



A Patient's Guide to

Spine Surgery





ABOUT HOSPITAL FOR SPECIAL SURGERY

Founded in 1863, Hospital for Special Surgery (HSS) is the world's leading academic medical center focused on musculoskeletal health. HSS has been nationally ranked No. 1 in orthopedics by *U.S. News & World Report* for the last 16 years. HSS is also a leader in the field of rheumatology, ranking No. 3, and is the first hospital in New York State to receive Magnet Recognition for Excellence in Nursing Service from the American Nurses Credentialing Center five consecutive times. HSS has one of the lowest infection rates in the country. HSS is an affiliate of Weill Cornell Medical College and, as such, all Hospital for Special Surgery medical staff are faculty of Weill Cornell. HSS's research division is internationally recognized as a leader in the investigation of musculoskeletal and autoimmune diseases. HSS has locations in New York, New Jersey, Connecticut, and Florida.



Dear Patient,

Welcome to the Hospital for Special Surgery Spine Service. We are very pleased that you have chosen to have spine surgery here. We are committed to making your surgery and recovery comfortable and successful.

We are pleased to provide you with this detailed overview of your planned spine surgery. This manual will act as your guide through your entire surgical experience. We urge you to read and refer to it often. Please bring it with you during any visits related to your surgery.

Additional information and patient education materials are also available for your review on our website at hss.edu/spine.

Members of the Spine Service are dedicated to improving spine surgery. We are actively involved in the development of newer and less invasive techniques to help patients recover more quickly. For those of you who are participating in our clinical research studies, we thank you. We welcome all comments and input, which will help us improve our spine surgery practices.

On behalf of all the members of the Spine Service, it is our hope that this educational guide will help answer many of your questions regarding your condition and treatment. We also hope it will help make your experience a pleasant one. Please feel free to contact your surgeon's office for additional information.



Sheeraz Qureshi, MD
Co-Chief, Spine Service



Andrew Sama, MD
Co-Chief, Spine Service

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BEFORE YOU COME TO THE HOSPITAL

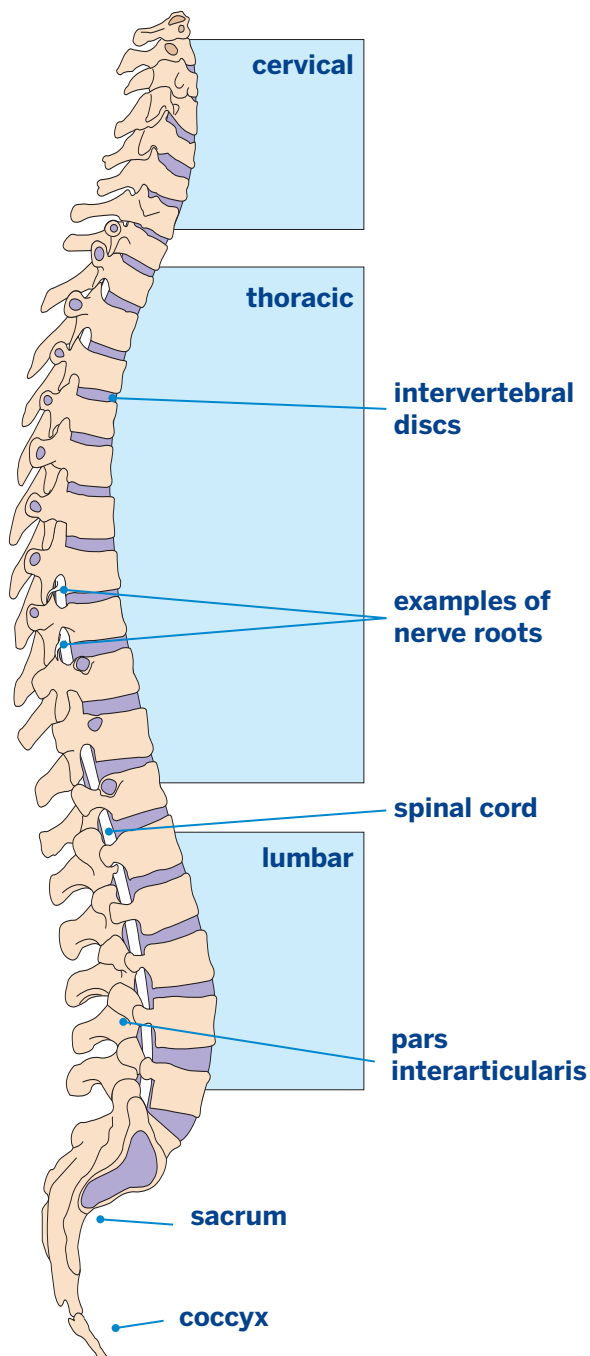
Important Telephone Numbers

Access Private Nursing Service	212.774.7187
Admitting Patient Access	212.606.1241
Billing	212.606.1772
Discharge Planning	212.606.1920
Food and Nutrition Services	212.606.1293
Hospital for Special Surgery Main	212.606.1000
HSS Family Resource Line	212.774.7547
Intraoperative Monitoring Coordinator	212.606.1047
Patient Education	212.606.1263
Recorded Message (Day Before Surgery)	212.606.1630
Rehabilitation	212.606.1221
Spiritual Care	212.606.1757

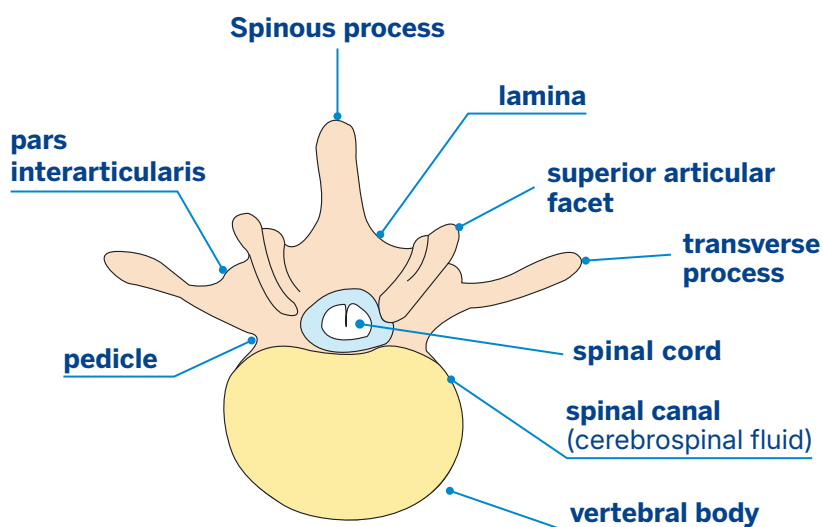
A CLOSER LOOK AT SPINE SURGERY

The spine consists of 33 bones called **vertebrae** that provide structure to the body and protect the spinal cord. In between the vertebrae are **intervertebral discs and facet joints, which absorb shock and allow for movement**. The following diagrams show some of the important structures of the spine.

