Your Guide to **Spine Surgery**

The Christ Hospital™ Health Network

Spine Care Navigator Phone Number: 513-585-0552

Patient Name: _____

Patient Phone Number: _____

Coach Name: _____

Coach Phone Number: _____

Date of Surgery: _____

Surgeon's Name/Practice information: _____

_____

Medication List

Please write down a list of all medications and supplements, both prescription and over-the-counter that you are taking.

Medication	Dosage	Frequency	Purpose	Prescribed by

Welcome to The Christ Hospital

Thank you for choosing The Christ Hospital Spine Institute. Our team of physicians, physician assistants, nurses, physical and occupational therapists and other professionals offer specialized care to patients undergoing spine surgery. We believe strongly in a patient and family centered approach to care and value you, the patient and your family as important members of the care team.

Did you know that approximately 8 out of 10 Americans will suffer neck or back pain at some point in their life? While most will go on to recover on their own, for some people surgery may be necessary. Patients undergoing spine surgery often have a level of pain they are no longer able to tolerate. Others may have additional symptoms such as nerve compression, which may produce numbness, tingling or weakness. The goal of surgery is to relieve pain, restore independence and return you to work or daily activities.

Most patients having spine surgery recover quickly. Generally, patients can return to driving within a few weeks, once the physician has approved it; return to sedentary jobs and activities in three to four weeks; and return to other physical activities in six to 12 weeks. Patients undergoing more complicated operations such as lumbar spinal fusion, may require three to six months to return to full activities.

The Spine Institute has developed a comprehensive planned course of treatment. We believe that you, the patient, and your family play a key role in ensuring a successful recovery. Our goal is to involve you in your treatment through each step of the program. We have also developed information specifically for family members to aid in your recovery process as "coaches". Your coaches play an important role in your care and recovery and we strongly encourage coaches to be available as much as possible. This Guidebook provides the information needed to maximize a safe and successful surgical experience.

Our team of nurses, patient care assistants, physical and occupational therapists and orthopedic and neurosurgeons all specialize in spine care. We have developed a detailed program, from pre-operative teaching to post-operative exercises, in order to provide patients with the best care possible.

Features of the Center's program include:

- Nurses and therapists who specialize in the care of spine surgery patients
- Emphasis on individual care
- Family and friends participating as "coaches" in the recovery process
- A nurse, case manager or social worker who facilitates discharge planning
- A comprehensive patient Guidebook to follow pre-op and beyond

How do I get to The Christ Hospital?

The Christ Hospital is located at 2139 Auburn Ave.
Scan this code with your smart phone for map

The Medical Office Building is located at 2123 Auburn Ave.
Scan this code with your smart phone for map

FROM THE WEST (I-74 EAST):

- Take I-74 East and follow signs to I-75 South.
- Keep right at fork and merge onto I-75 South.
- Take Exit 1B to I-71 North.
- Follow signs to I-71 North.
- On I-71 North, stay left and take Exit 2, Reading Rd./Eden Park Dr.
- On the ramp, stay to the right at the fork and follow signs to Eden Park Dr./Dorchester Ave.
- At the traffic light, turn left onto Dorchester Ave.
- At the top of the hill, turn right onto Auburn Ave.
- For all parking, turn left onto Huntington Place (first traffic light on Auburn).

FROM THE NORTH (I-75 SOUTH):

- Take I-75 South to Exit 7, OH-562/Norwood (Norwood Lateral).
- Take OH-562 to the exit onto I-71 South toward Cincinnati.
- Take I-71 South to Exit 3, Taft Rd.
- Continue on Taft (a one-way street).
- At the fifth traffic light, turn left onto Auburn Avenue.
- To reach P1, turn right onto Mason Street. To reach P3, turn right onto Huntington Place.

FROM THE NORTHEAST (I-71 SOUTH):

- Take I-71 South to Exit 3, Taft Rd.
- Continue on Taft (a one-way street).
- At the fifth traffic light, turn left onto Auburn Avenue.
- To reach P1, turn right onto Mason Street. To reach P3, turn right onto Huntington Place.

FROM THE SOUTH (I-71/75 NORTH):

- Take I-71/75 North to I-71 North.
- Follow signs to continue onto I-71 North.
- Stay left and take Exit 2 for Reading Rd./Eden Park Dr.
- On the ramp, stay to the right at the fork and follow signs to Eden Park Dr./Dorchester Ave.
- At the traffic light, turn left onto Dorchester Ave.
- At the top of the hill, turn right onto Auburn Ave.
- For all parking, turn left onto Huntington Place (first traffic light on Auburn).

FROM SOUTHEAST (I-471 NORTH):

- Take I-471 North to Exit 7, Liberty St.
- At the second traffic light, turn right onto Sycamore St.
- At top of the hill, take a slight left to continue onto Auburn Avenue.
- For all parking, turn left onto Huntington Place (first traffic light on Auburn).

FROM DOWNTOWN CINCINNATI (MAIN/ELM/VINE):

- Take Main, Vine or Elm north.
- Turn right onto Liberty St.
- Turn left onto Sycamore St.
- At top of the hill, take a slight left to continue onto Auburn Avenue.
- For all parking, turn left onto Huntington Place (first traffic light on Auburn).

For assistance with directions, contact Patient and Guest Services at
513-585-1200
or visit TheChristHospital.com.

Parking

The Christ Hospital offers free, convenient parking options. In addition to self-parking in our garages, valet service is available at the hospital Heart Center entrance (Level C) and the Medical Office Building Mason Street entrance (Level G3).

Patients coming to the campus for Pre-Surgery Testing are encouraged to valet at the Mason Street Valet station or park in the P1 parking garage. Patients coming to the campus for surgery are encouraged to utilize the valet service park at the Heart Center Valet station or park in the P3 parking garage.

P1

PARKING FOR:
Hospital visitors

Medical Office Building

Pre-Surgery Testing

ACCESS:
From Auburn Ave., turn onto Mason St. or Huntington Place and follow signs to P1.

The skywalk to the hospital and Medical Office Building is located on Level 1.

CLEARANCE: 8'

P2

PARKING FOR:
Vehicles that exceed the 6' 6" clearance in P3

ACCESS:
Turn from Auburn Ave. onto Huntington Place. At the end of Huntington, turn right onto Eleanor. The entrance to P2 will be immediately to your right.

A pedestrian path to the hospital is marked through P3.

A call box is located near the entrance to P2 if you need assistance.

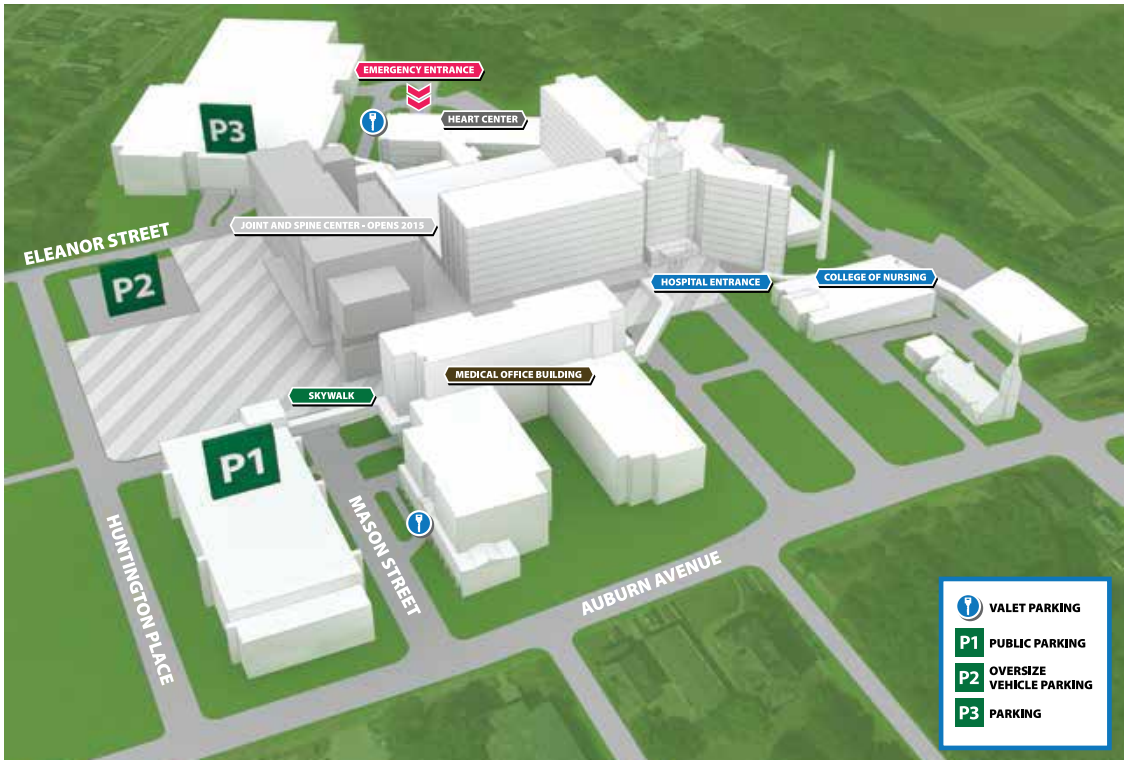
P3

PARKING FOR:
Surgery Check-In
(Same Day Surgery)

ACCESS:
From Auburn Ave., turn onto Huntington Place. At the end of Huntington, turn right on Eleanor and follow signs to P3.

The skywalk to hospital/Atrium Lobby is located on Level A.

CLEARANCE: 6' 6"



Finding Your Way at The Christ Hospital

FINDING YOUR WAY TO PRE-SURGERY TESTING

From the Mason Street Valet Station

From the valet station at the Medical Office Building Mason Street entrance (Level G3), upon entering the building, take the elevators up to Level 1. Turn RIGHT off of the elevator and follow the hallway to the end. Pre-Admission Testing (Suite 130) will be in front of you.

From the P1 Parking Garage

In the P1 parking garage, go to Level 1 of the garage. Follow the skywalk to the Medical Office Building. You will enter the Medical Office Building on Level 1. Pre-Admission Testing (Suite 130) will be on your left as you enter the building.

FINDING YOUR WAY TO SURGERY CHECK-IN

From the Heart Center Valet Station

From the valet station at the Heart Center entrance, you will enter the hospital on Level C. Turn RIGHT as you enter. A bank of three elevators (the Heart Center Elevators) will be on your left. Take the elevator UP to Level B. As you exit the elevator, turn LEFT. You will check-in at the Same Day Surgery desk located directly ahead of you. All surgery patients check-in at this desk.

From the P3 Parking Garage

In the P3 parking garage, go to Level A. Follow the skywalk into the hospital building. Proceed across the Atrium Lobby, past the staircase towards the Information desk. A bank of three elevators (the Heart Center Elevators) will be to the left. Take the elevator DOWN to Level B. As you exit the elevator, turn LEFT. You will check-in at the Same Day Surgery desk located directly ahead of you. All surgery patients check-in at this desk.

Using the Guidebook

Preparation, education, continuity of care, and a pre-planned discharge are essential for optimum results in spine surgery. Communication is essential to this process. This Guidebook is a communication tool for patients, physicians, physical and occupational therapists and nurses. It is designed to educate you so that you know:

- What to expect every step of the way
- What you need to do
- How to care for yourself after spine surgery

Remember, this is just a guide. **Your surgeon, physicians assistants, nurses, or therapists may add to or change any of the recommendations.** Always use their recommendations first and ask questions if you are unsure of any information. Keep your Guidebook as a handy reference for at least the first year after your surgery.

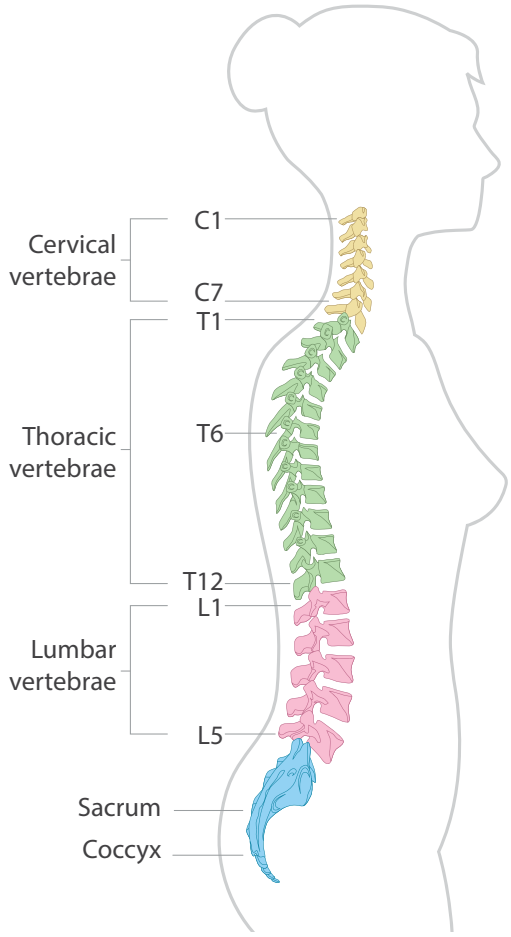
Spine Anatomy

Introduction to Spine Anatomy

The spine is made up of 5 parts:

- Neck(cervical)
  - 7 bones(vertebrae), C1-C7
- Chest/mid-back (thoracic)
  - 12 bones (vertebrae), T1-T12
- Low back (lumbar)
  - 5 bones (vertebrae), L1-L5
- Sacrum
  - 5 jointed bones
- Coccyx
  - 4 jointed bones, also known as the tailbone

There are 33 bones (vertebrae) in the spine. Between each stacked bone is a soft disc that acts as a shock absorber. The area between each vertebra on the left and right sides is called a facet joint. The facet joint allows for movement in the spine. The bony area from the base of the neck to the low back level is the protective canal that surrounds the spinal cord. Each vertebra has nerves that send and receive information for sensation (feeling) and movement. The complete structure of the spine protects the spinal cord, attaching muscles, protecting organs, and providing upright posture.



