



Spine Surgery Education

Expert Spine Care at Wellstar

At Wellstar, we know there's no one-size-fits-all approach for spine conditions. That's why our experts deliver highly personalized care for the most complex spine cases. You can have peace of mind knowing you will receive world-class care tailored to your specific needs.

This guide is designed to support you — and your care partners — from your initial diagnosis through surgery and successful rehabilitation.

As your healthcare team, we understand treatment can be stressful. We're here to address your concerns with accurate information, information about your hospital stay and what to expect. Our goal is to provide outstanding quality care and improve your life through increased mobility and independence.

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Spine Care at Wellstar

Thank you for choosing Wellstar to help you manage your back pain and live a better life.

Wellstar's compassionate experts put patients at the center of your care plan, so you can have confidence in your diagnosis and treatment. Our board-certified, fellowship-trained spine surgeons collaborate to provide you with the highest level of care. Performing thousands of minimally-invasive procedures and complex spine surgeries each year leads to a high volume of experience — and better outcomes for our patients.

Mission Statement

The Wellstar Spine Center is dedicated to providing the highest quality spine care through a multidisciplinary approach dedicated to improving the health and well-being of the individuals and communities we serve.

Vision Statement

The Wellstar Spine Center will deliver world-class spine care to every person, every time.

Goals & Objectives

The Wellstar Spine Center will utilize progressive, less invasive surgical techniques whenever practical, and:

- Provide the highest clinical quality by implementing best practices, benchmarking clinical, financial and operational outcomes and minimizing unfavorable variances.
- Exceed patient expectations through an organized, systematic and coordinated approach that reduces fragmentation of care, emphasizes customer service and encourages patient and family involvement.
- Establish Wellstar's reputation as the preeminent spine surgery program in Georgia.
- Develop a program that is rewarding and meaningful for all participants.

Your Healthcare Team

At the Wellstar Spine Center, we take a team approach to your healthcare. In the weeks to come, you may meet the following team members:

An **anesthesiologist** is a physician who administers anesthesia during your surgery, monitors your vital signs and ensures you tolerate the operative period.

A **care coordinator/discharge planner** works with you, your surgeon, your therapists and your insurance company to determine the most appropriate plan for your care after you leave the hospital.

A **hospital chaplain** offers you and your family spiritual care with hope and a compassionate presence regardless of your faith tradition.

A **clinical educator** serves as a resource and provides medical education to you before and after your surgical procedure.

A **financial services counselor** helps you understand your hospital bill and provides options for payment plans, where appropriate.

Hospitalist - This hospital-based physician may be asked by your surgeon to assist in providing your general healthcare needs in the absence of your primary care physician.

Your **nursing team** is made up of healthcare professionals who provide most of your hands-on care in the hospital. They perform many different jobs. Some nurses assist the surgeon in the operating room while others visit patients in their homes. Nurses and clinical care partners attend to your daily healthcare needs.

A **nutritionist/registered dietitian** helps you meet your dietary needs while you are in the hospital and maintain a healthy diet before surgery and after you return home.

An **occupational therapist** teaches you and your care partners how to perform activities of daily living, such as dressing and bathing, after your surgery.

A **physical therapist** helps you regain strength and mobility during your hospital stay following your spinal surgery. Your surgeon will determine if you need continued physical therapy after discharge.

A **speech therapist** may perform a swallowing evaluation if you experience any issues with swallowing after cervical surgery. The therapist will create a treatment plan and modify your diet if needed.

A **physician assistant/nurse practitioner** assists your surgeon with office visits, surgical procedures and hospital rounds.

A **primary care physician** addresses your general health, including your pre-operative physical exam, and may be asked to follow you during your hospital stay.

A **program manager/coordinator** is responsible for the oversight of the Spine Center program at each hospital. You will see your program manager or coordinator in the hospital, and they will be a contact for you before and after your surgery.

A **spine surgeon** is the physician who performs your surgery and is responsible for your overall care during your hospital stay. This physician may be a neurosurgeon or orthopedic spine surgeon.

Important Phone Numbers and Locations

Spine Surgeon _____

Primary Care Physician _____

Hospitals

Wellstar Cobb Medical Center	
Main	(470) 732-4000
Spine Program Coordinator	(470) 732-4598
Nurses Station – 4 South	(470) 732-4460
Inpatient Physical Therapy	(470) 732-4300
Care Coordination	(470) 732-4006
Spiritual Health	(470) 732-3780
Retail Pharmacy	(678) 945-2111

Wellstar Kennestone Regional Medical Center	
Main	(770) 793-5000
Spine Program Coordinator	(770) 793-6691
Nurses Station – 6 South Green	(770) 793-6675
Inpatient Physical Therapy	(770) 793-7623
Care Coordination	(770) 793-7100
Spiritual Health	(770) 793-5005
Retail Pharmacy	(770) 793-9300

Wellstar North Fulton Medical Center	
Main	(770) 751-2500
Care Coordination	(770) 751-2743
Spiritual Health	(770) 751-2960

Wellstar Paulding Medical Center	
Main	(470) 644-7000
Spiritual Health	(470) 644-7107
Retail Pharmacy	(470) 644-8091

Care at Home

Wellstar Home Health	
Main	(770) 792-1660

Rehabilitation

Wellstar Physical Therapy
4550 Cobb Parkway North
NW
Suite 304
Acworth, GA 30101
(770) 917-8175

Wellstar Physical Therapy
2450 Old Milton Parkway
Suite 103
Alpharetta, GA 30009
(470) 267-0350

PT Solutions of Buckhead
3300 Hamilton Mill Road
Suite 109
Buford, GA 30519
Phone: (678) 804-8057

PT Solutions of Acworth
4900 Ivey Road
Suite 1001
Acworth, GA 30101
(770) 917-0924

Wellstar Physical Therapy
2615 E West Connector
Austell, GA 30106
(470) 956-3850

PT Solutions of Canton
1810 Cumming Hwy
Suite 1360
Canton, GA 30115
(678) 885-9965

PT Solutions of Alpharetta
735 North Main Street
Suite 1300
Alpharetta, GA 30009
(770) 580-8575

PT Solutions of Brookhaven
3575 Durden Drive NE
Suite 304a
Atlanta, GA 30319
(404) 465-9055

PT Solutions of Cartersville
650 Henderson Drive
Suite 301
Cartersville, GA 30120
(678) 721-9922

PT Solutions of Cumming
1648 Market Place Boulevard
Cumming, GA 30041
(404) 532-1059

PT Solutions of Johns Creek
2575 Peachtree Parkway
Cumming, GA 30041
(678) 679-6400

PT Solutions of Decatur
613 Church Street
Decatur, GA 30030
(404) 263-0631

Wellstar Physical Therapy
8954 Hospital Drive
Douglasville, GA 30134
(770) 920-6285

Wellstar Physical Therapy
144 Bill Carruth Parkway
Suite 1600
Hiram, GA 30141
(470) 956-8990

Wellstar Physical Therapy
1120 Wellstar Way
Suite 103
Holly Springs, GA 30114
(470) 267-0100