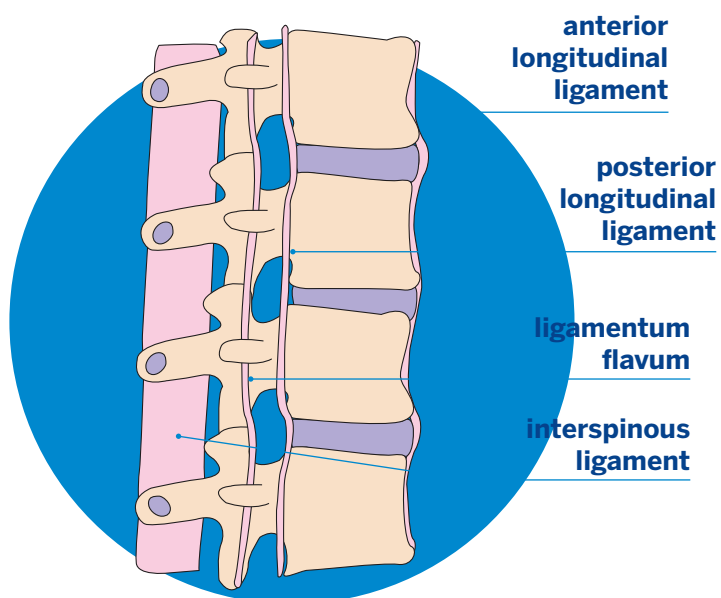
SPINE (side view)



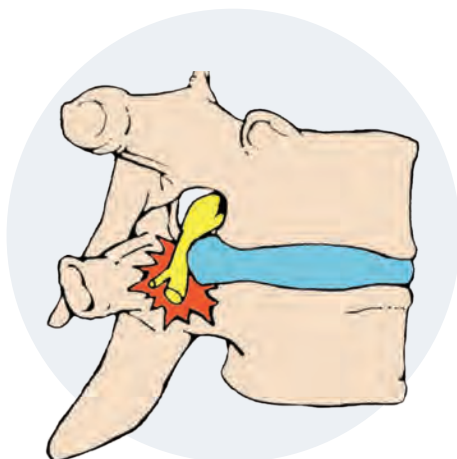
VERTEBRAE



SPINAL LIGAMENTS

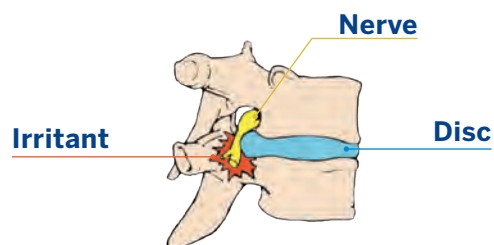


TYPICAL SPINE PROBLEMS



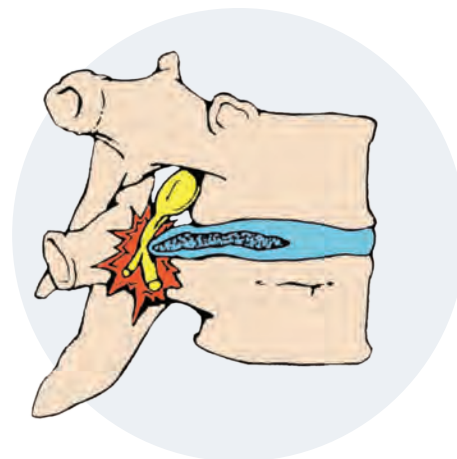
Bulging Disc

A bulging disc occurs due to a disc becoming weaker. This can result in pressure and pain in the back and/or neck.



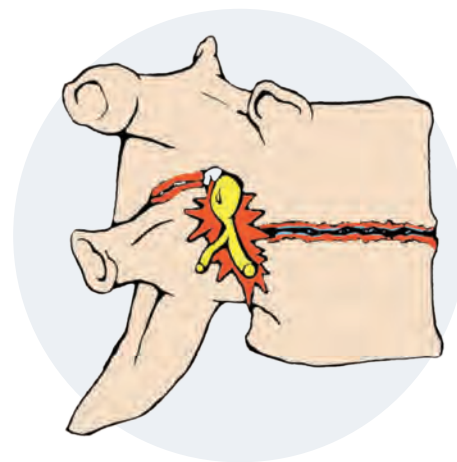
Herniated or Ruptured Disc

A herniated disc is a condition in which the center of the disc causes the outer layers to squeeze through or rupture. This can lead to compression and irritation of the spinal nerve root.



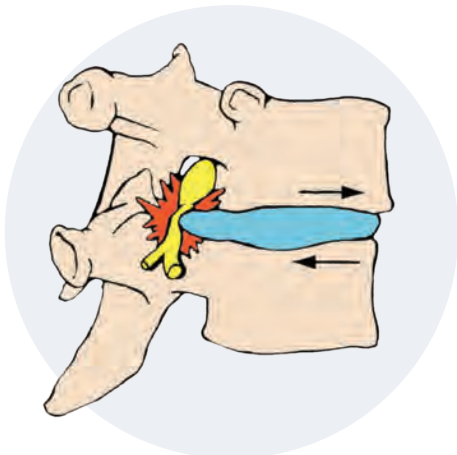
Arthritis

Aging and worn-down vertebrae may result in the formation of tiny fragments of bone called bone spurs. The bone spurs cause or worsen stenosis, which is the narrowing of the spinal canal. It can also irritate the nearby nerve(s), which may result in pain.



Instability

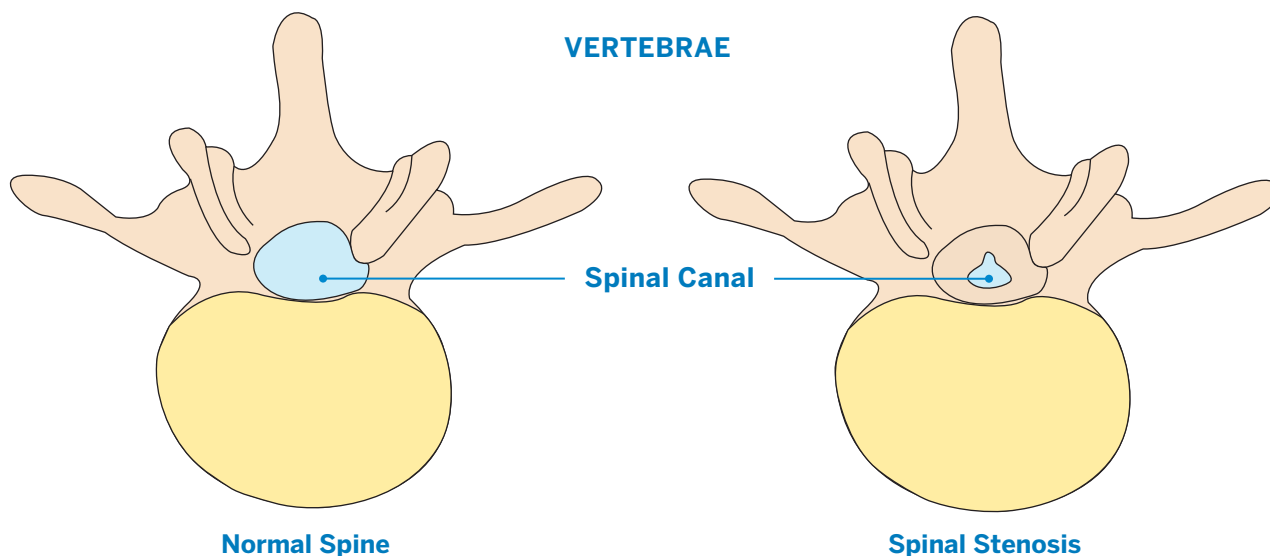
As a disc wears down and flattens, vertebrae can move back and forth. This irritates the spinal joints and creates or worsens stenosis, irritating the nerve.