Cervical Laminectomy/Discectomy - Frequently Asked Questions

Q. What is wrong with my neck?

A. You have a "pinched nerve." This can be produced by a ruptured disc or by bone spurs. Discs are rubbery shock absorbers between the vertebrae, and are close to the nerves which travel down to the arms. If the disc is damaged, part of it may bulge or even burst free into the spinal canal, putting pressure on the nerve, causing arm pain, numbness, or weakness. Bone spurs, usually the result of arthritis, can also put pressure on nerves. Occasionally, pressure from bone spurs or a ruptured disc may affect the spinal cord and cause abnormalities in the upper extremities.

Q. What is required to fix the problem?

A. In most cases, a small (three-four inch) incision is made in the posterior part of the neck. Muscles supporting the spine are pushed aside temporarily, and a small "window" is made into the spinal canal. The spinal nerve is protected, and the ruptured part of the disc or the bone spur is removed. If bone spurs and arthritis are the cause of your problem, you may require a bigger incision and more bone may have to be removed.

Q. When is this operation necessary?

A. In almost all cases, the major reason for spine surgery is pain which is intolerable to the patient and can not be relieved using non-surgical measures. If pain persists at an unacceptable level, if you cannot function because of pain, or if weakness or other neurologic problems develop, then surgery may be necessary to relieve the problem.

Q. Who performs this surgery?

A. Both orthopedists and neurosurgeons are trained in spinal surgery and both specialists may perform this surgery. It is important that your surgeon specialize in this type of procedure.

Q. How long will I be in the hospital?

A. Most patients stay 24 hours for this type of procedure. More complicated cases may require a longer stay.

Q. Will I need a blood transfusion?

A. Transfusions are rarely needed after this kind of surgery. We do not recommend pre-operative donation of your own blood.

Q. What can I do after surgery?

A. You should try to get up and move around as much as you feel able. While in the hospital, you must call for assistance when getting out of bed, getting up from the chair, or going to or from the bathroom. Please use the call light and wait for help prior to getting up.

Q. What shouldn't I do after surgery?

A. For at least 6 weeks, you should avoid lifting more than 5–10 pounds, overhead lifting, frequent or repetitive neck movements and vigorous sports until instructed otherwise by your surgeon.

Q. When can I go back to work?

A. That depends on what kind of work you do and how far you have to drive. It can be as little as two weeks, but may be longer if your job involves manual labor or if you have to drive more than 30 minutes to get there.

Q. What are my chances of being relieved of my pain?

A. 90-95 percent of patients get relief from their nerve symptoms or arm pain. Neck and shoulder pain are less predictably relieved by disc surgery. Up to 15 percent of patients may have some neck and shoulder aching after surgery; this percentage may be higher in patients who have a substantial amount of neck and shoulder pain before surgery. Other conditions may also produce continued pain even after successful disc surgery.

Q. Will my neck be normal after surgery?

A. No. Even if you have excellent relief of pain, the disc has still been damaged. However, most people can resume almost all of their normal activities after disc surgery. People who do heavy work generally take longer to recover and may not be able to do everything they could do before their injury.

Q. Could I be paralyzed?

A. The chances of neurologic injury with spine surgery are very low and the possibility of catastrophic injury, such as paralysis, is highly unlikely, though not impossible. Injury to a nerve root with isolated numbness and/or weakness in the arm is possible.

Q. What other risks are there?

A. There are general risks with any type of surgery. These include, but are not limited to, the possibility of wound infection, uncontrollable bleeding, collection of blood clots in the wound or in the veins of the leg, pulmonary embolism (movement of a blood clot to the lung), heart attack, stroke and death. The chances of any of these events happening, particularly to a generally healthy patient, are low. Rarely, death may occur during or after any surgical procedure.

Q. Is my entire disc removed?

A. No, only the ruptured part and any other obviously abnormal disc material is removed. This generally amounts to no more than 10-15 percent of the whole disc.

Q. Could this ever happen to me again?

A. Unfortunately, yes. As mentioned above, only part of the disc is removed and there is no way of making the remaining disc normal again, which means recurrent herniations do occasionally occur. Also, adjacent discs may be or may become abnormal too, and could rupture in the future.

Q. Should I avoid physical activity?

A. No. Exercise is good for you. You should get some sort of exercise at least several times a day. Start with walking, 10–15 minutes per walk. Your activity depends upon your surgeon's protocol.

Cervical Fusion - Frequently Asked Questions

Q. What is wrong with my neck?

A. You have one or more damaged discs in your neck. Discs are rubbery shock absorbers between the vertebrae, and are close to the nerves which travel out to the arms. If the disc is damaged, part of it may bulge or even burst free into the spinal canal, putting pressure on the nerves and causing arm pain, numbness, weakness and/or pain in the neck or shoulder area. Occasionally, this pressure may affect the spinal cord and cause abnormalities in the extremities. Bone spurs, usually the result of arthritis, can also put pressure on nerves or the spinal cord. Loss of the normal "shock absorber" function, or arthritis around the damaged disc, can also produce mechanical pain around the neck or shoulders with neck movement or awkward positions.

Q. What is required to fix the problem?

A. The best approach to your condition is to remove the damaged disc and bone spurs from the front, or anterior part, of the neck and to perform a fusion between the adjacent vertebral bodies. Certain conditions, however, require the surgeon to perform the fusion using a posterior approach instead.

Q. What is spinal fusion?

A. A fusion is a bony bridge between at least two other bones, in this case two vertebrae in your spine. The vertebrae are the blocks of bone which make up the bony part of the spine, much like a child's building blocks stacked on top of each other to make a tower. Normally each vertebrae moves within certain limits in relationship to its neighbors. In spinal disease, the movement may become excessive and painful, or the vertebrae may become unstable and misaligned, putting pressure on the spinal nerves. In cases like this, surgeons try to build bony bridges between the vertebrae using pieces of bone, which we call bone graft. The bone graft may be obtained either from the patient himself, usually from the pelvis, synthetic bone product, or from a bone bank. There are advantages and disadvantages to either source. The bone graft is laid between the vertebrae. The bone graft has to heal and unite to the adjacent bones before the fusion becomes solid. Spine surgeons often use plates to protect the bone graft and stabilize the spine during the healing period, attaching them to the spine using screws.

Q. How is the operation performed?

A. An incision, usually about two inches in length, is made across the front of the neck. The windpipe, esophagus (food pipe) and other tissues are temporarily pushed aside and the abnormal disc or discs are removed completely. If your own bone is to be used for the fusion, another small incision is made over the front of the pelvis and one or more small bone grafts are removed to replace the disc or discs. In most cases this bone will heal or "fuse" to the vertebrae above and below it within six to nine months, creating a solid bony bridge between the two vertebrae and eliminating movement between them. For fusions involving more than one level, or in the case of unusual spinal instability, internal plates and screws may be used to improve stability and conditions for bone healing.

Q. When is this operation necessary?

A. In most cases, the major indication for spine surgery is pain. Weakness, numbness, clumsiness and instability with arm function may also be an indication for surgery. Often, non-surgical measures can control the pain satisfactorily. If the pain persists and interferes with daily activities or if other neurologic problems develop, then surgery may be necessary to relieve the problem. In most cases, the patient makes the final decision about surgery because of pain. If neurologic damage is occurring, your doctors may strongly recommend that you proceed with the operation.

Q. How long will I be in the hospital?

A. Most patients leave in 24 hours. However, anterior/posterior cervical fusion patients may be in the hospital for one - two days.

Q. Will I need a blood transfusion?

A. Rarely do we need to give a transfusion. Only in rare tumor or unusual reconstruction cases will a transfusion be needed.

Q. What can I do after surgery?

A. You should try to walk and take care of yourself as much as you are able. While in the hospital, you must call for assistance when getting out of bed, getting up from the chair, or going to or from the bathroom. Please use the call light and wait for help prior to getting up. You should try to exercise each day. You may perform other low-impact activities not requiring lifting or neck movement as allowed by your collar. If a collar is not required, you may drive when allowed by your surgeon and you are no longer taking narcotic pain medication.

Q. What shouldn't I do after surgery?

A. You should avoid lifting heavy objects (more than 5 lbs or anything more than your plate of food or a book), and avoid all overhead lifting. Twisting, repetitive bending and tilting your head back to look overhead are also stressful to the neck. If you are a smoker, you definitely should not smoke until your fusion is completely solid. Smoking interferes with bone healing.

Q. Will I need to wear a neck collar?

A. You may or may not need to wear a collar after your surgery. This will be determined by your surgeon. If your surgeon determines that a collar is necessary, the type of collar and length of time you need to wear the collar will be determined by your surgeon as well.

Q. When can I go back to work?

A. That depends on the type of work you do. For sedentary jobs, work may resume when you feel comfortable and can get to work. For jobs which require more strenuous physical exertion, a longer healing time may be required. Your surgeon will discuss this with you individually.

Q. What are the chances of being relieved of the pain?

A. 80-95 percent of the patients obtain relief from their arm pain. Relief of neck pain is less predictable, usually in the range of 65-75 percent.

Q. Will my neck be normal after surgery?

A. No. While most patients have excellent relief of arm pain after surgery, your neck will not be completely normal. While most patients with a one or two-level fusion will not notice significant loss of motion, the stiffened segment of your spine does put additional stresses on adjacent discs, which may already be abnormal to some extent. These other discs may cause symptoms. Although most patients can resume most of their normal activities after healing, you should take care of your neck. Your surgeon can discuss this with you in detail.

Q. Could I be paralyzed?

A. The chances of neurologic injury with spine surgery are very low and the possibility of catastrophic injury, such as paralysis, is highly unlikely, though not impossible. Injury to a nerve root with isolated numbness and/or weakness in the arm is possible.

Q. What other risks are there?

A. There are general risks with any type of surgery. These include, but are not limited to, the possibility of wound infection, uncontrollable bleeding, collection of blood clots in the wound or in the veins of the leg, pulmonary embolism (movement of a blood clot to the lung), or heart attack. The chances of any of these events happening, particularly to a generally healthy patient, are low. Rarely, death may occur during or after any surgical procedure.

Q. Could I have difficulty swallowing?

A. Most patients report mild discomfort with swallowing for a few days after surgery. Occasionally, swallowing difficulties may be more significant and last for several weeks. If swallowing difficulty persists, notify your surgeon. It may be helpful to have the problem assessed by a swallowing expert who could offer recommendations.

Q. Will my voice be affected?

A. Some patients may be hoarse after anterior cervical spine surgery. Usually this goes away within a few days or weeks. Contact your surgeon if hoarseness persists.

Q. Is the entire disc removed?

A. Yes.

Q. Could this happen to me again?

A. Unfortunately, yes. Similar conditions which led to the disc damage being treated now may have already started in one or more of the other discs, in your neck. A small percentage of fusions do not heal normally, which may require additional surgery. The chance of this happening increases if the fusion is attempted at more than one level, which is why spine plates are sometimes used for multi-level fusions. Over 90 percent of patients do well. Less than 10 percent have some recurring problems.

Q. Should I avoid physical activity?

A. No. Exercise is good for you. You should get some sort of exercise several times a day. Start with walking, 10-15 minutes per walk. Your activity depends upon your surgeon's protocol.

Q. Who performs this surgery?

A. Both orthopedists and neurosurgeons are trained to do spinal surgery. It is important that your surgeon specialize in this type of procedure.

Lumbar Laminectomy - Frequently Asked Questions

Q. What is wrong with my back?

A. You have a "pinched nerve." This can be produced by one or more herniated discs and/or areas of arthritis in your back. The discs are rubbery shock absorbers between the vertebrae, and are close to nerves that originate in the spine and then travel down to the legs. If the disc is damaged, part of it may bulge (herniate) or even burst free into the spinal canal, putting pressure on the nerve and causing leg pain, numbness or weakness. Bone spurs associated with arthritis may also cause the same type of symptoms.

Q. What is required to fix the problem?

A. The discs or bone spurs pressing on your nerve must be removed. This is done by making an incision (usually two or three inches long) in the middle of your lower back, moving the muscles covering your spine to the side, and making a small window into your spinal canal. The nerve is exposed, moved aside and protected; and the protruding disc or bone spur is then removed. This decompresses the nerve and, in most cases, leads to rapid improvement in nerve pain, numbness and weakness. Sometimes the abnormality may be more extensive, extending over several disc segments, requiring a longer incision for decompression.

