Neurosurgery & Spine

ROPER ST. FRANCIS HEALTHCARE

Enhanced Recovery After Surgery

www.rsfh.com

SURGERY

- ☐ Anterior Cervical Discectomy/Fusion
- ☐ Posterior Cervical Decompression/Fusion
- ☐ Lumbar Discectomy
- ☐ Lumbar Fusion
- ☐ Lumbar Laminectomy
- ☐ _____
- ☐ Notify your Primary Care Physician of your decision to have surgery as a courtesy
- ☐ Order for Brace (if Surgeon determines one is needed)
- ☐ Pre-Admission Testing - they will review your medical history, surgical history, medications.
- ☐ Identify coach/caregiver & bring them to class

Date of Surgery: _____ Follow up Appointment: _____

*As a courtesy, please notify your Primary Care Physician of your decision to have surgery

Order for brace (per surgeon request) _____

Spine Health Videos:

www.rsfh.com/brain-spine-nerve/patient-resources

https://www.aans.org/Patients/Neurosurgical-Conditions-and-Treatments

https://www.aans.org/Patients/Patients-Education-Videos

Table of Contents:

CH. 1: Intro & Health Care Team

You are being admitted to Roper St. Francis Healthcare for Spine surgery. It is normal to feel anxious about what to expect from surgery. This book will tell you how to prepare for your surgery, tell you what to expect during your hospital stay and how to take care of yourself when you go home. Please read and bring this booklet to the hospital. The Healthcare Team Members will refer to this book during your hospital stay.

Healthcare Team:

The following members of the healthcare team will help during your hospital stay.

Neurosurgeon

Your Neurosurgeon is a physician who is a graduate of a medical school and has completed a Neurosurgery residency and in some cases as additional fellowship program. He will perform your operation and answer any questions you might have. He will oversee your care.

Advanced Practitioner Provider (APP): Physician's Assistant (PA) or Nurse Practitioner (NP)

A Physician Assistant or Nurse Practitioner, along with your surgeon, will discuss what to expect before surgery, while you are in the hospital, as well as after you go home. They are licensed individuals who can oversee your care, under the supervision of and in collaboration with, your neurosurgeon. You will see the APP in follow up 1-2 weeks after you are discharged from the hospital.

Clinical Manager (Nurse Manager)

The Clinical Manager providers leadership, direction, and supervision to ensure the clinical unit is running effectively and efficiently.

Specialized Nursing Staff

Our nurses are experienced in caring for patients with spinal disorders. During your stay, they will implement your doctor's orders, provide you with education and instructions, and coordinate routine daily activities.

Patient Care Technician

The Patient Care Technician (PCT) will work with the team to help with your care. For example, they help with providing baths, getting you out of bed, and assisting you to the toilet. They also track vital signs and report to the RN.

Case Manager/Discharge Planner

The Case Manager will meet with you and your family for discharge planning services, counseling, community information and help with any equipment ordered by your surgeon.

Physical & Occupational Therapy

Our therapists may work with you to improve function and independence with walking and your activities of daily living while using optimal body mechanics. The therapist may instruct you in specific exercises to strengthen, regain range of motion, relearn movement and/or rehabilitate your musculoskeletal system. They will also teach you about "Spine Precautions" to follow when you leave the hospital.

Speech Therapy

If needed, a Speech Therapist is responsible for working with you after your surgery to ensure you are not having any difficulties with swallowing.

Respiratory Therapy

If needed, a Respiratory Therapist is responsible for giving you medications after surgery that will help keep your lungs clear. If you use inhalers, they will administer them for you. If you use a CPAP, they will set it up for you. They may need to work with you on coughing and deep breathing exercises to prevent complications after your operation.

DME- Durable Medical Equipment

They are responsible for fitting you with a brace. They will provide you with your physician's instructions, including how to put your brace on and when to wear it.

Your Caregiver

Your caregiver will be assisting you upon discharge from the hospital. Things you may need your caregiver to help you with may include bandage changes, running errands, providing transportation for appointments, preparing meals and household chores. Please decide who will be your caregiver prior to surgery.

CH. 2: Understanding Your Spine

While many spine conditions can be successfully treated with non-surgical methods, some cannot. Now that you and your surgeon have decided surgery is the best option for your condition, it will be especially helpful to have an in-depth understanding of your spine. These diagrams may help you understand some of the terms your provider might use.

SPINAL ANATOMY: The function of the spine (sometimes call the vertebral column or spinal column) is to protect and support the spinal cord, nerve roots, and internal organs. The spine provides a base of attachment for discs, spinal ligaments, tendons, and muscles. The spinal column connects the upper and lower body, provides structural support, aids in balance, and helps distribute weight. The structural elements permit forward and backward bending, spinal rotation, and combined movements within normal limits. The spinal or vertebral column consists of 33 bony vertebrae. The regions or levels of the spine are known as the cervical (neck), thoracic (upper/middle back), lumbar (lower back), sacral (pelvic area) and coccyx (tailbone).

Cervical Spine: The neck region is the cervical spine. This region consists of seven vertebrae, abbreviated C1 through C7 (top to bottom). These vertebrae protect the brainstem and spinal cord, support the skull and allow a wide range of head movement.

Thoracic Spine: Below the cervical spine are 12 thoracic vertebrae, abbreviated T1-T12 (top to bottom). T1 is the smallest and T12 is the largest. The thoracic vertebrae are larger than the cervical vertebrae and have longer spinous process. Rib attachments add to the thoracic spine's strength and stability.

Lumbar Spine: The lumbar spine consists of five vertebrae, abbreviated L1-L5. The lumbar vertebrae are the largest in the spine and carry most of the body's weight. This region allows more range of motion than the thoracic spine, but less than the cervical spine.

Sacral Spine: The sacrum is located behind the pelvis. Five bones, abbreviated S-S5, fused into a triangular shape, form the sacrum. The sacrum fits between the two hip bones connecting the spine to the pelvis. The last lumbar vertebra (L5) articulates (moves) with the sacrum. Immediately below the sacrum are five additional bones, fused together to form the coccyx (tailbone).

Vertebrae: Each spinal vertebrae is composed of many different bony structures. The vertebral body is the largest part of a vertebra.

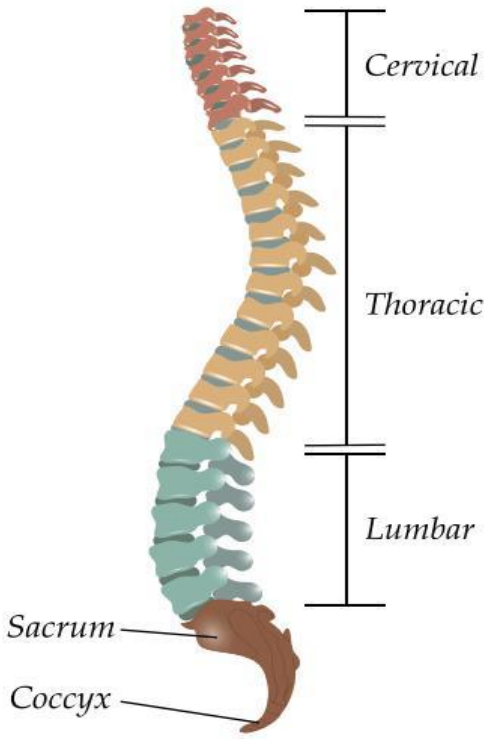
Intervertebral Discs: Intervertebral discs provide cushioning between the spine's vertebral bodies (except for the first two cervical vertebrae). Comprised of fibrocartilaginous material, each normal sturdy intervertebral disc effectively absorbs and distributes the spinal stress you have at rest and while you're moving.

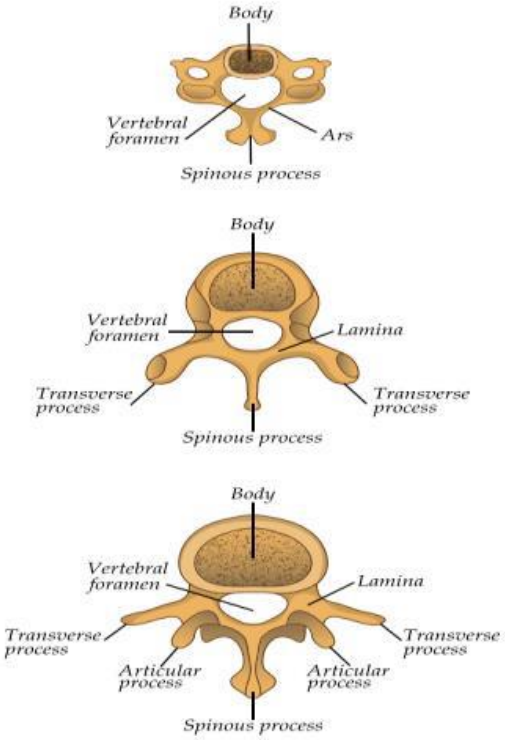
Each disc is made up of two parts: the annulus fibrosus and the nucleus pulposus. The annulus fibrosus is a sturdy tire-like outer structure that encases a gel-like center, the nucleus pulposus.

