vegetables, raisins, and prunes. This helps with your blood supply.
- Eat foods high in Vitamin C to help your body absorb iron. This includes oranges, cantaloupe, and tomatoes.
- Make sure you are getting enough and calcium, which is needed to keep your bones strong. Foods that are rich in these include milk, cheese, yogurt, dark leafy greens, and fortified cereal.

Eat light meals, especially the day before surgery. The combined effects of anesthesia and your medications may slow down your bowel function. This can cause constipation after surgery.

Resume your diet as tolerated and include vegetables, fruits and proteins (meat, fish, chicken, pork, nuts and eggs) to promote healing. Also, remember to have adequate fluid intake (at least 8 glasses of water a day). It is common after surgery to lack an appetite. This may be the result of anesthesia and pain medications.

Proper nutrition and hydration are needed for healing. During the healing process the body needs increased amounts of calories, protein, vitamins A, C and D, iron, and sometimes the mineral Zinc. Eat a variety of foods to get all the calories, proteins, vitamins and minerals you need.

If you have been told to follow a specific diet, please follow it. What you eat can help heal your incision and prevent infection and potential complications.

If you're not eating well after surgery contact your healthcare provider about nutritional supplements. SSmall, frequent snacks such as peanut butter on an apple, yogurt, nuts, cheese or other foods high in protein and other nutrients will help to stabilize blood sugar and help you feel stronger throughout the day. Protein shakes like Glucerna or Boost can be used as a meal replacement as well.

Protein	Fruits	Vegetables	Grains	Dairy
Chicken	Berries	Kale	Sweet Potatoes	Skim/Low-fat Milk
Turkey	Pomegranate	Spinach	Potatoes	Yogurt
Lean Beef	Watermelon	Brussel Sprouts	Quinoa	Greek Yogurt
Fish/Shellfish	Cantaloupe	Broccoli	Beans	Low-fat Cheese
Wild Game	Oranges	Asparagus	Lentils	Ricotta Cheese
Eggs	Apples	Beets	Edamame	Cottage Cheese
Tofu	Apricots	Tomatoes	Non-fat Refried Beans	Soy Milk
Protein Shakes	Grapefruit	Squash	Brown Rice	Almond Milk
	Cherries	String Beans	Wild Rice	Coconut Milk
	Grapes	Bell Peppers	White Rice	
	Kiwi	Carrots	Corn	
	Mango	Cauliflower	Oatmeal	
	Peaches	Artichokes	Cream of Wheat	
	Plums	Eggplant	Hominy	
	Bananas	Peas	Pasta	
	etc...	Cabbage	Couscous	
		Cucumbers	Crackers	
		Celery	Cereal	
		Lettuce	Bread	
		Mushrooms	Waffles	
		Onions	Pancakes	
		etc...	English Muffin	
			Bagels	
			Tortilla (Corn and Flour)	

Smoking

Smoking causes breathing problems, increases the risk of medical complications, and slows recovery. Smoking also increases the risk of infection and blood clots after surgery. **Some insurance companies require patients to stop smoking before they will approve certain surgeries. For more information on how to quit or decrease usage, please contact your surgeon or primary care provider.**

Alcohol Use

Before surgery, it is important to be honest with your health care providers about your alcohol use. Tell your health care provider how many drinks you have per day/week. This information helps determine if you are at risk for alcohol withdrawal or other alcohol-related problems that could occur after surgery and affect your recovery. **Alcohol is also considered a blood thinner, it should be avoided at least 48 hour before and after surgery, and while taking pain or certain other medications.**

Diabetes and Blood Glucose Management

Managing your blood glucose is always important, but it is extremely important before surgery. Stress before and after surgery can cause your body to release hormones that may make it more difficult to manage blood glucose levels. Surgery can also affect your normal diet and may change your usual medication routine. Your diabetes will be managed throughout the entire surgical process, starting with a thorough review during pre-operative testing and continuing through the post-operative period.

Medications

Some medications thin your blood, increase the risk of bleeding after surgery, or interfere with healing. These medications may need to be stopped before surgery. If you take medications that contain aspirin, anti-inflammatories (such as ibuprofen [Motrin, Advil], naproxen [Aleve]), blood thinners (such as warfarin [Coumadin]) or arthritis medications, ask your surgeon when to stop taking these medications. Some supplements and vitamins (such as Vitamin E, Fish Oil, Turmeric, Ginger, etc.) can also thin the blood and may need to be discontinued before surgery. Since blood-thinning medications affect clotting and bleeding, these medications (plus all your other medications) will be reviewed with you either by your pre-admission nurse or surgeon's office. **If you have any questions about your medications, please contact your surgeon's office.**

THE DAY BEFORE SURGERY

You should receive a call from the facility to confirm your procedure and the time you need to arrive. **If you do not receive a call by 4:00 PM the day before surgery, please call our facility.** For a Monday surgery, call Friday afternoon.

You will be told during your pre-admission interview which medications to take the morning of surgery with a small sip of water.

DO

- Remove all nail polish.
- Shower and wash your hair the night before. Bathing helps reduce the amount of bacteria on the skin and may lessen the risk of infection after surgery. Use the antibacterial wipes or hibiclens soap following the instructions given by your pre-admission nurse.
- Sleep in clean pajamas or clothes.
- Sleep on freshly washed sheets; NO PETS.
- Get a good night's sleep – it is important to be well-rested before surgery.

DO NOT

- **DO NOT** eat or drink anything after MIDNIGHT unless instructed otherwise. Ice chips, gum, mints, cough drops and tobacco are NOT allowed either.
- **DO NOT** use lotions or powders after your shower the night before surgery nor the morning of surgery.
- **DO NOT** shave around the surgical area (neck or back) for 7 days prior to surgery.
- **DO NOT** allow your pet to sleep in the bed with you the night before surgery.

NO SMOKING

NO EATING

NO DRINKING

THE DAY OF SURGERY

It is very important you remember several things on the day of your surgery! **If you do not do the following, your surgery could be canceled!**

1. Take only the medications you have been told you are allowed to take; take them with a small sip of water.
2. **You must follow the strict instructions about food and beverage consumption.**
3. Wash with the wipes or soap as directed.

WHAT SHOULD I BRING TO THE HOSPITAL?

(All personal items may remain in your vehicle until they are needed.)

A Positive Attitude! Confidence in yourself and a desire to return to a more active lifestyle!

Personal Care:

- Toothbrush/toothpaste
- Deodorant
- Eyeglasses/contact lenses, dentures, hearing aides
- CPAP machine with all accessories needed to operate
- Other personal comfort items

Clothing:

- Loose fitting shorts or pants and a comfortable shirt
- Non-skid footies will be provided, however, you should a pair of closed toe/closed heel shoes with good support and non-skid soles

Miscellaneous Items:

- Please bring all medications in their prescribed bottles if you are staying overnight
- Insurance card(s)
- Driver's license or photo ID
- Contact phone numbers
- You may bring personal mobile phones and small personal battery-operated electronic devices if desired
- **ONLY AFTER SURGERY:** Hard candy after you are fully awake. This will help with dry mouth due to the side effects from the pain medication

What should I leave at home?

- Cash over $20
- Valuable items such as wallets, credit cards, checkbooks, and jewelry
- Weapons are not permitted on our facility's campus

FOR YOUR FAMILY/FRIEND

The Surgery Waiting Area

Waiting during a surgical procedure may seem like a very long time for your family. We strive to take excellent care of your family while doing the same for you!

Once you are admitted to the Pre-Operative (Pre-Op) unit, your family may wait in the surgery lobby. Your surgeon will speak with your family immediately after the surgery. You will remain in the Post Anesthesia Care Unit (PACU) until it is safe for you to be moved to the next stage of the recovery process, generally this will take 1-2 hours. Once you are awake, up, and moving, your family will be instructed when they can see you. The nursing staff will guide your family through the recovery process until time for discharge.

ANESTHESIA

Anesthesia is the use of medications and techniques to prevent you from feeling pain during surgery and other procedures. The anesthesiologist is a medical doctor who specializes in administering anesthesia and taking care of you before, during, and after your surgery. The anesthesiologist is assisted by Certified Anesthesia Assistants and Certified Registered Nurse Anesthetists. Together these professionals will be your anesthesia team.

Many medications and procedures are available to your anesthesiologist to prevent you from feeling pain during your surgery. General anesthesia is commonly used for patients having spine surgery. Your surgeon will plan to use this technique for you unless indicated otherwise. Several different medications may be used for general anesthesia – some are inhaled, and some are given through an intravenous (IV) line, which is placed while you are in the pre-operative unit. With general anesthesia, you may have a tube placed in your windpipe to deliver inhaled medication. This may cause your throat to be sore following surgery.