Q. Who is a candidate for lumbar laminectomy and when is it necessary?

A. The primary reason for this operation is pain that is intolerable to the patient. Sometimes increasing nerve dysfunction (particularly weakness) or loss of bowel or bladder control may make the surgery necessary even if pain is not severe. In most cases, nerve dysfunction is not severe and pain can be controlled by non-surgical means. If this doesn't happen, and if the pain and subsequent disability become intolerable, surgery is a reliable way to solve the problem. Since the patient is the one feeling the pain, the patient is usually the one who decides when he or she is ready for surgery.

Q. Who performs this surgery?

A. Both orthopedists and neurosurgeons are trained in spinal surgery and both specialists may perform this surgery. It is important that your surgeon specialize in this type of procedure.

Q. Is my entire disc removed?

A. No, only the ruptured part and any other abnormal disc material are removed. This generally amounts to no more than 10-15 percent of the entire disc.

Q. How long will I be in the hospital?

A. Laminectomy patients are usually out of bed within an hour or two after their operation, and some can go home on the day of surgery. If you have an overnight stay, you will routinely go home the next day.

Q. Will I need a blood transfusion?

A. Transfusions are rarely needed after this kind of surgery. We do not recommend pre-operative donation of your own blood.

Q. What can I do after surgery?

A. You may get up and move around as soon as you feel like it. While in the hospital, you must call for assistance when getting out of bed, getting up from the chair, or going to or from the bathroom. Please use the call light and wait for help prior to getting up. Take your time when changing position—wait a moment before standing. If you wear glasses, make sure you are wearing them. Also, make sure you are wearing non-skid slippers or shoes when walking. Once it has been approved by your surgeon and you are no longer taking narcotic pain medication, you may drive short distances if you feel able. **You should avoid bending, lifting and twisting** (we call these the "B.L.T.'s") for six weeks to allow for healing of the surgical area.

Q. When can I go back to work?

A. That depends on the kind of work you do, and how long you have to drive to get there. Surgical patients can typically return to sedentary (desk) jobs that they can reach with a drive of 15 minutes or less whenever they feel comfortable and have been approved by their surgeon, (usually two or three weeks). You should not drive long distances (30 minutes or more) for about one month after surgery. If your job requires physical labor, you should consult your surgeon.

Q. What is the likelihood that I will be relieved of my pain?

A. 90-95 percent of patients get relief of their leg pain. Some patients (about 15 percent) will continue to have noticeable back pain in some situations, and may require additional treatment.

Q. Could I be paralyzed?

A. The chances of neurologic injury with spine surgery are very low and the possibility of catastrophic injury, such as paralysis, impotence or loss of bowel or bladder control are highly unlikely. Injury to a nerve root with isolated numbness and/or weakness in the leg is possible.

Q. What other risks are there?

A. There are general risks with any type of surgery. These include, but are not limited to, the possibility of wound infection, uncontrollable bleeding, collection of blood clots in the wound or in the veins of the leg, abdominal problems, pulmonary embolism (a blood clot to the lungs) or heart attack. The chances of any of these happening, particularly to a healthy patient, are low. Rarely, death may occur during or after any surgical procedure.

Q. Will my back be normal after surgery?

A. Though you may have excellent relief of pain, a disc is never completely normal after it has herniated, and if your problem has been caused by arthritis, the arthritis cannot be cured even if the bone spurs have been removed and the nerves decompressed. You may have more back pain than a normal person would have, and there is an increased risk of re-herniation of the damaged disc. However, most people can resume almost all of their normal activities after recovering from surgery.

Q. What should I do after surgery?

A. You should resume low-impact activities as soon as possible, starting with walking. Try to walk a little farther each day. Your activity depends upon your surgeon's protocol. Usually you will have limited activity the first few weeks but walks 2–3 times per day for 10–15 minutes are encouraged.

Q. What shouldn't I do after surgery?

A. In general, you should limit heavy lifting, bending, twisting and high impact physical activities, including contact sports. Consult your surgeon for details.

Q. Could this ever happen to me again?

A. Unfortunately, yes. As mentioned above, only part of the disc is removed and there is no way to return the disc to normal again, which means recurrent herniations do occasionally occur. Also, adjacent discs may be abnormal, too, and could rupture in the future.

Q. Should I avoid physical activity?

A. No. Exercise is good for you! Each surgeon's protocol is different. Vigorous activity should be avoided until advised by your surgeon. Check with your surgeon to see if walking on a treadmill or using an exercise bike is appropriate. Swimming is not allowed until approved by your surgeon.

Lumbar Fusion - Frequently Asked Questions

Q. What is wrong with my back?

A. You have one or more damaged discs and/or areas of arthritis in your back. This produces pain, and may produce abnormal motion, or misalignment of your spine. Discs are rubbery shock absorbers between the vertebrae, and are close to nerves that travel down to the legs. If the disc is damaged, part of it may bulge or even burst free (herniate) into the spinal canal, putting pressure on the nerve and causing leg pain, numbness or weakness.

Q. What is required to fix the problem?

A. Your condition requires both a nerve decompression (freeing the nerves from pressure) and a spinal fusion.

Q. What is spinal fusion?

A. A fusion is a bony bridge between at least two other bones; in this case, two vertebrae in your spine. The vertebrae are the blocks of bone that make up the bony part of the spine, like a child's building blocks stacked on top of each other to make a tower. Normally each vertebra moves within certain limits in relationship to its neighbors. In spinal disease, the movement may become excessive and painful, or the vertebrae may become unstable and move out of alignment, putting pressure on the spinal nerves. In cases like this, surgeons try to build bony bridges between the vertebrae using pieces of bone called bone graft. The bone graft may be obtained from the patient, (usually from the pelvis), synthetic bone product, or from a bone bank. There are advantages and disadvantages to either source. The bone graft is either laid next to the vertebrae or actually placed between the vertebral bodies (the rubbery disc that normally lies between the vertebrae must be removed). In either case, the bone graft has to heal and fuse to the adjacent bones before the fusion becomes solid. Spine surgeons often use screws and rods to protect the bone graft and stabilize the spine while the fusion heals.

Q. How is the operation performed?

A. An incision is made in the middle of the lower back; or two smaller parallel incisions per surgeon's preference. The length of the incision varies depending upon number of vertebrae involved. Muscles supporting the spine are pushed aside temporarily. The spinal nerve is exposed, moved aside and protected, and the ruptured disc or bone spur is removed to loosen the nerve. The fusion is performed as described previously. The wound is then closed and dressings are applied. The length of this operation varies depending on the complexity of the condition. Sometimes the spinal fusion is performed with an anterior approach. In this case, a vascular surgeon would make an incision in the lower abdomen, gently move the internal organs aside, and proceed with the surgery as described above. The length of the incision varies depending upon number of vertebrae involved.

Q. Who is a candidate for lumbar fusion, and when is it necessary?

A. When the back and nerve problems cannot be corrected in a more simple procedure and the pain persists at an unacceptable level, it is necessary to do a fusion. Some of the conditions which require spinal fusion are discussed in the answer to "What is Spinal Fusion?"

Q. Who performs this surgery?

A. Both orthopedists and neurosurgeons who specialize in spine surgery may perform this procedure, either individually or as a team. A vascular surgeon may be part of the team if an anterior approach is needed. It is important that your surgeon specialize in this type of procedure.

Q. Could I be paralyzed?

A. The chances of neurologic injury with spine surgery are very low and the possibility of catastrophic injury, such as paralysis, impotence or loss of bowel or bladder control are highly unlikely. Injury to a nerve root with isolated numbness and/or weakness in the leg is possible.

Q. Are there other risks involved?

A. There are general risks with any type of surgery. These include, but are not limited to, the possibility of wound infection, uncontrollable bleeding, collection of blood clots in the wound or in the veins of the leg, abdominal problems, pulmonary embolism (a blood clot to the lungs), pneumonia, weakness in extremities, loss of flexibility, or heart attack. The chances of any of these happening, particularly to a healthy patient, are low. Rarely, death may occur during or after any surgical procedure.

Q. What are my chances of being relieved of my pain?

A. More than 90 percent of patients get relief of their nerve symptoms or leg pain. Relief of back pain is less predictable, occurring about 75 percent of the time.

Q. Will my back be normal after surgery?

A. No. Even if you have excellent relief of pain, the spine is not completely normal after a fusion. Stiffening one segment of the spine with the fusion may put additional strain on other areas. Other discs may have started to wear out. Even if they aren't causing you pain now, they may do so in the future. For these reasons, you may have more back pain than a normal person would have. However, most people can resume almost all of their normal activities after their fusion has healed.

Q. How long will I be in the hospital?

A. The hospital stay is generally one to three days, depending on when discharge criteria has been met.

Q. What shouldn't I do after surgery?

A. Generally, you should **avoid bending, lifting, pulling and twisting** (we call these the "B.L.T.'s") for six to nine months. Even if screws or rods are used, six to 12 months are required for the fusion to heal completely. You must protect your spine during this time. Your surgeon may prescribe a brace for you to wear for part of this time. If you are a smoker, you definitely should not smoke until your fusion is completely solid, since smoking interferes with bone healing.

Q. What can I do after surgery?

A. You should get up and move around frequently as soon as you feel able and your therapist or nurse approve. While you are in the hospital, it is important that you call for assistance before getting out of bed. If you are feeling well enough, your surgeon has approved it, and you are no longer taking narcotic pain medication you may begin driving in two to three weeks. If your surgeon has prescribed a back brace, it is important to wear that while you are driving.

Q. When can I return to work?

A. This should be discussed individually with your surgeon. Generally, patients may return to sedentary jobs whenever they are comfortable, which is usually within three to six weeks. If you drive more than 30 minutes to get to work, your surgeon may want you to wait longer. It takes much longer to return to work that requires strenuous physical activity. The final decision regarding when you are ready to return to work lies with your surgeon.

Q. Could this happen to me again?

A. Unfortunately, yes. A fusion may add stress to the levels above and below the fusion. If the fusion doesn't heal solidly, even with plates and screws, your symptoms may recur and additional surgery may be needed.

Q. Should I avoid physical activity?

A. No. Exercise is good for you! Each surgeon's protocol is different. Vigorous activity should be avoided until advised by your surgeon. Check with your surgeon to see if walking on a treadmill or using an exercise bike is appropriate. Swimming is not allowed until approved by your surgeon.

Pre-Surgery Checklist

Within 30 Days Prior to Surgery

PUT YOUR HEALTH-CARE DECISIONS IN WRITING

There are different types of Advance Directives:

- **Living Will** - A notarized document signed by an adult with decision-making capacity which contains his/her wishes about the use of life-sustaining treatments. This is only effective when the patient is in a terminal condition or permanently unconscious state.
- **Durable Power of Attorney for Healthcare** - A document signed by an adult with decision-making capacity which appoints a person to make healthcare decisions for the patient when the patient cannot make decisions.
- **Ohio DNR- (Do Not Resuscitate)** - A physician's order that makes it known that a patient does not want cardiopulmonary resuscitation performed. There are two options: DNR Comfort Care (DNRCC) or DNR Comfort Care-Arrest (DNRCC-Arrest)
- Advance Directives completed in other states shall be honored so long as the form complies with Ohio laws.

REVIEW "EXERCISE YOUR RIGHT"

On admission to the hospital, you will be asked if you have an advance directive. If you do, please bring copies of the documents to the hospital with you, so they can become part of your medical record. If you do not have any advance directives but would like to receive information or obtain an advance directive, we can contact pastoral services to assist you with the process during your stay. If you would like a DNR order please contact your physician. Advance directives are not a requirement for hospital admission.

If you would like more information or forms for completing a living will or durable power of attorney of healthcare, contact the Ohio Department of Health or visit their website at www.odh.ohio.gov.

OBTAIN MEDICAL AND ANESTHESIA CLEARANCE

When you were scheduled for surgery you should have received a medical clearance letter from your surgeon. This will tell you whether you need to see your primary-care physician and/or a specialist. Please follow the instructions in this letter.

OBTAIN LABORATORY TESTS

When you were scheduled for surgery, you should have received a laboratory-testing letter from your surgeon. Follow the instructions in this letter. Your medical physician may order additional testing.

BECOME SMOKE FREE

If you are a smoker, you should stop using tobacco products. The tar, nicotine and carbon monoxide found in tobacco products have serious adverse effects on your blood vessels and thus impair the healing of wounds and bone grafts. In addition, continued tobacco use damages the other discs in your spine, leading to disease at other levels. Finally, we have found that smokers experience a greater degree of pain than do non-smokers.

PRE-REGISTER

After your surgery has been scheduled, a representative from registration at the hospital will call you to gather your demographic and insurance information by phone. You will need to have the following information ready when you are contacted:

- Patient's full legal name and address, including county
- Home phone number
- Religion
- Marital status
- Name of insurance holder, his or her address and phone number and his or her work address and work phone number
- Name of insurance company, mailing address, policy and group number
- Patient's employer, address, phone number and occupation
- Name, address and phone number of nearest relative

SCHEDULE YOUR PRE-SURGERY TESTING

Call the Pre-Surgery Testing Scheduler at **513-585-2418** to schedule your pre-surgery testing.

ATTEND PRE-SURGERY SPINE CLASS

Call **513-585-0552** to schedule your pre-surgery spine class.

MEDICAL HISTORY

A Registered Nurse from the Pre-Surgery Testing department will call you and request information regarding your medical and surgical history. They will also ask questions regarding current medications and recent tests that you have had. You will need to have a list of current medications ready when you are contacted. Please refer to the Medication List form to complete with a listing of all medications you are currently taking.