Muscles, Tendons and Ligaments: Spinal muscles, tendons and ligaments work together to keep the spine stable at rest and during activity. The muscles contract to cause the body to move.

Tendons connect the spinal musculature to the spine. Tendons are sturdy bands of fibrous connective tissue.

Spinal Ligaments are non-elastic fibrous bands or sheets of connective tissue that hold the bones together. Ligaments limit motion and, if overstretched, can contribute to joint instability.





CH. 3: Why do I Need Spine Surgery?

Surgery is always the last resort and may be warranted for specific conditions, such as:

-Degenerative disc disease

-Herniated or bulging discs

-Compressed nerves

-Osteoarthritis

-Compression fractures

-Spinal stenosis (narrowing of the spinal canal)

SPINAL DISORDERS EXPLAINED:

Herniated Disc

A disc herniation occurs when the outer wall of the disc (annulus fibrosus) tears, breaks open or ruptures. Some of the matter inside the disc (nucleus pulposus) leaks out and compresses nearby spinal nerves and/or the spinal cord. Although a disc herniation can occur at any level of the spine, the lumbar spine (lower back) and cervical spine (neck) are the most common locations affected. The location of the herniated disc determines where the symptoms are experienced in the body. Symptoms such as numbness and tingling, pain and/or muscle weakness may be experienced in the arm(s) or leg(s) as a results of a herniated disc.

Degenerative Disc Disease

The spinal condition comes from the normal wear and tear process of aging. As we age, our discs lose some of their flexibility, elasticity, and shock absorbing ability. Degenerative disc disease may become ***problematic if the disc height is reduced or if the disc become thin and stiffen.***

Spinal Stenosis

Spinal stenosis is a condition characterized by the progressive narrowing of one or more areas of the spine. Spinal stenosis can result in the compression of the spinal nerves and spinal cord. Although spinal stenosis can occur anywhere in the spine, the cervical and lumbar areas are most affected. This condition can lead to the development of pain, numbness, weakness in the arms and/or legs or balance disturbances.

Spondylosis

Spondylosis is arthritis of the spine and is often called spinal osteoarthritis. Spondylosis can occur in the cervical, thoracic, or lumbar spine. As with other joints in the body, osteoarthritis causes progressive degeneration of cartilage. Some patients are asymptomatic (have no symptoms) and learn they have spondylosis as a result of X-ray or examination for another problem.

Spondylolisthesis

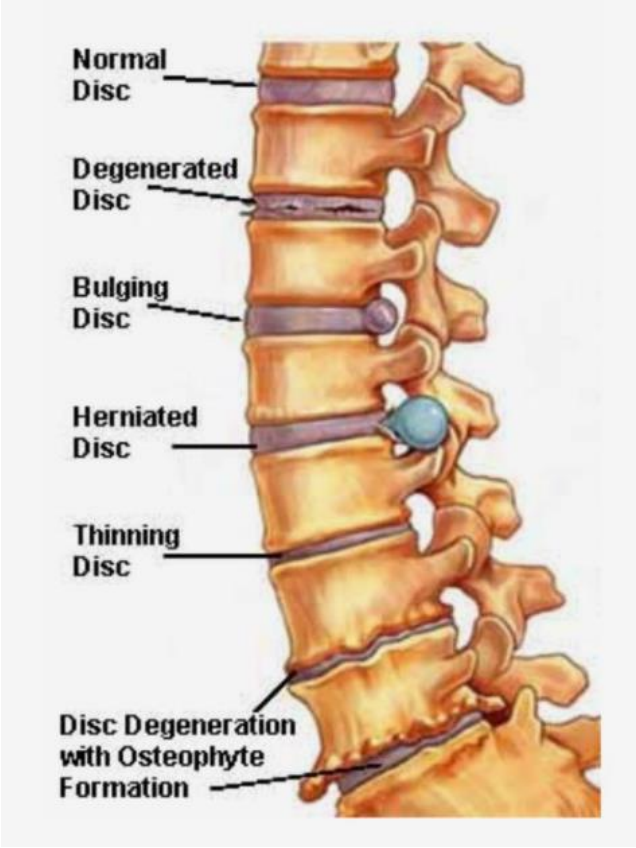
Spondylolisthesis comes from the Greek words *spondylo*, meaning vertebrae, and *listhesis*, meaning slipping or sliding. Spondylolisthesis is a spinal condition in which a vertebra slips forward over the vertebrae below. This disorder most commonly occurs in the lumbar spine. Although spondylolisthesis can cause spinal instability, not all patients experience pain.

Radiculopathy

Radiculopathy is not a disease itself, but the result of direct pressure or compression on a nerve root due to a herniated disc or degenerative changes. The nerve roots are branches of the spinal cord that carry signals to the rest of the body at each level along the spine. The location of the radicular symptoms depends on the area supplied by the specific nerve root that is compressed.

Myelopathy

Myelopathy is a term used to describe a disease or disorder of the spinal cord (for example, spinal cord compression). Myelopathy can occur at any age and is often due to the compression of the spinal cord by bone or disc material in the cervical spine.



CH. 4: Types of Spinal Surgery

Spinal fusion- surgical procedure used to correct problems with the bones of the spine (or vertebrae). A fusion essentially "welds" or joins two or more vertebrae of your spine together. During the procedure, your surgeon places bone, or a bone-like material, within the space between two spinal vertebrae. Metal plates, screws, and rods may be used to hold the vertebrae together, helping them to heal into one solid unit.

Spinal fusions are done for various reasons, but are most commonly done to treat:

-Spinal stenosis (narrowing of the spinal canal) causing pain
-Abnormal curvatures of the spine
-Weak or unstable spine
-Injury or fracture to the spine

Lumbar Interbody Fusion- your surgeon will first remove an intervertebral disc (disc between two connecting vertebrae) of the spine, and in that space, an implant (such as a spacer or cage) is inserted to help maintain normal alignment of the spine. Additionally, a bone graft (real piece of bone used to stimulate bone growth) or a bone graft substitute (natural or synthetic) will be placed in the space made between the neighboring vertebrae to help them fuse together. Your surgeon will choose the best way in which to access your lumbar spine.

Anterior Lumbar Interbody fusion or from the **front** (ALIF)
Transforaminal Lumbar Interbody Fusion or from the **back** (TLIF)
Posterior Lumbar Interbody Fusion or from the **back** (PLIF)
Oblique Lumbar Interbody Fusion or **from the front, at an angle** (OLIF)
Lateral Lumbar Interbody Fusion or **directly from the side** (XLIF)

Anterior Cervical Discectomy and Fusion- Anterior cervical discectomy and fusion (ACDF) is a surgery to remove a herniated or degenerative disc in the neck. An incision is made in the throat area to reach and remove the disc. A graft is inserted to fuse together the bones above and below the disc. The vertebrae above and below the disc are held in place with a metal plate. The goal is to help the bones grow together (fusion).

Posterior Spinal Fusion (PSF)- your surgeon makes an incision in the middle of your back (posterior). The spinal surgeon will protect the nerve roots and safely remove the material (bone spur, cysts, etc.) pressing on the nerve. After the pressure is relieved from the nerve, a bone graft is placed along the back side of the spine, allowing the two vertebrae to grow together as one solid unit (fusion).

Minimally Invasive Procedures- Some of the spinal procedures, including spinal fusion, can be done using a minimally invasive approach. With minimally invasive procedures, a few small incisions are made instead of one large incision.

Osteotomy- surgical procedure in which a portion of the spinal bone is cut and removed. Spinal osteotomies are usually needed for the correction of rigid deformities or scoliosis (abnormal curving of the spine), where bone is cut, the spine is realigned, and then hardware is used to keep the spine in proper alignment.

Laminectomy- also known as decompression surgery, a laminectomy involves removing the lamina, the back part (or "roof") of the vertebra that covers your spinal canal. By removing the lamina, the procedure increases the space for your spinal canal and relieves pressure on the spinal cord and/or nerves. While a Laminectomy is the complete removal of the lamina, a **Laminotomy** involves only **partial** removal.

Kyphoplasty- surgical procedure in which cement is injection into a fractured or collapsed vertebrae. This surgery helps to restore the original shape, height, and configuration of the spine, relieving pain caused by spinal compression.

Discectomy - surgical removal of herniated disc material that presses on a nerve root or spinal cord. The procedure involves removing the central portion of an intervertebral disc, the nucleus pulposus, which causes pain by pressing on the spinal cord or surrounding nerves.

Foraminotomy - operation used to relieve pressure on nerves that are being compressed by the intervertebral foramina (the passageway between two vertebrae through which nerve bundles exit from the spinal cord to the body).

Corpectomy - surgical procedure that involves removing all or part of the vertebral body (the large, front part of the vertebrae), usually to decompress the spinal cord and nerves. A corpectomy is often performed in association with some form of decompression.

CH. 5: What is ENHANCED RECOVERY AFTER SURGERY (ERAS)?

Your surgeon has decided that you are good candidate for our Enhanced Recovery after Surgery (ERAS) Program. This program uses the best practices in surgical care to help you recover and get home as quickly and as safely as possible after your surgery. ERAS is designed to minimize your body's stress response to surgery and decrease complications.