Your anesthesia team will monitor your breathing, heart rate and blood pressure during surgery. We value your safety and concerns. You do not need to worry that you will wake up too early or that you will feel the surgery being performed. Your anesthesia team will make sure you feel no pain and wake up at just the right time!

Please feel free to talk with your surgeon, anesthesiologist, or nurse if you have any questions or concerns about your anesthesia options.

NEUROMONITORING

During a fusion surgery, we must ensure nerve compression is released, but working around the nerves, the surgeon has to be very careful. Because nerves exiting the spinal column are close to the muscle and can even run right over the surface of it, it is critical that the surgeon be provided with real-time information about the position of the nerves relative to his instruments.

Neuromonitoring is a technology that allows the surgeon to assess spinal cord function during surgery through real-time feedback from individual nerve roots, motor tracts, and sensory tracts.

The testing of nerves helps make sure that they are not harmed or irritated during the surgery. Therefore, once asleep, small needles will be placed throughout the head, shoulders, arms, legs, and/or feet to track the nerves that could be affected during the surgery. The nerves will be tested before the surgery starts, and they will be continually monitored throughout the procedure as well. If a nerve begins to show irritation on the monitor, the surgeon will know he needs to proceed carefully. Once the surgery is complete, the needles will be removed. You may notice some small prick marks or feel a little bruised where the needles were, which is normal, but should get better quickly. Neuromonitoring is a critical part of the surgery.

What are the symptoms?

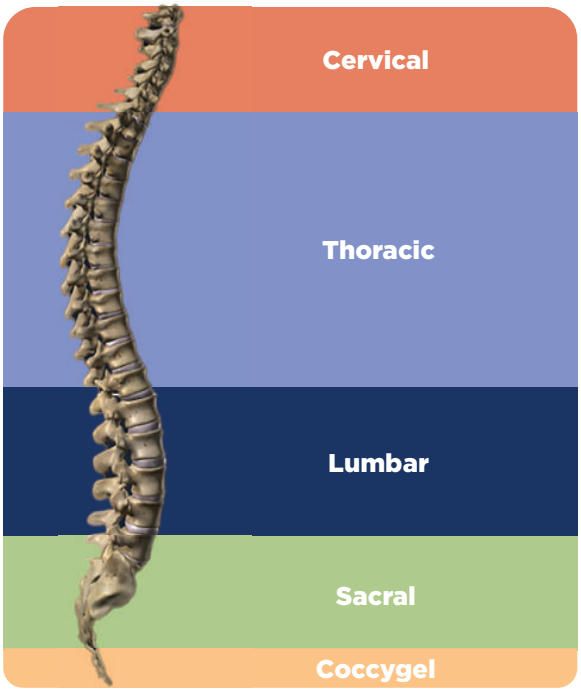
Symptoms of compression may include:

- pain at the site of injury
- pain, numbness, weakness or tingling in the arms or legs
- pain that worsens when bending, twisting and/or sitting
- muscle spasms

In addition to these symptoms, if compression is located in the cervical spine or neck, symptoms may include:

- loss of bladder control
- loss of coordination
- the feeling of heavy limbs
- trouble balancing
- migraines
- vertigo like symptoms

ORTHOPEDIC • SPINE • PAIN CENTER OF EXCELLENCE



SPINE ANATOMY

Cervical Spine:

The cervical spine is made up of 7 vertebrae. It has a lordotic curve, a backwards "C" shape, just like our lumbar spine, which makes these sections of the spine more mobile. The cervical spine has limited muscle support though, so it is at high risk of injury due to strong, sudden movements.

Thoracic Spine:

The thoracic spine is made up of the 12 middle vertebrae. These connect to your ribs. The thoracic spines' curve is kyphotic, a "C" shaped curve with the opening of the "C" in the front. This part of the spine has very narrow, thin intervertebral discs. Rib connections and smaller disc in the thoracic spine limit the amount of spinal movement here.

Lumbar Spine:

The lumbar spine is made up of 5 vertebrae. The vertebrae in the lumbar spine are the largest of the entire spine. The spinal canal is also larger here. The size of the lumbar spine allows for more space for our nerves to move about, which is why low back pain is very common. This is where most of your weight bearing and body movements takes place. Typically people tend to place too much pressure in the lumbar spine, such as when lifting a heavy box, twisting to move a heavy load, or carrying a heavy object. These activities can cause repetitive injuries that can lead to damage in the lumbar spine.

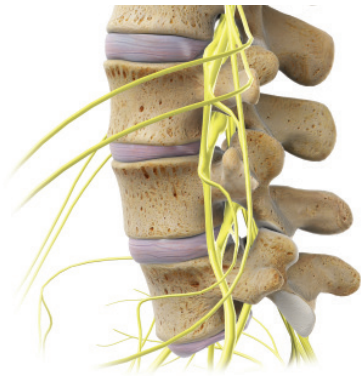
Sacrum:

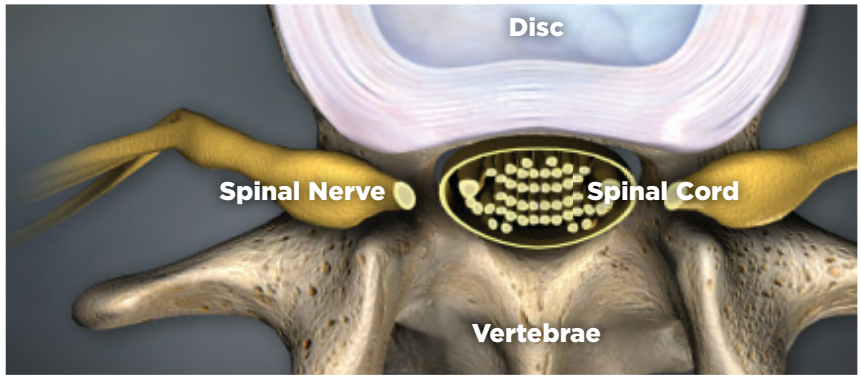
The sacrum is a single bone comprised of 5 vertebrae that fuse during adulthood. This area forms the foundation of the lower back and pelvis.

Coccyx:

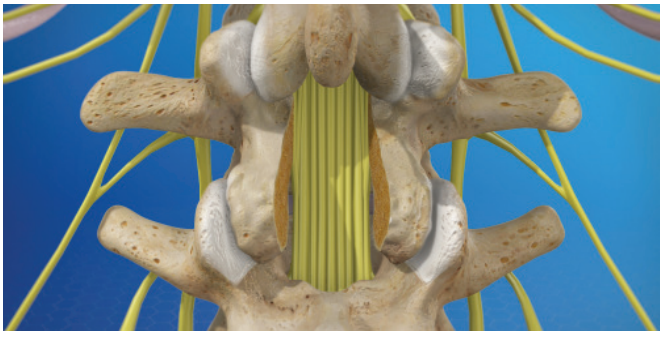
The coccyx, also known as the tailbone, is a small, triangular bone at the bottom of the spine.

COMPONENTS OF THE SPINE





The main three components to consider when deciding if spine surgery is needed are the vertebrae, the disc, and the spinal cord/nerves. When the vertebrae or disc compresses the spinal nerve, this causes numbness, tingling, pain, and over time can lead to weakness in the arms or legs. For people suffering with nerve compression in the neck, you may also have symptoms of headaches, dizziness, and pain in the shoulders. Alternative treatments may be helpful like injections or therapy, but if these alternatives do not work, surgery is usually the answer. Laminectomy, foraminotomy, and discectomy are procedures that can be completed with or without a fusion. If the nerve compression is minor and can be released with one of these procedures, then the less restrictive measures will be used. If more damage is seen, a fusion will then be completed in addition to these procedures for a more in depth clean out and stabilization.