Wellstar Physical Therapy
1180 Ernest W Barrett
Parkway NW, Suite 102C
Kennesaw, GA 30144
(678) 797-5734

PT Solutions of Kennesaw
1615 Ridenour Boulevard
Suite 204
Kennesaw, GA 30152
(770) 580-8070

Wellstar Physical Therapy
3450 Acworth Due West
Road, Suite 310
Kennesaw, GA 30144
(770) 974-7494

PT Solutions of Wade Green
4430 Wade Green Rd NW
Suite 60
Kennesaw, GA 30144
Phone: (678) 293-9527

Wellstar Physical Therapy
111 Tower Rd NE
Suite 313
Marietta, GA 30060
(770) 421-7329

Wellstar Physical Therapy
818 Church Street NE
Marietta, GA 30060
(770) 590-4172

Wellstar Physical Therapy
3747 Roswell Road
Suite 112
Marietta, GA 30062
(770) 420-1122

PT Solutions of Lower Roswell
4880 Lower Roswell Road
Suite 625
Marietta, GA 30068
(678) 809-8443

PT Solutions of McDonough
1810 Jonesboro Road
McDonough, GA 30253
Phone: (678) 402-9789

PT Solutions of Norcross
5270 Peachtree Parkway
Norcross, GA 30092
(470) 482-6926

PT Solutions of Roswell
12050 Etris Road
Suite E-150
Roswell, GA 30075
(770) 801-4657

PT Solutions of Snellville
1575 Scenic Highway S
Suite 100
Snellville, GA 30078
(678) 535-5030

PT Solutions of Stone Mountain
3991 US-78
Suite 200
Snellville, GA 30039
(470) 482-6933

Wellstar Physical Therapy
4441 Atlanta Road SE
Suite 112
Smyrna, GA 30080
(470) 956-0415

PT Solutions of Tyrone
1504 GA-74
Suite 2A
Tyrone, GA 30290
(470) 885-5967

PT Solutions of Villa Rica
209 Cooley Way
Suite 203
Villa Rica, GA 30180
(770) 917-0826

Wellstar Physical Therapy
209 Towne Lake Parkway
Woodstock, GA 30188
(770) 591-9111

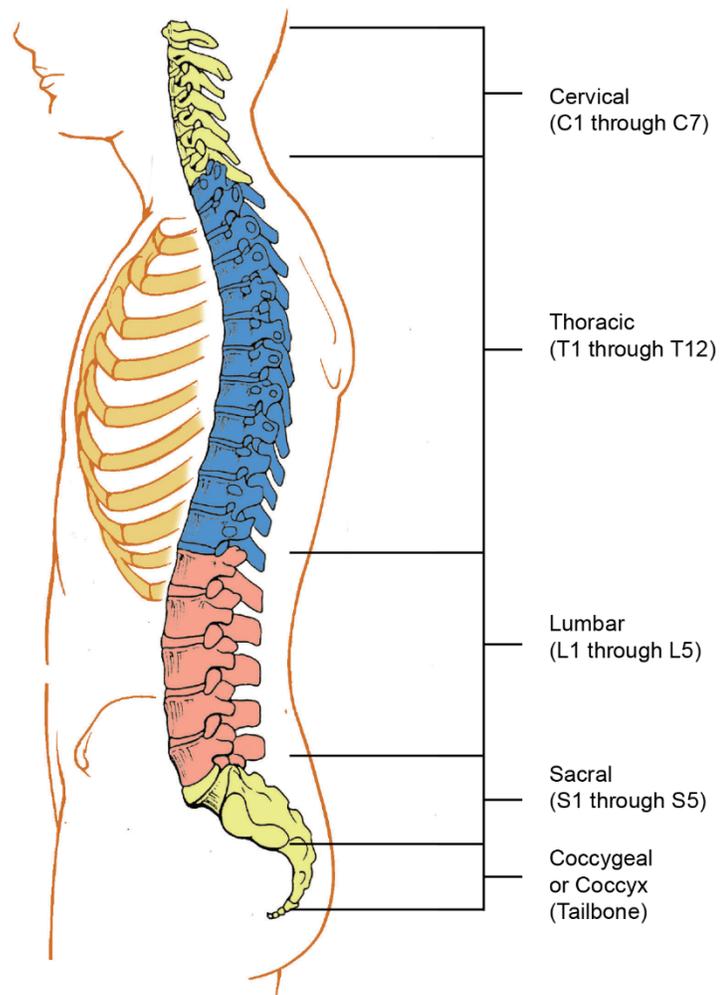
PT Solutions of Woodstock
1816 Eagle Drive
Building 100, Suite C
Woodstock, GA 30189
(770) 516-9191

Understanding Your Surgery

Getting to Know Your Spine

It is important to understand how your neck and back function so you can protect your spine before and after surgery.

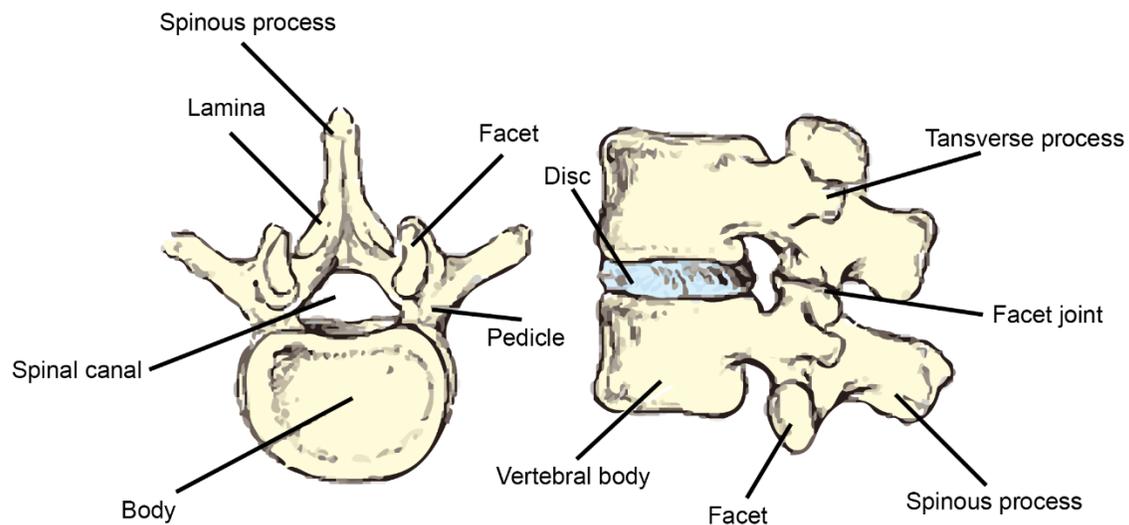
- A healthy spine shelters the spinal cord and supports the body, while allowing it to move freely.
- It does this with the help of the three natural curves, strong and flexible muscles and soft cushioning discs.
- The functional spine is composed of 24 bones called vertebrae: cervical-7, thoracic-12, lumbar-5. The sacrum is the base of the spine.
- The vertebrae are separated by a “shock absorber” called a disc and flexible joints that slide to allow movement.