As a part of the Neurosurgery ERAS program, you can expect your surgical team to:

-Teach you about ERAS key points

-Improve your health before surgery through proper nutrition, exercise, and if needed, help you to stop smoking.

*Studies show that smoking cigarettes increase your risk for infection such as pneumonia and surgical site infections. If you are interested in learning how to quit, please talk to your doctor or nurse or call **1-(800)- 784-8669 (800-QUIT- NOW)***

-Use the most common anesthesia methods

-Use best practice for diet & nutrition, antibiotic use and hydration

-Instruct you about Pre-Op Hibiclens bathing the night before & the morning of surgery. You will get this special soap from your surgeon's office.

-Expect you to walk on the day of surgery and at least three times a day after that.

Please remind your nurses to help you get out of bed and walk the day of surgery

-Provide options other than narcotics (opioids) to help treat your pain.

-Help you keep on track of your daily activities to lower your risk of pneumonia and other complications

Why is this important?

-Simple things matter!

-ERAS is proven to improve surgical outcomes and decrease recovery times.

-Complications can be prevented by getting out of bed, sitting in a chair, walking regularly, and doing breathing exercises.

-Regular exercise up until the date of your surgery can improve your body's ability to heal. Ask your doctor or nurse about getting started today.

See examples of some exercises that you can begin today on page 31 in this booklet!

You play an important role in your recovery. This booklet will give you information on how you can help avoid:

-Pneumonia

-Blood clots

-Lengthy hospital stays

CH. 6: BEFORE YOUR SURGERY

Preparing for Surgery-

Your surgeon may have you see your family doctor for surgical clearance. Your surgeon or other healthcare providers may order additional tests to make sure you are ready for surgery.

Items to consider bringing to any pre-operative clearance appointments:

-A photo ID

-A support person or caregiver

-Details of your past medical history, surgical procedures, cardiac devices (pacemaker, ICDs), stents, and other implants

-Your current list of all current medications, herbals, and over-the-counter medicines (or all medication bottles) with the following information:

-medication dose

-how often you are taking the medication

-the reason you are taking the medication

Personal Information	
Name:	Address:
Phone Number:	
Birth Date:	
Emergency Contact:	
Healthcare Information	
Primary Care Doctor:	Pharmacy:
Phone Number:	Phone Number:
Other Doctors:	Pharmacy:
	Phone Number:
Adult Immunizations (include date of last dose taken if known)	
☐ Pneumonia Vaccine	☐ Tetanus
☐ Flu Vaccine	☐ Other:
Allergies (include reaction if known – what happened)	

List ALL medications you are currently taking:

-Prescription Medication

-Over-the-counter Medications: examples: aspirin, antacids, vitamins, patches, herbal supplements (ex: ginseng, gingko, turmeric), eye drops, ear drops, nose sprays.

-Creams and ointments

-Medications taken as needed (ex: allergy medications, sleep medications)

Drug Name	Dose	Directions	Start Date	Stop Date	Notes Reason for Taking, Doctors Name
Example: Norvasc	10mg	Once a day at bedtime			Blood pressure, Dr. Doe

Surgical Brace

If You Need to Wear a Brace
Not everyone will need a brace. Your surgeon may prescribe a brace to support your spine and prevent unwanted twisting and bending movements. Your surgeon will tell you if he wants you to have a brace and when you should be fitted. Ask your surgeon any questions you have about your brace.

Getting Fitted for a Brace
If you need a brace, it will be fitted so that you can wear it for several weeks to months after surgery. If your surgeon orders the brace before surgery, an appointment will be scheduled with an orthotist who will fit your brace. The orthotist will make your brace and give you instructions on how to care for and clean it.

It is important to be fitted for your brace **PRIOR** to surgery for several reasons including comfort, proper fit, and knowledge of how to wear your brace. Working with your physical therapist may be delayed if you do not have your brace with you on your day of surgery. Please find out if your doctor has ordered a brace and from what company so that you can make sure to be fitted for your brace prior to surgery.

ROPER ST. FRANCIS HEALTHCARE

RSFH Durable Medical Equipment

RSFH Durable Medical Equipment (DME)

2093 Henry Tecklenburg Drive, Suite 303 East
Charleston, SC 29414
DME Office 843-606-7005 DME Direct Line: 843-606-7042

FLOYD BRACE ORTHOTICS AND PROSTHETICS

Floyd Brace Orthotics and Prosthetics

648 St. Andrews Blvd
Charleston, SC 29407
843-573-9430

CAROLINA ORTHOTICS& PROSTHETICS

Carolina Orthotics & Prosthetics

3465 W Montague Ave
North Charleston, SC 29418
843-577-9577

If you smoke, QUIT NOW! 1-(800)-784-8669 (800-QUIT-NOW) Studies show non-smokers heal faster and have fewer complications than smokers. Smoking is detrimental to your health, especially during and after spine surgery. Smokers are at greater risk for lung and heart complications during surgery. After surgery, smokers have a higher likelihood of incomplete or delayed healing of spinal fusions.

Do not use alcohol two (2) weeks prior to surgery. Also, please inform your healthcare team of any alcohol intake. Alcohol may interfere with certain medications you may be prescribed. Additionally, serious harm can result from alcohol withdrawal when not properly managed.

Consent Forms

Before surgery, you must sign a consent form. This document is a legal paper that says your surgeon has told you about your surgery and any potential risks. Be sure to ask your surgeon any questions you may have about the surgery and the risks before signing the form. By signing this form, you are saying that you agree to have the operation and understand the risks involved. The consent form also includes permission to receive a transfusion of blood or blood products if you need them before, during, or after the procedure. If you do not want to receive blood or blood products if needed during your hospital stay, please let your surgeon or nurse know right away. There is a separate consent form for Bloodless Medicine patients.

Preparing for Surgery-

Know your discharge plan. The length of your hospital stay will vary depending on the type of surgery and the individual patient recovery.

-Plan arrangements with your caregiver. You will need to have someone available the day of discharge to drive you home safely.

-Most patients are independent when they are discharged home. However, you may need a caregiver to help you get settled the first couple of days after surgery.

-Complete necessary lab work, as needed, at least 1 week before surgery.

-Get fitted for your brace if ordered by your physician and be sure to bring it with you to the hospital on the day of surgery.

-Complete your home medication list.

-Make sure your house is clutter free; no area rugs or items that may cause you to trip and fall.

-Call your surgeon's office if you develop fever or cold-like symptoms within 24-48 hours of your surgery

Getting Ready for the Hospital-

There are several items you will want to bring to the hospital to make your stay as safe and comfortable as possible. Please put your name on all your belongings.

Bring with you to the hospital:

-A list of all medicines you take (including over the counter meds, vitamins, and supplements).
-A list of allergies you have to food, clothing, medicine, etc. and how you react to these items.
-Photo identification, insurance card and any requested co-pay amount.
-Bring a copy of your Living Will and/or Medical Durable Power of Attorney if you have one
-If you wear contact lenses, please bring the lens case and solution with you. They must be removed prior to surgery.
-Bring your glasses, hearing aids, dentures, or other assistive devices (e.g., CPAP machine) with you if you rely on them. Once you go into surgery, these devices will be given to your family.
-Pack and bring a bag of items that you need for your hospital stay such as toiletries (hospital may have limited toiletry items), slippers with a gripping surface, a robe, and a loose-fitting change of clothes for your discharge. Please leave your bag in the car and have your visitors bring it to you when your hospital room is assigned. If you bring a pillow, use a patterned or colored pillowcase.
-Reading materials, electronics, phone charger etc. to help pass the time. Wi-Fi is available in the hospital.
-Brace

Do NOT bring:

-Any valuables (e.g., jewelry).
-Any medicines unless you are told to.

Nutrition before Surgery-

Good nutrition is important for your recovery. Getting enough calories and protein before and after surgery helps your body heal properly.

CH. 7: THE MORNING OF YOUR SURGERY

Registration-

You are scheduled to arrive early to allow time to register for your surgery and for the nurse to perform an assessment, start your IV, and complete all required paperwork and any additional lab tests if needed. Please note surgery time changes are common. We change the surgery schedule in response to cancellations and emergency surgeries with other patients. If your surgery time changes, a member of your physician's office or a member of hospital staff will notify you.

What to Expect after Registration/Pre-Operative Area-

Once you are registered you will be escorted to the pre-op area where you will be asked to remove:

-Dentures, hearing aids, etc.
-Hairpins, wigs, etc.
-Glasses, contact lens
-Clothing (including undergarments)- you will be given a hospital gown to wear during surgery.

You may visit with one family member before going to the operating room depending on COVID-19 precautions. Please be sure to have the person staying with you during the surgery keep your personal items with them.

-Upon arrival, you and your support person will be screened and given a badge prior to entry into the hospital.

-Your support person may be issued a mask to wear upon arrival. They should keep this mask for future use.

- Your support person can go with you to the areas within the hospital before your surgery.

- Once surgery begins, your support person will be asked to wait in their vehicle, unless otherwise directed. They will receive a call at the end of the surgery.

- If you are going to an inpatient unit after your procedure, your support person will receive further instructions when they come to the unit after your procedure. Overnight stays will be allowed only under clinically warranted circumstances.