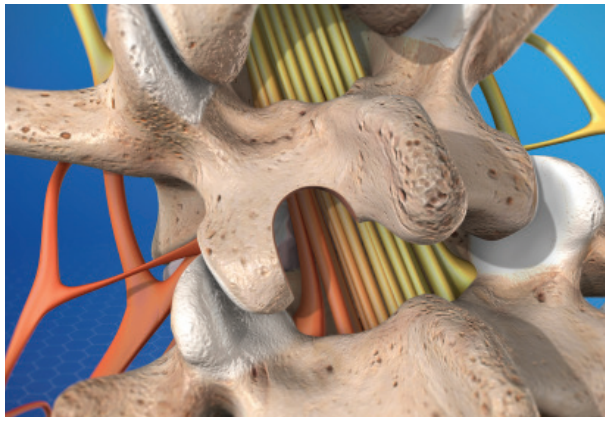


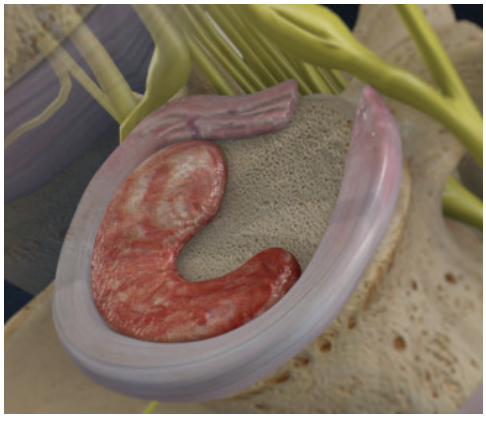
Laminectomy

A Laminectomy creates space by removing bone spurs and tissues associated with arthritis of the spine. The process involves removing a small piece of the vertebrae (bone) called the lamina. Laminectomy enlarges the spinal canal to relieve pressure on the spinal cord or nerves. Laminectomy is often done as part of a decompression surgery.

Foraminotomy

A foraminotomy enlarges the area around one of the bones in your spinal column. The surgery relieves pressure on compressed nerves. During the procedure, your surgeon will make a cut (incision) on your back or neck and expose the affected vertebra. Then he or she can surgically widen your intervertebral foramen, removing whatever blockages are present.

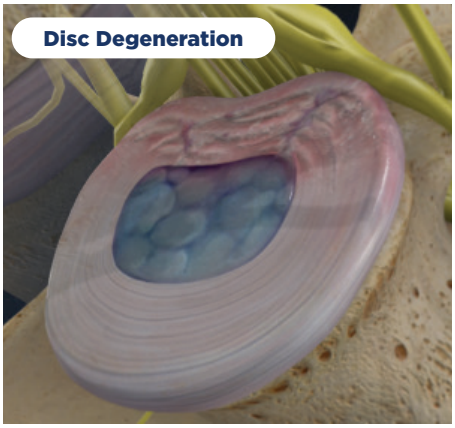


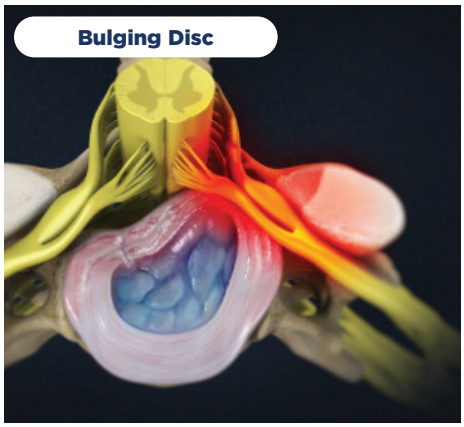


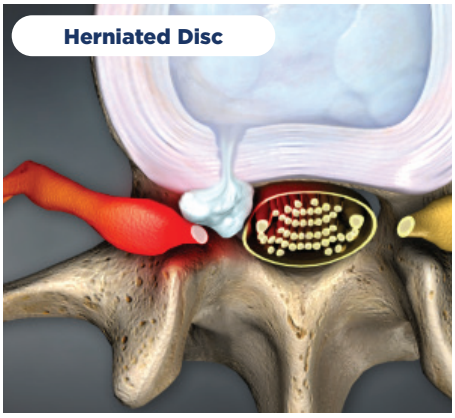
Discectomy

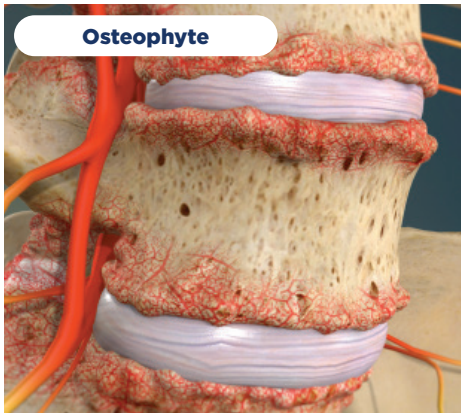
A discectomy is a surgical procedure used to remove the damaged part of the disc in the spine. Discectomy works best for treating pain that travels down the arms or legs from a compressed nerve, and is less helpful for patients that have pain just felt in the back or neck. This procedure is typically used to resolve a herniated or bulging disc.

CONDITIONS OF THE SPINE

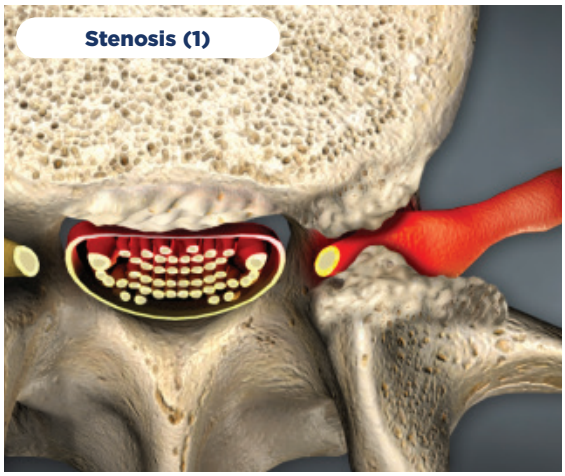


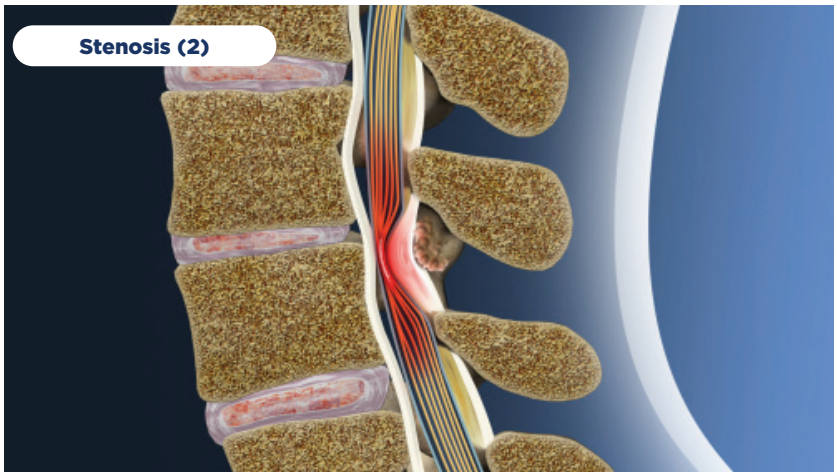




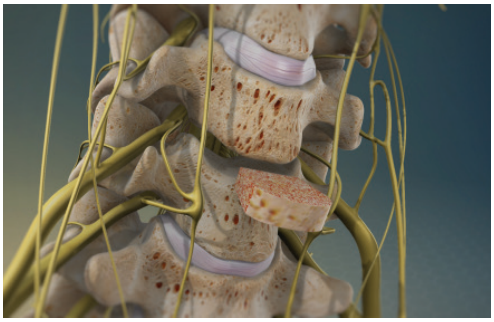


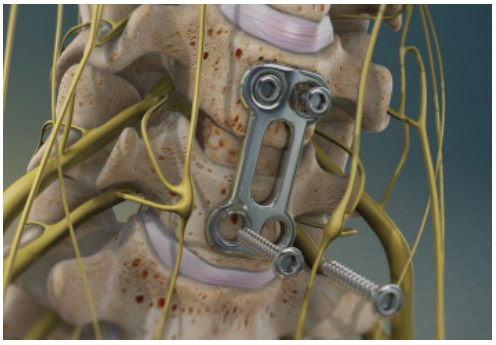
1. **Disc Degeneration** - develops when one or more of the cushioning discs in the spine starts to break down due to wear and tear.
2. **Bulging Disc** - aging can cause a disc to bulge over time, but impact sustained from a traumatic injury can cause a disc in the spine to bulge suddenly. Any minor trauma increases the pressure of the disc's central core, causing stress and stretching of the outer layer
3. **Herniated Disc** - also called a slipped disc or ruptured disc, is the result of a tear in the outer layer of a disc which acts as a shock absorber for the spine.
4. **Thinning Disc** - when disc lose water, content within the gel-like center, the disc's tough outer wall can become brittle and weak.
5. **Osteophyte Formation** - bony outgrowth that the body itself produces in response to a worn out and weakened spine.
6. **Spondylolisthesis** - disorder in which one vertebra (spinal bone) slips onto the vertebra below it. This causes pain in lower back or legs.
7. **Spinal Stenosis** - medical condition in which there is narrowing of the spinal canal. Since this is where the spinal cord is located, the cause of the narrowing may press on the spinal nerves.