The nurse will give you information about additional testing and directions for the day of testing and/or surgery.

PRE-OPERATIVE VISIT TO SURGEON

You may have an appointment in your surgeon's office 7-10 days prior to your surgery. This will serve as a final check-up and a time to ask any questions you might have. Some patients with acute disc herniations may have a shorter time between the visit and surgery.

At this time you should check or schedule your follow up post-op visits.

STOP MEDICATIONS THAT INCREASE BLEEDING

- Seven – 14 days before surgery, or as instructed by your medical doctor or surgeon, stop all medications containing aspirin and anti-inflammatories, such as aspirin, Motrin®, Advil®, Aleve®, Ibuprophen, Naproxen, etc. These medications may cause increased bleeding.
- If you are on Coumadin, Pradaxa, Xarelto or any drug that inhibits clotting, you will need special instructions on stopping this medication. Please contact the prescribing physician for these instructions.

PLANNING AHEAD TO EASE TRANSITION BACK HOME

Home

- De-clutter your home. Temporarily put away area rugs that may be a tripping hazard.
- Shop ahead! Have frozen dinners available to pop into the microwave and paper plates to limit washing. Also have plenty of liquids available. Pain medications can give you a very dry mouth.
- Complete needed yard work and mowing or arrange to have this done for you.
- Arrange for neighbors/family to collect mail and newspapers for a few days.
- Change your bed and have fresh linens prepared.
- Strategically place nightlights in bedrooms, hallways and bathrooms you may need to access at night.

- Place essential and frequently used items at counter level in the kitchen. This may mean taking out the items from the lower or very upper cabinets and storing them on the counter temporarily.
- Have current bills paid so you do not have to worry about these immediately after the surgery.
- Have support lined up, especially if you live alone. Arrange for friends to call on certain days or stop by and make sure you don't need any extra assistance. **For the first one to two days up to a week depending on your surgery, it is best to have someone with you for assistance or supervision.**
- No special chair is needed, but you want one that offers you support and comfort, preferably a chair that has arm rests and sits higher, not one that is low to the ground. Limit your sitting according to your surgeon's recommendations. If you have a recliner, you may sit for prolonged periods in a reclined position.

Pets

- Have help for the first few days to keep food and water available for pets.
- Have a dog walker planned for the first week at least. You will not want to chance losing your balance or being jerked by your excited canine friend!
- If you have cats, have the litter box up on a high table or counter so you don't have to bend down to clean it.

Points of comfort

You may want to place an extra pillow in your car for the ride home to maximize your comfort.

FIND OUT YOUR ARRIVAL TIME AT THE HOSPITAL

Your surgeon's office will tell you what time your procedure is scheduled. Please come to the hospital two hours before the scheduled surgery time to give the nursing staff sufficient time to start IVs, prepare the surgical site and answer questions. It is important to arrive on time because sometimes the surgical time is moved up at the last minute and your surgery could start earlier. If you are late, your surgery could be moved to a much later time.

The Night before Surgery

CHLORHEXIDINE SHOWER

If your surgeon has given you Chlorhexidine soap, please follow the instructions as provided. If you have not received this soap, please take a good "scrubbing" shower the evening before and the morning of surgery with antibacterial soap. Be sure to pay special attention to skin folds. It is not necessary to use the soap on your face or hair. Do not apply lotions or deodorants after your shower on the day of surgery.

NPO - DO NOT EAT OR DRINK

- You may eat a regular diet, or the diet recommended by your surgeon, at dinner but you may prefer to stay with a lighter meal.
- Do not eat or drink anything, EVEN WATER, after midnight unless otherwise instructed to do so.
- If you must take medication the morning of surgery, do so with a small sip of water.

The Day of Surgery

SPECIAL INSTRUCTIONS

You will be instructed by your surgeon or the pre-screening nurse on which of your daily medications to take or omit the morning of surgery.

WHAT TO BRING TO THE HOSPITAL

- Patient Guidebook
- Advance directives and living will
- Insurance card and co-pay (if applicable)
- Personal hygiene items (toothbrush, powder, deodorant, razor, etc.)
- Shorts, tops, sweats, well-fitting slippers or flat shoes
- Cotton T-shirts for under your brace, if a brace is ordered
- Any collars or braces for your neck or back
- Cane or walker if you already have one. This equipment may not be needed after your surgery, but if it is, we recommend a family member bring it to the hospital room the day after surgery for proper adjustment.
- Please leave your valuables and money at home.
- A list of medication you are taking
- If you have an insulin pump for diabetes, bring your supplies on the day of surgery.
- If you have sleep apnea, bring your CPAP machine on the day of surgery.

While You are in the Hospital

Day of Surgery

WHAT TO EXPECT

You will check in at the registration desk in the Same Day Surgery Unit. For directions to the hospital or how to get to the Same Day Surgery department, please refer to page iv of this booklet. Your family member will be given a pager and an instruction pamphlet on how to read the patient tracking system. This also contains places where they might get a bite to eat, location of the chapel and other items of interest. Your family is encouraged to stay with you in the prep room until the time of surgery if you desire.

On the Same Day Surgery (SDS) Unit you will be prepared for surgery. This includes starting an IV, (we have a dedicated IV Team), and fitting you with TED stockings, if ordered by your surgeon. The SDS nurse and anesthesiologist will interview you in the prep room. Your surgery site will be marked by the surgeon or his/her assistant at this time or once you arrive in the operating room. You will receive an antibiotic which will be given through the IV just before your incision is made in the operating room. This timing of the antibiotic is proven to help prevent surgical site infections. The SDS nurse will also scrub the surgical site with chlorhexidene wipes, to help prevent surgical site infections. You may be given a mild sedative if ordered by the anesthesiologist and medication to prevent nausea and vomiting if indicated. You will be escorted to the operating room where you will see your surgeon.

Following surgery you will be taken to the post-anesthesia care unit (PACU) where you will remain for one to two hours or until you are stable and your hospital room is ready. A nurse from that area will give your family an update on your condition after 90 minutes. If you will be in recovery for an extended length of time, your family may be permitted for a brief visit if conditions allow. During this time, pain control will be established and your vital signs will be monitored. You will then be taken to the Spine Institute post-op unit located on 2/3 South where our specialized staff will care for you. Friends and family may see you at this time.

POST-OP ROUTINE THROUGH DISCHARGE

Blood will be drawn around 6 a.m., usually the first 2 days. If a post-operative CT scan or x-ray is ordered our staff will take you to the department in the morning. Physical therapy, if ordered, may begin as early as 8 a.m. An occupational therapist may also see you to teach you the proper way to move and perform daily activities.

UNDERSTANDING PAIN MANAGEMENT

It is our aim to manage your pain adequately during your hospital stay. Having said that, we realize pain management is not perfect, and that you will have some discomfort after your operation. There are several factors that limit our ability to completely eliminate pain after surgery. The first is that pain medications have side effects. These include respiratory depression (decreased ability to breathe normally), hypotension (low blood pressure), nausea and constipation. Other less common side effects include itching, urinary retention and abdominal distention (collection of gas within the intestines). These side effects mean that the amount of medication will have to be reduced at times, to avoid creating dangerous or uncomfortable conditions. Another factor is tolerance. This is the body's tendency to become less responsive to the pain-reducing action of narcotics after being exposed to them for periods of time. In other words, your body can become used to having these drugs. Unfortunately, the side effects can still be present. Patients who have taken large doses of narcotics for months or years have a much harder time keeping comfortable after surgery. For this reason, it is very important for you to provide accurate information to your surgeon about the amount of pain medication you have been taking. Inaccurate information could result in a needlessly painful and stressful post-operative experience. It may be necessary to taper or discontinue your use of narcotics prior to surgery under the direction of your surgeon.

Once you have had your surgery, we will rely heavily on your own assessment of your pain, and work with you to relieve it. Some patients will receive intermittent low-doses of pain medication into their IV, which they control with a small pump called a PCA. After 12-24 hours you will transition to oral pain medications. Generally, these are the same medications you will take at home once you are discharged from the hospital. Throughout your hospital stay, your surgeon and your bedside nurses will assess your physical condition and look for signs of pain and side effects. Anesthesia staff including a spine pain management nurse will also consult with your surgeon to help optimize your treatment program. Using this approach, most of our patients have very satisfactory pain control after surgery.

Information for Your Family

Once you are taken to the operating room, your family will be directed to the Family Surgical Lounge. When your surgery has been completed, your family will be paged and directed to a private consultation room. The surgeon will meet with your family in the consultation room to review the results of your procedure.

Should someone need to contact the Family Surgical Lounge that phone number is 513-585-3238.

VISITING HOURS

The Christ Hospital acknowledges the importance of family and friends in the healing process. The Orthopaedic unit offers all private rooms and your family or significant other is welcome to spend the night. Every effort will be made to provide sleeping accommodations. For the most part, visitors are only limited at the patient's request.

DINING

Café on A

Breakfast: 6:30 – 10:30 a.m.

Lunch: 11 a.m. – 1:30 p.m.

Snack Period: 1:30 p.m. – 3:30 p.m.

Dinner: 4 – 6:30 p.m.

The cafeteria is located on A-Level. Carryout service is provided. Café on A is open Monday through Friday.

Sara Lee Sandwich Shoppe

Open weekdays from 10:30 a.m. – 5 p.m.

Open weekends from 10 a.m. – 2 p.m.

The Sara Lee Sandwich Shoppe is located in the cafeteria on A-Level and features fresh, made-to order deli sandwiches. You may place orders for pickup by dialing 1SARA (17272) from any hospital phone.

Au Bon Pain

Open daily from 6 a.m. – 9 p.m.

Au Bon Pain is located in the main hospital lobby by the gift shop. It offers a wide variety of fresh salads, soups, sandwiches, entrees, coffees, breads and pastries. Au Bon Pain was recently ranked as one of the top five healthiest fast food chains by Health.com!

You can reach Au Bon Pain by calling 513-381-4034.

Coffee Creations

Open daily from 6 a.m. – 1 a.m.

Coffee Creations is located near the lobby on the first floor of the hospital, featuring coffees and espresso-based beverages, fresh fruit smoothies, iced beverages, pastries, tasty sandwiches and fresh salads. Individual built-to-order pizzas are available from 6 p.m. – midnight.

Classic Cuisine

We offer room service for all inpatients during their hospital stay. Patient guests may also order from the room service menu. A Classic Cuisine Ambassador will visit the patient's room to explain the ordering process and deliver a customized menu. Meals may be ordered daily between 6:30 am and 7 pm and will be delivered within 45 minutes of order placement by calling 52100 from the patient room. Pricing for guest meals includes:

- Breakfast - $5
- Light breakfast - $3
- Lunch and dinner - $10
- Light lunch or dinner - $6

Please talk with the Classic Cuisine Ambassador to make selections and arrange payment by cash or credit card.

JOSEPH-BETH AT THE CHRIST HOSPITAL

Our Joseph-Beth gift shop features a selection of merchandise including gifts for babies and children, inspirational items, jewelry, greeting cards, books, magazines, flowers and snacks.

Open weekdays from 7 a.m. – 7 p.m.

Open Saturday and Sunday from 10 a.m. – 5 p.m.

BANKING

Fifth Third Bank ATMs are located in the cafeteria on A-level and on C-level next to the Registration area.

CHAPEL

The chapel is located on Level 1 near the patient tower elevators. It provides a quiet spot for prayer and reflection, 24 hours a day. A Catholic Mass is celebrated every day at 11 a.m., except Wednesdays. Protestant worship services are held every Sunday at 9:30 a.m.

FAMILY RESOURCE CENTERS

Family resource centers are located throughout the hospital to provide a relaxing atmosphere and as a source for information, education, support and Internet access. Resource center locations include:

- C-Level of the Heart Center, near Registration and Diagnostic Services
- The Sharron Moore Eckel Cancer Resource Center, D-Level of the Heart Center
- Medical Intensive Care Unit, 7 West
- 4 West Resource Center
- The Women's Imaging Center, Medical Office Building, Suite 324

NO SMOKING POLICY

The Christ Hospital is a tobacco free campus. To maintain a healthy environment for patients, staff and visitors, the use of tobacco products is not permitted anywhere on hospital property.

Discharge Plans and Expectations

When patients are ready for discharge from the hospital, certain criteria are generally met: Patients are walking independently with or without a walker, eating and drinking well and taking oral medication to control discomfort. We suggest that you do not go home alone but have someone with you to be your caregiver for the next two to three days up to a week, depending on your surgery. This can be a friend or family member who can change your dressing, and/or monitor your incision and help you with your TED stockings if ordered by your surgeon at discharge. This caregiver will also help out with meals and household activities. During these first few days at home, we want you to concentrate on your recovery. If equipment (rolling walker, bedside commode) is needed, the staff will identify the equipment for you while you are in the hospital so it can be ordered by a nurse case manager. Equipment will be delivered prior to your discharge, unless other arrangements have been made.

Most patients return directly home after surgery, but others may require a short stay in a skilled nursing facility or rehabilitation facility in order to maximize their level of independence prior to returning home. The Christ Hospital has an inpatient rehabilitation unit, which may be an option, depending upon your surgery, medical requirements and your surgeon.