Spine Anatomy

Your spine is made of vertebral bodies that provide structure and support for your back. The vertebrae form a ring of bone, forming your spinal canal. The back part of the vertebrae is called the lamina.

- Intervertebral discs are the cushions between the vertebrae that help hold the vertebrae together. They are made of cartilage material and allow movement and flexibility in your spine.
- Nerves branch off the spinal cord through the foramen. They supply feeling to your body and strength and movement to your extremities. Nerves help control pain, temperature and breathing — and send signals between the brain and other organs.
- Facet joints control the amount and direction of movement.



Common Spinal Problems

Degenerated disc — small ruptures or tears in the outer covering, or annulus. This may or may not cause any symptoms of pain or discomfort. The degenerative process usually begins in the early 30s.

Bulging disc — tears or ruptures in the inner lining of the annulus which allows the jelly-like nucleus to bulge outward. This may cause pain, numbness or tingling in the leg if it pinches against a nerve.

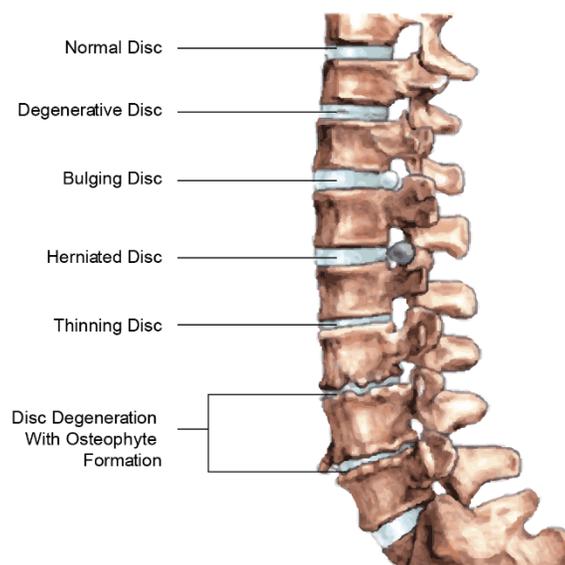
Herniated disc — complete tear or rupture of the outer covering of the annulus that allows the jelly-like nucleus to ooze out and pinch against a nerve. In many cases, this will cause pain, numbness and tingling.

Collapsed disc — the wearing down of the annulus layer causing one vertebra to close in on another vertebra below it. This is typically an end-stage result of the degenerative process.

Osteophytes — bony overgrowth from the vertebra that look like bone spurs. Depending on their location on the vertebra, osteophytes may pinch nerves.

Many conditions or problems can occur in the spine. Regardless of the type of condition, most patients experience pain and difficulty performing basic activities in life, such as walking, sitting, driving, sleeping, bending or lifting.

Many techniques are used to correct or repair spinal problems. It is important to be well-informed about the procedure planned for you. Each surgery is different, and your surgeon will determine the best surgical options based on your condition.



Common Causes of Spinal Problems

- Accidents/injuries (sports, vehicle, work-related, etc.)
- Obesity
- Arthritis (osteoarthritis, rheumatoid, fibromyalgia, etc.)
- Scoliosis
- Poor posture
- Weak muscles (especially abdominal muscles)
- Infections
- Tumors

Diagnosis for Treatment of Spinal Pain

Prior to any treatment of back pain, examinations and tests will help our spine experts determine the best course of treatment for you. Steps in determining a care plan include:

- Physical exam by primary care physician, then referral to spine surgeon
- Physical exam by a spine surgeon
- Neuromuscular testing
- X-rays
- CT scan and/or MRI
- Myelogram
- Lab work

At Wellstar, there's no one-size-fits-all approach to spinal care. That's why our experts collaborate to deliver highly personalized treatment plans. When non-invasive treatments prove unsuccessful, patients may benefit from the highest level of surgical care from a board-certified spine surgeon, who will provide education on the risks and benefits of surgery.

Potential Risks of Spinal Surgery

Spinal surgery is a major surgery. It is important to understand the potential risks, benefits, treatment options and potential outcomes. Risks include problems with anesthesia, infection, bleeding, nerve damage, spinal fluid leakage, blood clots in the legs that can travel to the lungs, failure to fuse, instrumentation issues, heart attack, stroke or death.

Types of Spinal Surgical Procedures

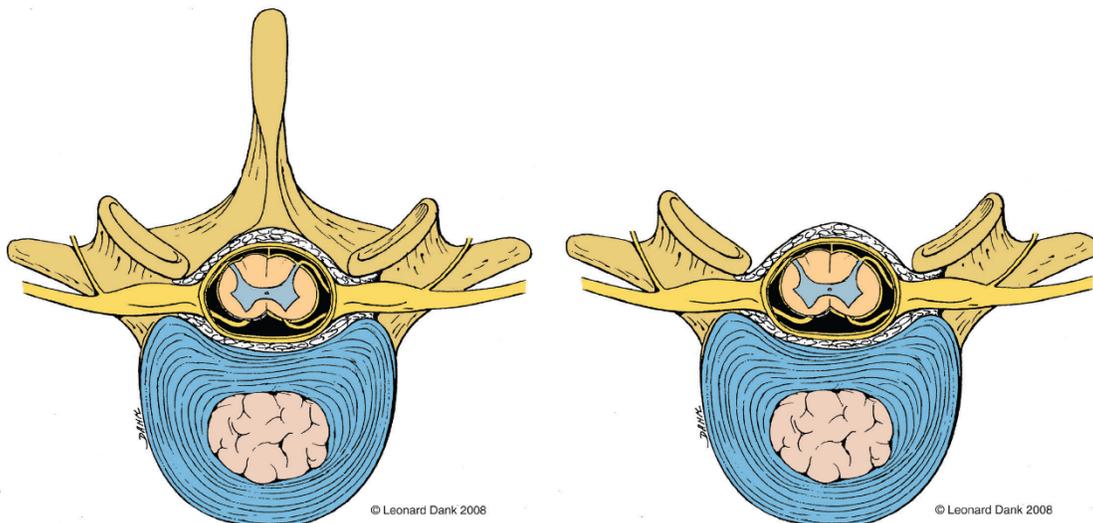
Discectomy

A discectomy is a partial or total removal of your disc, usually due to a bulging or herniation. In this procedure the surgeon removes the disc and/or bone fragments affecting the nerves and causing pain. Discectomies are usually done along with fusions and laminectomies (see below).

Microdiscectomy is another approach to disc removal. Through a microscope, the whole disc or a precise smaller portion of the disc is removed. Many discectomies can be done as a 23-hour admission or outpatient.