CERVICAL (NECK) SURGERY OPTIONS

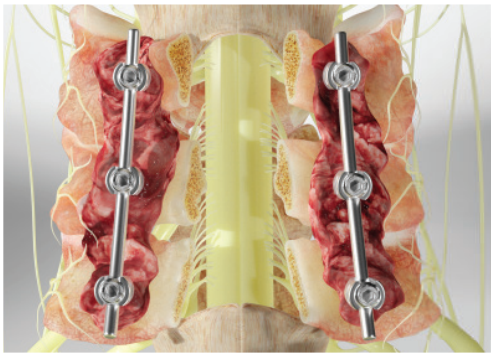




Anterior Cervical Discectomy Fusion (ACDF)

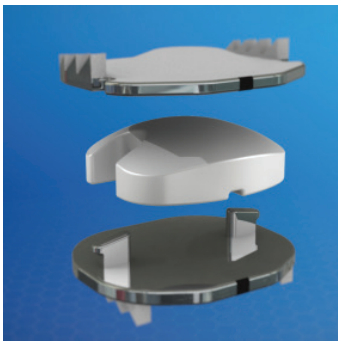
This procedure removes damaged discs from the front of the neck to help relieve spinal cord or nerve root compression. The anterior approach involves less muscle stripping from the spine and allows good access to the discs at the front of the spine. It provides a clear and uncomplicated approach to the cervical spine, and patients tend to have less incisional pain from this approach.

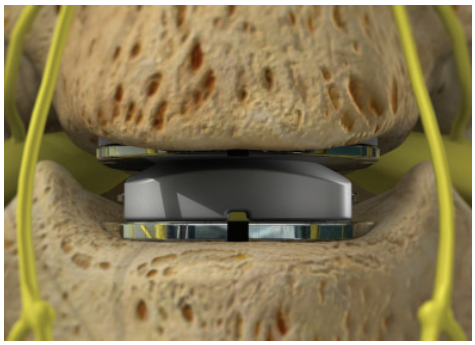
A spacer, peek, cage, or bone graft is inserted into the open disc space, serving as a bridge between the two vertebrae. Overtime, the vertebrae above and below the graft will grow together creating a spinal fusion. After bone grafting, the vertebrae needs to be held together to help the fusion progress. In many cases, surgeons will use plates and screws to hold the spine still. A zero profile option is available as well that screws into the vertebrae not requiring a plate. Either option may increase the rate of successful healing. With added stability, most patients are able to move earlier after surgery. The fusion process takes time. It can take 6 months to a year before the bone is solid, although your comfort level will often improve much faster. During the healing process, the fused spine must be kept in proper alignment.



Posterior Cervical Fusion (PCF)

This procedure involves joining the bones in the back of the cervical spine instead of the front. PCF is generally reserved for those who have something wrong with the spinal bones of the neck, multilevel involvement (greater than 3 levels), compression from the back of the neck as opposed to cervical disc damage, or if the ACDF is not possible due to poor visualization, enlarged thyroid, or failed anterior fusion. In the posterior fusion, a laminectomy is completed then rods and screws are used to stabilize the vertebrae. The rods can be bent which allows the curvature of the spine to remain in its natural "C" shape. Bone graft is used around the facet joints (area where vertebrae meet) to help with the fusion process. Patients having a PCF will continue to experience stiffness in the neck, which is more than likely already an issue. For this procedure you are positioned on your belly with your head supported in a device with pins or a padded headrest.





Disc Replacement

Disc replacement, also known as arthroplasty, is an alternative to a fusion. A disc replacement can be completed in either the neck or back. This type of procedure removes the damaged disc and replaces it with an artificial disc. The discs are made of cartilage-like material, and help maintain the natural movement of the spine unlike with the fusion. However, disc replacement is not a common surgery. This type of procedure is typically used for patients:

- not excessively overweight
- without scoliosis, instability, or other spinal deformities
- has not previously had spine surgery
- limited to no arthritis of the nearby spinal joints
- good bone density
- only affects one to two disc
- patients that have degenerative disc disease or disc herniation

LUMBAR (BACK) SURGERY OPTIONS

There are multiple lower spine surgery options. The following approaches are utilized by our surgeons:

- Disc Replacement (seen previously)
- Posterolateral Fusion (similar to PLIF, but disc is left intact and no interbody used)
- Posterior Lumbar Interbody Fusion (PLIF)
- eXtreme Lateral Interbody Fusion (XLIF)
- XLIF with PLIF
- Transforaminal Lumbar Interbody Fusion (TLIF)
- Sacroiliac Joint Fusion (SI)

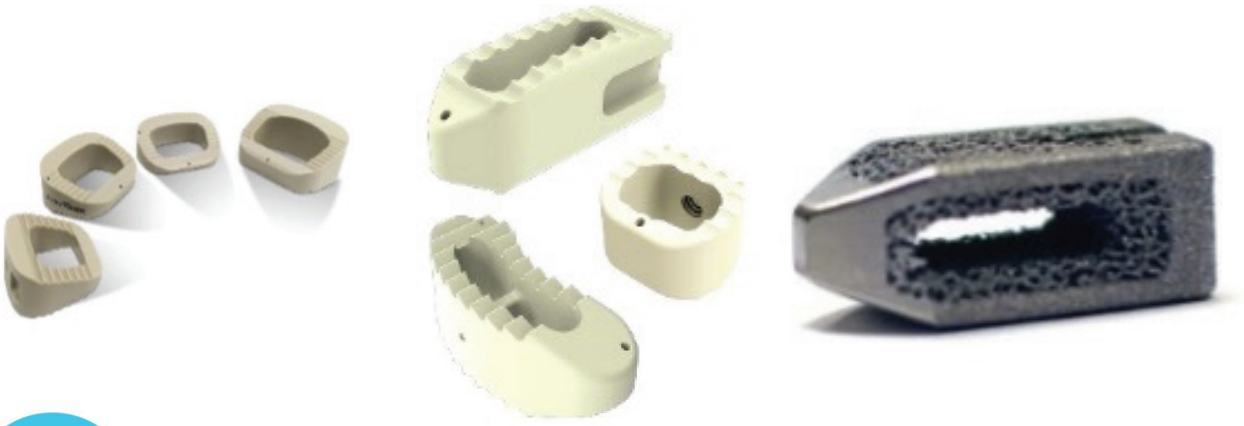
Interbody Fusion

In an interbody spine fusion (PLIF, XLIF, and TLIF), the damaged disc is removed to prepare for graft placement. A bone graft is placed into the interbody and then between the vertebral bodies where the disc usually lies. Overtime, the vertebrae above and below the graft will grow together creating a spinal fusion. Hardware is utilized to aid in stabilization until the fusion can occur.

The interbody comes in different heights, shapes, and sizes for individual personalization. The interbody is a hollow implant made of different materials, such as Titanium, Poly Ethyl Ethyl Ketone (PEEK), or Carbon Fiber. It is designed as a "cage" so that bone graft can be placed inside the hollow cylinder to allow a spinal fusion to occur between two vertebrae.