You may wish to contact your health insurance carrier prior to admission, but keep in mind that insurance representatives provide only general information and not information that is specific to your post-operative needs. The services covered by your insurance company will be determined prior to your discharge.

To help plan for your post-operative care, here are some specific questions you can ask when contacting your insurance carrier:

1. a) Are there benefits for a skilled nursing facility and/or an inpatient rehabilitation facility in my policy?
   b) What are these benefits?
2. a) Which local skilled nursing facilities and/or inpatient rehabilitation facilities are covered by my policy?
   b) Can I get the names and locations of these facilities?

Patients are encouraged to visit skilled nursing and/or rehab facilities and provide us with their choice. A social worker will then be assigned to complete transfer arrangements during your hospital stay. It is strongly recommended that you also develop an alternate plan in the event that you do not meet the insurance company's criteria for a skilled nursing facility. A respite stay in an assisted living facility may be another option, but this will not be covered by your health insurance. Having a back up plan will insure a smooth and efficient discharge from the hospital.

DISCHARGE GOALS

In order to be discharged, certain goals must be met to ensure it is safe for you to return home. These goals include:

- Walking in the halls with or without assistance and with or without an assistive device
- Able to climb stairs
- Tolerating a diet
- Urinating after the urinary(foley) catheter is discontinued
- Tolerating your pain medication by mouth
- Vital signs are stable
- Able to pass gas

DISCHARGE TIME:

All spine patients will need a ride home from the hospital. Anticipated discharge time for you will be 11 AM. In order to be discharged to home, you must reach the discharge goals. If these goals have not been reached by 11 AM, you may need to stay longer into the day. Please arrange a ride home around this time unless instructed otherwise.

Cervical Spine Guidelines

NECK COLLAR

Your surgeon will determine if a neck collar is right for you . If your surgeon does prescribe a collar, you should wear this at all times, except while bathing or if your surgeon has given you alternate directions. Not all patients will require a neck collar after surgery. Your physician will determine the appropriate type of collar for you. Instructions for wearing the collar will be individualized to meet your needs. There are several types of neck collars that help provide support and/or limit motion in your neck. **Please note:** All precautions and activity recommendations should be followed with or without the use of a collar, per your surgeons instructions.

SOFT COLLAR

The least restrictive and least supportive of all cervical collars is the soft collar. Patients may be instructed to wear the soft collar at all times or only when out of bed based on the physician's recommendations. The soft collar is simple to put on and only requires fastening a Velcro strap at the back of the neck. Your chin should rest at a small divot in the front of the collar. Be careful not to move your head up and down in this collar as it will not prevent you from performing this motion. Your surgeon may want you to move your head gently side to side.

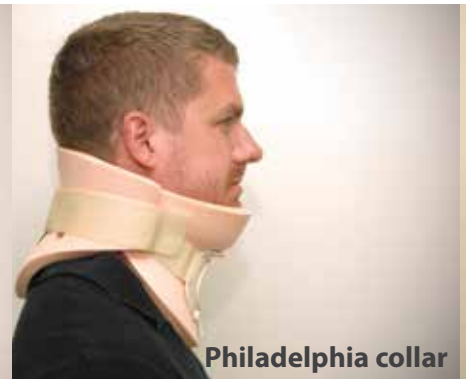
PHILADELPHIA COLLAR

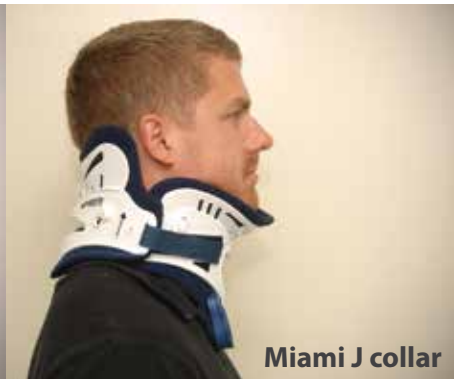
A slightly more supportive collar is the Philadelphia collar also referred to as the "Philly collar." This collar is made out of foam and has a rigid plastic support at the neck. The chin trough prevents you from turning your head side to side. Some people will call this your 'shower collar' because it is made of non-absorbing foam and can get wet (the straps will become wet, but can air dry). This collar is designed to give support and prevent motion that may be detrimental to your healing or surgery. If you are told to wear this collar out of bed, please do so. The Philly collar fastens on the side with the back portion sliding inside of the front portion so the Velcro straps can be fastened securely.

MIAMI J COLLAR

The Miami J Collar is another firm collar that is sometimes used after surgery or after neck trauma to prevent motion and provide support. It is made of plastic with soft foam pads that Velcro to the plastic. The foam pads can be removed to launder and air dry. Your chin should rest on the chin trough at the front and center of the collar. The front portion should slide inside the back and then the straps fastened securely. An orthotist, doctor or therapist should make sure this collar is adjusted correctly to your size.


soft cervical collar


Philadelphia collar


Miami J collar

Cervical Spine Precautions:

NO "B.L.T. 'S"

No Bending

- Keep head straight and facing forward. Do not tilt the head side to side unless instructed by your surgeon. No movement forward or backwards (up and down).
- Practice optimal body mechanics by keeping your chest up, shoulders back and abdominal muscles tight. This helps maintain a neutral spine position and reduce stress on the spine.

No Lifting

- Do not lift more than 5 pounds until approved by your surgeon.
- To lift an object keep your chest upright, bend at the knees and hips and hold the object close to your body.

No Twisting

- Keep ears and shoulders pointing in the same direction.
- To look behind you or to either side, you must turn your entire body. Do not just turn your head.

No Pulling

- You may push but do not pull.
- Do not pull on bed rails, chair arms or stair handrails.

Lumbar Spine Guidelines

BACK BRACE

Not all patients will require a back brace. Your surgeon will determine if you need a brace. There are several types of back braces that help provide support and/or limit motion to your back. Your surgeon will also determine the appropriate type of brace for you. Instructions for wearing the brace will be individualized to meet your needs. Please note: All precautions and activity recommendations in the Guidebook should be followed with or without the use of a brace.

Lumbar Spine Precautions:

NO "B.L.T.'S"

No Bending

- Keep your shoulders in line with your hips. Avoid leaning forward while standing up or reaching down to the floor while you sit down.
- Practice optimal body mechanics by keeping your chest up, shoulders back and abdominal muscles tight.

No Lifting

- Do not lift more than 5 pounds until approved by your surgeon.

No Twisting

- Keep your shoulders and hips pointing in the same direction.
- To look behind you or to either side, you must turn your entire body. Do not just turn your head and shoulders.
- Do not leave your feet planted on the ground. Move your feet to look in a different direction.

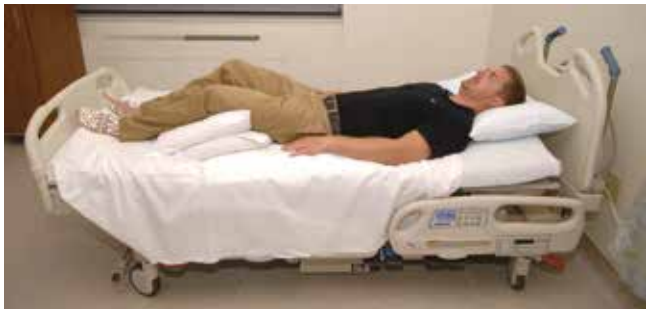
No Pulling

- You may push but do not pull.
- Do not pull on bed rails, chair arms or stair handrails.

BED POSITIONING

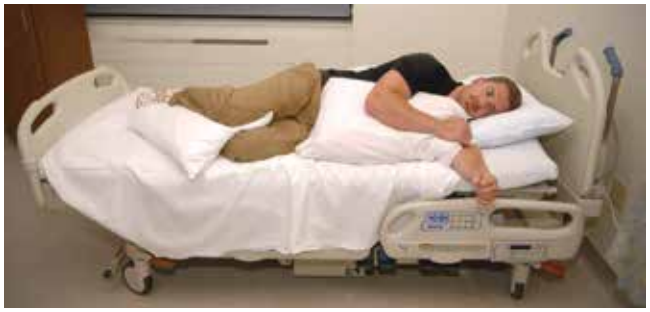
Lying on Your Back

- Keep a pillow under your knees or thighs and under your neck when lying on your back. This supports your back and reduces stress on your spine.
- When you change positions, tighten your abdominal muscles and log roll keeping your hips, shoulders and ears in a straight line.



Lying on Your Side

- With your knees slightly bent up toward your chest, place a pillow between your knees and one under your neck. This helps to keep optimal alignment of your spine.
- Remember to tighten the abdominal muscles and log roll when changing positions.
- Adding a pillow under your arm will increase comfort and further reduce stress on your spine.



Lying on Your Stomach

- Avoid this position. It places too much strain on your lower back.

BED MOBILITY

Getting Out of Bed

To move in and out of bed, you must "log roll" to prevent bending or twisting of your spine. Start by bending your knees up while lying on your back. Push through your legs to help you roll. Roll onto your side keeping your hips, shoulders, and ears moving together to avoid twisting (i.e., roll like a log).

As you slide your feet off the bed, use your arms to push up into a sitting position. Scoot your hips forward until your feet are on the floor and you feel stable. Using your arms to help scoot typically helps minimize your surgical pain. Scoot far enough forward so your feet are flat on the floor (heels included). You may need to scoot one hip at a time.

Returning Back to Bed:

Reverse the technique for returning to bed. Back up to the bed until you feel the bed at the back of your legs. Reach for the bed with your hands as you lower to a sitting position on the bed. Scoot your hips back on the bed. The further back you scoot, the easier it will be for you to lay down on your side. As you lean down on your arm, bring your feet up onto the bed until you are lying down on your side. Then, roll onto your back keeping your shoulders, hips and ears in alignment.

WALKER

Not all patients will require a walker. Your surgeon or therapist will determine if a walker is right for you. You still need to follow the precautions and activity recommendations.

When using a walker, it is important to remember a few key rules:

- Push up from the surface you are sitting on (e.g., the bed or chair). Avoid pulling on the walker when you stand. The walker could easily tip backwards and will not offer you optimal support to stand.
- It is easiest to stand up from chairs with armrests and from a bedside commode with armrests. The armrests give you better leverage and control to stand up and sit down safely.
- The walker takes pressure off your back. While walking, push down through the walker with your arms as needed without raising your shoulders or leaning too far forward.
- Keep your feet near the back of the walker frame or rear legs. You don't want to be too close or too far away from the walker. Stay inside the walker.
- Stand up straight when walking. Keep your shoulders back, head up, chest up, and stomach muscles tight.
- If you have wheels on your walker, there is no need to lift the walker - just push the walker forward as you walk.
- Your pace of walking is up to you. Think about increasing your pace and stride to what feels normal to you. Typically taking smaller steps and walking slower does not necessarily make it easier to walk. You may end up expending more energy than necessary.
- Each day, increase the frequency and distance you walk. Go at your own pace. Frequent walks are very important to help keep you moving and decrease your stiffness and pain.
- Take several walks per day at home and increase the distance as tolerated.

TRANSFERS

Into a Chair

Back up to the chair until you feel it touch the back of your legs. With your hands, reach behind you to grasp the armrests of the chair. Using your arms and legs, begin to squat and lower yourself into the chair.

Special Instructions:

- Tighten your stomach muscles to provide support for the lower spine.
- Your feet should be firmly resting on the floor or a foot stool. Do not let your feet dangle as this will place additional stress on your spine.

Out of a Chair

Scoot forward until you are sitting near the edge of the chair. With your hands on the armrests push yourself up into the standing position. Straighten your legs and shift your weight forward over your feet. If you are using a walker, bring your hands to the walker as you are moving into the standing position.

Helpful Tips with Sitting:

- Do not let your feet dangle when sitting. Have your feet firmly supported to prevent pulling at your back.
- Protect your back by sitting in a chair with a back support. You can use a pillow or a towel as a lumbar roll.

Into the Car

Back up to the car seat until you feel it at the back of your legs. Reach a hand behind you for the back of the seat and the other hand to a secure a spot on the dashboard. Lower yourself slowly to sitting. Scoot your hips back until you are securely on the seat.

Leading with your hips, bring one foot into the car at a time until you are facing forward. Prevent twisting by keeping your shoulders, hips, and ears pointing in the same direction. You may want to recline the seat to increase the ease of lifting your legs. You can keep your seat slightly reclined while riding to support your back from the "bumps" in the road.

Out of the Car

When getting out of the car bring your legs out one at a time. Make sure to lead with your hips and shoulders and do not twist your back. Place one hand on the back of the seat and one hand on the frame or dashboard. Push up to standing. If you are using an assistive device such as a walker, reach for the walker when you are stable.

Helpful tips with car transfers:

- Have an empty plastic bag on the seat to help you slide in/out.
- Have the seat positioned all the way back so you have maximum leg clearance.

Your doctor will determine when you can return to driving. You need to have full neurologic function and minimal pain or discomfort before driving. You will also need to discontinue taking medications that may affect your driving skills and safety.

Onto the Commode

Back up to the commode like you would to a chair. Without twisting to look, reach back for the handles of the commode or toilet seat and squat using your arms for balance to help slowly lower you down to a sitting position. Your feet should be flat on the floor for support while you are sitting.