You will meet with your surgery team including nurses, an anesthesiologist, and your surgeon. Be sure to ask any last-minute questions or discuss any concerns you have. To help prevent infections, the Pre-Op nurse will wipe your entire body with a bacterial wipe. You will get a warm blanket to keep you warm.

You should use the bathroom before you leave the Pre-Op area. You will ride on stretcher (a bed with wheels) to the operating room. Your neck or back will be cleaned again with a special soap once you are asleep in the operating room. A member of the operating room staff will contact a family member or designee, during your surgery to update them on your progress. Most of the time, spine surgery lasts 2 to 4 hours.

Anesthesia Team-
You will meet your anesthesiologist and certified registered nurse anesthetist (CRNA) on the day of surgery before leaving the pre-operative area. Your surgeon and anesthesia team will help you choose the best anesthesia methods for your procedure. You will not feel pain during the surgery. You may receive two or three different types of pain medicines *before* surgery to help with pain control after surgery. This approach to pain control is called multimodal pain control.

Other Procedures-
You will have an intravenous catheter (IV) placed in your arm. The IV lets your doctor replace fluids lost during surgery and allows your care team to give you pain medication, antibiotics, and any other medications you may need. The IV catheter is removed before you leave the hospital in most cases.

You may have a local anesthetic block placed before the surgery to reduce postoperative discomfort.

You may have a surgical drain placed during surgery. The drain is used to reduce blood and fluid buildup in the surgery site. The drain is usually removed within days of your procedure.

CH. 8: DURING YOUR SURGERY

Expect that your healthcare team will provide you with the best care available. The surgical team includes your surgeon, the anesthesiologist, a surgical assistant, an operating room nurse, a scrub tech and other health care providers committed to providing safe, high-quality healthcare.

CH. 9: AFTER YOUR SURGERY

Recovery Room-

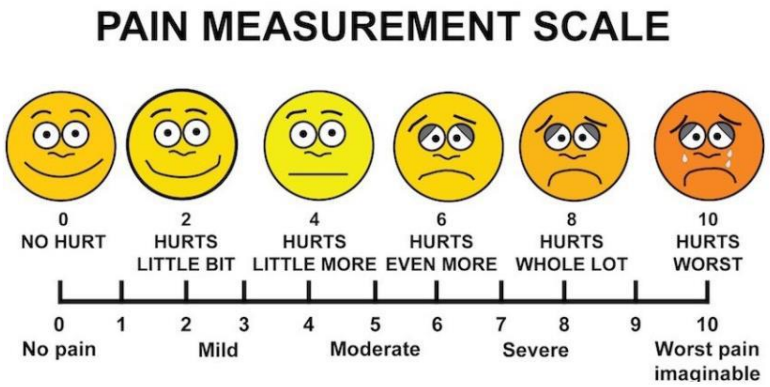
After surgery, you will spend time in the recovery room before going to your hospital room. The length of time varies from person to person, and it is usually between 1 to 3 hours. The recovery room (also called the post-anesthesia care unit or PACU) staff will monitor your blood pressure and heart rate very closely. While in the recovery room, you might continue to feel quite groggy. In fact, you might not even recall your time in the Post Anesthesia Care Unit. Your doctor will speak to your family member(s) in the waiting area or by phone if they are unable to use the waiting room when you go to the recovery room after your surgery. Later, you will go to your hospital room. When you get to your hospital room, the unit staff will continue to check your temperature, heart rate, blood pressure, and comfort level regularly throughout your hospital stay.

Pain-

You will have some pain from the incision after surgery and you may feel sick to your stomach. Taking deep breaths will help you feel less sick. Your nurse can also give you medications that can help. You will also have had a breathing tube in your throat for the general anesthetic which can cause your throat to be sore afterward, but it should feel better after a couple of days.

It is important that you begin moving as soon as possible after surgery. Walking often helps to prevent surgical complications. Expect to walk in the hospital the day of your surgery. To do this, your pain needs to be well managed. It is normal to have some pain or discomfort after spine surgery, but not enough to stop you from walking and sitting in a chair for your meals. Be sure to speak with your surgeon before surgery about pain medications and options to help you feel more comfortable after your surgery. Some options for pain control include pain medication, deep breathing, relaxation exercises, cold and hot therapies, repositioning, and splinting your abdomen when you cough or move. Do not wait to tell someone if you are hurting. If your pain is managed correctly, you can begin walking sooner which helps you heal faster.

Your nurse and surgeon will use a pain scale to measure the amount of discomfort you have. The pain scale helps them figure out how well the medicines and treatments are working. Usually, pain is measured on a scale of 0 (no pain at all) to 10 (worst pain).



Comparative Pain Scale

	0	No pain. Feeling perfectly normal.
Minor Able to adapt to pain	1 Very Mild	Very light barely noticable pain, occasional twinges, no medication needed.
	2 Discomforting	Minor pain, like pinching the fold of skin, occasional strong twinges, no medication needed.
	3 Tolerable	Very noticeable pain, annoying enough to be distracting, over the counter (OTC) pain reliever needed.
Moderate Interferes with many activites	4 Distressing	Strong, deep pain, like an average toothache, can be ignored if one is very focused on a task. OTC pain reliever may be effective
	5 Very Distressing	Strong, deep, piercing pain, can't be ignored for more than 30 minutes. OTC pain reliever may reduce pain for 3-4 hours.
	6 Intense	Strong, deep, piercing pain, cannot be ignored however one may be able to work or attend social events. Narcotic pain relievers (Codeine, Vicodin) may be effective every 3-4 hours.
Severe Patient is disabled and unable to function independently.	7 Very Intense	It is difficult to concentrate or sleep. You can still function with effort. Stronger narcotic pain relievers are only partially effective. Strongest pain relievers relieve pain (Oxycontin, Morphine)
	8 Utterly Horrible	Physical activity severely limited. You can read and converse with effort. Nausea and dizziness set in as factors of pain. Stronger pain relievers are minimally effective. Strongest pain relievers reduce pain for 3-4 hours.
	9 Excruciating Unbearable	Unable to speak. Crying out or moaning uncontrollably - near delirium. Strongest pain relievers only partially effective.
	10 Unimaginable Unfinkable	Unconscious. Pain makes you pass out. Srongest pain relievers only partially effective.

We will treat your pain based on how much pain you say you are having. Be honest. Your care team will have you set a goal for your discomfort so that you can maintain your pain level at a place where you can participate in recovery activities like deep breathing and walking. This number may not be zero.

Narcotic (opioid) pain medications have negative side effects that can delay your recovery. These side effects include drowsiness, decreased breathing, constipation, dry mouth, nausea, and vomiting. Because of this, we will give you "multimodal" *non-opioid* medications that work in different ways in your body to prevent or reduce the different causes of pain and reduce the need for opioid pain medication. You will receive non-narcotic pain medication at each phase of your hospital stay. These medications will be given to you before surgery, during surgery, and around the clock after surgery to make sure your discomfort stays at a level that you can manage. You will be given Extra Strength Tylenol three times daily, Neurontin for nerve discomfort at night (or more frequently if indicated). You may be given a Non-Steroidal Anti-Inflammatory (NSAID).

*Most pain medications can cause constipation. Talk to your care team about what you can do to help prevent constipation and what to do if this happens. *

Breathing-

When you arrive in your room after surgery, it will seem as if your care team is always reminding you to take deep breaths, cough, and use a tool called an incentive spirometer (IS unit). Using your IS unit regularly and correctly helps to prevent pneumonia and other problems that can slow your recovery and lengthen your hospital stay. Ask your nurse how to use the IS unit if you do not already know how. It is very important that you do this at least 10 times every hour you are awake.

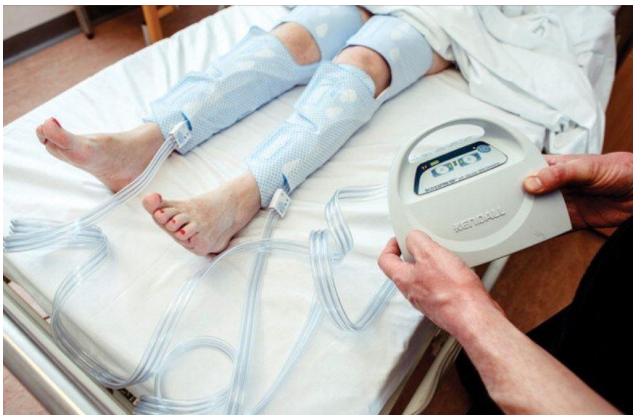
How does it work?