Benefits of Spinal Cage/Interbody:

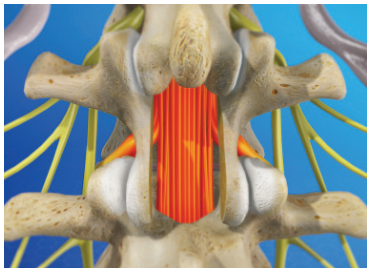
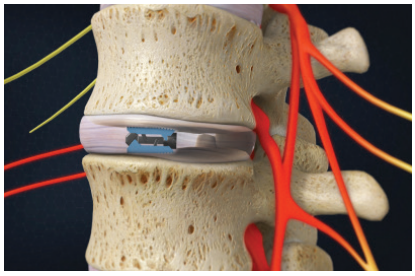
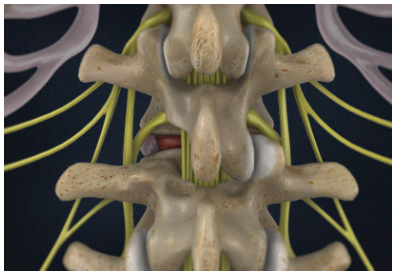
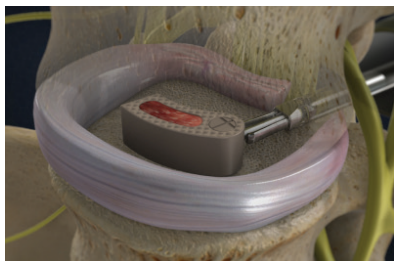
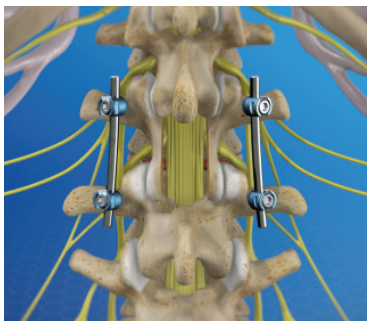
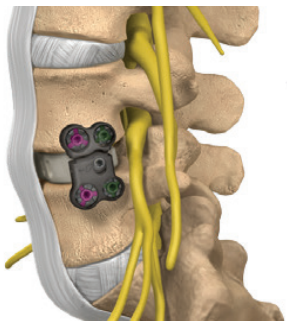
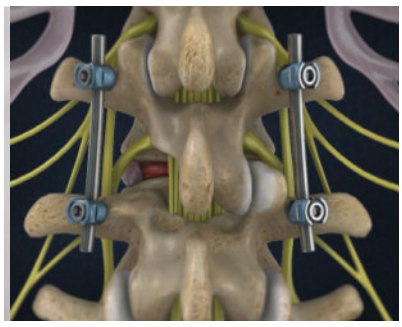
- Restores height of original intervertebral disc
- Expands bony openings between the vertebrae, which provides more space for the spinal nerves
- Restores the normal curvature of the spine
- Transfers the load on the back from the upper spine to lower spine
- Improves stability and balance
- Relieves pain, numbness, tingling, and helps restore function



Rods and Screws are used for the following procedures:

- Posterior Cervical Fusion (PCF)
- Posterior Lumbar Interbody Fusion (PLIF)
- Transforaminal Lumbar Interbody Fusion (TLIF)

COMPARISON OF XLIF VS PLIF VS TLIF

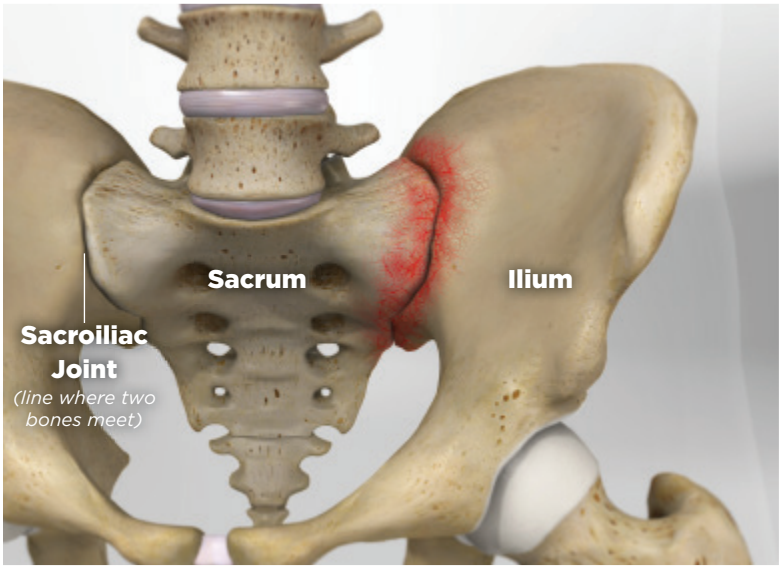
PLIF	XLIF	TLIF
Incision is made on the patient's back.	Incision made on the patients' left or right side.	Incision is made on the patient's back.
Lamina is removed to access the disc space (Laminectomy). 	No bone removed to access the disc space. 	Facet joint removed to access the disc space. 
Interbody placed to help fusion occur to the back of the spine. 	Interbody placed to help fusion occur to the front of the spine. 	Interbody placed to help fusion occur to the front and back of the spine. 
Rods and screws are used for stabilization. 	Plate and screws are used for stabilization. Sometimes only interbody used. 	Rod and screws are used for stabilization. In some instances a plate and screws could be used. 

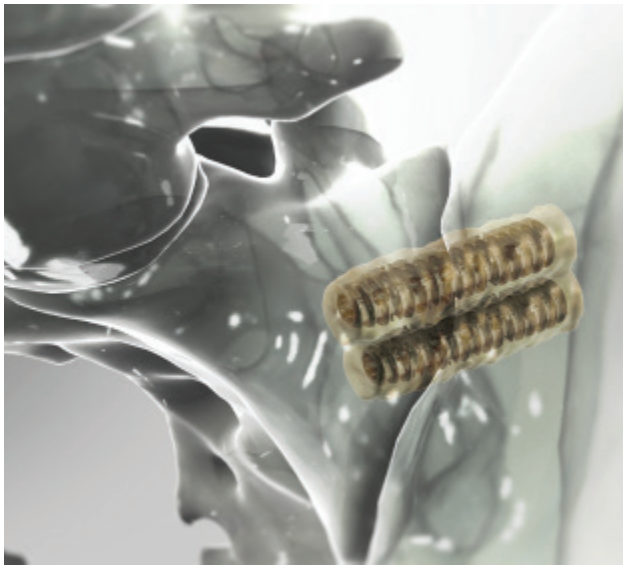
SACROILIAC (SI) JOINT FUSION

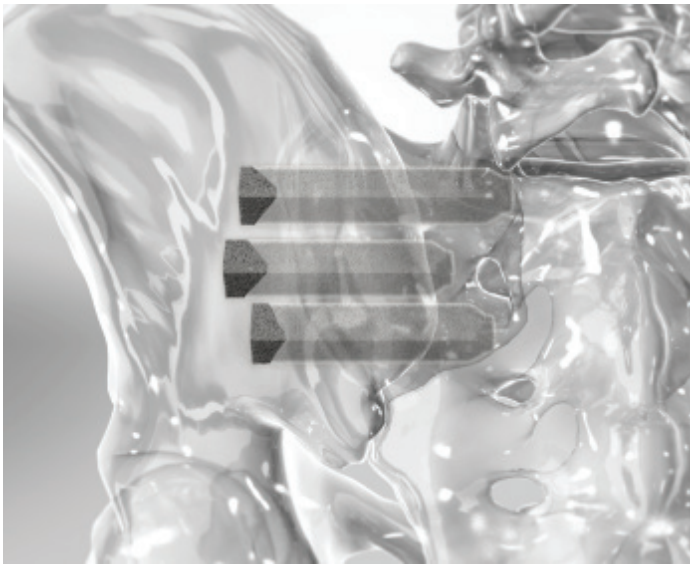
The sacroiliac joint is a low-motion joint that connects the hip bones to either side of the sacrum, acting primarily as a shock-absorber between the lower body and torso. This joint can also be thought of as the point where the base of the spine connects to the pelvis. Dysfunction in the sacroiliac joint (also called the SI joint) can produce significant lower back pain, as well as pelvic, groin, and hip pain. Sacroiliac joint problems can be the result of too much motion, too little motion, or inflammation of the joint. Women who have been pregnant have a higher risk for developing SI joint pain due to changes in the pelvis following pregnancy and childbirth.

The most common method of sacroiliac joint fusion is a minimally-invasive procedure, performed through a small incision in the buttock. A typical SI Joint fusion procedure typically consists of the following basic steps:

1. The patient lays prone (face down) on the operating table under general anesthesia.
2. A small incision, usually ranging from 2 to 3 centimeters, is made in the side of the buttock and the gluteal muscles are dissected to access the ilium.
3. A small guide pin is inserted through the side of the ilium to create a small hole allowing access to the ilium.
4. If a bone graft is necessary, the SI joint is cleaned out, and bone graft is packed into the joint space.
5. The implant is then put into the ilium.
6. The incision is cleaned with saline and closed.







AFTER YOUR SURGERY

Immediately after surgery you will be taken to the Post Anesthesia Care Unit (PACU) to begin your recovery. Our staff will be with you when you wake up from surgery. The anesthesia medications will most likely cause you to have blurred vision, dry mouth, chills, and they may also cause some nausea.

As you wake up, you may see the nurse checking your bandage. Your nurse will also be asking if you are having pain or nausea. Medications are usually available to make you more comfortable. The nurse will be monitoring your vitals such as blood pressure, heart rate, and oxygen level. You will hear these monitors beep. You may also receive oxygen through clear plastic tubing in your nose or via face mask. These are normal things that happen in PACU and you should not be alarmed.