Laminectomy

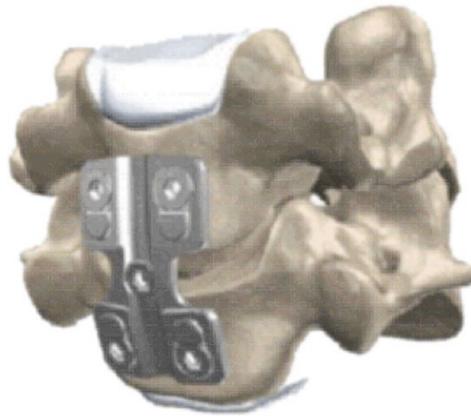
A laminectomy relieves the pressure of a diseased vertebral disc. This surgery is done through an incision in your back. The surgeon first removes part of the vertebrae called the spinous process, which is the part of the vertebrae that sticks out the most from the back of the spine (you can feel it when you touch the middle of your back over your spine). The surgeon then removes the lamina, which is the portion of the vertebrae that covers the nerve roots. When the lamina is removed, pressure is released from the nerves, which relieves pain. The surgeon then removes any bone fragments that may be pressing on the nerves and causing pain.



Cervical Fusion

Cervical fusion with instrumentation repairs herniated or diseased discs and bone spurs, all of which can compress the nerves and cause debilitating neck and/or arm pain. This is usually done from the front (anterior approach) but can be performed from the back (posterior). A discectomy is done, removing the disc, and a bone.

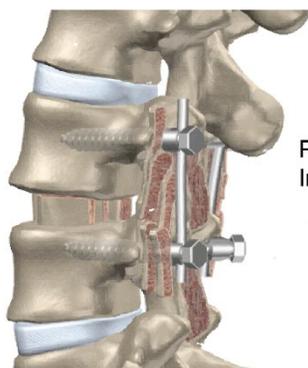
Anterior Cervical Discectomy & Fusion



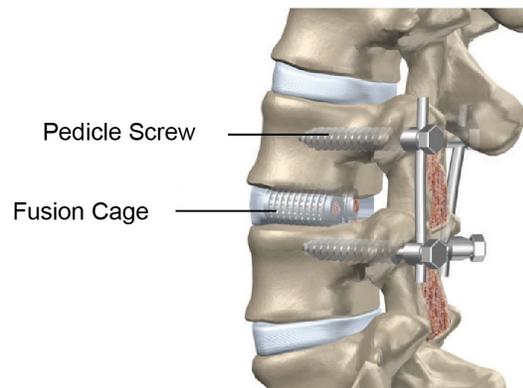
Lumbar Fusion

A lumbar discectomy/decompression with fusion aims to relieve a herniated disc in the lumbar spine. Most patients requiring this procedure have debilitating back and/or leg pain because of a ruptured disc or bone spurs in the back. This applies pressure to one or more of the spinal nerves. A lumbar fusion is usually done through an incision in the back but may need to be done through an abdominal incision. Sometimes the surgery is done in stages — first, the approach through the back, then, at a later date, the approach through the abdomen.

After an incision is made and a small window of bone and ligament is removed, a discectomy is performed to remove the disc and a bone graft or cage is positioned in place of the diseased disc. A metal plate and screws secure the spine. Once the area heals, the bone graft will be attached — or fused to the vertebrae.



Posterior Lumbar
Interbody Fusion



Pedicle Screw
Fusion Cage

Preparing for Surgery

Your path to recovery begins with the pre-operative steps that usually take place weeks before your surgery.

Pre-operative Clearance

Before undergoing surgery, depending on your health history, you may need to be checked for medical problems that could put you at risk during or after your surgery. If needed, this appointment may be with your primary care physician, cardiologist, pulmonologist, endocrinologist or other specialist. Your surgeon will tell you when to schedule your appointment. It may consist of:

- A complete medical history
- A physical examination
- Ancillary tests to clear you prior to surgery

A letter of medical clearance should be sent by your physician to your surgeon before your surgery.

Pre-admission Teaching and Testing Appointment

Prior to surgery, you will have a pre-admission teaching and testing appointment at the hospital where you will have surgery. Pre-admission testing may consist of laboratory testing (blood and urinalysis), an electrocardiogram (EKG) and a chest X-ray. A nurse will interview you about your medical and surgical history, medications and allergies. You will receive your pre-operative instructions which include — but are not limited to — diet restrictions, medications to stop prior to surgery, infection prevention and blood clot prevention.

Pre-operative Reminder

Notify your surgeon if you notice:

- Flu, cold or virus symptoms
- Skin rash
- Open, draining or reddened wound anywhere on your body — this includes scratches from gardening or pets
- Recent exposure to MRSA infection
- Recent prolonged travel or bedrest

Diet and Nutrition

Healthy eating

A proper diet is an important factor in healing. Eating well and maintaining a healthy weight helps eliminate stress to your spine and may reduce your risk of heart disease, diabetes and cancer. The federal guidelines for a balanced diet are recommended in the graphic. It also is important to increase your daily iron and calcium intake before and after your surgery.



Iron and Vitamin Supplements

Iron, an essential mineral that plays an important role in a variety of body functions, carries oxygen and carbon dioxide within your red blood cells to other body tissues. It is also necessary for energy production and the immune system support.

If you choose to take an iron supplement prior to surgery, you should:

- Take your supplement on an empty stomach with an 8-ounce glass of water or juice.
- Add iron-rich foods to your diet, such as lean meat, poultry and fish
- Include Vitamin C-rich foods such as strawberries, orange juice, cantaloupe, green peppers, tomatoes, potatoes and broccoli with each meal — they help the body absorb iron.
- Refrain from drinking coffee and tea with meals as they hinder the absorption of iron. Instead, drink these beverages between meals.
- If you use calcium or zinc supplements, take them separately from your iron supplement.
- Take a stool softener, if necessary.

Pre-operative Health Tips

- **Stop smoking.** Smoking increases your risk of lung complications during and after surgery. Smoking cessation will decrease your healing time. Smoking also has been shown to be a risk factor in failed fusions for spine patients.
- **Limit alcohol consumption.** Limit your alcohol intake to one glass of wine or beer or one cocktail per day, starting five to seven days prior to your surgery. After surgery, check with your doctor before resuming alcohol consumption. Please notify your care provider if you drink more than six beers or half a pint of liquor per week.

Medications to Stop

To minimize the risk of blood loss during surgery, certain medications need to be stopped, including those containing aspirin, prescription or non-prescription anti-inflammatories (Advil, Aleve, Motrin, Ibuprofen, Celebrex, etc.) and arthritis medications 10-14 days prior to your surgery.

If you are taking Plavix or a prescription blood thinner, the medication should be tapered down and stopped as instructed by your physician.

Some vitamins and herbs (such as Vitamin E, omega fish oils, flax seed supplements) may need to be stopped 10-14 days prior to surgery. Other herbal and homeopathic supplements need to be stopped five days prior to surgery. The pre-admission testing nurse will review your list of medications and tell you which medicines to discontinue. If you are unsure which medications to stop, or have questions, please call your surgeon.

Note: You may take regular or extra-strength Tylenol for pain. Please do not exceed 3,000 mg in 24 hours.

Other Medication Notes

- If you currently take a blood thinner for another health condition, ask your surgeon or family physician when you should stop taking it.
- The morning of your surgery, take only the medications you have been instructed to take by the pre-admission testing nurse, including beta-blockers, with a small sip of water.
- If you currently take Glucophage (Metformin) for diabetes, stop taking it 48 hours before surgery.