Off of the Commode

Use your arms to push from the commode. Lift your body and scoot your hips forward to the edge of the seat. With your knees bent and your feet placed underneath you, push up through your legs and arms into a standing position. A toilet aid may be recommended to assist you with hygiene.

USING STAIRS

Negotiating consecutive steps:

- Use a handrail and/or a device for assistance.
- If you feel unsteady, take one step at a time. This will make negotiating steps easier and safer for you.
- Concentrate on what you are doing. Do not hurry.
- Have someone assist or spot you as you feel necessary or indicated by your therapist. This person should stand behind and slightly to the side of you when going up the steps. When going down the steps, the person should be in front of you.

Helpful Stair Tips

- Keep the steps clear of objects or loose items.
- Plan ahead. Right after surgery keep items in areas where you need them so that you can limit stair use.
- You can also install one or two handrails. Two handrails will increase the ease and safety with steps.
- Remember no pulling on the hand rails

Activities of Daily Living

USING A REACHER

Depending on your needs, you may need a reacher to avoid excessive bending. You can use a reacher to assist in lower extremity dressing. Sit down in a chair with your back supported. Use the reacher to hold the front of your undergarments or pants. Bring the garment over one foot at a time pulling the underwear, then pants up to your thighs. Stand up, squat to reach your clothing and pull up both garments at the same time. Reverse the process to remove your clothing.

To Pick Up Items

A reacher can also be used to obtain those countless items that fall while you are under "no bending" restrictions. Use it as an arm extension to reach to the floor.

USING A SOCK AID

If you are unable to cross your legs, you may use a sock aid to help you reach your feet without bending. Sit supported in a chair and hold the sock aid between your knees. Slide the sock onto the plastic cuff making sure to pull the toes of the sock all the way onto the sock aid. Hold the straps and drop the sock aid down to your foot. Place your foot into the cuff and pull up on the straps as you point your toes down. Pull the straps until the sock is all the way on. The sock aid should pull out from the heel of the sock. Let go of one strap and pull the cuff back onto your lap to put on the other sock.

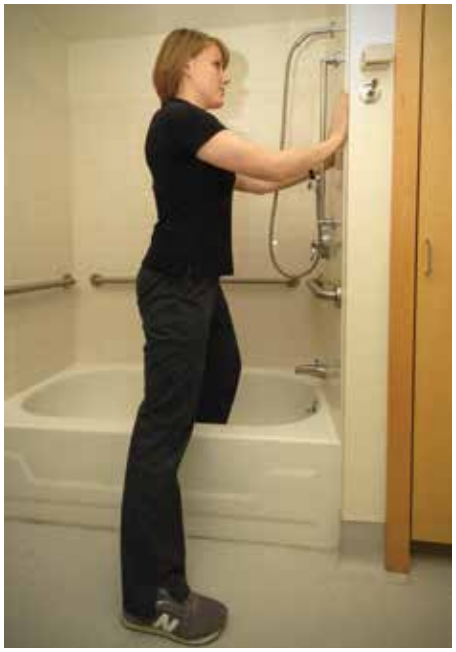
Removing a Sock with the Reacher

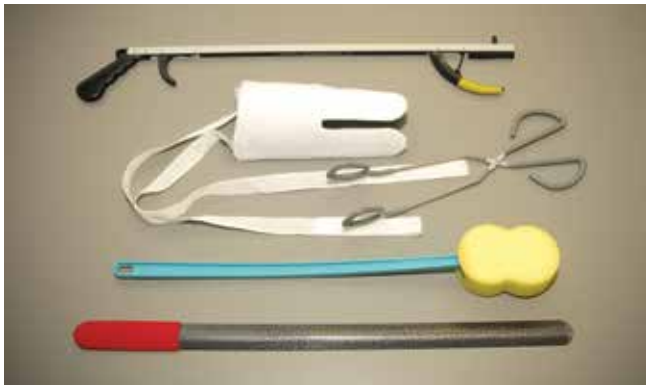
Use the black hook on your reacher to push your sock over the back of your heel. You can continue pushing the sock completely off your foot or use the jaw of the reacher to pull the sock completely off your foot. Other adaptive aids may also be used, such as a long-handled sponge, long shoe horn/ shoe funnel.

BATHING

Stepping in/out of the tub

- If your shower is part of the tub, you should hold onto the front wall of the shower and step in or out sideways versus stepping in forward. This side-step places much less stress and motion on your lower spine.
- If you have a walk-in shower stall, step in as usual making sure not to twist as you turn to the controls.
- You are not allowed to take a tub bath or swim until your surgeon clears you to do so.





Caring for Yourself at Home

When you go home there are several things you need to know to ensure your safety, your steady recovery and your comfort.

CONTROL YOUR DISCOMFORT

1. Medication Management

- Take your pain medicine at least 30 minutes before activity to control incisional pain.
- Gradually wean yourself from prescription medication to Tylenol®. You may take two extra-strength Tylenol® in place of your prescription medication up to four times per day.
- During the first three months after surgery (if you had spinal fusion), do not take over the counter anti-inflammatory medication such as aspirin, Motrin®, Advil®, Aleve®, Ibuprophen, Naproxen, etc. This type of medication can interfere with bone healing and thus jeopardize the success of your surgery. If you have prescription anti-inflammatory medication at home, consult your surgeon before taking these.

2. Use of Ice

- Use ice for pain control. Applying ice to your wound will decrease discomfort. Do not use ice for more than 20 minutes at a time each hour.

3. Positioning

- Change your position frequently throughout the day.
- Sitting upright should be limited to between 15 – 30 minutes at a time, based on your surgeon's recommendation. This period can be prolonged if using a recliner.
- Muscle strain and spasm can often be reduced by elevating the arms with pillows. Using this positioning technique along with pain medication will optimize your comfort.

4. Muscle Spasm

- If your surgeon has prescribed a muscle relaxer, take this as directed to help muscle spasms. Remember to avoid the B.L.T.'s!

5. Breathing

- Take slow, controlled, deep breaths. Cough deeply and use your incentive spirometer (I.S.) several times each day. This helps to expand your lungs after surgery and prevent pneumonia or respiratory complications. Deep breathing can also assist in relaxing your muscles and body. Breathing and relaxing while you move will help reduce muscle tension.

BODY CHANGES

- Your appetite may be poor. Drink plenty of fluids to prevent dehydration. Your desire for solid food will return.
- You may have difficulty sleeping at night. This is not abnormal. Don't sleep or nap too much during the day.
- Your energy level may be decreased for the first month.
- Pain medications contain narcotics, which promotes constipation. Use stool softeners like Colace or laxatives such as Milk of Magnesia if necessary while using narcotics. Do not let constipation continue. If the stool softener and Milk of Magnesia do not relieve your discomfort, contact your pharmacist, family doctor, or surgeon for advice.

CARING FOR YOUR INCISION

- You may shower (not tub bathe) upon discharge per your surgeon's instructions. Do not shower if incision is draining.
- Notify your surgeon if there is increased drainage, redness, pain, odor or heat around the incision.
- If you have occlusive dressing in place, please refer to "Occlusive Dressing" instructions.

Signs of Infection

- Increased swelling, redness at incision site.
- Change in color, amount, odor of drainage.
- Increased pain around the incision.
- Fever greater than 101.5 degrees.

Prevention of Infection

- Take proper care of your incision as explained above.
- Avoid tub bathing until cleared by your surgeon.
- Keep your wound clean and dry as much as possible to avoid potential infection until it fully heals.

DRESSING CHANGE PROCEDURE (MAY VARY DEPENDING ON YOUR SURGEON'S DIRECTIONS)

Dry Dressing

1. Wash hands.
2. Prepare all dressing change materials (open gauze pad and tape).
3. Remove old dressing.
4. Inspect incision for the following:
   - increased redness
   - increase in clear drainage
   - yellow/green drainage
   - odor
   - surrounding skin is hot to touch
5. Pick up gauze pad by one corner and lay over incision. Be careful not to touch the inside of the dressing that will lay over the incision.
6. Place the dressing over the incision and tape it in place.

Occlusive Dressing

If the incision has the clear, occlusive dressing, please follow these instructions:

- If dressing remains dry, remove occlusive dressing per discharge instructions.You may leave the incision open to air or redress as described above. Continue to inspect the incision daily as instructed above.
- If dressing becomes wet, remove promptly and follow the instructions at the top of the page. Change dressing daily and as needed until incision remains dry.
- Notify your surgeon of increased drainage.
- Gauze pads and Tegaderm® may be obtained from any medical supply pharmacy.

Dermabond

If the incision has been treated with Dermabond (skin glue), please follow these instructions:

- If wound begins to drain, follow the dressing change instructions for "gauze dressing." Change dressing daily and as needed until incision remains dry.
- If it continues to drain or you have questions concerning the drainage, call your surgeon's office.
- Do not use alcohol or vaseline on the incision as it dissolves the glue.

BLOOD CLOTS IN LEGS

During your recovery, bedrest and inactivity may cause the flow of blood to slow and clot in the veins of your legs. If a clot develops, you may need to be admitted to the hospital to receive intravenous blood thinners. Prompt treatment usually prevents the more serious complication of pulmonary embolus. Moving around throughout the day, especially walking, will reduce the chance of a blood clot.

Prevention of Blood Clots

- Frequent foot and ankle pumps
- Walking
- Stockings/TED hose (if ordered)
- Elevating your feet/legs when sitting

STOCKINGS

You may be asked to wear TED stockings while in the hospital. These stockings are used to help compress the veins and decrease the chance of blood clots. Once you are home you will wear the stockings during the day, taking them off at night and then reapplying them in the morning. Your surgeon may recommend that you continue to wear these stockings for two weeks after surgery until seen at your first post-op visit.

Signs of Blood Clots in Legs

- Swelling in thigh, calf or ankle that does not go down with elevation of the legs
- Pain, tenderness in calf

These signs are not 100 percent certain, but are warnings. If they are present, promptly notify your surgeon.

Pulmonary Embolus

An unrecognized blood clot could break off in the vein and go to the lungs. This is an emergency and you should call 911 if suspected.

Signs of a Pulmonary Embolus

- Sudden chest or back pain worsened by deep inspiration
- Difficult and/or rapid breathing
- Shortness of breath
- Sweating
- Confusion

Prevention of Pulmonary Embolus

- Prevent blood clot in legs
- Recognize a blood clot in leg and call physician promptly.
- Avoid prolonged sitting with legs dependent

Post-operative Exercise Routine

A post-operative exercise routine is an important component of a successful spine surgery. The goals and guidelines for exercise are noted on the next few pages and will be reviewed with you by your physical therapist in the hospital.

- These exercises help to stabilize your spine and improve the strength and flexibility in your legs and thus optimize your surgical outcome and functional mobility.
- Whenever permitted by your surgeon, you may start more vigorous low-impact exercises such as using a recumbent bike or walking on a treadmill. Once your incision heals and your surgeon approves, you may start water aerobics and swimming. These are good low-impact exercises for your entire body.
- Exercises are best done on a firm surface such as a firm bed. Protect your back. Keep good posture when exercising. Move slowly. Stop if you have excessive pain or discomfort. Do not lie on the floor.
- Read your body. If you notice increased discomfort or fatigue, recall what you did earlier that day or the day before. Chances are, you overdid things, and need to scale back until tolerated. Continue to slowly advance yourself as you tolerate the activity.
- Whenever you are performing an exercise, try to keep your abdominal muscles tight by "pulling your belly button in towards your spine." Make sure you are breathing continuously when performing the exercises. Try counting out loud to keep from holding your breath.

PRINCIPLES OF EXERCISES

When Standing

- Keep your head level with your chin slightly tucked in.
- Stand tall by looking forward and keeping your shoulders over your hips.
- Relax your shoulders.
- Tighten your stomach muscles by pulling in your stomach. This will relieve undo stress on your spine.

When Sitting

- Keep your head level and chin up.
- Place your buttocks all the way to the back of the chair. A folded towel in the small of the back provides lumbar support, if needed. Do not slouch.
- Keep your feet flat on the floor to support your back. When your feet dangle, it pulls at your lower back. If your feet don't firmly touch the ground, place your feet on a stool and put a pillow behind your back.
- Use your reclining chair at home.

When Lying

- Use a firm mattress.
- Lie on your side with your hips and knees slightly bent and with a pillow between your legs.
- Lie on your back with a pillow under your head and one under your knees to take the strain off your lower back.
- Avoid lying on your stomach.

When Walking

- Your goal is to advance the distance you walk each day.
- For the first few days at home, do multiple short walks throughout the day.
- This approach is better for reducing stiffness. As you can tolerate it, advance your walking distance. Frequency is better than pushing yourself to walk a certain distance.
- Keep your head up, chest up, shoulders back and relaxed, buttocks and stomach tucked in.
- Your therapist may recommend a walker or a cane. Use as instructed.

For all exercises—only perform those exercises approved by your surgeon

QUAD SET

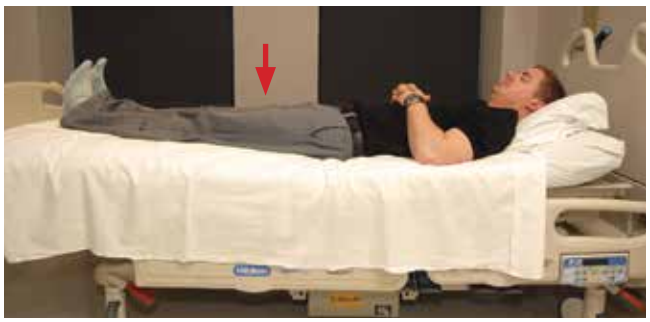
Lie flat on back with legs straight. Tighten quadriceps muscles (muscles on front of thigh), pressing back of knee into mat, and hold as indicated. Repeat with other leg. Do not hold breath.