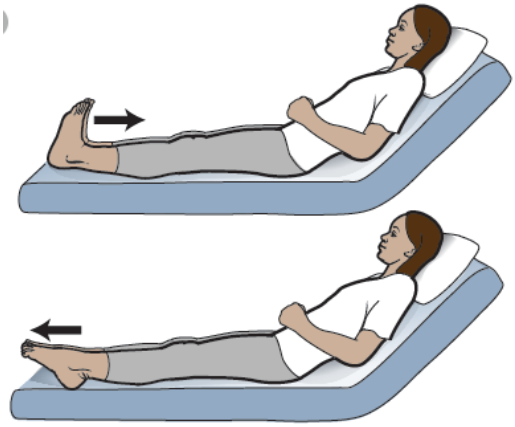
An incentive spirometer is a device that measures how deeply you can inhale (breathe in). It helps you take slow, deep breaths to expand and fill your lungs with air. Breathing slowly with a spirometer allows your lungs to inflate fully allowing more oxygen to reach your surgical incision so that you heal faster. These breaths help break up fluid in the lungs if it isn't cleared. The IS unit is made up of a breathing tube, an air chamber, and an indicator.

Preventing Blood Clots-

Blood clots, sometimes called "deep vein thrombosis" (DVT) can occur after surgery. Most of these occur in the calf and are not serious but sometimes they happen in the abdomen or the thigh. In rare cases, one of these clots can break off and block the blood supply to your lungs. A blood clot in the lung is called a pulmonary embolus (PE) and can be life-threatening. Walking often and immediately after surgery is the best way to prevent blood clots. You are still at risk for a blood clot for several weeks after spine surgery after you go home, so remember to walk and move around often.

You will have mechanical compression sleeves called SCDs placed on both legs before you go to surgery. These sleeves squeeze your legs to prevent the blood from pooling and forming a clot. They will remain on your legs before, during, and after the surgery when you are not walking. Also, to prevent blood clots, you will need to do foot pumps every hour to push the blood out of your legs. Keep doing these after you go home.





Medication Explanation-

Evidence suggests that better understanding of new medications will increase safety and improve outcomes. We want to ensure that you always remember important details about medication education, including **side effects**. Some common types of medication you may receive, and possible side effects include:

Pain medications

- Narcotics are used to manage pain. Examples include Percocet, Norco, Morphine and Dilaudid
- **Side effects** of taking pain medication may include:
  - Confusion, drowsiness, dizziness, headache
  - Constipation, nausea, vomiting, loss of appetite or stomach pain
- Drinking plenty of water and walking may help prevent constipation

Muscle relaxants

- This is medication to treat muscle spasms. Examples include Flexeril, Zanaflex, and Valium
- **Side effects** may of taking muscle relaxants may include:
  - Fast, irregular heartbeat, chest pain or heaviness on your chest
  - Confusion, drowsiness, dizziness, headache, mood, or behavior changes
  - Constipation, nausea, vomiting, loss of appetite or stomach pain
  - Muscle weakness
- Avoid drinking alcohol while taking muscle relaxants

Antibiotics

- Antibiotics are used to prevent and treat infections. Examples include Ancef, Vancomycin, and Clindamycin
- **Side effects** of taking antibiotics may include:
  - Diarrhea, stomach cramps, nausea, or vomiting
  - Dizziness, fever, or chills
- Probiotic supplements (like yogurt) may help prevent GI upset

Post-Op Care:

Once in your hospital room, the nurse will perform an initial assessment and help you get settled in your room. You can expect:

- Frequent assessments of your blood pressure, heart rate, respiratory rate, and temperature.
- Frequent questions about pain, muscle spasms and nausea.
- Frequent questions relating to your spinal surgery and whether you are experiencing any numbness, tingling or weakness.
- Frequent assessment of your surgical dressing.

These are very important questions, and although it may seem like we just want to wake you up and bother you, we take these items very seriously. Your surgeon is depending on us to ask these questions. When you return to your room after surgery, you might also have one or more devices attached to you.

For example:

- An oxygen tube in your nose
- An IV tube in your arm
- A drain in your incision- The drain is usually removed on the day after surgery but could remain in longer depending on the amount of drainage. The drainage is monitored by the nursing staff.
- A catheter draining urine from your bladder- usually be removed the morning after surgery.

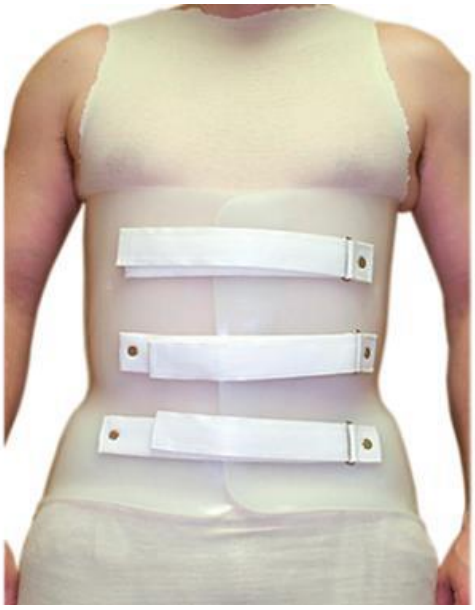
The Brace-

Your physician may have prescribed a brace for you because you have had a spinal fusion. The brace is designed to protect your spine while healing takes place. The brace should be fitted before admission and is always worn when out of bed, for approximately a minimum **of four to six weeks after your surgery** (except while in the shower). You will need to wear a fitted T-shirt, camisole, or sleeveless shirt under the brace. When you return for your post-operative appointment, your surgeon will determine if you need to continue to wear the brace.

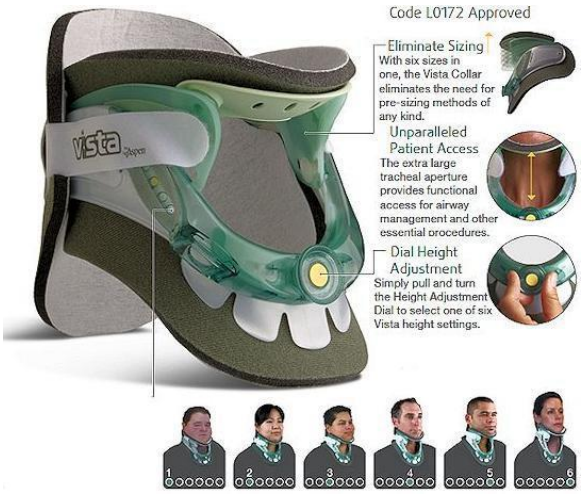
Your physician will decide which of the following braces you need based on your specific case:

The Lumbosacral Brace (Cybertech Brace) is an elastic type brace with a Velcro attachment in the front. Most patients learn to put on and remove this brace independently, while some may require assistance from a caregiver. This brace may be applied while sitting on the edge of the bed.

The Thoracic-Lumbo-Sacral-Orthosis (TLSO) Brace (Boston Overlap Brace) is designed as two molded plastic pieces (front and back) with straps on each side. Most patients will require assistance to place and remove the TLSO brace. Your Physical Therapist and Occupational Therapist will work closely with you and your caregivers on proper procedures for placing the brace or taking it off. If you are experiencing problems with your customized TLSO, notify the company that made your brace. In the meantime, pad any pressure areas with gauze or cotton.



The Miami J Collar (left image) and Aspen Cervical Collar (right image) are cervical neck braces (also called a cervical collar) that keeps your neck and spine straight and helps healing by supporting your neck bones.



Other Common Assistive Devices-
Three in One Commode and Rolling Walker

Spine Precautions-

- **Do not** bend at the waist; do bend at the hips and knees.
- **Do not** lift objects heavier than a gallon of milk (5-10 pounds).
- **Do not** twist your trunk.

The only aerobic exercise prescribed by your surgeon immediately after surgery is walking. You will be expected to TRY and walk up to one mile OVER THE COURSE OF THE DAY at one week, and two miles over the course of the day within two weeks if you are able. When using a step pedometer, know that approximately 2,100 steps = 1 mile and 4,200 steps = 2 miles.

Body Mechanics Principles- (After Surgery)

Sleeping:

- Use a firm mattress.
- Use pillows for positioning. Under knees when lying on back.
- Between legs and pillow/wedge behind back when side-lying.
- May sleep on back, side, or stomach.

Sitting:

- Avoid chaise lounges, soft sofas, chairs on wheels, or with moveable supports.
- Avoid low, deep chairs; it is difficult to rise from this type of furniture without forward bending.
- Adjust chair for proper height.
- Use a chair with arm rests and back support.

Standing:

- Maintain toned abdominal and buttock muscles.
- Change position frequently by weight shifting, walking, or putting foot on low stool.
- Wear comfortable shoes with good support.
- Adjust work heights to avoid bending and reaching.

Pushing/Pulling:

-Push, rather than pull.
- Keep back straight and head up.
- Knees and elbows slightly bent.
- Have center of gravity below mid-mass of load.

CH. 10: AFTER YOU LEAVE THE HOSPITAL

Most patients are discharged from the hospital 1 to 2 days after spine surgery. It is important that you follow the instructions given to you at discharge. After surgery, your doctor may order new medicines. Please call the office for any questions about your medications. If you feel you need more medications for pain control, please call the office Monday through Thursday from 8:00 am to 4:00 pm. You may need to send someone to the office to pick up a prescription.