Preventing infections

Infections enter the body through various pathways, but most commonly through the skin and the mouth. To reduce the risk of infection, follow these tips.

Skin Cleansing

Shower as directed by the pre-admission nurse, using the Hibiclens surgical wash provided two days prior to surgery, the day before surgery and the morning of surgery.

Exposure

Minimize interaction with anyone who may have an infection.

Wound Care

Be vigilant about incision care after surgery, as directed by your care provider.

Preparing Your Home for Recovery

Meal Planning

- Prepare and freeze, or purchase, small portion meals for times you may be alone.
- Stock up on staples that can be frozen for later use, such as bread, vegetables and fruit.

Safety

- Remove scatter/throw rugs from around the house.
- Ensure there is a well-lit pathway to your bathroom (night lights).
- Make sure all stairways are secure and have hand railings.
- Tuck away long phone, computer and lamp cords. Keep your cordless or mobile phone with you at all times, in case of emergency.
- Arrange your furniture so you can move easily through your house.
- A raised toilet seat might be helpful during your recovery period if you do not have rails or something to help you lift up to the standing position.
- Pets should be placed in a closed room prior to entering your house to prevent an accident. You may need help caring for your pets the first weeks after surgery.
- If your bedroom is upstairs, you may want to prepare a sleeping area downstairs for the first week or two after your surgery.
- If possible, have hand rails installed in your tub or shower. You may also want to purchase a shower bench or chair, non-skid mats and a hand-held shower nozzle.

Help at Home

You will need help at home for the first few days after discharge. Recruit a family member or friend to assist with meals, bathing and dressing, and to take you to your follow-up appointment with your surgeon. Depending on the extent of your surgery, and the need for assistance after surgery, you may have home health nursing arranged.

Packing for the Hospital

Pack your suitcase for the hospital a day or two before your surgery. Be sure to include:

- Personal care items, such as toothbrush, toothpaste, deodorant, hairbrush, comb, etc.
- Slippers or flat, rubber-soled shoes with an enclosed heel and toe for walking in the hall
- Clothing, such as short gowns, shorts, t-shirts, pajamas and a short, lightweight bathrobe
- A walker if you already have one — the therapist at the hospital will determine if the walker can be adjusted properly for you.
- Loose fitting clothing to wear home

Note: If you are going home the same day (outpatient spine surgery), many of these items may not be needed.

Also bring:

- Your CPAP/BiPAP machine, if you have sleep apnea
- A list of current medications, including amount, strength and frequency
- A list of medication and food allergies
- A copy of your Living Will, Advanced Medical Directives and Directive for Final Healthcare (if you have one)
- This booklet — you and your medical team will be using it throughout your hospital stay

Additionally:

- Leave jewelry, credit cards and large sums of money at home.
- Remove jewelry in piercings.
- Label everything with your name. If you bring your own pillow, make sure it has a bright colored pillowcase.
- Plan to have someone at the hospital by early morning, on the day of discharge, to help listen to and remember discharge instructions from nursing, physical therapy and your physician.

Countdown to Surgery Checklist

2-4 weeks:

Date: _____

- Schedule your pre-operative physical.
- Begin taking your iron supplement (*if you have been instructed to*).
- Have a balanced, healthy diet each day.
- Start pre-operative exercise program, if feasible.
- Stop all smoking and minimize alcohol intake.

1-2 weeks:

Date: _____

- Begin preparing your home.
- Continue eating balanced, healthy meals.
- Stop taking aspirin products, blood thinners and arthritis medications, per provider instructions.
- Prepare/buy/freeze meals for use after discharge.
- Notify the surgeon if you have open wound, rash or sore, or if you have a cold, virus or fever.

Two days before surgery:

Date: _____

- Wash with Hibiclens as instructed.

Day before surgery:

Date: _____

- Pack for the hospital.
- DO NOT EAT OR DRINK AFTER MIDNIGHT, unless otherwise instructed.
- Wash with Hibiclens as instructed.

Day of surgery:

Date: _____

- Take medications with a small sip of water
(*Only those which you have been instructed to take*).
- Take your beta blocker (*if you are on one*).
- Wash with Hibiclens as instructed.
- Be on time to the hospital.

Time: _____

Time: _____

Time: _____

Surgery

What to expect – before, during and after your surgery.

Before Surgery

Before leaving for the hospital:

- ✓ **Shower.** You will be given a surgical wash (Hibiclens) to use two nights before, the night before and the day of surgery.
- ✓ **Brush your teeth.** Upon awakening, you may brush your teeth and rinse with water, but do not swallow the water.
- ✓ **Take medications.** Take only the medications as instructed by the pre-admission testing nurse with a small sip of water as soon as you get up.
- ✓ **Wear proper clothing.** Wear clothes that are loose fitting and easy to remove.
- ✓ **Leave jewelry** — including those in piercings — and other valuables at home.
- ✓ **Remove makeup.** Do not wear any makeup, mascara, eye shadow, eyeliner or false eyelashes.
- ✓ **Remove all fingernail and toenail polish, except clear.**
- ✓ **Do not use powder, deodorant, perfumes or any scented lotions.**
- ✓ **Bring a container/case with your name on it** for your contact lenses, glasses, hearing aids and dentures. Keep your belongings in the car until after your hospital room has been assigned.

Reporting to the Hospital

- ✓ **You will be asked to report to the Surgery Center at a time specified by your surgeon or your pre-op nurse.**
- ✓ **Bring a friend or family member.** Make sure the person(s) accompanying you checks in with the volunteer in the surgery waiting room so the surgeon will be able to speak with them after surgery. Two visitors are allowed in the surgery waiting room. Please, no visitors under age 12.

Pre-operative Admissions

Once at the hospital, go directly to the Surgery Center. There, your registration information will be verified, you will receive your hospital identification bracelet and you will change into a gown. Your clothes will be placed in a hospital bag. If you wear dentures, eyeglasses or contact lenses, you will need to remove them at this time.

In final preparation for your surgery, an admitting nurse will re-check your medical records and conduct a brief physical exam that includes taking your vital signs. You will be asked to empty your bladder. An intravenous (IV) line will be started and you will be asked to confirm which part of your spine is being operated on, and on which side you experience the most symptoms.

Surgery Waiting Room

A family member or friend can remain with you in the pre-operative admissions area until you are taken to the operating room. They will then be instructed to go to the surgery waiting area.

In the surgery waiting room, volunteers will inform your family or friends when your surgery is completed. At that time, the surgeon will discuss your surgery with your family. For this reason, it is extremely important that your family members register with the volunteer in charge of the surgery waiting room — it is the only way the volunteer knows your family is there.

Remember that it may be three to four hours from the time you leave your family until your surgery is completed. If, at any time, your family has questions about when your surgery will be finished, they may check with the volunteer or patient liaison. The operating room nurse will be in touch with your family or friends when the procedure starts and approximately every 90 minutes throughout the procedure. Once you are ready to move from the recovery room to your hospital room, your family will be notified of your room number.