TYPICAL SPINE PROBLEMS *(continued)*

Spinal Stenosis

Spinal stenosis results from narrowing in and around the spinal canal, causing pinched nerves. This can lead to pain in the buttocks and legs, decreased sensation in the lower extremities, a change in your walking and decreased tolerance for physical activity. Spinal stenosis can affect the cervical (upper), thoracic (middle) and/or lumbar (lower) spine, resulting in varying symptoms and presentations.



Scoliosis

Scoliosis is a condition in which the spine curves to varying degrees either to the right, left or both. There are three types of scoliosis: idiopathic (unknown cause); congenital (present at birth); or neuromuscular (due to a neurological condition such as cerebral palsy, muscular dystrophy or paralysis).

TYPICAL KINDS OF SPINE SURGERY

Discectomy

A discectomy removes part of a disc that has herniated, causing pressure on the nerve root or spinal cord. Your surgeon will remove the central portion of the disc, called the nucleus pulposus, to release the stress on the affected nerve.

Laminectomy

A laminectomy removes a portion of the lamina (the bony roof of the spine). This procedure allows for more room in a narrowed spinal canal to reduce irritation and inflammation of the spinal nerves. While healing, scar tissue develops to protect the spinal nerves in place of the lamina.

TYPICAL KINDS OF SPINE SURGERY *(continued)*

Laminotomy

A laminotomy releases pressure on one side of the spinal canal. In this procedure, a small portion of the lamina is removed to decrease pressure, leaving most of it intact.

Laminoplasty

A laminoplasty also releases pressure on the spinal canal, using microsurgical techniques. Microsurgical techniques use microscopes and smaller instruments to perform a procedure. A laminoplasty reshapes the lamina to decrease compression on the nerves or spinal canal.

Fusion

Spinal fusion surgeries are used to treat spinal instability, deformities, fractures, degenerative disc disease and tumors. During this procedure, your surgeon will fuse two or more vertebrae together by using a bone graft (a type of bone substitute) to realign the bones and improve stability. The bone used for the graft is typically taken from your own bones (usually the pelvis) and acts as cement to fuse the vertebrae together. Sometimes, rods, screws or plates are used as well to secure the fusion. There are several different types of fusion surgery: anterior, posterior and lateral.

In anterior lumbar spinal fusion, your surgeon makes an incision (cut) in your abdomen, accessing the spinal column from the front, removing a portion of the disc space and replacing it with an implant to restore the disc height. Posterior spinal fusions are performed to remove a damaged disc and alleviate lower back and/or leg pain. In this procedure, the surgeon makes the incision in the back to access the spine. Lateral spinal fusion can also be performed when the incision is made on the side of your abdomen and the spine is accessed from the right or left side.

Cervical Spine/Neck Surgery

Surgery on the cervical spine may be done to either relieve the pressure on the spinal cord or to help stabilize the cervical spine. Fusion surgery is done to add stability to the cervical spine. Your surgeon may approach from the front of the neck (anterior) or the back of the neck (posterior). A bone graft may also be used to help stabilize the spine. The bone graft options include allograft (donor bone), autograft (your own bone) or bone graft substitute (a man-made material).

For further review of spine anatomy, the conditions we treat and types of procedures, please [visit our website](#) or scan our QR code.



PRE-SURGICAL SCREENING

Between 1-3 weeks before surgery, you will likely be scheduled for a Pre-Surgical Screening (PSS) appointment at HSS with a nurse and an internist who will:

- Review your medications and ask about your prior medical, surgical and family health history. Please be prepared to answer these questions and bring an updated list of your medications.
- Review what medications you can or cannot take prior to surgery unless told otherwise. Please notify your surgeon if you take blood thinning products.
- Review and/or order any necessary diagnostic tests such as chest X-ray, EKG, blood work, etc.
- Perform a medical exam to make sure it is safe for you to have surgery.

Discharge planning begins prior to surgery. You may receive a call up to two weeks before your surgery to review your post-discharge plan and needs. If you wish to review your plan, please contact [Discharge Planning \(212.606.1920\)](tel:212.606.1920) before your surgery. Preparing for your return home allows you to make decisions in advance.

At your PSS appointment, nursing staff will give you general instructions on how to prepare for your surgery. A nurse from the HSS Call Center will contact you one business day before your surgical date between 1:00pm and 7:00pm with a surgical time and detailed instructions about arrival. You may also call [212.606.1630](tel:212.606.1630) to listen to a recording of day-of-surgery expectations.

The night before your surgery, please shower or bathe and change into clean clothing and sleep on clean bedding. Do not shave the surgical area the day before or day of surgery.

Please complete a Health Care Proxy form and bring it with you on the day of surgery. You may also bring one you have previously completed. This form allows another person, chosen by you, to make decisions with your physician about your care if necessary. You can find a copy of this form at hss.edu/health-care-proxy.asp.

If you use a machine for sleep apnea, please DO NOT bring it upon admission. Patients with sleep apnea are generally required to stay overnight in the Post-Anesthesia Care Unit (PACU) to be monitored after surgery. Please bring in your specific machine settings so the team can add it to your chart.



Health Care Proxy Information
Scan here for more.



Health Care Proxy Form
Scan here for form.



YOUR DIET AND PREPARING FOR SURGERY

Pre-Surgical Diet Guidelines

The pre-surgical diet guidelines below are for general purposes only. Your physician or surgeon may require you to follow an alternative plan. In that case, follow your physician's instructions rather than the guidelines below.

FOURTEEN DAYS PRIOR TO SURGERY

- Stop all nutritional and herbal supplements (vitamins/minerals/herbals)
- **EXCEPTIONS** – the following are OK to continue: calcium, iron & vitamin D

THE DAY BEFORE SURGERY

- Follow your regular diet

THE NIGHT BEFORE SURGERY

- Drink at least 20-24 oz (3 cups) of allowed clear fluids
- Do not eat any solid food after midnight (**CLEAR FLUIDS ONLY after midnight**)

THE DAY OF SURGERY

- Take **CLEAR FLUIDS ONLY**
- Drink at least 20-24 oz (3 cups) of allowed clear fluids **PRIOR TO YOUR ARRIVAL AT THE HOSPITAL**
- If instructed, drink carbohydrate-rich drink (Ensure Pre-Surgery®, 10 oz), 3 hours before surgery, **COMPLETING PRIOR TO YOUR ARRIVAL AT THE HOSPITAL**
- **DO NOT EAT OR DRINK ANYTHING 3 HOURS PRIOR TO YOUR PROCEDURE AND AFTER ARRIVING AT THE HOSPITAL.**

CLEAR FLUID DIET (ANY MEAL)

ALLOWED

- Water
- Apple, Cranberry & Grape Juice
- Gatorade
- Black Coffee or Tea
- Clear Broth
- Ginger ale and Seltzer
- Jello and Italian Ice
- Chewing gum – **DO NOT SWALLOW**

NOT ALLOWED

- Milk or Dairy Products (including in coffee and tea)
- Citrus Juices
- Prune Juice
- Juices with Pulp
- Any food or beverage not listed in the "allowed" column

YOUR DIET AND PREPARING FOR SURGERY

Pre-Surgical Diet Guidelines for patients taking GLP-1 Agonists

The pre-surgical diet guidelines below are for general purposes only. Your physician or surgeon may require you to follow an alternative plan. In that case, follow your physician's instructions rather than the guidelines below.