You will remain in PACU until it is safe to move you to the next stage of the recovery process, generally this will be 1-2 hours depending on the anesthetic you had and your individual reaction to it. Please be assured that your family/friend will be updated on your progress and will be notified when they may see you.

PAIN MANAGEMENT

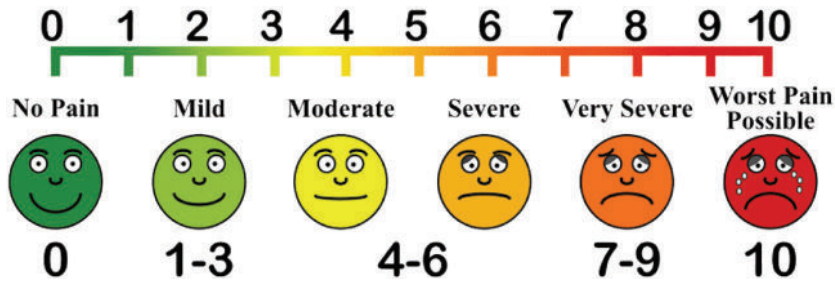
Following spine surgery, pain needs to be managed adequately. Your team is ready to help you; however, for them to help, you MUST tell them about your pain. By telling us about your pain, we can become partners in managing your pain. It is important to be realistic when dealing with pain. The amount of pain that a person feels varies from one individual to another. No two people are exactly alike.

It is important to think along the lines of “under control” as opposed to “no pain”.

Please tell your care team if you believe your pain is under control or preventing your ability to participate in your care and rehabilitation. If you are unable to use the pain scale, your care team will rely on other signals of pain such as facial expressions, activity, movement, and sweating to name a few. You will be assessed routinely for existing pain and pain relief using the following scale.

Other Possible Ways to Manage Pain

- Changing your position every 1-2 hours
- Positioning your pillows for comfort
- Sleeping
- Listening to music, watching television, or reading a book
- Walking
- Talking to family and friends
- Breathing exercises/relaxation techniques



FOR YOUR SAFETY

Patient safety and satisfaction are our #1 goals. Here are some simple ways that can help keep you safe:

Avoid Falls

- **DO NOT** attempt to raise or lower the bed rails or lean out of your bed. Call for assistance when you need it.
- When you get out of bed wear the hospital provided socks with skid resistant soles to help prevent slipping and falling.
- **ALWAYS** call for assistance when getting in and out of a wheelchair, bed, or reclining chair.
- Call for assistance when going to the bathroom.
- Before getting out of bed, sit on the edge of the bed for a few minutes and make sure you are not dizzy before standing and starting to walk.
- Use your call bell so the nurse and aids can help you.
- Remember the simple rule: **CALL DON’T FALL!**

GOING HOME AND AFTER CARE INSTRUCTIONS

Discharge Instructions

Your doctor will order your discharge from our facility and provide you with specific discharge instructions. These instructions will include:

- Information on how to take your medications
- Managing your pain and how to minimize swelling
- How to care for your dressing and incision
- Warning signs of problems like infection and blood clots
- Activity and diet information
- Contact number for questions
- Follow up appointment with your surgeon

Managing Pain and Discomfort

We encourage you to take your pain medication as soon as you begin to feel pain. **DO NOT** wait until the pain becomes severe. Follow the instructions on the prescription label. You should slowly wean off pain medication as pain becomes more tolerable.

If you need more pain medication you must give a three-day advanced notice before you run out of medication. Please plan ahead, especially for holidays and weekends.

At your surgery follow up appointment, you may have stitches or staples that will be removed. Please take pain medication before this appointment to help manage pain, as well as ensure you have someone to drive you to and from this appointment. Pain medication may cause nausea. Make sure you take your pain medication with a meal or snack to reduce this side effect. If nausea persists, please reach out to your surgeon for a prescription for nausea medication, or they may need to change your pain medication depending on the severity of your side effects.

Tylenol may also be used to help manage pain. For example, if you take pain medication before you go to physical therapy, you can take two (2) Extra Strength Tylenol (1,000 mg) when you return home. This can help reduce the pain and prevent it from becoming too intense until it's time for your next pain medication. Remember, you should not exceed a maximum dose of 4,000 mg of Tylenol within a 24-hour period, unless instructed otherwise by your doctor. It's important to note that some pain medications already contain Tylenol, so you need to consider this when calculating the total amount of Tylenol you consume in a day.

For example, Percocet 5/325 is made up of 5 mg Oxycodone and 325 mg Tylenol. If you are taking one (1) tablet of Percocet every six (6) hours you are taking 1,300 mg of prescribed Tylenol in a 24-hour period. This means you can only take an additional 2,700 mg of over-the-counter Tylenol to stay under the 4,000 mg max dose you are permitted to take in a day. Therefore, you can only take approximately five (5) Extra Strength Tylenol (500 mg each) along with your four (4) Percocet in each 24-hour period. Write down what you are taking to help you keep track of the amount of Tylenol taken so you do not exceed your limit.

Avoid NSAIDs such as Naproxen, Ibuprofen, Advil, Aleve, BC/Goody powders unless your surgeon gives approval to use. Chronic use of NSAIDs may slow the rate of bone growth and the fusion process.

A muscle relaxer will also be given to help control pain. Most patients will experience muscle stiffness/spasms after spine surgery. It is important to keep the muscle relaxer in your system to decrease these symptoms because the more stress your body sustains the longer it takes to heal. Having less muscle stiffness also decreases compression and pain. Take your muscle relaxer until you run out of your prescription.

GOING HOME AND AFTER CARE INSTRUCTIONS

Also remember:

1. You are not permitted to drive a car while taking narcotic pain medication.
2. It may take several days to have a bowel movement. Anesthesia and pain medication often cause constipation. Drink plenty of fluids and eat whole grains, fruits and vegetables. A stool softener or laxative can help bowel function return to normal.
3. Please, do not hesitate to call your surgeon's office with any questions or concerns.

Ice and Heat

Using ice over the incision area will help decrease swelling and reduce pain after surgery. Heat can be used to help relax muscle stiffness or spasms. **Avoid placing heat directly over the incision area.** When using ice or heat place a barrier between heat/ice pack and skin such as hand towel or pillow case. You can use ice or heat for 20 minutes on then 20 minutes off the skin. Avoid leaving on for prolonged periods as this can cause damage to the tissues.

Incision Care

Your incision will be covered with a bandage called a "dressing". Before you go home your surgeon or nurse will explain how to take care of your incision and when to remove your dressing. Make sure you understand these instructions before you leave the facility and who to contact if you need assistance.

Note: How to care for your incision is included in your discharge instructions.

Call your surgeon immediately if you notice any increase in drainage, redness, warmth, or have a fever of 101 degrees Fahrenheit or higher for more than 24 hours. These may be signs that your incision may be infected, and it may require immediate medical attention.

The First 48-hours at Home

No matter how much you prepared for your homecoming, it will be an adjustment. You will likely experience anxiety and question whether you were discharged too early. This is a normal feeling, so relax and focus on your recovery. **DO NOT** ignore signs or symptoms discussed that may indicate you are having a problem, but **DO** expect a moderate level of discomfort and feelings of anxiety in the beginning of your recovery.

Expect a call from our nurses to check on you. This is your opportunity to report any problems and ask questions.

Activity

Follow ALL surgeon and discharge instructions.

DO NOT sit for longer than 30 – 45 minutes at a time. Use chairs with arms. You may nap if you are tired but do not stay in bed all day. Frequent short walks – either indoors or outdoors – are the key to a successful recovery. **Make sure to walk on level surfaces to prevent falls.**

You may experience discomfort and find it difficult to sleep at night initially. This is a normal part of the recovery process. Getting up and moving around relieves some of the discomfort. Try to relax as much as possible. The more relaxed you are the better you will feel. If you stay tense, you will create more stress slowing the healing process.

Children and Pets

Small children and pets can pose a safety hazard. Small children may need to be taught how to interact with you in ways that keep you safe. If you have pets, make arrangements to keep pets in another area of the house when you arrive home. Pet hair and dirt can cause infections at the incision site, so we encourage you to keep pets out of your bed and launder linens prior to surgery. **Wear clean pajamas to bed each night until your incision is completely healed.**

CONSTIPATION

Did You Know?

Narcotic pain medication causes constipation in most people. This medicine slows down the natural motion in the intestinal tract and causes the stool to become hard. If you have hard bowel movements, have trouble passing bowel movements, and the movements are not often enough, then you have constipation.