Anesthesia

Your anesthesia will involve intravenous and other general anesthetic agents delivered in gas form. The type of anesthesia given will be specifically tailored to your needs and will be discussed with you prior to your procedure. The goal is to minimize post-operative side effects, such as nausea and extreme grogginess. We want you to have the proper anesthetic and enjoy a comfortable, post-operative hospital stay.

General Facts

- Your anesthesiologist will meet with you prior to your surgery.
- Tell your anesthesiologist if you have ever had any problems with anesthesia or medications.
- After examining you and discussing your medical history and desires, the best anesthetic plan will be determined for you.
- Most spine surgeries are performed under general anesthesia.
- After surgery, you may have a tube under your nose or a mask providing you with oxygen.

About General Anesthesia

- You are given intravenous medications that put you to sleep for your operation.
- These medications produce complete loss of sensation and perception.
- You may have a sore throat for a few days after surgery from the breathing tube.
- You will wake up quickly when surgery is over.

Your Surgery

Going into Surgery

Shortly before your surgery, you will be taken into a holding area until the operating room and staff are ready. You then will go into the operating room where you will be prepared for surgery. The average length of time for the surgery varies depending on the procedure. These rooms are kept very cold for infection control. The staff will provide warm blankets for you.

During Surgery

It may be necessary to receive a unit of blood during or after spine surgery. This is a rare occurrence. Wellstar hospitals have blood and blood products available for you should you need them. A closed, sterile system that recycles the drainage of blood from your incision site also may be used for blood collection and reinfusion. This occurs only in the operating room and often reduces the incidence of requiring other types of blood transfusions.

After Surgery

Once your surgery is completed, you will be taken to the recovery room where:

- Nurses will check your blood pressure, pulse and breathing
- You will receive medications for pain, as needed
- Nurses will check your dressings, conduct a neurological assessment and encourage you to take deep breaths and move your ankles and feet.

Please inform your family that the length of time in the recovery room varies depending on your progress. You may wake up feeling groggy, and will see several types of equipment and tubes. Do not be alarmed, as this is all a part of the recovery process. From the recovery room, you will be transferred to your hospital room.

Hospital Stay

The average length of stay in the hospital after spine surgery is usually one to three days. Everyone is different, however, and your doctor will determine when you are ready for discharge. Some spine surgeries are done as an outpatient meaning you would go home the day of surgery.

Fall Prevention

At Wellstar, your safety is a high priority. To keep you safe and help prevent falls, our nurses will evaluate and monitor your risk for a fall. If you are at risk, you will be placed on "Fall Precautions."

Some of the risk factors for falls include: loss of memory/confusion, loss of feeling in your leg/legs and drowsiness caused by pain, nausea or sleeping medications.

If you are identified as high risk for falls, you may be asked to:

- Wear special color booties/slippers
- Have a bed alarm attached to alert the nurses
- Have a support person there at all times
- Have the side rails on your bed up
- Never get up without assistance
- Ask for help at any time

Our Staff Will Assist You by:

- Keeping the bed in the low position and locked
- Educating you and your family regarding the risk of falls and how they can help protect you
- Placing the call bell, phone, water and personal items within your reach
- Leaving a night light/light in your bathroom on at night
- Monitoring you frequently
- Frequently orienting you to place, time, day, environment and safety precautions
- Having staff assist you to the bathroom
- Placing a sign outside your door informing all staff you are at risk for falls

Your help is needed to make sure your family and visitors comply with these safety processes. Your compliance is critical to a speedy recovery. Remember to **"call, don't fall."**

What to Expect

IV fluids, Antibiotics

You will be provided with fluids through an IV tube. IV fluids are stopped on the first post-operative day if you are drinking plenty of fluids. Antibiotics also are given intravenously as ordered by your surgeon. These are started prior to your surgery and continue after surgery to help prevent infection.

Diet

When ordered by your surgeon, you will be started on a clear liquid diet (Jell-O, Sprite and broth). The nursing staff will advance your diet to regular food, per your surgeon's orders, according to your tolerance. Specialty diets (diabetic, cardiac, etc.) will be advanced as well. It is normal to experience a loss of appetite for the first few days after surgery, but it is important to try to eat.

Surgical Dressings

Your surgical site will be covered with a bulky dressing at first. Usually, your dressing is changed the first day by your surgeon. You will be instructed on how to care for your dressing prior to discharge.

Drainage Tubes

Sometimes a small drainage tube is placed in your spine incision during surgery. The tube collects excess fluid and blood so it does not build up and cause more pain. The tube is usually removed 24-48 hours after surgery.

Sequential Compression Devices (SCDs)

For the first few days after surgery, special lower leg wraps called sequential compression devices may be used while you are in bed. These wraps attach to an air pump that inflates and deflates to encourage circulation to your legs to prevent blood clots.

Oxygen

Sometimes oxygen is used after surgery to help you breathe easier. It is usually only needed for the first few days, at most. The oxygen may be given through a tube placed close to your nose or through a mask placed over your mouth and nose. A respiratory therapist will follow your care if you should need oxygen after surgery. The oxygen saturation level (how much oxygen you have in your bloodstream) will be monitored periodically by placing a clip monitor, called a pulse oximeter, on your fingertip.

Breathing and Use of an Incentive Spirometer

The incentive spirometer is a small, handheld device that helps you take a deep breath. This helps to expand your lungs more fully, preventing respiratory complications after surgery. Your nurse and/or respiratory therapist will let you know how to use the incentive spirometer. It is very important that you use it at least 10 times every hour while you are awake. You may be encouraged to use the spirometer more often if you have a low-grade temperature. You also will be encouraged to cough and breathe deeply.

It is recommended that you bring your incentive spirometer home with you and continue to use it for two weeks after discharge or until your physician gives you clearance to stop.

Equipment You May Use in Recovery

Several types of equipment may be recommended by your surgeon or therapist to assist you with your daily activities after surgery. If recommended, your therapist will teach you how to use the equipment. Since every patient will not require all these devices, and they are not always covered by your insurance company, please do not purchase any assistive devices (such as a back brace, walker, or raised toilet) without discussing them first with your surgeon or therapist.

Your post-operative needs will be guided by your surgeon and physical therapist.

Anticoagulants

Anticoagulants (blood thinners) may be prescribed for patients having an Anterior Lumbar Fusion and sometimes other procedures. Your surgeon will decide if this is necessary and which medicine is best for you.

Nausea Medications

Some people experience nausea, or even vomiting, after surgery. Anesthesia and other medications cause nausea for some people, but it usually goes away during the first day after surgery. Your surgeon will order medication to help reduce and eliminate any nausea you may experience. Please keep your nurse informed if you experience any nausea.

Muscle Relaxers

Muscle relaxers may be prescribed by your surgeon. These medications relax the muscles of your back and decrease muscle spasms.