FOURTEEN DAYS PRIOR TO SURGERY

- Stop all nutritional and herbal supplements (vitamins/minerals/herbals)
- **EXCEPTIONS** – the following are OK to continue: Calcium, Iron & Vitamin D

THE DAY BEFORE SURGERY

- If you are taking any of the following medications take **CLEAR FLUIDS ONLY BEGINNING AT NOON** the day before surgery:

GLP-1 Agonists: Brand (Generic):

- Trulicity (Dulaglutide)
- Byetta, Bydureon (Exenatide)
- Saxenda, Victoza (Liraglutide)
- Adlyxin (Lixisenatide)
- Ozempic, Wegovy, Rybelsus (Semaglutide)
- Mounjaro, Zepbound (Tirzepatide)
- *Xultophy (Insulin degludec and liraglutide)
- *Soliqua (Insulin glargine and lixisenatide)

* If taking Xultophy or Soliqua, contact your endocrinologist/provider in case adjustments are needed regarding insulin.

Your medical clearance provider may adjust your specific fasting guidelines for the day of surgery.

THE NIGHT BEFORE SURGERY

- Drink at least 20-24 oz (3cups) of allowed clear fluids

THE DAY OF SURGERY

- Take **CLEAR FLUIDS ONLY**
- Drink at least 20-24 oz (3 cups) of allowed clear fluids **PRIOR TO YOUR ARRIVAL AT THE HOSPITAL**
- STOP DRINKING 4 HOURS PRIOR TO YOUR SURGERY
- NO DRINKING AFTER ARRIVING AT THE HOSPITAL.

CLEAR FLUID DIET (ANY MEAL)

ALLOWED

- Water
- Apple, Cranberry & Grape Juice
- Gatorade
- Black Coffee or Tea
- Clear Broth
- Ginger ale and Seltzer
- Jello and Italian Ice
- Chewing gum – **DO NOT SWALLOW**

NOT ALLOWED

- Milk or Dairy Products (including in coffee and tea)
- Citrus Juices
- Prune Juice
- Juices with Pulp
- Any food or beverage not listed in the "allowed" column

PREPARING YOUR HOME

Before your surgery, you will need to prepare your home for your recovery. During the first few weeks at home, you will begin to adapt what you learned in the hospital to your own setting. However, you may not be able to excessively bend, lift or twist. It is important to consider how you will sit, use the toilet and access items within your home. The goal is to ensure you can do what you need to do while maintaining surgical precautions and remaining safe.

Store items within easy reach, like your glasses, cell phone, water bottle or other things you use throughout the day. Take items you may need out of high cabinets or shelves before your surgery for easier access.

Prepare meals ahead of time and store them in the freezer.

SAFETY CHECKLIST

- ☐ Reduce clutter.
- ☐ Remove loose wires and cords.
- ☐ Remove or secure rugs and bath mats.
- ☐ Place non-skid tape or mats at the sink.
- ☐ Use night lights around your home.
- ☐ Turn on the lights when you get up at night.

WHEN YOU COME TO THE HOSPITAL

Items to Bring for an Average 24-48 Hour Stay

- ☐ A legal picture identification (driver's license, passport, birth certificate, social security card, green card/permanent resident card, military ID). A copy is acceptable.
- ☐ Your insurance cards
- ☐ X-rays or laboratory reports (if instructed by the staff)
- ☐ Any assistive device you use (e.g., cane, walker, brace)
- ☐ Your completed Health Care Proxy form
- ☐ An up-to-date list of your current medications and dosages
- ☐ Nonslip, flat, closed-toe athletic or walking shoes
- ☐ Phone charger
- ☐ A book, magazine or hobby item to occupy time
- ☐ Eyeglasses and/or dentures

PLEASE DO NOT BRING



MEDICATIONS

Please do not bring medications, including narcotic substances (unless instructed by your HSS pharmacist). Self-medication during your hospital stay is prohibited. It may lead to unsafe conditions like overdoses and/or drug interactions.



VALUABLES & JEWELRY

Remove and leave all piercings and jewelry, including wedding rings, at home to ensure your safety during your hospital stay. See a jeweler for assistance with removal if needed.



YOUR SURGERY AND HOSPITAL STAY

TRAVELING TO HSS

Hospital for Special Surgery is located at 535 East 70th Street between York Avenue and the FDR Drive. It is easily accessible by car and public transportation, and is less than a one-hour drive from Kennedy, LaGuardia and Newark International airports.

For directions, visit hss.edu/maps-directions.asp

By Bus

The M66, M72 and M31 buses run within one block of the Hospital.

By Subway

The Q train stops at East 72nd Street & Second Avenue.

The local number 6 train stops at East 68th Street & Lexington Avenue.

The M66 eastbound cross-town bus to York Avenue can be picked up at the 68th Street subway stop.





HOTELS AND HOSPITALITY PARTNERS

Please note that discounted rates are based upon availability; blackout dates may apply. It is recommended that you verify that the desired amenities are available. Level of Handicapped Accessibility varies per property. Please speak with the property directly.

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The Plaza • 212.759.3000
 The Guest Suites at HSS • 212.606.1989
 Mandarin Oriental • 1.800.526.6566
 The Carlyle • 212.744.1600
 The Equinox Hotel • 212.812.9200
 The Mark Hotel • 212.606.4520

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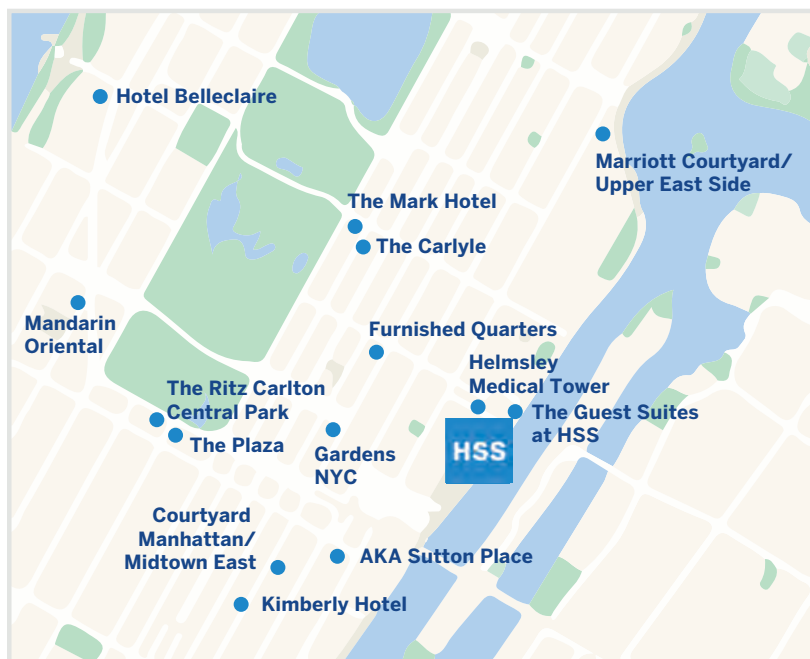
AKA Sutton Place (Extended Stay) • 646.378.7627
 Marriott Courtyard NY Manhattan/Upper East Side • 800.321.2211

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Residence Inn NY
 Manhattan/Midtown East • 212.980.1003
 Kimberly Hotel • 212.702.1643
 Helmsley Medical Tower • 212.774.5700
 Gardens, NYC • 866.233.4642
 Fairfield Inn by Marriot (Astoria)
 718.267.0008

\$-\$\$

Mariott Midtown East • 212.644.1300
 Hotel Belle Claire • 877.468.3522



*Note, not all hotels are pictured.