Your care team wants to make sure you are comfortable caring for yourself before you leave the hospital to go home. Before you go home, they will go over:

- Instructions for any new medications
- Incision care
- Activity limits
- Diet changes
- Urination concerns
- When to call the doctor

Incision Care-

*It is important to keep your incisions clean and dry after surgery. Wash your hands frequently and avoid touching the wound. Follow your discharge instructions for dressing care. Be sure to check incision daily for swelling, redness, and/or drainage. You may shower as instructed and pat your incision dry afterward - **NO tub bath, pool, or hot tub. DO NOT immerse incision under water**. It is OK to wash the skin around your incision with mild soap & water. Don't use oils or creams on your incision. Ask your doctor or nurse before using lotions on your incision. If you have a dressing over your incision, change it as you were told. Replace the dressing if it becomes wet or dirty. No tight-fitting clothing until your incision is healed. You should cover your incision if it rubs against your clothing to help prevent irritation.

TIPS TO PREPARE FOR LIFE AFTER SPINE SURGERY-

-Consider the type of vehicle you are going home in. Make sure you can get in and out of the vehicle easily without extreme bending or twisting of the spine. You may want to consider keeping an additional pillow available to provide extra support during your ride home.

- Remember to take home all your belongings in the hospital room including clothing, cell phones, chargers, and any personal items.

-Remember to use correct body mechanics and spine precautions learned in the hospital during your recovery period.

- Do not lift greater than 10 pounds until cleared by your surgeon.

- Minimize bending or twisting at your waist (lumbar surgery patients).

- Minimize bending, twisting, or extreme rotation of your neck (neck surgery patients).

- Wear the brace or collar, if ordered, as directed by your surgeon.

- Do not run, lift weights, or play any kind of sport until cleared by your surgeon. The only exercise that you can do after your surgery is walking. We recommend walking as much as tolerated: several short walks per day are better than one long walk. Let comfort be your guide as you increase your walking and activity level.

- Things you may need someone to help you with:
  - Dressing changes
  - Running errands
  - Transportation to appointments
  - Preparing meals
  - Walking
  - Household chores

- Please make sure you house is clutter free; no area rugs or anything in the way that may cause you to trip or fall.

- Unless specifically discontinued by your surgeon, you will resume any home medications that you were taking prior to your surgery. You may go home with a prescription for pain medications, or any other medications started in the hospital. Take the medicine as prescribed by your surgeon.

*It is important for the safety of the members of your household and to keep our water supply free from chemicals that you dispose of your pain medications at local drop off sites. Local drop off sites may be at a local pharmacy or at a police station near you. Check the website http://justplainkillers.com/drug-safety/ to find a location near you. *

Preventing Constipation after Surgery-

Constipation occurs when bowel movements become difficult, less frequent, or both. This is a very common problem after surgery when you are taking pain medication such as Oxycodone (Percocet) or Hydrocodone (Lortab). These medications slow down bowel movements and cause the stool to become hard and dry.

THESE STEPS WILL HELP PREVENT CONSTIPATION WHEN YOU LEAVE THE HOSPITAL:

You have been taking a stool softener in the hospital and may need to continue taking this at home. This alone may not work. You may need to take a gentle laxative if you have not moved your bowels in 2-3 days after surgery. Examples of these medications include:

Stool softener- makes it more comfortable to have a BM
- Docusate (brand name Colace)

Laxative- promotes BM
- Psyllium (brand name Metamucil)
- Polyethylene glycol 3350 (brand name GlycoLax or Miralax)
- Milk of Magnesia or Mag Citrate
- Senna
- Fleets enema

Diet- eat a healthy diet that is high in fiber
- Bran cereal
- Whole wheat & rye bread and crackers
- Wheat germ or cornmeal
- Brown & wild rice
- Fresh, canned, or dry fruits such as apples, plums, pears, berries, raisins, dates, prunes, or prune juice
- Raw or cooked vegetables such as carrots, cabbage, corn, peas, dry beans, or lentils

- Drink at least eight 8 oz. glasses of water each day
- Increase your activity and continue to walk each day
- Call your surgeon if you experience a painful or swollen abdomen, nausea or vomiting, or a fever (temperature greater than 101 degrees) or shaking chills.

CH. 11: POST-OP PROTOCOLS

Spine Protocol for Cervical Patients:
- Logroll for transfers from lying down to sitting up
- Gentle cervical range of motion unless your MD advises otherwise
- NO EXCESSIVE EXTENSION- or looking up- anterior incision
- NO EXCESSIVE FLEXION- or looking down-posterior incision
- Limit pushing heavy objects
- Limit pulling heavy objects
- Limit activities over your head-above shoulder height
- NO resistive exercise
- NO lifting over 10 pounds (the weight of a gallon of milk)
- Take short walks at least 4 times a day
- Do your anti-embolism leg exercises

Spine Protocol for Lumbar/Thoracic Patients:

- Brace abdominal muscles prior to transfers and bed mobility
- Logroll for transfers from lying down to sitting up
- Scoot to edge of bed prior to standing
- Keep trunk as straight as possible when standing up
- Limit time sitting in straight back chair to 30-40 minutes
- Limit bending
- Limit twisting
- Limit pushing heavy objects
- Limit pulling heavy objects
- NO lifting over 10 pounds (the weight of a gallon of milk)
- Take short walks at least 4 times a day
- Do your anti-embolism leg exercises

CH. 12: FREQUENTLY ASKED QUESTIONS

How active can I be?

-No strenuous activity. You may walk as you are able. Slowly increase your distance for up to 30 minutes. This should be your only form of exercise in the first two weeks after surgery. Walking helps prevent constipation. Avoid more vigorous forms of activity like running, biking, or swimming until allowed by your doctor at your office visit.

Why do I still have discomfort in my neck?

-Pain in the back of the neck/between the shoulder blades: It is not uncommon to experience this type of pain post-operatively. This is due to opening up the collapsed disc space. This usually improves over the next 4-6 weeks.

- Discomfort with swallowing/voice hoarseness: It is not uncommon to feel like you "have a lump in your throat, experience pain with swallowing or have voice hoarseness. This should improve over the next couple of months. These are common side effects related to retraction from the surgery.

- Ongoing numbness or tingling: Your pre-operative pain may be improved or gone but you may feel more numbness in the earlier days after surgery. Before surgery the pain was interfering with other sensations, so the numbness may be more noticeable now. Please be aware that there may always be some residual numbness.

Why do I still have discomfort in my back/legs?

-Persistent leg pain: Most patients notice an improvement in their pre-operative pain. However, you may continue to experience an ache in your leg. Nerves have a "memory" for the pain and can remain somewhat irritated. This usually subsides within the first couple of weeks following surgery.

- Ongoing numbness or tingling: Your pre-operative pain may be improved or gone but you may feel more numbness in the earlier days after surgery. Before surgery the pain was interfering with other sensations, so the numbness may be more noticeable now. Please be aware that there may be always some residual numbness.

- Ongoing weakness: If you experienced weakness before surgery, it may take weeks to months for this to improve. Your pre-operative weakness may not return completely back to normal. Improvement in strength generally, occurs over weeks and months.

How do I manage my pain at home?

-Be sure to take your pain medications as prescribed. Ice packs may be applied to the incision site to help with discomfort and swelling. DO NOT place hot packs on the incision. You should expect to experience discomfort after surgery, that is normal.

What medications should I avoid?

- DO NOT take any non-steroidal anti-inflammatory medications such as Motrin, Ibuprofen, Aleve, Advil, Naprosyn, Mobic, Voltaren or Celebrex for the next three months. These medications can interfere with bony fusion.
- DO NOT take Aspirin, aspirin products, fish oil, or blood thinners for one week after surgery.

When can I go back to work?

Check with your surgeon when it is safe for you to return to work.

When am I allowed to drive?

-DO NOT drive until allowed by your doctor at your office visit. You may ride as a passenger but avoid sitting for long periods of time; take frequent breaks to walk and stretch. You should not drive until you are off the pain medicine. The pain medicine you are taking may make you drowsy.

What about…?

Lifting

-Your surgeon will tell you when you can begin regular activities. No lifting greater than 5-10 pounds.

Sex

-You may have sex again but avoid positions that cause strain on your back, neck, or incision.

Leisure

-Please talk to your surgeon before resuming your regular sporting activities and hobbies.

Travelling

-Please check with your doctor about travelling. If you do travel, be sure to bring your medical records with you.

Stairs

- You may go up & down stairs if doing so does not cause any pain or shortness of breath.

What can I eat?

- Drink plenty of water and eat foods high in fiber (fruits & vegetables). This will help prevent post-operative constipation.

What else do I need to know?

-Back- Limit bending & twisting. Remember to "log roll" out of bed. Limit sitting in a straight back chair to 20-30 minutes. If fitted for a back brace, you will need to wear it as instructed by your doctor. You should not need to wear it in bed. You will need to wear your brace when you are out of bed for more than five (5) minutes.

- Neck- Limit bending & turning of the neck. Avoid sudden movements with your neck. NO overhead work or looking up. If instructed to wear a collar, you will need to wear it at all times except when you are in the shower. You may take the collar off during the shower and put it on afterwards.