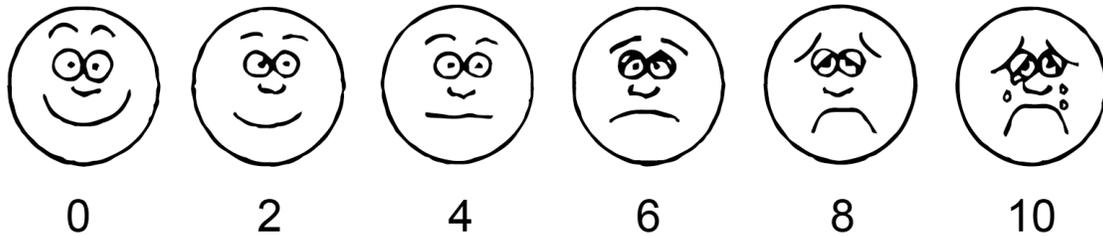
Constipation

After surgery, constipation is a common problem. Pain medications, decreased activity and changes in your diet all interfere with your normal bowel pattern. Stool softeners are usually given daily. Laxatives may be given also, as needed. Please do not be embarrassed to discuss this with your nurse.

Pain Medications and Pain Control

Pain Scale

You will be able to discuss with your surgeon the best way to control your pain after surgery. Several methods of pain medication delivery may be used based on the rating you give your pain. At Wellstar, we use this pain scale so you can rate the intensity of the pain you are experiencing.



Controlling your pain is very important to us. You will be asked to “score” or “rate” your pain on a scale of 0-10. 0 is no pain, 10 is the worst pain. By using this scale, we will be able to monitor your level of pain as well as the effectiveness of your pain medications. Please let your nurse know if your medication is not helping your pain before it gets out of control (i.e., becomes greater than 5).

Oral Pain Medication

After your surgery, when you are able to eat solid food, you will be placed on oral pain medications to control your discomfort. If your surgeon believes you will need more direct pain medications, he may start a patient-controlled analgesia (PCA) pump or order IV injections of pain medications as needed.

PCA Pump

A PCA pump is a locked machine that allows you to give yourself pain medication as ordered by your surgeon. It is set so you cannot give yourself too much medication. The PCA tubing is connected directly to your IV tubing and delivers the type of pain medication your surgeon has ordered for you. You will have access to a control button to push when you are experiencing pain. It is important that you push the pain button before you become too uncomfortable. Your family members and friends should not push the button for you. Your nurse will give you more instructions on the use of the PCA pump after surgery.

Intensive Care

The Intensive Care/Intermediate Care Unit (ICU/IMCU) is for patients undergoing more extensive operations with prolonged anesthesia and/or blood loss. They may require short-term stay in this more critical-care area.

Intubation

Intubation occurs when an endotracheal tube is inserted into the windpipe for assistance with breathing. This is done to protect the airway during surgery and may be required temporarily post-op. There are a variety of reasons why you may remain intubated after surgery — your surgeon will provide you and your family a detailed explanation.

Lumbar Drain

A lumbar drain is a tiny tube inserted into your back that allows cerebral spinal fluid (CSF) to drain. The rate and amount of drainage is controlled by a nurse. A nurse must be aware before any big changes in position occur, such as standing or elevating/ lowering the head of the bed. The drainage chamber must be adjusted or clamped according to these changes. Without adjusting the chamber, too little or too much CSF may drain. The tube is not permanent — it is used to reduce CSF pressure long enough for an unintentional opening of the dura (covering of the spinal nerves) to heal or to relieve pressure on the surgical incision.

Chest Tube

Some spinal surgeries may require a lateral approach, or incision within the chest cavity. This may require a chest tube (CT) to drain fluid/blood that may accumulate outside your lungs, allowing your lungs to expand. This is temporary — when fluid/blood drainage decreases, the CT will be discontinued.

Arterial Line

An arterial line is a small catheter inserted into your radial artery for continuous blood pressure (BP) monitoring. If BP has been of concern, this may be inserted for continuous monitoring and treatment. This catheter will be discontinued once BP has stabilized.

Epidural

An epidural is a small tube placed in your back by your anesthesiologist prior to surgery. Medications can be given through this tube to minimize your pain during and after your surgery. The medication is monitored by the nursing staff (and IV team). Sometimes, after the epidural is discontinued, a pain pump or oral pain medicine is started.

Foley Catheter

For patients who will not be able to void after surgery, a temporary catheter called a Foley catheter is inserted into the bladder to drain urine. Once you become more mobile, the catheter will be removed.

Post-operative Exercises and Activities

Coughing and Deep Breathing Exercises

These exercises help prevent lung congestion after surgery.

- To cough, take a deep breath and cough forcefully from your abdomen.
- To take a deep breath, inhale as deeply as you can and hold while counting to 10. Now exhale all the air. Repeat this exercise five times. Another part of your deep breathing exercise involves the use of the incentive spirometer, discussed on page 26.

Physical Therapy

Physical therapy may begin the day of your surgery unless otherwise ordered by your surgeon. Walking is the most important activity you will do after surgery. Some pain should be expected when starting activities after surgery, but it is very important to begin moving as early as possible. Transferring from the bed to the chair and walking short distances will begin the day of your surgery with your nursing team and continue with physical therapy as appropriate. The physical therapist will assist you in learning how to safely get in and out of bed, in and out of a chair, follow your spine precautions and walk with any needed equipment.

Occupational Therapy

An occupational therapist may evaluate and assist you in learning how to safely perform your daily activities such as bathing, dressing, toileting and getting in and out of the bathtub or shower, while maintaining your back precautions. The therapist also will evaluate the need for any home medical equipment.

Rehabilitation Activities

Since you will have bending, twisting and lifting restrictions, many activities will require modification for a while after your surgery. Your physical and occupational therapists will address challenges such as getting in and out of a car, climbing stairs and steps and use of specialized equipment to assist you during your recovery period.

Bathing, Showering & Dressing

You may sponge bath or shower (with a waterproof dressing) after your surgery, as recommended by your surgeon. You may be able to use a tub bench in the shower or tub. Your physical or occupational therapist will share other equipment that may help you bathe and dress safely.

Walking

When you get home, the goal is to walk 30 minutes each day. It may take up to a month to reach this goal. Start by walking five minutes three times each day. When you can walk 10 minutes, walk twice each day and gradually increase your time. Walk at a gentle, comfortable pace. A good goal is to be able to walk one mile in one month after surgery.

Equipment

Neck and Back Braces

Most patients do not need a brace and, often, you may begin walking without one. If your surgeon determines you need a back/neck brace, you may put it on while:

- Lying, before attempting to sit, via log roll or
- Sitting at the edge of the bed or standing
- Out of bed or while moving