\$

Beekman Tower • 888.838.38306
 Fairfield Inn & Suites by Marriott • 718.482.0100
 Fairfield Inn & Suites: West Side • 212.757.8550
 Furnished Quarters • 646.809.0915

Legend

\$ Below \$200/night
 \$\$ \$200 - \$350/night
 \$\$\$ Above \$350/night

View this complete guide to food, accommodations and services in the area of the HSS main campus.
[Neighborhood Directory >](#)





THE DAY OF YOUR SURGERY

You and the person accompanying you will start your day at the information desk located in the main lobby. Our patient liaisons will begin your initial check-in and then direct you to Patient Access Services, where you will complete your registration and receive a wrist band. From there you'll head to the 4th floor Family Atrium to complete your surgical day check-in and get important information about the structure of the day.

The Family Atrium is a lounge area and central hub where our patients and their support person can wait before their surgical day begins. To enhance communication on the day of surgery, phone calls and/or text message updates may be sent to a designated recipient. A status board is also available in the Family Atrium to keep visitors up to date on the patient's physical location. The atrium has Wi-Fi and cell phone use is allowed; as there are other patients and visitors in the atriums, please be mindful of the noise level while using your cell phone or other electronic devices.

Members of the preoperative nursing staff will greet and escort you to the pre-surgical holding area. This is where you will meet an advanced practice provider (APP) who will reassess your condition and medical/surgical history while preparing you for surgery. APPs are either physicians assistants or nurse practitioners who are part of the larger team, including surgeons, operating room staff and anesthesiologists. As part of their comprehensive responsibilities, APPs conduct physical exams, diagnose and treat illnesses, order and review tests, counsel on preventive healthcare, assist in surgery and prescribe medications. As a teaching hospital, there may also be medical students, residents and fellows who are present and part of your clinical team.

The preoperative nursing staff will complete your admission process, check your identification band, help you change into a hospital gown and prepare your surgical site. The nurses will also start an intravenous (IV) line, which is a thin, clear tube that will be placed in one of your veins. Through the IV line, your team can provide you with fluids, medications and blood products if needed.

Once you have been prepped, the nurses will gather your belongings, which should fit in one small HSS bag that is labeled. Your belongings will remain with the Security Department until you are either awake enough to receive them in the recovery room, or when you reach the inpatient unit. Eyeglasses and hearing aids can also be managed by Security via our valuables storage lock-up.

Safety Checks

An APP and other members of your surgical team will take your latest information and perform additional safety cross-checks and tasks. They will review and have you sign the surgical consent form, which goes over the details of your surgery. Prior to surgery, your surgeon will confirm your identity, then review and sign your surgical site with a surgical marker. These steps are an important part of the process designed to ensure patient safety.

While in holding, your nurse or APP will apply a broad-spectrum antiseptic in your nose. The use of this product can help reduce the risk of post-operative infections by decreasing the presence of the bacteria *Staphylococcus aureus* by more than 99%. This product is applied by inserting a swab into each nostril and rotating for 15 seconds.

Anesthesia

Your anesthesiologist is a type of physician who is highly trained in caring for patients having spine surgery. The anesthesiologist will review your chart, laboratory results and other studies prior to having a discussion with you about any past anesthesia experiences or your concerns. The anesthesiologist will review what type of anesthesia you will be receiving, your level of sedation and pain management after surgery. The type of anesthesia given and level of sedation are tailored your individual specific needs. Earlier consultation with our Anesthesia Department can be arranged by your surgeons office at your request.

Members of the operating room staff will recheck that your paperwork has been completed. They will then escort you on a stretcher into one of the operating room suites. The person accompanying you will be able to wait in the 4th floor Family Atrium until your surgery is over.

Once you arrive in the operating room, your anesthesiologist will check your blood pressure and heart rate and give you sedative medication. If you are having general anesthesia, a breathing tube will be inserted, which is vital for your safety during surgery. Then, surgery will begin after you are deeply sedated.

Your surgeon will meet with your support person once surgery is complete. Please provide your surgeon with specific contact information and let them know how best to contact your support person. If you would like more information about your surgical day, call the [HSS Family Resource Line \(212.774.7547\)](tel:212.774.7547). Please encourage your visitors to call if they have any questions, even on the day of your surgery.

INTRAOPERATIVE MONITORING

Intraoperative Monitoring by the Department of Neurology

Your surgeon may request intraoperative monitoring (IOM) as part of your surgical procedure. This specialized service is a tool used to update the surgeon about nerve conduction during your procedure.

IOM is a low-risk intervention that gives real-time information on the status and health of the spinal cord and spinal nerves. IOM requires the use of specialized needles, in the skin to send and receive electrical signals.

After surgery you may notice small punctures or bruising from the needles, which will resolve with time and generally does not require further intervention. This monitoring helps reduce the risk of injury to the spinal cord and nerve roots by continuously monitoring their ability to send signals to your muscles. If you have any questions about IOM, please discuss with your surgeon.

The costs of IOM are billed separately from your other surgical costs and will be submitted directly to your insurance. If you have questions about billing, please call the [IOM coordinator \(212.606.1047\)](#).



AFTER YOUR SURGERY

After your surgery, you will be moved to the Post-Anesthesia Care Unit (PACU), also called the Recovery Room. You will be given oxygen while your vital signs (breathing, heart rate and blood pressure) are monitored. The team will also work to manage your pain and make you comfortable as you prepare to begin moving.

When your anesthesiologist determines that your vital signs are stable and your pain is well managed, you will be moved to a patient care unit or discharged home. Some patients remain overnight in the PACU for additional monitoring and observation, although this is not usually the case. For those patients undergoing ambulatory procedures, you will be discharged from either the PACU or a patient care unit once cleared by your medical and surgical teams.

INPATIENT RESOURCES

Visiting Hours

Visiting hours may vary. Please call the HSS Family Resource Line to ask about current policies at [212.774.7547](tel:212.774.7547).

Spiritual Support

HSS formally recognizes the role that spiritual support can play in coping with and recovering from physical illness. To help meet your spiritual and emotional needs, HSS provides a chaplaincy service as an integral part of the healthcare team. The chaplains are here to serve you and your family by providing pastoral support in any faith. Please call [212.606.1757](tel:212.606.1757) to contact the HSS Spiritual Care Office.

Private Nursing Service

If you wish to have a private nurse during your hospital stay, please call [212.774.7187](tel:212.774.7187) to make arrangements.

Discharge Planning

A case manager is available to meet prior to and/or after surgery to address any concerns surrounding discharge. The case manager will review your discharge plans based on your medical condition, home and healthcare needs, care arrangements previously made, geographic location, insurance coverage and financial situation.

The social work and case manager team will discuss your post-discharge needs in consultation with your surgeon and other members of the interdisciplinary team. Your involvement is essential in formulating a discharge plan that will best suit your needs. Please call [212.606.1920](tel:212.606.1920) for assistance.

VISITOR CODE OF CONDUCT

When visiting our patient care units, we ask that you follow the visitor code of conduct for the safety and well-being of our patients.

1. Please be advised that all visitors under the age of 14 are not permitted; for the surgical unit, visitors must be 18 years or older.
2. Sleeping in patient rooms is not allowed. Please note, semi-private rooms are not equipped to accommodate visitors wishing to spend the night.
3. If the patient you are visiting is sharing a room, please be mindful of the other patient's privacy and need for quiet.
4. Plan on spending a short time visiting. Although the visit is almost always welcome, it can be very tiring for the patient.
5. Carry on cheerful conversation in soft tones.
6. Please silence your mobile phone while visiting.
7. Do not visit if you are unwell, particularly if you have cold or flu-like symptoms or if you have had a stomach upset in the last 48 hours.
8. For the patient's safety, please do not assist patients out of bed. Please contact a clinical staff member for assistance.
9. Upon arrival to HSS, visitors are required to check in at the main lobby information desk and provide a photo ID to receive a visitor's pass before visiting the patient.
10. A maximum of two visitors are permitted at the bedside at a time during visitation hours, which are 8:00am to 8:00pm. Visitors can rotate but must wait in the main lobby when not visiting the patient.