CH. 13: WHEN TO CALL THE DOCTOR

Call the doctor if you have:

- New redness or swelling
- Any drainage or pus from your incision(s)
- Bleeding that does not stop with pressure
- A feeling of hardness or fullness around the incision
- An incision that opens
- Increase in pain at your incision(s)
- Temperature 101.5 degrees and/or chills
- Pain that gets worse or doesn't go away with pain medicine
- New numbness or weakness in arms or legs
- New numbness in the lower body with difficulty passing urine or having a BM
- Unable to swallow liquids after neck surgery
- Anything else that concerns you about your recovery
- Call 911! FOR ANY DIFFICULTY BREATHING

IF YOU HAVE ANY QUESTIONS, **PLEASE CALL YOUR SURGEON'S OFFICE BEFORE GOING TO THE EMERGENCY ROOM.**

CH. 14: EXERCISES BEFORE YOUR SURGERY

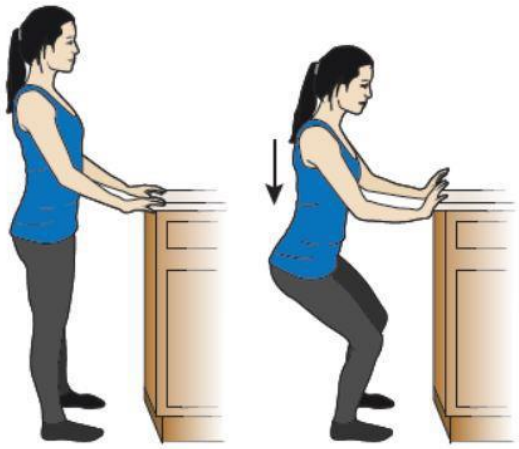
Use the time before surgery to make your body ready to heal. When our bodies are in good condition before surgery, the physical impact of the operation on healing tissue is less. The stronger a person is going into surgery, the better the chances of an easier and faster recovery after the surgery. People who exercise before surgery tend to get back to normal quicker than those who do not have some sort of an exercise program. If you are new to exercise, start slowly. Some simple exercises include:

Walking-

-At least 20 minutes a day 5 times a week in addition to normal activity.

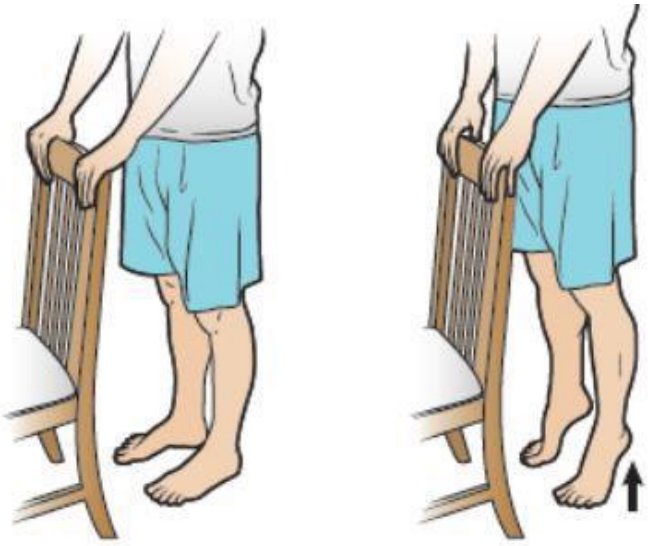
Mini- Squats-

-Stand at a counter, using your fingers for balance as needed.
-Place feet hip width apart.
-Sit down and back as if you are sitting in a chair.
-Do not let your hips drop below your knees.
-Repeat 10 times. Do these 2 times each day.



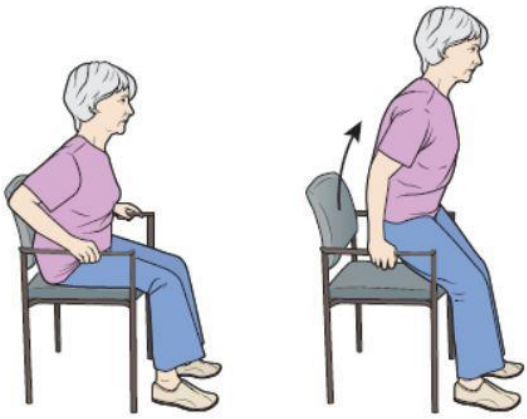
Heel raises-

-Stand at counter/chair, use fingers for balance as needed.
-Raise up on your toes, lifting heels off the ground.
-Hold for 1 or 2 seconds and SLOWLY lower your heels.
-Repeat 15 times. Do these 2 times each day.



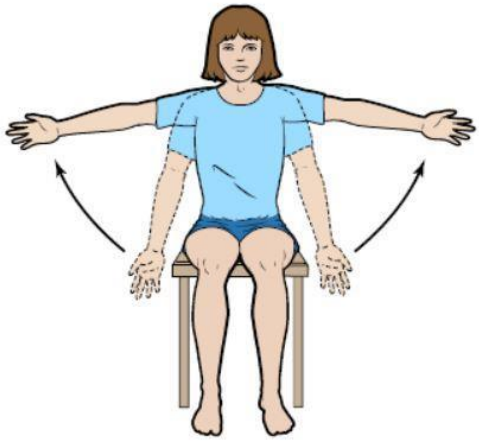
Seated push-ups –

- Sit comfortably in a chair with armrests. Keep your back straight, shoulders back, and head facing forward.
- Place your hands on the armrests of the chair. Place your feet shoulder distance apart, right below your knees.
- Position yourself as if you're going to stand up.
- Straighten your elbows and left your buttocks off the seat until your elbows are straight.
- Lift your buttocks as high as you can, even if you can't get off the chair completely.
- Slowly lower yourself back onto the seat of your chair as you bend your elbows
- Repeat 10 times.



Arm raises-

- Sit or stand comfortably with your back straight, shoulders back, and your head facing forward
- Raise your arms out to the side, up to the level of your shoulders, while keeping your elbows straight
- Hold for 5 seconds
- Lower your arms to your sides.
- Repeat 10 times.



CH. 15: INSTRUCTIONS

Pre-Admission Testing (PAT)- You should receive a call from a PAT nurse 2-5 days prior to your surgery to review your health and medication histories and answer any last-minute questions (PAT #843-965-8205)

Hibiclens Bathing-

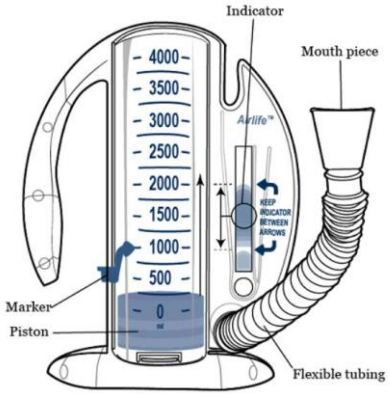
You play an essential role in your recovery from surgery, and we would like you to help us in preventing infection after surgery. To lower the risk of infection, we want to make your skin as free of germs as possible before the surgery. Patients undergoing surgery have been shown to be less likely to get an infection by showering with a special germ-fighting soap like Hibiclens (DO NOT use if you are allergic to Chlorhexidine CHG). Remove all jewelry and body piercings. Please shower with the Hibiclens soap the night before & the morning of surgery.

DO NOT use Hibiclens to wash your hair or your face! Only use Hibiclens on your body.

- Put clean sheets on your bed the first day you shower with Hibiclens
- Wash your hair using your usual shampoo and rinse the shampoo from your hair and body.
- Wash your face with your regular soap and rinse.
- Using a clean, unused washcloth and Hibiclens, wash from your neck down to your groin. Repeat on your back. You may need someone to help you.
- **DO NOT** use Hibiclens liquid/foam near your eyes, ears, or around genital area.
- **DO NOT** use your regular soap after using the Hibiclens.
- Rinse your body well.
- Pat yourself dry using a clean, unused towel.
- **DO NOT** shave the area of your body where your surgery will be performed for 4 days before surgery. *Small cuts can allow germs to enter the body. *
- **DO NOT** apply lotions, powders, or perfumes.
- Dress in clean clothing/pajamas.
- Anyone sleeping in the same bed as you should wear clean clothing/pajamas.
- **DO NOT** allow your pets to sleep in your bed while showering with Hibiclens before surgery or until your incisions heal after surgery.

Incentive Spirometer-

This tool helps exercise your lungs to reduce the risk of developing pneumonia. It also increases the amount of oxygen that reaches your surgical incision(s), so you heal faster.



1. Hold IS unit straight up in front of you.
2. Breathe out.
3. Close your lips tightly around the mouthpiece.
4. Inhale slowly & deeply through your mouth. (This breath will raise the piston in the IS chamber as the air sacs in your lungs open).
5. When you cannot breathe in any longer, take the mouthpiece out of your mouth.
6. Hold your breath for at least 3 to 5 seconds then breathe out slowly.
7. Breathe normally as the piston returns to the bottom of the IS chamber.
8. Repeat this exercise 10 times every hour while you are awake. If you feel dizzy, slow your breathing down.
9. After you've taken 10 deep breaths on your IS unit, try to cough. This removes any mucus that built up in your lungs.

CH. 16: ERAS CHECKLISTS

TEN TO 14 DAYS BEFORE SURGERY-

- Keep up with your exercise program.
- If you smoke, quit today **1-(800)-784-8669 (800-QUIT-NOW).**
- Limit or avoid alcohol.
- Arrange to have someone take you home after your surgery. Plan for a one to two day stay.
- Discuss discharge plan and caregiver arrangements.
- Complete any blood work or additional tests that your surgeon ordered.