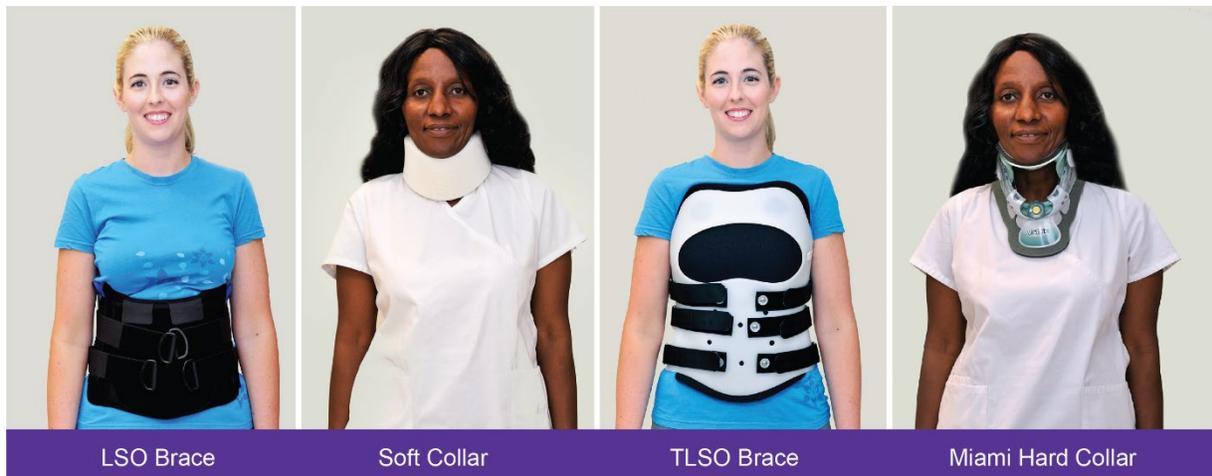
Your surgeon, physical therapist and/or the home medical equipment provider will instruct you on proper brace use.

Mobility Devices

You may need a walker or cane to help you walk safely after surgery. If your surgeon and therapist think this is appropriate, one will be ordered for you prior to discharge.

Supplemental Fusion Devices

If you are at risk for non-fusion (i.e. diabetic, smoker, osteoporosis), your surgeon may order an external bone stimulator for you to wear in the post-operative period.



Spine Precautions

No bending, lifting or twisting (BLT)

No bending: Forward, backward or sideways at the waist

No lifting: Do not lift more than 5-10 pounds (a gallon of milk is eight pounds)

No twisting: At the waist



NO



NO



NO

Bed Mobility

Log Roll

When getting in and out of bed, use the log roll technique.



Getting Out of Bed

- Bend knees and put your feet on the bed.
- Log roll onto your side, keeping shoulders, hips and knees in alignment throughout the movement.
- DO NOT TWIST!
- Bring legs off the side of the bed.
- Push up with your arms/elbow, keeping your abdomen tight to the sitting position.
- Scoot to the edge of the bed and place your feet on the floor.

Getting in Bed

- Sit down on the edge of the bed.
- Lay down on your side (example: if coming down on your LEFT side, come down on the LEFT elbow and keep the RIGHT arm in front of you).
- Bring legs up on the bed at the same time with the knees bent.
- Place your head on the pillow then roll onto your back keeping the shoulders, hips and knees in alignment (log roll).

Proper Sitting Position

- Keep your ears, shoulders and hips in line with each other. This helps to take the pressure off your vertebrae and disks.
- Be sure to sit in a straight back chair with your buttocks to the back of the chair and your feet flat on the floor. Soft sofas or chairs will lead to poor posture.
- Change positions frequently. You should not sit for longer than 30-45 minutes at a time.



Discharge from the Hospital

Planning for your discharge begins in your surgeon's office, before hospital admission, so we can provide the most comprehensive plan of care for you and your family. Once admitted, a care coordinator from our team will visit you for an initial assessment to review your home status and determine what may be needed at discharge. Sometimes the plan is adjusted, depending on your progress.

Considerations include:

- The amount and type of therapy you will need
- Pain management
- The amount and type of assistance you will receive from your caregiver
- Your home environment
- Your insurance plan

Prior to being discharged, you will be given:

- Prescription for pain medicine/muscle relaxers
- Written discharge instructions
- Written medication reconciliation
- The phone number for Home Health and the equipment company (if ordered)
- Follow-up appointment with your surgeon, usually 10-14 days after surgery

Going Home

Make sure a family member or friend is available for your discharge home. Before leaving the hospital:

- Make sure you take a pain pill to help you with your pain until you get your prescription filled.
- Verbalize discharge instructions, physical restrictions, medication regimen, follow-up appointment and situations requiring medical attention.

The Drive Home

- If your drive home is long, stop to stand up and stretch every 45 minutes to one hour.
- Avoid riding home in a compact car, sports car, truck or any vehicle with raised suspension.

Recovery at Home

Call office immediately if you have:

1. Significant drainage (more than just a few drops) and/or odor from your wound
2. Increased redness/swelling at the incision site
3. A fever greater than 100.5 degrees
4. Numbness or weakness of the arms or legs
5. Unexplained incontinence (“accident”) of the bowel or urine, are unable to urinate or have new onset of pain or numbness in the rectal, vaginal or scrotal area
6. Swelling of legs, chest pain or shortness of breath

Discharge planning/after surgery instructions

Your surgeon will choose the appropriate options for you when you are discharged from the hospital. You may or may not need a cane or walker. If a back brace is needed, this will be ordered preoperatively and will be applied after your surgery in your hospital room.

If you have a true emergency, call 911 or go to the nearest emergency room. Their staff will contact your surgeon.

Pain Expectations

A sore throat often occurs after intubations for anesthesia. After all surgeries, inflammation is a natural process of healing. We cannot and do not want to block this process. Please know we can take the “edge” off your pain, but we cannot stop all your pain. You will get stronger every day — be patient. Be encouraged by the “good days,” as the “bad days” become fewer.

Medications

If you need a medication refill, please call your surgeon’s office. Be sure to allow some time for prescription refills — call your pharmacy before picking up your refill to confirm it is ready. Take your pain medicine only as prescribed (or less, if possible). If your pain lessens, try taking plain Tylenol (acetaminophen) for relief.

If you had a spinal fusion, non-steroidal anti-inflammatory drugs (Advil, Celebrex, Motrin, Aleve, Ibuprofen, Vioxx, etc.) can adversely affect your healing process. Do not take them for three months after surgery. If you were on baby aspirin prior to surgery, ask your surgeon when to resume taking. If you were on a blood thinner like Coumadin, Lovenox, Heparin products or Plavix, check with your surgeon about when to resume it.

Smoking

Avoid smoking for at least three to six months after surgery, as this can affect your healing.

Constipation

Pain medicines may make you somewhat constipated. You may take over-the-counter stool softeners, milk of magnesia or other laxatives if needed.

Incision care

Check your incision daily for the first two weeks for any sign of infection, such as increased warmth or redness to the area, swelling, discharge or unexplained increasing pain in the incision. Your surgeon will provide instructions on when to change your dressing. A small amount of reddish-brown drainage is not unusual for one or two days.

Showering

Your surgeon will let you know how soon after your surgery you can take a shower. Let the water run over your incision and pat dry. Do not immerse or take a bath until your surgeon gives you permission. Do not submerge in a pool or Jacuzzi for at least two to three months after surgery, and only after it is approved by your surgeon.

Exercise and Mobility

Continue the exercise/physical therapy program your therapist began with you while in the hospital. Follow your spine precautions until your surgeon discontinues them.

Sexual Activity

Talk to your surgeon about when it is safe to resume sexual intercourse and which positions to avoid.

Post-operative Follow-up

Your first post-operative visit will generally be in about 10-14 days. You should schedule your appointment as soon as you return home from the hospital if it was not scheduled during your pre-op appointment.



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