For any questions related to the Visitors' Code of Conduct, please contact us at 212.774.7547.

RECOVERING IN THE HOSPITAL

Managing Pain

While you should expect some pain and discomfort following surgery, your care team will work to help mitigate your symptoms while on the road to recovery. To help manage your post-operative pain, your surgeon may work with a dedicated pain management team called the Perioperative Pain Service. This team consists of physicians and advanced practice providers who specialize in pain management. Together they aim to control your pain by using a variety of treatments tailored to your specific symptoms while being mindful of any potential side effects.

Pain in your body may come from multiple sources. To help manage your symptoms, your surgeon may recommend a pain management strategy called multi-modal analgesia. This approach involves giving you two or more different medications to reduce pain. By combining medications, more pain signals are blocked which can significantly decrease discomfort. Multi-modal analgesia is focused on lowering pain after surgery to help in your recovery.

Pain is subjective, so it is important to tell your care team how you are feeling. This includes the type of pain, its location and its intensity. It is also important to report any changes (e.g., if pain improves or worsens with certain movements). Pain may be constant or intermittent, sharp, burning, tingling or aching. Providing an accurate description of the pain sensation you are experiencing is an important factor in helping your medical team create an effective care plan. Our staff will frequently ask your pain level and gauge treatment effectiveness by using the numeric scale 0-10 where 0 is no pain and 10 is the worst pain imaginable.

TYPES OF PAIN MANAGEMENT

Oral Medication

You will be given oral pain medication to minimize discomfort and/or pain after surgery. Oral medications may include opiates, muscle relaxers, anti-inflammatories and medications that target neuropathic pain.

Cold Therapy

Applying cold packs and ice has been shown to reduce pain and swelling associated with inflammation at the surgical site. Ice packs or cold pads should be applied for 20-minute intervals every 3 to 4 hours daily for the first few weeks following surgery.

IV Patient-Controlled Analgesia (PCA)

You may receive pain medication through an IV PCA pump where the medication will be directly injected into your bloodstream. This pump is prepared and programmed by an HSS anesthesiologist who will monitor the pump's effectiveness along with members of the POPS team.

PCA pumps are computerized to provide a prescribed amount of medication at set times or via patient control. Precautions against an overdose have been built into the PCA by setting time limits between doses. If your pain is not adequately controlled, your nurse can contact the POPS team to adjust the settings as needed.

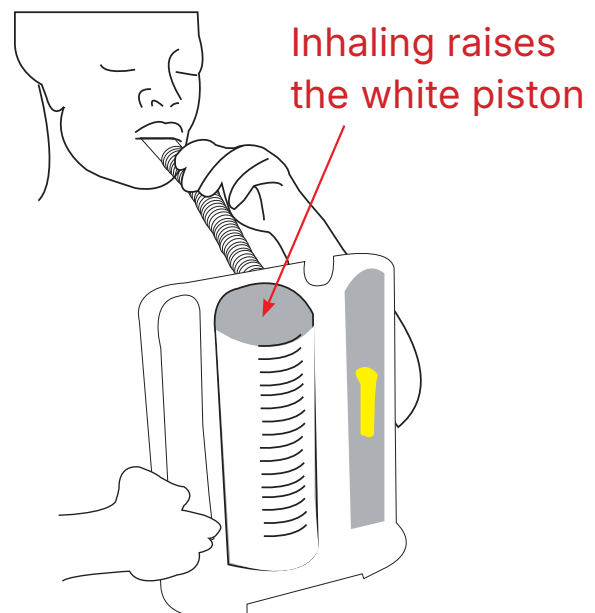
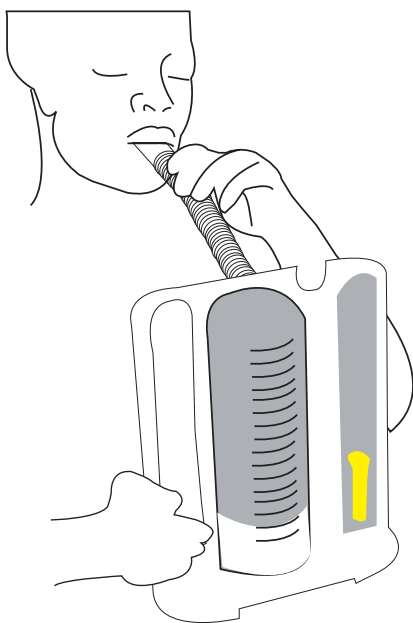
COMPLICATION PREVENTION

Deep Breathing

Deep breathing exercises prevent mucus from building up in the airways or lungs, which may cause pneumonia. Typically, you take deep breaths automatically. But when you are in pain or on sedating pain medications, your breathing may be more shallow. To ensure you take deep breaths regularly, the nursing staff will provide you with and educate you on using an incentive spirometer.

How to Use the Incentive Spirometer

1. Hold the incentive spirometer in an upright position. To start, breathe out (exhale) normally. Then close your lips tightly around the mouthpiece.
2. Take a slow, deep breath through your mouth (inhale). Breathe in as deeply as you can. When you breathe in, try to keep the yellow cup in the BEST to BETTER flow range. The white piston in the main chamber moves up slowly when you breathe in to measure how deep your breaths are. Try to move the white piston as high up as you can.
3. Relax, remove the mouthpiece and then breathe out normally. The white piston will slowly fall to the bottom of the chamber.
4. Rest for a few seconds. Repeat this exercise at least 10 times every hour while you are awake.



COMPLICATION PREVENTION *(continued)*

Blood Clots

After surgery, blood clots can form in the legs. A blood clot is a buildup of blood cells that keeps the rest of the blood from flowing normally. In rare cases these clots travel to the lungs, which can be dangerous. To prevent and reduce the risk of blood clots, compression pumps will be placed on your calves to help with circulation and blood flow. Walking and moving will also help with blood flow and clot prevention.

Leg Swelling

For the first month after your surgery, prolonged sitting with your legs down may result in swelling of the legs and feet. Try to change positions every 30 to 45 minutes to minimize swelling. Ideally, you should alternate periods of walking with elevating your legs. Lying down for an hour in the late morning or afternoon will help reduce swelling and give your body the rest needed for healing.

Safety & Falls

While you are at HSS, your safety is our priority. Our staff is available to accompany you whenever you get up to reduce your risk of falls.

REHABILITATION

Physical Therapy

While you are in the hospital, you will participate in mobility training with our staff. Your mobilization will begin once you are medically stable and once approved by your medical team. Even if you are cleared to move around, please continue to call for assistance before getting up to reduce your risk of falls.

The goals of mobility training are to promote independence with your with transfers and walking, to educate you on proper body mechanics and spine precautions, to review your post-operative exercises and walking program and to assist you with discharge planning. Walking is the number-one recommended exercise following all spine surgeries. Walking can have a positive effect on your recovery. It is recommended that you begin a progressive walking program as soon as possible after surgery (see page 28). Walking helps prevent muscle weakness, leg swelling and blood clots while also positively impacting your mental and emotional well-being.