ONE WEEK BEFORE SURGERY-

- Keep up with your exercise program.
- Obtain your brace, (if needed) as ordered by your physician & **be sure to bring it with you to the hospital.**
- Stop all blood thinners (Plavix, Eliquis, Xarelto, Coumadin, Aspirin, etc.) before surgery.
- Contact your doctor to let them know you are having surgery so they can tell you how far in advance to stop taking them.
- Stop taking NSAIDS (Non- Steroid Anti-Inflammatory) drugs 7 days prior to surgery (unless otherwise instructed by your doctor) Ex: Advil, Aleve, Ibuprofen, Naproxen Sodium, BC powders, Mobic, Celebrex. **You can take Tylenol only if needed!**
- Stop taking all vitamins and supplements. Common supplements include fish oil, garlic, ginseng, gingko, kava, feverfew, valerian, turmeric, resveratrol, multivitamins.
- Stop taking all prescribed and over-the-counter weight loss medications (Phentermine, etc.)
- If you are taking any of the medications below, **hold for 7 days prior to surgery.**

Byetta (Exenatide)
Victoza (Liraglutide)
Bydureon (Exenatide)
Trulicity (Dulaglutide)
Tanzeum (Albiglutide)
Ozempic (Semaglutide)
Mounjaro (Tirzepatide)
Saxenda/Liraglutide
Wegovy/Semaglutide

FOUR DAYS BEFORE SURGERY-

- Keep up with your exercise program.
- Do not shave, wax, or perform any hair removal at or around the area where you will be having surgery.
- Do not wear artificial nails and only clear nail polish on natural nails. Nails must be trimmed to fingertip length to make sure the oxygen probe fits properly and to avoid injury

- Do not wear artificial nails. Only clear nail polish on natural nails is allowed. Nails must be trimmed to fingertip length to make sure the oxygen probe fits properly and to avoid injury
- Do not wear artificial eye lashes because they can cause dry eyes, eye scratches, eye infections and allergic reactions
- Do not use hair extensions with metal clips or hairstyles near the back of your neck, as it can make it difficult to safely manage your breathing during anesthesia
- If your hair is tightly braided or styled in a complex way, it may need to be undone for your safety

THREE DAYS BEFORE SURGERY-

- If you are taking any of the medications below, **hold for 3 days prior to surgery.**
    - Invokana (Canagliflozin)
    - Glyxambi (empagliflozin/linagliptin)
    - Farxiga (Dapagliflozin – even if taking for Congestive Heart Failure)
    - Jardiance (empagliflozin)
    - Synjardy
    - Xigduo
    - Steglatro
    - Tadalafil/Cialis

ONE DAY BEFORE SURGERY-

- Keep up with your exercise program.
- Remove all jewelry & body piercings.
- Shower the night before surgery with Hibiclens & wash your hair.
- ***Please follow the instructions below ONLY if you are taking any of the following medications:***
    - *Ozempic - Semaglutide*
    - *Byetta - Exenatide*
    - *Victoza - Liraglutide*
    - *Bydureon - Exenatide*
    - *Trulicity - Dulaglutide*
    - *Tanzeum - Albiglutide*
    - *Rybelsus - Semaglutide*
    - *Mounjaro - Tirzepatide*
    - *Wegovy - Semaglutide*
    - *Saxenda - Liraglutide*
    - *Adlyxin – Lixisenatide*
        - ****Your procedure will be canceled if you do not follow these instructions.***
        - ***Diet Restrictions:*** *If you are taking any of the above medications, clear liquids ONLY from 12:00 AM to 11:59 PM the day before your procedure (ex.:*

water, black coffee with no milk or cream, juice without pulp, plain non-red or purple Jell-O, soda, Ensure Clear, non-red or purple Gatorade, chicken broth, beef broth and bone broth without noodles), and then, NO food or drink including gum or mints after 12:00 AM the day of your procedure, even if your doctor told you to drink fluids.

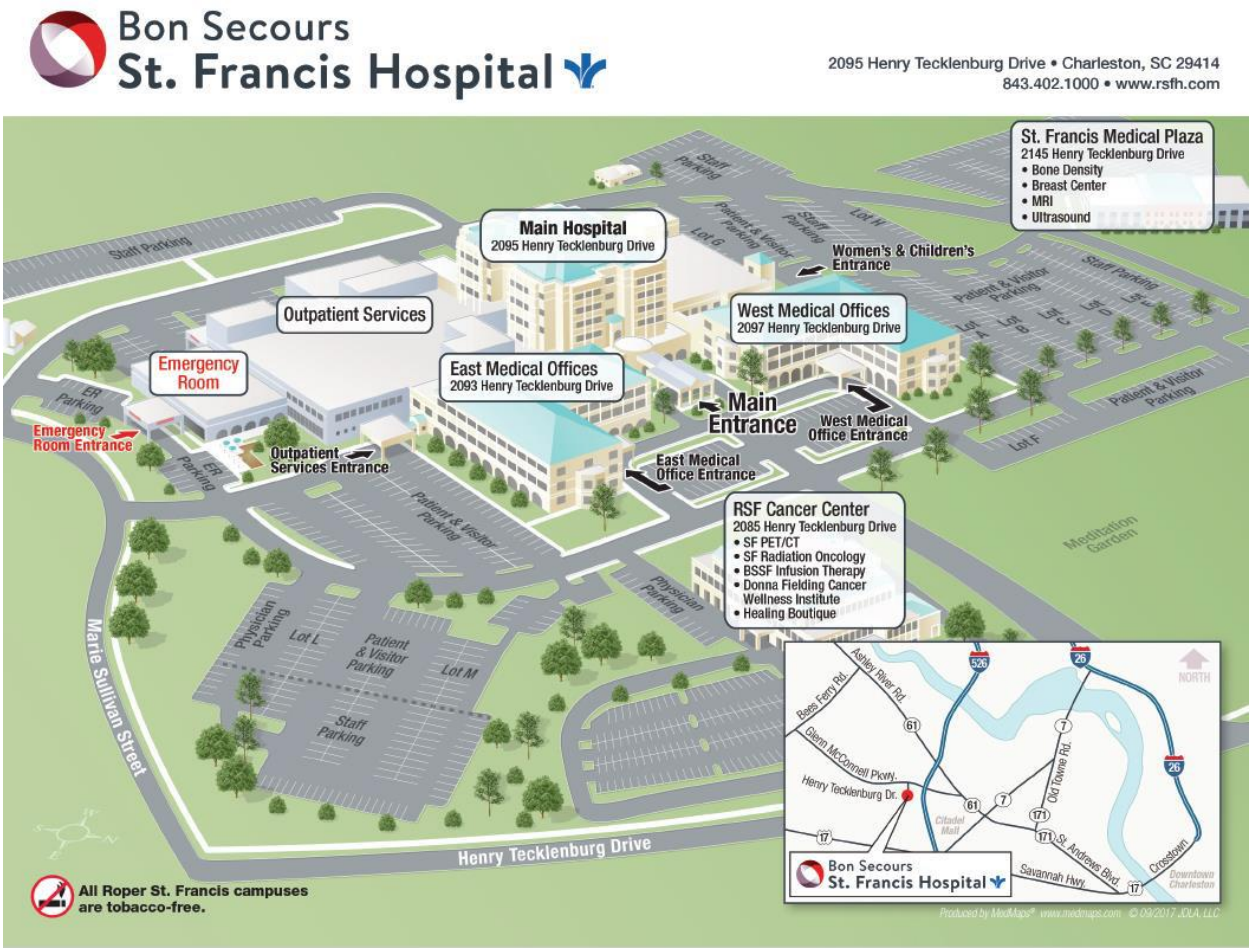
- *When taking these medications, your stomach does not empty as quickly and can cause you to inhale your stomach contents while under anesthesia. Your provider will discuss these risks with you further on the day of your procedure. Even when following the fasting and medication instructions you may have symptoms such as nausea, vomiting, and/or bloating on the day of your procedure. Depending on your symptoms, the anesthesiologists and surgeon may decide that delaying or cancelling surgery may be the safest decision for you.*

MORNING OF SURGERY-

DO NOT EAT OR DRINK ANYTHING THAT IS NOT ON THIS LIST OR YOUR SURGERY WILL BE CANCELLED!!

- Take all regular medicines if instructed with a sip of water.
- Shower with the medicated liquid soap (Hibiclens), before coming to the hospital. (Follow the instructions on page 34 of this booklet).
- Do not wear contacts, tampons, make-up, lotions, creams, powders, fragrances or deodorant
- Wear comfortable, loose clothing, such as a button front shirt & elastic waistband pants.
- If possible, wear/bring flat sole, slip on walking shoes.
- Brush your teeth & rinse your mouth with water (do not swallow any liquid).
- Tell your anesthesiologist if you get nauseated easily.
- Report to the hospital registration at your scheduled arrival time.

CH. 17: Hospital Map



Thank you for choosing Roper St. Francis Healthcare!