

PATIENT GUIDE

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Dear Patient;

Thank you for choosing The Complete Spine Center and Dr. Etminan for your spine procedure. We are dedicated to making your surgery and recovery as comfortable, stress-free, and successful as possible.

This guide is intended to help answer many of your questions and concerns regarding your upcoming procedure.

This guide is divided into three sections: preoperative, perioperative, and postoperative information. Please read the relevant section as necessary.

Not all the information in the guide is relevant to all patients. Please discuss specific questions regarding your care with our team.

Best Wishes;

The Complete Spine Center Team

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Preoperative services

Preparing for your upcoming procedure:

1. You will receive a call from our scheduler to go over the dates for surgery, necessary medical clearance, and possible financial information.
2. Our schedulers will contact your primary care doctor and inform them of the necessary preoperative testing required.
3. Before surgery, you may need to schedule an appointment with your primary care physician for a preoperative physical examination.
4. Our team will inform you whether you need a preoperative medical clearance. The decision is based on your age, pre-existing medical conditions, and extent of the operation.

Your primary care physician will perform any necessary diagnostic tests and perform a physical examination.

They may refer you to other specialists to access different aspects of your medical condition (e.g., cardiologist or pulmonologist)

1. Unless you are told otherwise, continue to take medication already prescribed to you by your physician

Aspirin products, blood thinners (such as Plavix, Xarelto, warfarin) will have to be stopped for the appropriate length of time to prevent excessive bleeding during your surgery or procedure (Typically one week unless otherwise stated). **You will have to get the permission of your prescribing doctor before stopping your medication.**

You will be contacted by the presurgical clinic of each facility for the necessary routine diagnostic testing to be sure you are ready for surgery.

These tests may include X-rays, blood samples for testing, urine specimens, and an electrocardiogram.

You should bring a list of current medications and a detailed account of prior medical, surgical, and family health history.

The nursing staff will provide instruction on preparation for surgery.

1. Prepare for your return home from the Hospital. It helps you maximize your options and make decisions in a more relaxed way.
2. Wash the surgical area with antiseptic soap solution at the end of your last bath or shower before surgery. The solution should be rinsed and removed after the application. Do not shave the surgical area before or the Day of surgery.
3. Please do not bring the sleep apnea machine. Please bring in the mask, tubing, and settings.
4. The use of nicotine products (i.e., cigarettes, cigars, gum, or patches) has been shown to increase the risk of complications following surgery. They can inhibit bone and wound healing by decreasing blood flow to the surgical site. They can also increase the risk of deep vein thrombosis (DVT). a.k.a. blood clots.

Your Diet and Preparing for Surgery

Fourteen Days Before Surgery

Stop all nutritional and herbal supplyements (vitamins/minerals/herbals) Exceptions: Please continue calcium, iron, and Vitamin D

The Day before surgery

Please do not eat any solid food after midnight. Please do not drink or chew gum 8 hours before surgery.

Preparing your home

Before surgery, you will need to prepare. During the first few weeks at home, you will need to adapt what you learned in the Hospital to your setting

Store items within easy reach. Take items you need out of low cabinets or shelves prior to surgery because you will not be able to reach them after surgery.

Prepare meals ahead of time and store them in the freezer. Reduce clutter
Remove loose wires and cords

Rugs should be smooth and anchored to the floor.

When you come to the Hospital

Bring your insurance card
X-rays and MRI images (if instructed by staff)

Any assistive device you can use (e.g., cane, walker)
List of current medications
Nonslip, flat, closed-toe, athletic, or walking shoes. Personal toiletries
Please remove contacts and wear eyeglasses.

PLEASE DO NOT BRING

1. Medications, self-medication during your hospital stay is prohibited.
2. Valuables, Jewelry.
3. Please pack lightly for the Hospital.

Day of Surgery

The staff will inform you of the location of your surgery.

You will check into preoperative admitting at the appropriate facility.

For the outpatient ambulatory procedure, please be sure to have a ride for your return home. You will not be able to go home without an adult chaperon/driver.

Patient information Intra-operative monitoring

During your spine surgery, Intraoperative Monitoring (IOM) will be part of your surgical procedure. The services are an additional tool to help keep your surgeon informed about possible neurological complications during surgery. The purpose of the IOM is to reduce the risk of injury to the spinal cord and the nerve roots during surgery by continuously monitoring the ability of your spinal cord and nerve roots to transmit signals.

Using the procedure, we continuously monitor the function of the spinal cord during the operation and alert the surgeon if problems are arising in the nervous system. IOM can give you surgeon information about how well the nervous system functioning, including in those areas of your body where the operation is taking place.

IOM is performed by a skilled technologist, specifically trained to manage this highly specialized procedure. The IOM signals obtained by the technologist are monitoring by a board-certified neurologist who is in direct contact with the technologist and the surgeon.

About the costs

The fees for these services depend on the length of the operation and on the type of services provided. The fees are filed separately from and in addition to the Hospital, your surgeon, and your anesthesiologist. These charges will be submitted directly to your insurance company. If you have any questions or concerns about intraoperative monitoring, please contact our IOM company.

FIRST ASSISTANT

During the operation, Dr. Etminan will be using a team to allow for the operation's successful performance. A first assistant is a specially trained healthcare provider that directly assists Dr. Etminan while performing your operation.

The fees for the first assistant's services are separate and in addition to the Hospital, your surgeon, your anesthesiologist, and the IOM company.