Sets: 1

Reps: 15–20

Hold: 10 seconds

Frequency: 2 times per day



GLUTEAL SETS (BOTTOM SQUEEZES)

Lying down, squeeze bottom together. Do not hold breath.

Sets: 1

Reps: 15–20

Hold: 10 seconds

Frequency: 2 times per day

ABDOMINAL SETS (TUMMY TUCKS)

Only if approved by your surgeon

Lie flat on back with knees bent. Tighten your stomach (abdominal) muscles by drawing your belly button towards your spine. You should feel your abdominal muscles tighten across the front. Hold that position and continue to breathe comfortably. If you can't breathe comfortably, then you are trying to tighten the muscles too much. As you practice this exercise, you will learn how to engage your abdominal muscles without affecting your ability to breathe.

Sets: 1

Reps: 15–20

Hold: 10 seconds

Frequency: 2 times per day

NOTE: This exercise is just the beginning of a lifelong challenge of being able to keep your abdominal muscles tightened all day long. The strengthened muscles provide continuous support for your spine.

ANKLE PUMPS

Move ankles up and down as far as possible in each direction. To prevent back strain, perform this exercise while lying flat.

Sets: 1

Reps: 15–20

Frequency: 2 times per day

HEEL SLIDES (SLIDE HEEL UP AND DOWN)

Lie flat on back. Slide heel on the bed toward your bottom. Keep your opposite knee bent to support your back. Repeat with other leg.

Sets: 1

Reps: 20

Frequency: 2 times per day

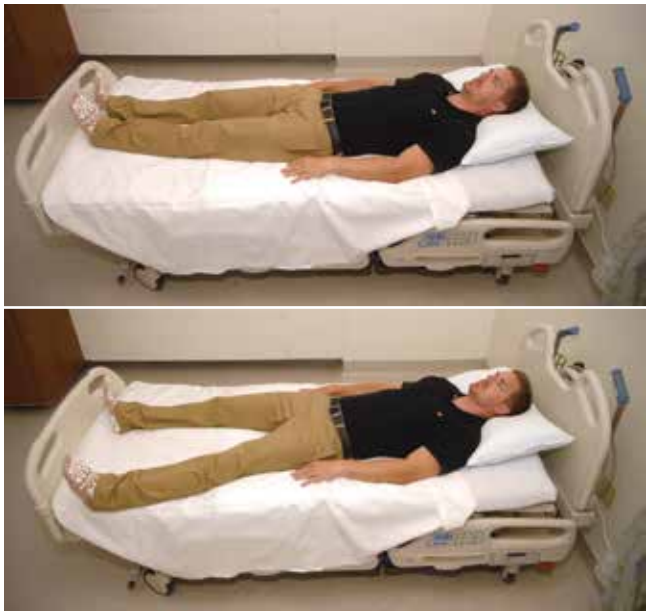
HIP ABDUCTION AND ADDUCTION

Lie on back. Bend one leg at the knee and perform the exercise with the opposite leg. Slowly slide the straight leg out to the side and then back to the center. Always keep toes pointed toward the ceiling. Repeat steps with other leg. Do not hold your breath.

Sets: 1

Reps: 15–20

Frequency: 2 times per day



LONG ARC QUADS (KNEE EXTENSION)

Sit in chair with back supported and with knees bent (place buttocks at back of chair). Slowly extend one leg until knee is straight and hold. Return to starting position. Repeat exercise as indicated with other leg.

Sets: 1

Reps: 20

Hold: 10 seconds

Frequency: 2 times per day

Special instructions: Focus on tightening your thigh muscle. Do not hold your breath and remember to stabilize your back by tightening your abdominal muscles.

WALKING

Walk as far as possible, taking rest breaks as needed. Increase distance each day.

These exercises are for cervical surgeries only

SHOULDER CIRCLES

Raise and lower shoulders using a circular motion.

Sets: 1

Reps: 20

Frequency: 2 times per day

SCAPULAR RETRACTION- INITIAL PHASE

Pinch your shoulder blades together. Do not shrug your shoulders.

Sets: 1

Reps: 20

Hold: 10 seconds

Frequency: 2 times per day

HORIZONTAL SHOULDER STRETCH

Place one arm across your chest with your opposite hand on the elbow, pull your arm across your chest. The stretch is felt in the back of the arm, shoulder, and neck.

Sets: 1

Reps: 20

Hold: 10 seconds

Frequency: 2 times per day

Discharge Instructions

CERVICAL LAMINECTOMY

1. Discharge to first office visit: If collar/brace is prescribed, wear as instructed by your surgeon. Continue to walk as desired. Gradually increase distance. You may shower but do not bathe in tub or swim. Follow dressing change instructions given by your surgeon. If you are not wearing a brace, you may drive short distances as soon as you are cleared by your surgeon and you are no longer taking narcotic pain medication. Driving is not advisable while wearing a neck brace. You should plan to take it easy and rest at home for the next week, and then gradually increase your activity as tolerated. Remember no bending, lifting, twisting or lifting more than 5 pounds.

2. First visit (approximately 10 days post-op) to 6 weeks: Gradually increase activities. Remain on feet for longer periods of time and increase your walking distances. You may return to a sedentary job per surgeon approval. You may tub bathe and swim* with surgeon approval. No bending, twisting or lifting more than surgeon's recommendations.

3. 6 to 12 weeks: You may return to work with surgeon approval. You may lift up to 10 pounds but continue to avoid bending and twisting of the neck. At your six week visit, you may be referred to physical therapy for specific strengthening or mobility exercises depending on your individual needs.

**Swimming: refrain from pool activity that causes repetitive twisting of the head and neck. Even the simple activity of walking in the water can be therapeutic during this time of recovery.*

CERVICAL FUSION

1. Discharge to first office visit: Try to be up as much as possible. Follow collar /brace usage instructions given by your surgeon. You may shower, but do not tub bathe or swim. Follow dressing change instructions given by your surgeon. You should avoid driving at this time. You may be a passenger. Avoid strenuous activity. You may walk as much as you feel comfortable and perform exercises per therapist instructions.

2. First visit (approximately 10 days to 6 weeks, post-op): Gradually increase activities using brace/collar as before. You may shower, tub bathe, swim* and participate in any desired low impact aerobic activity, such as walking or exercise bike per surgeon approval. You may return to work as instructed by your surgeon. Do not drive if you are still wearing a brace. Continue to avoid lifting anything over 5-10 pounds.

3. 6 to 12 weeks: You may be weaned from brace/collar depending upon your X-ray results. If out of brace, you may drive, otherwise continue as before.

4. 12 to 24 weeks: Continue to avoid heavy lifting (over 10 pounds), repetitive bending and twisting of the neck. Continue these restrictions until your X-rays indicate that you are completely healed and your surgeon releases you to full activity. You may be referred to physical therapy for instructions in specific exercises for improving mobility and training for safely increasing your activity level.

**Swimming: refrain from pool activity that causes repetitive twisting of the head and neck. Even the simple activity of walking in the water can be therapeutic during this time of recovery.*

LUMBAR LAMINECTOMY

1. Discharge to first office visit: Continue to walk as desired, gradually increasing the distance. You may shower beginning the day after surgery. Follow dressing change instructions given by your physician. Do not tub bathe or swim. You may drive short distances when cleared by your surgeon and you are no longer taking narcotic pain medication. For the next week, you should rest at home. Avoid strenuous activity. Avoid bending, lifting and twisting for the next month. You can walk as much as is comfortable. Call if there is any incision drainage, redness or fever. It is not unusual to have some leg pain and/or numbness. Please contact your surgeon if these symptoms are severe. Exercise and walk per your surgeon's instructions.

2. First visit (approximately 10 days post-op) to 6 weeks: Gradually increase activities. You may be up for longer periods and continue to increase your walking distance. You may return to sedentary job per surgeon approval. No bending, twisting or lifting. Sit only in chairs with good lumbar support. Sexual intercourse may be resumed when surgeon gives their approval (patients on bottom or side). May start regular aerobic activity such as walking, elliptical, treadmill (no incline), and low-impact aerobic classes per surgeon's approval.

3. 6 to 12 weeks: You may return to work with surgeon's approval. No bending or twisting. At your six week visit you may be referred to physical therapy for specific strengthening or mobility exercises depending on your individual needs.

LUMBAR FUSION

1. Discharge to first office visit: If you were given a back brace, wear this as instructed. Continue to walk as desired. Gradually increase your distance. Continue the upright (less than 90 degree) sitting restriction as per your surgeon's protocol. You may shower beginning 48 hours after surgery or per your physician's instruction. Eat a good, well balanced diet and drink more fluids. Follow dressing change instructions given by your physician. Do not tub bathe or swim. Avoid riding in a car. Some surgeons may recommend not riding in a car for more than 15 minutes once home.

2. First visit (approximately 10 days to 6 weeks, post-op): Gradually increase activities and increase walking distances. You may drive short distances once your surgeon approves and you are no longer taking narcotic pain medication. No bending, lifting or twisting. Limit sitting and use good lumbar support to avoid placing undue pressure on the spine. Wear back brace as instructed by your surgeon, if applicable.

3. 6 to 12 weeks: You may return to work with surgeon's approval. No bending or twisting. You may also be referred to a physical therapist for specific exercises. Please contact your physical therapist for a follow-up assessment and advancement of your exercise program if recommended by your physician.

4. 12 to 24 weeks: Continue to avoid lifting or any repetitive bending or twisting of back. Wear back brace until your surgeon advises you differently. Continue these restrictions until advised that fusion has healed.

Tips for A Healthy Back

These guidelines help protect your back after your post-operative restrictions have been eliminated.

HOW TO USE THIS SECTION: This section will give you some general tips on how to practice and adapt safe body mechanics to your everyday work activities. This is not an all-inclusive list, but should help you learn to apply and practice optimal body mechanics when performing activities.

NOTE: There is not only one correct way to do a task. It depends on your abilities. You may need to alter ways of moving based on your strength, flexibility, pain level, and/or other medical conditions.

STANDING

General Standing

- Do not lock your knees. A bent knee takes stress off your lower back.
- Wear shoes that support your feet. This helps to align your spine.
- If you must stand for long periods of time, raise one foot up slightly on a step or inside the frame of a cabinet. Resting a foot on a low shelf or stool can help reduce the pressure and constant forces placed on your spine. Shift feet often.
- While standing, keep shoulders back so that they do not roll forward.
- Keep back as upright as possible and keep your head and shoulders aligned with your hips.
- While ironing, keep ironing board waist level to avoid leaning forward at your back.

Showering

- When showering, try not to let your head bend forward or backwards. (ie: washing hair)
- To wash hair, if you have enough strength, squat down with knees or use a tub bench and/or a hand-held shower spout, so your neck remains straight. A long handled sponge will help wash your legs and feet without bending.

Grooming at the sink

- While brushing teeth or shaving, stand up straight and keep knee bent with foot on cabinet lip.
- To avoid bending forward, spit into a cup and use a cup for rinsing your mouth with water. You can also support your back by leaning one arm on the sink/counter as you spit into the sink. Bend at your knees, not your back.
- When shaving, stay upright with one foot on the ledge of the cabinet under the sink.

Sweeping/Mopping

- Use the full length of the broom to sweep.
- Do not hold broom handle close to floor.
- Try to keep your spine as straight as possible.
- Sweep with the motion coming from your hips instead of your shoulders.
- Do not get down on your knees to scrub floors, instead use a mop.

SITTING

General Sitting

- Sit in chairs that support your back. Keep your ears in line with your hips. If needed, support your lumbar curve with a folded towel or lumbar roll.
- Your knees should be level with your hips. Your feet should be well supported on the floor to support your spine. If needed, place your feet up on a footrest.
- Do not slouch or let shoulders roll forward. This puts your back out of alignment and adds extra stress to your lumbar curve.
- Don't sit too far away from the steering wheel when you drive.
- Keep your shoulders back and head centered over hips.
- Do not let shoulders roll forward.

Computer Ergonomics

- Keep the computer screen at eye level.
- Have a lumbar support for your chair.
- Armrests need to be placed at a level that supports the forearms and keeps them at waist level. Forearms should not be pushing up into your shoulders.
- Adjust the height of the chair so that the keyboard is at waist level to support forearms.
- Maintain a good upright sitting posture.
- Take frequent standing/rest breaks while working (every 20-30 minutes).

OTHER ACTIVITIES

Bending

- Bend at your knees and hips instead of at your waist/back. Keep your chest and shoulders upright, centered over hips. This maintains your three natural spinal curves, and keeps stress off your back.
- Hold objects close to your body to limit strain on your back.
- Do not bend over with legs straight. This motion puts great pressure on your lower back and can cause serious injury.

KITCHEN

- Do not get down on your knees to scrub floors. Use a mop and long-handled brushes.
- Plan ahead! Gather all your cooking supplies at one time. Then, sit to prepare your meal. This cuts down on excessive trips to the refrigerator, cabinets, etc.
- Place cooking supplies and utensils in a convenient position so they can be obtained without too much bending or stretching.
- Raise up your chair by putting cushions on the seat or using a high stool when working.