Physical Therapy (*continued*)

The staff will teach you how to get in and out of bed safely, how to walk with or without a device such as a cane or walker and how to go up and down stairs to prepare for your return home as needed. A physical therapist or nurse may educate you on how to move without excessively bending, lifting or twisting (see page 30). The staff may instruct you on leg strengthening exercises to perform during your recovery (see page 33).

You may receive physical therapy at home if prescribed by your surgeon. Home physical therapy is typically not recommended following spine surgery. On an individual basis, an evaluation may be performed to assess your function and safety within your home environment. Your surgeon will discuss outpatient physical therapy as indicated at your follow-up visit. You may stop using your assistive device when advised so by your PT or surgeon.

Occupational Therapy

Some patients may meet with an Occupational Therapist (OT) prior to discharge. The OT will educate on functional activities, such as using the toilet, bathing, showering and getting dressed. The rehabilitation staff may also recommend assistive devices on an individualized basis. You may purchase items in advance from a local surgical supply store or online.

EQUIPMENT FOR ACTIVITIES OF DAILY LIVING (ADLs)

Brace

A brace or collar may be required on an individual basis. If you receive a brace before your surgery, please bring it to the hospital and consult your surgeon's office with any questions.

Walking

A cane or walker may be ordered to assist with walking following surgery. Your PT will instruct you on how to use your device in preparation for safe discharge.

Toileting

A raised toilet seat may be recommended to help you get on and off the toilet and to ensure comfort.

Showering

Your showering instructions will be provided at discharge and are based on your surgeon's preference. The Rehabilitation or Case Management team may recommend a shower or tub device to make bathing more safe and more comfortable. A long-handled sponge may also assist with bathing while staying safe.

EQUIPMENT FOR ACTIVITIES OF DAILY LIVING (ADLs) *(continued)*

Shoes

Rubber-soled, closed-back shoes that can be slipped on are recommended to reduce the need to bend over to put them on and tie. Elastic laces can be purchased online to promote ease when taking shoes on and off.

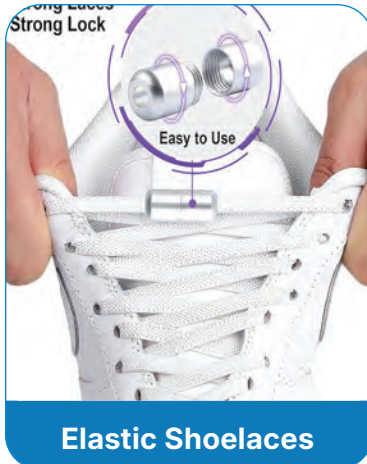


Dressing

Using adaptive equipment for dressing may make it easier and more comfortable while maintaining precautions. Helpful devices include a shoe horn or sock aide.



Sock Aide



Elastic Shoelaces



Long-Reach Grabber



Shoe Horn



Long-Handled Sponge

FINAL STEPS: AT HOME

GUIDELINES FOR RECOVERING AT HOME

There will be specific instructions provided in your discharge paperwork. Please do not hesitate to contact your surgeon's office with any additional questions.

Caring for the Surgical Site

1. Keep the area clean and dry until your sutures or steri-strips are removed or absorbed.
2. Do not wash harshly over the incision.
3. No direct water pressure over the incision and do not submerge the wound.
4. Please inform your surgeon if you notice increasing redness or drainage from your incision.

Pain Medication

1. Take your pain medication when needed as prescribed and avoid drinking alcohol.
2. Use cold therapy to help reduce discomfort. Apply cold packs or ice on affected area for 20 minutes at a time every 4 hours.
3. If your pain medication seems ineffective or you are experiencing side effects, contact your surgeon's office.
4. It is important to notify your team if you require additional pain medications. The surgeon and APP will customize your plan to meet your needs. Call the surgeon's office before your supply runs too low, 2-3 days before you are likely to run out. Medications may not be refilled on weekends.

Walking: Sample Program

Day 1: walk 5 minutes in the morning and 5 minutes in the afternoon/evening

Day 2: walk 7-8 minutes in the morning and 7-8 minutes in the afternoon/evening

Day 3: walk 10 minutes in the morning and 10 minutes in the afternoon/evening

Day 4: maintain 10 minutes at a time and add a third, shorter walk to your program

PRECAUTION GUIDELINES

Do's and Don'ts Following Spine Surgery

Precautions are in effect during your recovery period, which is approximately **six weeks**.

Do

1. **Do** listen to your body while performing functional movements or activities. Gradually increase your activity level, being sure to rest as needed during the day. Respect your limits.
2. **Do** walk often and gradually increase the distance and frequency as tolerated.
3. **Do** sit in a sturdy chair with arms in order to ensure good posture.
4. **Do** wear your brace if prescribed by your surgeon.

Don't

1. **Don't** lift heavy objects. Be sure objects weigh no more than 10-15 lbs.
2. **Don't** force any extremes of motion, especially with **bending, lifting or twisting**.
3. **Don't** spend an extended period of time in any position throughout the day. If you are sitting, please make sure to get up every 30-45 minutes. Change positions frequently to avoid discomfort and strain on your back.
4. **Don't** sit in low, soft chairs or recliners.

SPINE PRECAUTIONS

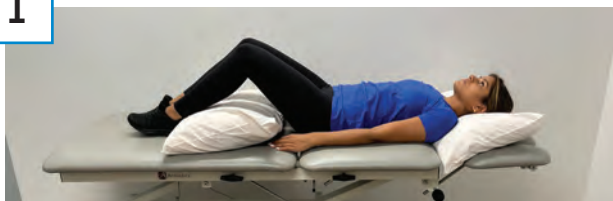
No Bending, Lifting or Twisting (BLT)



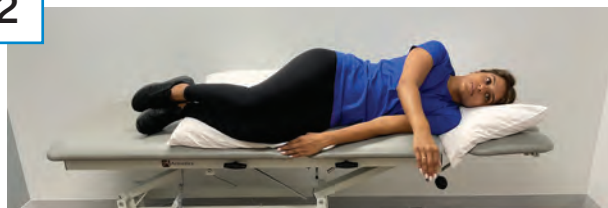
HOW TO GET OUT OF BED: LOG ROLL

1. Bend both knees so your feet are flat on the bed.
2. Roll onto your side by reaching your opposite hand across your body.
3. Bring your legs off the bed and use your arms to push your trunk up to a sitting position.
4. Push yourself up using your arms.

1



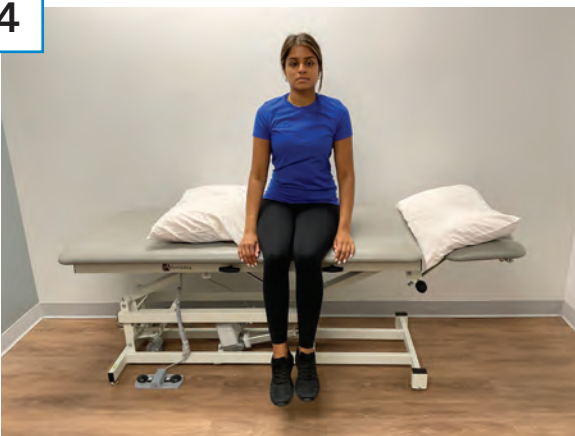
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3