Constipation Prevention

- Make a plan and stick to it as long as you are taking narcotic pain medication. Here are some things to include in your plan:
- Eat or drink things that have helped you to relieve constipation in the past.
- Eat foods high in fiber or roughage. This includes foods such as uncooked fruits, raw vegetables, and whole grain breads and cereals.
- Take a daily stool softener that contains the compound docusate (for example, **Colace**). This increases the water absorption in the stool and keeps it soft.
- Bulk laxatives, like Metamucil®, absorb water and expand to increase bulk and moisture in the stool. They may not be the best to use for constipation relief from narcotics.
  - They should only be used if you are able to drink plenty of fluids throughout the day because without extra fluids they can cause further constipation.

Drink plenty of liquids. 64 – 80 ounces of fluid each day will help keep your stools soft. Warm liquids often help your bowels to move. Try warm prune juice.

- **Milk of Magnesia**: Take two (2) tablespoons at bedtime. If you do not have a bowel movement the following morning, take a second dose of two (2) tablespoons that morning. This is to be followed that evening by a third dose of two (2) tablespoons. Normally, you will have a response to the MOM by the 2nd or 3rd dose.
- **Dulcolax® (bisacodyl):** Take one (1) capsule at bedtime. If you do not have a bowel movement the following morning, take a second dose of one (1) capsule that morning. This is to be followed by a third dose of one (1) capsule at night. You should have a response to the Dulcolax by the 2nd or 3rd dose.
- **Senokot® (senna):** Take two (2) capsules at bedtime. If you do not have a bowel movement the following morning, take a second dose of two (2) capsules that morning. This is to be followed by a third dose of two (2) capsules at night. You should have a response to the Senokot by the 2nd or 3rd dose.

If the above laxatives do not work, you may need a more “active” laxative.

- **Magnesium Citrate:** Drink one, full bottle, “chilled”. It will taste like a salty, lemon-lime soda and drinking through a straw may make it easier to tolerate. You may notice some abdominal gurgling and it should work anywhere from 1 to 12 hours. It is recommended that you stay near a bathroom if you take this laxative.

POST OPERATIVE URINARY RETENTION (POUR)

Urinary retention is the inability to empty the bladder and is fairly common following anesthesia and surgery. We follow standard guidelines to identify individuals with risk factors of POUR. Interventions are initiated if needed.

Preoperative Risk Factors	Intraoperative or Postoperative Risk Factors
Age over 50	Prolonged length of surgery
Male	Excessive exposure to cold
Diabetes	Narcotic pain medications
Excessive alcohol intake	Pain
Constipation	Anesthesia
Elevated serum creatinine (kidney function)	Immobility
Renal insufficiency or kidney disease	Fluids consumed by mouth or IV infusion
Urethral narrowing (BPH, prostate cancer, tumor prostatitis)	
Cystocele, rectocele, bladder suspension (female)	
History of chronic Urinary Tract Infections	

Medications such as antihistamines (allergy medicine), antidepressants, anticholinergics/antispasmodics (treat muscle spasms, stomach cramps and urinary incontinence) can be used to help wake the bladder up after surgery.

Bladder Basics

When you urinate, the brain signals the bladder muscle to tighten, squeezing urine out of the bladder while at the same time, the brain signals the sphincter muscles to relax. As these muscles relax, urine exits the bladder through the urethra. When all signals occur in the correct order, normal urination occurs.

Urinary retention can be caused by an obstruction (blockage) in the urinary tract or by nerve problems that interfere with signals between the brain and the bladder. If the nerves aren't working properly, the brain may not get the message that the bladder is full. Even if you know that your bladder is full, the bladder muscle that squeezes urine out may not get the signal that it is time to push, or the sphincter muscles may not get the signal that it is time to relax. A weak bladder muscle can also cause retention.

Urinary retention can be acute, short term but a serious complication, or it can be chronic, an ongoing problem that can persist for weeks or months. Symptoms of acute urinary retention include bladder discomfort or pain, having the urge to urinate but can't, and your lower abdomen bulging above the pubic bone. Symptoms of a less serious form of urinary retention that can happen after surgery include a delay in getting the urine stream started or feeling as the though the bladder is still full after urinating.

For patients with no history of having difficulty urinating prior to surgery, the problem is often attributed to a combination of risk factors that include anesthesia, pain medications and fluids given by IV during surgery. Following your surgery, the nursing staff will be measuring your INTAKE (the amount of IV fluids you receive and the fluids you drink) and measuring your OUTPUT (amount of urine, collected drainage from your wound, and if you should vomit).

If you are unable to urinate within 4-6 hours after surgery your bladder volume may be checked using a device called bladder scanner. This device is moved over your lower abdomen and it will read the amount of urine in your bladder. If there is 400- 600 ml (13 – 20 ounces) your nurse will initiate some interventions such as assisting you out of bed, offer toileting or bedside commode, standing with urinal at bedside (males) and providing privacy. If these don't work, then a soft flexible tube called a catheter will be placed into your bladder to drain the urine and relieve the pressure in your bladder. The catheter may be left in for 24 hours to allow time for your nerve impulses to "wake up" after surgery or it may be removed as soon as the bladder is drained.

You should inform your nurse of any pre-existing problem with urination so measures to avoid urinary retention may be started early. Many times, this involves taking medicine, so the use of a urinary catheter may be avoided.

WARNING SIGNS OF COMPLICATION AND INFECTION

If present, the following conditions are serious and could have life threatening consequences if not treated. If you have blood saturating through your dressing, other signs of a serious infection, or symptoms of Deep Vein Thrombosis (DVT) you should contact your surgeon immediately. If you are unable to contact your surgeon about bleeding concerns, or you think you are experiencing a Pulmonary Embolism (PE) go to your nearest emergency room or call 911 immediately.

WARNING SIGNS OF INFECTION

Notify your surgeon if you experience:

- Fever of 101 or higher for more than 24 hours.
- Persistent redness and drainage from the surgical incision (pus, foul odor).
- Increase in pain and/or localized tenderness and swelling.

A small amount of bleeding or clear/pink tinged drainage on the dressing or around the incision is not alarming and should decrease in 2-3 days following surgery.

Preventing Infections

- **DO NOT** put anything on your incision unless directed by your surgeon until incision has completely healed: **NO** Vaseline, lotions, ointments, oils, etc.
- **ALWAYS** wash your hands before and after going to the bathroom to prevent infections.
- **KEEP** incision clean and dry.
- **DO NOT** allow pets to sleep with you. Keep bed linens and sitting area clean of pet hair.
- **DO NOT** allow your pet to lick your wound.

WARNING SIGNS OF DEEP VEIN THROMBOSIS (DVT)

Notify your surgeon if you experience:

- Increased pain in your calf or thigh.
- Tenderness or redness above or below the incision.
- Increased swelling in your calf, ankle or foot that does not decrease with elevation.
- Pain in thigh or calf muscle when walking, pain may decrease or go away when resting, then comes back when you get back up to walk again.

Preventing Blood Clots

- Ensure you are wearing your compression stockings provided during surgery to prevent blood clot formation. These should be worn until your follow up appointment and usage is based on your surgeon's instructions. If you need a break from wearing the stockings, you can take them off for a few hours and then put them back on.

WARNING SIGNS OF PULMONARY EMBOLISM (PE)

Call 911 or go to the nearest medical facility if you experience:

- Sudden increased shortness of breath.
- Sudden onset of chest/shoulder pain.
- Localized chest pain with coughing.

POST-OPERATIVE NAUSEA AND VOMITING

All patients are given medication to prevent nausea and vomiting before, during and after surgery. Some patients still have nausea and vomiting even after receiving medication.

To help prevent further nausea and vomiting we recommend you try the following

1. Clear liquids at first then slowly progress to non-spicy and bland foods such as jello, mashed potatoes, grits, soup, and toast.
2. Take prescribed medications for nausea if given at discharge.
3. Drink ginger ale which has been known to help calm nausea and vomiting.
4. If none of the above help call your surgeon.

EXERCISING YOUR LUNGS

Deep breathing can help prevent pneumonia or other problems that can slow down your recovery and lengthen your stay inside the facility.

Your doctor will want you to use a device called an incentive spirometer, which helps you breathe in and out correctly. It is important to perform your breathing exercises every 1-2 hours while you are awake.

We encourage patients to take the incentive spirometer home and continue to use for several weeks until you have resumed normal activity.