Refrigerator

- Bend at knees and hips to get things out of the lower portion of the refrigerator. It is better to squat or kneel instead of bending.
- Organize your refrigerator so that frequently used items are easily accessible.

Dishwasher

- To get objects out of the dishwasher, squat or kneel down to the lower rack.
- Try sitting on a swiveling office chair to unload the dishwasher. You can place the items up onto the counter by pivoting around with your feet. Then stand and put items into the cabinets.

WIPING LOWER SURFACES

- When wiping or dusting low objects, do not bend the lower back.
- Try to kneel or squat next to object.
- Use dusting implements that reach distances so you don't have to reach far or lean your head backwards.
- To clean overhead or tall objects, use a step stool so that you don't have to over-reach.
- Do not overextend yourself when cleaning low places such as bathtubs.
- Try to move lower by squatting and brace yourself with a fixed object.
- Do not get down on your knees to scrub bathtub. Use mop or other long-handled brushes.
- Always use non-slip adhesive or rubber mats in tub or "aqua/water shoes."

MAKING BED

- Do not bend over too far when making a bed.
- Try to move sheet to corners and kneel or squat to pull them around mattress.

SEXUAL RELATIONS

- It is best to avoid sexual relations until advised by your surgeon. Stop immediately if you have an increase in surgical pain.
- Once you resume sexual relations, it is important that you continue to observe the lifting and bending restrictions.
- Lying on your side or back are the safest positions.

YARD WORK

- When digging, place blade end into soil with handle straight up and down.
- Step on top of blade then step off and angle shovel upward.

PLANTING

- When weeding or planting, do not bend over from a standing position.
- Kneel or squat in the area you are working. It is recommended that you maintain a squat position for only a short period of time since this places stress on the knees.
- You can also sit on a chair or stool to reduce stress on your knees instead of kneeling or build higher planting beds.

MOWING

- When pushing or pulling a mower, do not bend forward.
- Keep your back straight. Bend at your knees and hips. Push whenever possible.

SHOVELING

- Grab shovel close to end.
- Shovel by a lunge forward and shifting weight.
- Use your legs, not your back.

RAKING

- When raking, keep back straight by bending at the hip.
- Rake close to body using arms and shifting legs to perform rake motion.
- Take frequent breaks.

LIFTING

General Lifting

- Squat to pick up a heavy object and let your leg and butt muscles do the work. Hold heavy objects close to your body to keep your back aligned. Lift objects only to chest height.
- Lift your body and the load at the same time. Let your legs do most of the lifting.
- Do not bend over at the waist or twist while lifting.

Laundry

- Place basket on top of washer or dryer instead of bending down with your back.
- Squat or sit to load/unload a front-loading washer and/or dryer
- To unload small items, use a reacher.
- Do not bend at the waist to reach when loading/unloading.
- Pick up laundry basket by squatting near it. Do not bend over to lift.

Carrying Luggage

- Carry bags on both sides of body instead of on one side. Try to keep weight equal on both sides.
- Use rolling suitcase.
- Do not place items in the overhead bins.

Lifting Object from Floor

- Stand with box between feet, grasping both handles while squatting. Keeping back straight, extend knees and lift box.
- Return to original position in same manner.

Childcare

- Do not bend over at your back to pick up a child. Instead, squat down, bring child close to chest and lift with legs.
- When placing infant or child in car seat, always support yourself. Place knee on the seat of the car to unload the stress placed on your back.
- Never bend over at the waist.
- To maintain good posture and decrease stress on back, hold the baby/child to the center of your body, not propped on a hip.
- Keep the baby close to body by cradling in your arms.
- Keep the head as upright as possible.

Unload Car Trunk

- Place leg on bumper and bring objects close to you.
- Bend at your hips and lift object out of trunk.
- Keep abdominal muscles tight during the entire process.

TURNING

General Turning

- Think of your upper body as one straight unit, from your shoulders to your buttocks.
- Turn with your feet, not your back or knees. Point your feet in the direction you want to go. Then step around and turn.

Avoid Twisting

- Avoid twisting trunk to reach things.
- Step in the direction of the object you are trying to reach.

REACHING

General Reaching

- Store common items between shoulder and hip level.
- Get close to the item. Use a stool or a reacher if you need to.
- Tighten your abdominal muscles to support your back. Use the muscles in your arms and legs (not your back) to lift the item.

Reaching a Lower Shelf

- When placing an object on a low shelf, always bend down on one knee.
- Use other leg to support.
- Never bend over from waist to place item on shelf.

Overhead Cabinets

- Do not over-reach to high positions.
- Step up on a stable stool so that overhead objects are lower.

Vacuuming

- Use your legs, not your back, when vacuuming.
- Do not vacuum by reaching out away from body.
- Try to work for small intervals of time with frequent breaks.
- Keep the vacuum close to body.
- Use a lightweight vacuum. Push whenever possible.

SLEEPING

- Sleep on your side or back. If you sleep on your side, bend your knees to take some pressure off your back, put a pillow between your knees to keep your curves aligned.
- Do not sleep on a soft bed or couch. This takes your three spinal curves out of alignment and adds extra stress to your back. Avoid sleeping on your stomach, which can strain your neck and back.

GENERAL SAFETY

- Remove throw rugs. Cover slippery surfaces with carpets that are firmly anchored to the floor with no edges to trip over.
- Be aware of all floor hazards such as pets, small objects or uneven surfaces.
- Provide good lighting throughout. Leave a light on at night in the bathroom.
- Keep extension cords and telephone cords out of pathways.
- Avoid slippers without covered toes or shoes without backs. They tend to cause slips and falls.
- Sit in chairs with arms. It makes it easier to get up.
- Rise slowly from either a sitting or lying position so as not to get light-headed.
- No heavy lifting until your surgeon gives you permission
- Stop and think and always use good judgment.

Do's and Don'ts for the Rest of Your Life

Whether or not you have reached all of the recommended goals in three months, all spine surgery patients need to participate in a regular exercise program to maintain their fitness and the strength of the muscles around their spine. With both your surgeon and primary-care physicians' permission, you should be on a regular exercise program three to four times per week lasting 20-30 minutes. In general, the aim of spine surgery is to return the patient to an appropriate activity level, including activities of daily living.

- Avoid bending, lifting and twisting as much as possible. It may be possible to return to strenuous physical activity, including heavy lifting, but discuss this with your surgeon.
- Maintain ideal body weight.
- Do not smoke!
- Maintain proper posture.
- When traveling, change positions every one to two hours to keep your neck and back from tightening up.

WHAT TO DO FOR EXERCISE: CHOOSE A LOW-IMPACT ACTIVITY

- Enroll in recommended exercise classes.
- Follow the home program as outlined in this Guidebook and as recommended by your surgeon.
- Take regular walks.
- Use home treadmill and/or stationary bike.
- Exercise regularly at a fitness center.
- Engage in low-impact sports, such as walking, swimming, gardening, dancing, etc.

Glossary of Terms

Annulus – The outer rings of rigid fibrous tissue surrounding the nucleus in the disc.

Anterior – A relative term indicating the front of the body.

Bone Spur – An abnormal growth of bone, usually present in degenerative arthritis or degenerative disk disease.

Capnography – is the monitoring of the concentration of carbon dioxide (CO2) in the respiratory gases.

Cartilage – A smooth material that covers bone ends of a joint to cushion the bone and allow the joint to move easily without pain.

Computed tomography scan (also called a CT or CAT scan) – A diagnostic imaging procedure that uses a combination of xrays and computer technology to produce cross-sectional images, both horizontally and vertically, of the body. A CT scan shows detailed images of any part of the body, including the bones, muscles, fat and organs. CT scans are more detailed than general xrays.

Congenital – Present at birth.

Contusion – A bruise.

Cervical Spine – The part of the spine that is made up of seven vertebrae and forms the flexible part of the spinal column. The cervical spine is often referred to as the neck.

Corticosteriods – Potent anti-inflammatory hormones that are made naturally in the body or synthetically for use as drugs; most commonly prescribed drug of this type is prednisone.

Degenerative Arthritis – The inflammatory process that causes gradual impairment and loss of use of a joint.

Degenerative Disc Disease – The loss of water from the discs that reduces elasticity and causes flattening of the disks.

Disc – The complex of fibrous and gelatinous connective tissues that separate the vertebrae in the spine. They act as shock absorbers to limit trauma to the bony vertebrae.

Discectomy – The complete or partial removal of the ruptured disc.

Dura – The outer covering of the spinal cord.

Dural Tear – A laceration or tear of the dura that can occur during surgery. Leakage of spinal fluid occurs at this site. This is often treated with bed rest for 24–48 hours thus allowing the tear to heal.

Facet – The small plane of bone located on the vertebra.

Foramina – Plural form of foramen (a natural opening or passage through a bone).

Foraminotomy – The surgical procedure that removes part or all of the foramen. This is done for relief of nerve root compression.

Fracture – A break in a bone.

Fusion – The surgical procedure that joins or "fuses" two or more vertebrae together to reduce movement at this joint space.

Herniated Disc – The abnormal protrusion of soft disc material that may impinge on nerve roots. Also referred to as a ruptured or protruding disc.

Inflammation – A normal reaction to injury or disease which results in swelling, pain and stiffness.

Joint – Where the ends of two or more bones meet.

Lamina – Part of the vertebrae that connects the spinous process to the transverse process.

Laminotomy – The removal of a small portion of the lamina.

Laminectomy – The removal of the entire lamina.

Ligaments – Flexible band of fibrous tissue that binds joints together and connects various bones.

Lumbar Spine – The portion of the spine lying below the thoracic spine and above the pelvis. This part of the spine is made up of 5 vertebrae. Also called the lower back.

Magnetic Resonance Imaging (MRI) – A diagnostic procedure that uses a combination of large magnets, radiofrequencies, and a computer to produce detailed images of organs and structures within the body.

Myelopathy – A condition that is characterized by functional disturbances due to any process affecting the spinal cord.

NSAID – An abbreviation for nonsteroidal anti-inflammatory drugs, which do not contain corticosteroids and are used to reduce pain and inflammation; aspirin and ibuprofen are two types of NSAIDs.

Nerve Root – The portion of a spinal nerve that lies closest to its origin from the spinal cord.

Neuropathy – A functional disturbance of a peripheral nerve.

Nucleus Pulposis or Nucleus – The relatively soft center of the disc that is protected by the rigid fibrous outer rings.

Osteoporosis – Loss of bone density.

Osteophyte – A bony outgrowth.

Pain – An unpleasant sensory or emotional experience primarily associated with tissue damage.

Pain Threshold – The least experience of pain that a person can recognize.

Pain Tolerance Level – The greatest level of pain that a person is prepared to tolerate.

Paresthesia – An abnormal touch sensation, such as burning or tingling.

Posterior – A relative term indicating that an object is to the rear of or behind the body.

Pulse oximeter – A medical device that indirectly monitors the oxygen saturation of a patient's blood

Radiculopathy – A condition involving the nerve root that can be described as numbness, tingling or pain that travels along the course of a nerve.

Sacral Spine – The last section of the spinal column located below the lumbar spine. It is made up of several semi-fused pieces of bone.

Sciatica (also called lumbar radiculopathy) – A pain that originates along the sciatic nerve.

Scoliosis – A lateral, or sideways, curvature and rotation of the back bones.

Soft tissues – The ligaments, tendons, and muscles in the musculoskeletal system.

Spine – A column in the body consisting of 33 vertebrae.

Spinal Stenosis – A narrowing of the vertebral canal, nerve root canals, or intervertebral formina of the spine caused by encroachment of bone upon the space. Symptoms are caused by compression of the nerves and include pain, numbness and/or tingling,

Spine – The flexible column of 24 vertebrae, disks, ligaments and muscle that lie between the head and pelvis and behind the rib cage. Also referred to as the spinal column.

Spinous Process – The part of the vertebrae that you can feel through your skin.

Spondylosis (spinal osteoarthritis) – A degenerative disorder that may cause loss of normal spinal structure and function. Although aging is the primary cause, the location and rate of degeneration is individual. The degenerative process of spondylosis may impact all of the spine creating over growth of bone and affecting the intervertebral discs and facet joints.

Spondylolisthesis – A forward displacement of one vertebra over another.

Sprain – A partial or complete tear of a ligament.

Strain – A partial or complete tear of a muscle of tendon.

Stress fracture – A bone injury caused by overuse.

Tendon – The tough cords of tissue that connect muscles to bones.

Thoracic Spine – The portion of the spine lying below the cervical spine and above the lumbar spine. This part of the spine is made up of 12 vertebrae.

Torticollis (also called wryneck) – A twisting of the neck that causes the head to rotate and tilt on an angle.

Transverse Process – The wing of bone on either side of each vertebra.

Trigger Point – Hypersensitive area or muscle or connective tissue, usually associated with myofascial pain syndromes.

Ultrasound – A diagnostic technique which uses highfrequency sound waves to create an image on the internal organs.

Vertebra (e) – The bone or bones that form the spine.

X-ray – A diagnostic test which uses invisible electromagnetic energy beams to produce images of internal tissues, bones and organs onto film.

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