4



PROPER BODY POSITIONING AFTER YOUR SPINE SURGERY

SLEEPING POSITIONS



pillows under head



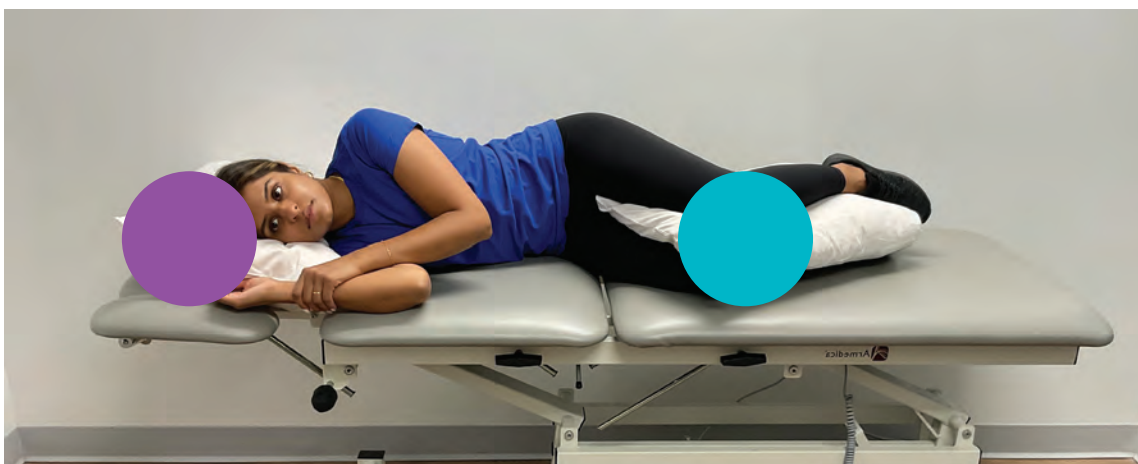
pillows under knees



pillows under head



pillows or blanket between
knees



SITTING POSITION

- Do not sit for more than 30-45 minutes at a time.
- It is important that you start sitting out of bed for short periods of time as soon as you can tolerate it.
- Be sure that your feet are supported on the floor.
- Support your spine on the back of the chair or with a pillow.

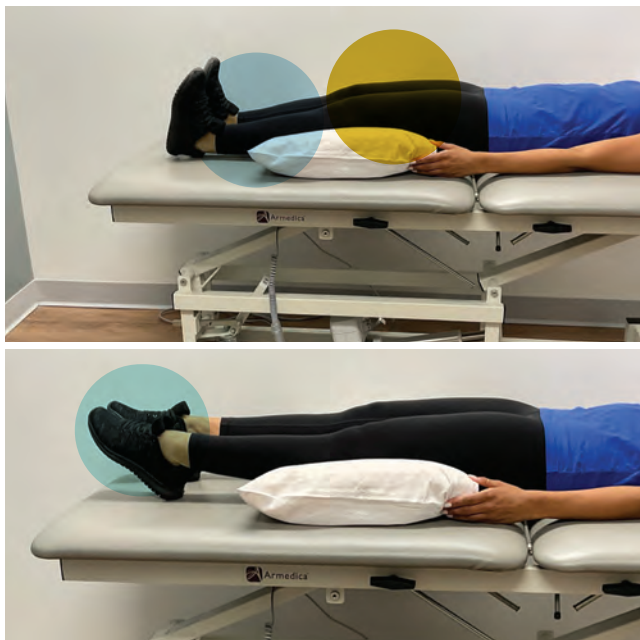


It is important to change positions throughout the day. Avoid prolonged time spent in any position during the day.

EXERCISES FOR YOUR RECOVERY

- You should perform **ankle pumps** and **quad sets** while in bed.
- Do 10 repetitions of each exercise every hour.
- Mild stiffness and soreness in your muscles is normal after exercising.

1. **ANKLE PUMPS:** Perform to promote blood circulation in the lower legs, which can help prevent blood clots.



— Lie on your back with both legs straight.

↑ Bring your feet upwards, “toes to your nose,” moving them from the ankle.

↓ Now point both feet downwards, like pressing on a gas pedal.

↕ Make sure to move the feet and ankles up and down through the full range of motion.

2. **QUADRICEP SET:** Perform to strengthen the front thigh muscles (quadriceps).

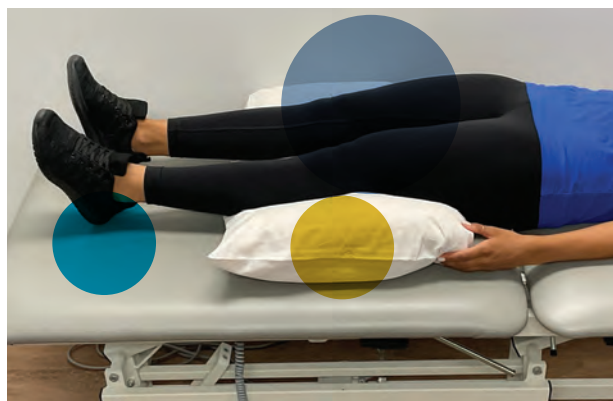
● Lie on your back with a small towel under your knees.

● Slowly tighten your thigh muscles (quadriceps) by pushing the back of your knees into the towel.

● Do not let your heels come off the bed.

● Hold this contraction for five seconds, and then slowly release.

● Rest between each contraction, then repeat.



SEXUAL ACTIVITY FOLLOWING SPINE SURGERY

Patients and their partners may have concerns about sexual relations after spine surgery. The following information may answer some questions, but please feel free to ask your surgeon, physical therapist or nurse if you have other concerns.

You may resume intercourse once discussed with your surgeon or following your first postoperative visit. Positions that maintain proper spinal alignment are safe for intercourse. Please be mindful to avoid excessive bending, lifting, twisting or jarring motions while engaging in intercourse.

Discuss with your partner in advance how certain positions and movements may be limited and require modifications to maintain precautions and minimize an increase in pain. If the surgical site and surrounding muscles feel uncomfortable or worse, please adjust your positioning.

Eventually, you should be able to resume intercourse as prior to surgery.

CONCLUSION

The Patient Education staff and members of the HSS Spine Service hope that you find this guide helpful on your journey to recovery. Spine surgery is an individualized journey with the endpoint and goal being improved health and mobility. We encourage you to seek out additional information that is located on the HSS website at hss.edu.

Do You Know Someone Else We Can Help?

Now or sometime in the future, you may have family members or friends who may need the services of an orthopedist (in any specialty area) or a rheumatologist. An easy way for them to get in touch with Hospital for Special Surgery is to call the **HSS Physician Referral Service at 1.800.854.0071**.



Providing Feedback to HSS

You may be able to help us!

Hospital for Special Surgery has achieved a national reputation for excellence in orthopedics, rheumatology and patient-centered care. All of us on the HSS team strive to provide you with the care you need to achieve the best health outcomes.

Feedback from our patients has been a critical component in achieving this excellence. We listen. And we respond...especially when we learn of new opportunities for further improvement.

Another important part of achieving excellence is to know when things go right! We also want to know when our staff members provide outstanding care.

When you have a moment to reflect, we would appreciate your feedback. You can, of course, send a letter or note to any HSS staff person, or to your doctor. You already know your doctor's address. He or she appreciates hearing from you.

To address a staff person whom you know, you can write to that person at the HSS address below. Or, you can contact us through the HSS website. Otherwise, please feel free to address your feedback to:

Bryan Kelly MD, MBA

President & Chief Executive Officer
Hospital for Special Surgery
535 East 70th Street
New York, NY 10021

Thank you for choosing Hospital for Special Surgery for your surgery.

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HSS | Hospital for Special Surgery

535 East 70th Street

New York, NY 10021

tel 212.606.1000

hss.edu

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