Incentive Spirometry Technique:

1. Sit up as straight as possible.
2. Hold the incentive spirometer in an upright position.
3. Exhale normally.
4. Place your lips tightly around the mouthpiece.
5. Breathe in slowly and as deeply as possible, raising the volume indicator toward the top of the column. Keep the colored flow rate guide in the “best” range. This coaches you to not breathe too fast or too slow.
6. Hold your breath as long as possible (for at least 5 seconds).
7. Remove the mouthpiece from your lips and exhale slowly.
8. Allow the volume indicator to return to the bottom of the column.
9. Rest for a few seconds and repeat at least 10 times every 1-2 hours while you are awake.

After you complete your breathing exercises you should cough to help remove any fluid that may be in your lungs.

RECOVERY

With any type of neck or back surgery, recovery is individualized and will take time. The timeframe depends on what type of surgery you are having, how extensive the repair is, how significant your symptoms were before surgery, and how you rest to allow your body to heal. However, most patients require a 6-8 week recovery period to get back to normal daily living without restrictions. With that in mind, some patients can return to work during this timeframe if they have a lite duty desk job. More manual labor jobs take closer to the 6-8 week timeframe, and in some instances, the surgeon may recommend not returning to that type of work. For questions regarding this, please talk with your surgeon.

Your first post-operative follow up appointment is usually 2-3 weeks after your surgery. At this appointment, your surgeon with take an x-ray if you have not already obtained one before the appointment, take out staples or stitches, and evaluate your progress/symptoms since completion of the surgery. This will help your surgeon determine if you need to remain on certain movement precautions, or if you will be able to start progressing back to activities of daily living by yourself.

Until your first follow up, you will want to follow these precautions:

No bending

- **DO NOT** bend forward at the waist more than 90 degrees, such as to pick something up off the floor or to pull blankets up from the foot of the bed.
- **DO NOT** raise your knees higher than your hips.
- **DO NOT** bend from side to side. Be careful not to rest in a position that has you bent to the side.

No lifting

- **DO NOT** lift anything more than 5-8 pounds. Items typically weighing more include bag of groceries, a full laundry basket, pets, children, vacuum cleaner, full garbage bag, watermelon, sugar/flour, or sack of potatoes. A gallon of milk weighs about 8 pounds.
- When lifting less than 5-8 pounds, be sure to keep the item close to your body.

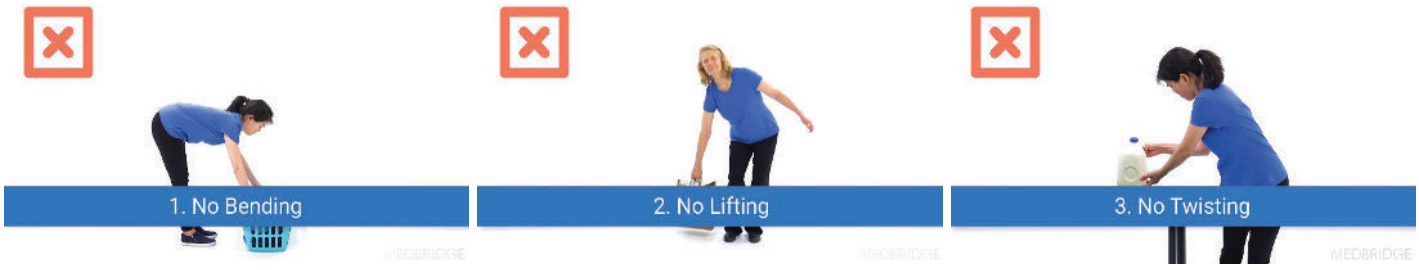
No twisting

- **DO NOT** twist your trunk when turning or performing an activity. Shift your feet to turn your whole body instead. For neck surgery patients: **NO** quick twisting or fast movements of the neck.
- Log roll to turn over or to get out of bed. When lying on your side, place a pillow between your knees to help your spine alignment.

Other Precautions

- If you have to climb stairs, make sure you have a secure handrail. Lead up with the stronger leg first, but proceed down the stairs with the weaker leg first.
- Use a chair with arms to help when getting up and down. Avoid sitting on low couches or toilet seat. **DO NOT** use a chair with wheels.
- Wear closed toe/heel shoes with a firm grip to prevent falling.
- Rest. Avoid any heavy house or yard work until released to do so. The more stress placed on the body initially the slower your body will heal.
- No leash-walking pets until cleared by your surgeon.

Your precautions may be different depending on your surgeon's preferences. Be sure to follow the instructions your health care team gives you. If you have any questions about which positions and movements to avoid, contact your surgeon's office.



FREQUENTLY ASKED QUESTIONS

Avoid activities such as jogging, tennis, basketball, skiing, football, golf, pickle ball, swimming etc. Talk with your surgeon about if or when you can resume these activities. Always consult your surgeon prior to participating in any high impact or injury prone sports.

When can I return to work?

The physical demands required for your job, as well as your own progress, will determine when you can return to work. Your surgeon will guide you in the process of returning to work.

When can I drive?

How soon you can resume driving will depend on several factors such as your progress, type of car you drive, what type of surgery you had, and if you are still taking prescription pain medications. You should NOT consider driving until you are released to do so by your surgeon.

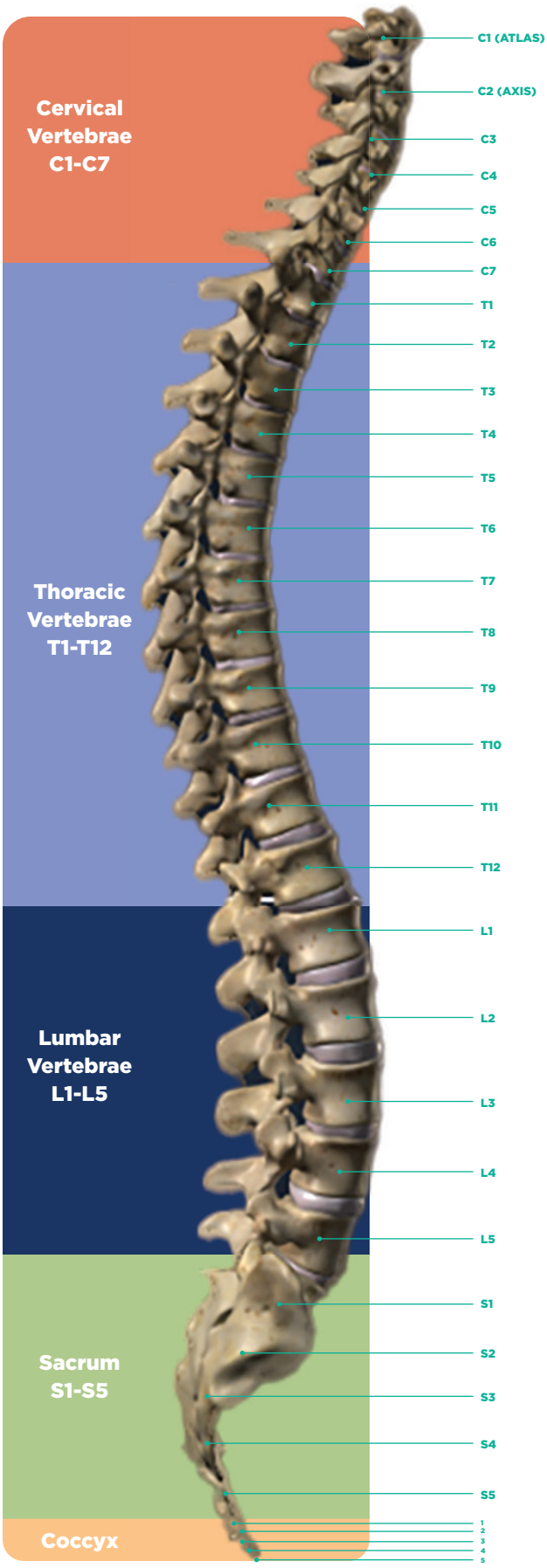
I feel a little depressed. Is that normal?

Yes. You have been through a lot. You are not sick. You probably do not like to be slowed down this much. Remember, your recovery is not a sprint, it is a marathon. Keep track of all your progress. Talk about how you feel with someone. Side effects of the narcotic medications will make these feelings worse. The sooner you can stop taking them, the better.

How will this affect my sleep?

It is very important to get your rest. Sometimes it will be difficult to find a comfortable position to sleep. Try to change positions while sleeping. Some patients even find it helpful to sleep in a recliner for the first few weeks. Extra pillows supporting the spine can help make sleeping more comfortable.

PROCEDURE:



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