Anesthesia

The anesthesiologist who will be administering your anesthesia is familiar with your chart, laboratory results, and other studies. He will have a detailed conversation with you to clarify any issues and address any concerns you or your anesthesiologist may have.

You can take this time to discuss with your anesthesiologist any concerns regarding your anesthesia or previous anesthesia experiences.

The Operating Room

Before the operation, you will be given oral pain and neuromodulating medication by the preoperative nurse. These medications will significantly decrease your perception of pain during and after surgery and help speed up your recovery.

A nurse or an anesthesiologist will be starting an IV in your arm to administer additional medication for the administration of general anesthesia. Through this IV, you will also receive antibiotics to prevent infections. You will then be rolled back to the operating room. In the operating room, the anesthesiologist will measure your blood pressure and heart rate. You will receive IV medications and also oxygen. The IV medication will sedate you. Once you are completely sedated, the anesthesiologist will insert a breathing tube, which is essential for your safety during surgery.

Typically, the breathing tube is removed at the end of the operations once the anesthetics have worn off.

Patient's usually are not aware of the length of the surgery and remember very little if anything of the operating room experience.

After Surgery

In the post-anesthesia care unit, you will be given oxygen, and your vital signs (breaths, heart rate, and blood pressure) will be monitored. The team will also focus on managing your pain to make you more comfortable when you begin rehabilitation.

When the anesthesiologist determines that you are sufficiently recovered, you will either be transferred to the inpatient ward or be discharged home.

Recovering in the hospital Managing Pain

There will be some level of pain following all orthopedic surgeries. If you are discharged home, you will be given a prescription for pain medication, muscle relaxers, and antibiotics. If you are staying in the Hospital, you will be started on a long-acting oral narcotics that will be given to you regularly. This medication will maintain a baseline level of comfort. You will also be prescribed additional narcotic medications and muscle relaxers that the nursing will give if you need additional medication or report significant pain. The combination of preoperative (pre-emptive) and postoperative medications allows for excellent pain control.

Cold therapy

The cold pack application has been shown to reduce swelling and pain associated with inflammation at the surgical site. Ice packs and cold pads should be applied for 20 minutes intervals every 3-4 hours on a daily basis for the first few weeks following surgery.

Your treatment plan

The plan above works for the vast majority of patients. We recognized, however, that every patient is unique. Our nursing staff is available to address your needs if our typical pain management regimen is not sufficient. It is our goal to make your stay as comfortable and safe as possible.

Deep Breathing

It is extremely important to perform deep breathing exercises after surgery to rid your airway and lung passages for mucus. Usually, you take deep breaths almost every hour, usually without being aware of it, when you sigh or yawn. When you are in pain or are drowsy from anesthesia or pain medication, your breathing may be shallow. To ensure that you take deep breaths daily, the nursing staff will provide you with a device called an incentive spirometer, along with instructions on its use.

How to use an incentive spirometer

The device is designed to work optimally and give you feedback when you suck the air slowly through pursed lips for a prolonged period.

Hold the device upright. Blow out a breath, then placed your pursed lips along with the mouthpiece and slowly inhaled air through the mouthpiece as deeply as possible. As you inhale, try to keep the yellow cup in the Best to Better range. The white piston in the main chamber moves up slowly when you breathe in to measure how deep your breaths are. Try to move the white piston as high as you can. This is done by taking deep, slow breath through pursed lips.

Repeat this maneuver 10x/hour

Urinary Catheter

You may have a urinary catheter after surgery. This catheter is removed the morning after surgery. The catheter is removed as soon as possible in order to decrease the potential risk of a urinary tract infection. The nursing staff will make sure you are able to urinate a normal amount a few hours after the removal of the catheter. The removal of the catheter is a straightforward procedure that is typically not painful.

Occasionally patients cannot urinate after surgery. This is most often associated with the previous history of a urinary infection or possible prostatic hypertrophy. In these instances, a catheter is inserted.

Bowel Movement

Constipation is a very common side effect of the pain medications provided. Minimizing narcotics is the best way of avoiding constipation. No withstanding, the nursing staff will be provided you with laxatives such as milk of magnesia, Metamucil, or magnesium citrate to facilitate bowel movements.

Although it is not unusual to have constipation difficulty, it is important to make sure that any deviation from the norm should be followed carefully and treated with the medications above if necessary.

Preventing blood clots

After surgery, you are at an increased risk for developing blood clots called deep venous thrombosis (DVT). The clots can potentially travel to the lungs and cause significant symptoms, and may even be lethal. To prevent and reduce the risk of these events, you will be provided a mechanical compression device of the calf or feet to maintain the blood flow in the veins. You will be provided this pre-operatively and will be using this device in the Hospital and after discharge home for at least 2 weeks.

Leg Swelling

It is not unusual to experience some swelling of the lower extremity with prolonged sitting after spine surgery. It is important not to remain in the same position for more than 45 minutes and to also alternate for sitting to standing position. Prolonged walking should be alternated with laying down and elevation of the lower extremity. Lying down for an hour in the later morning or afternoon will help reduce swelling and give your body the rest needed for healing.

Rehabilitation and Mobility after Spine Surgery

You will likely be seen by the physical therapist and encouraged to walk on the Day of surgery. It is critical to understand that motivation and participation in physical therapy are critical to the successful outcome of your surgery. It is imperative to fully participate and cooperate with the nursing and physical therapy team.

The goal of physical therapy

Help regain independence with mobility.
Establish an independent home walking program.
Educate on proper body mechanics and spine precautions.

Assist with discharge planning.

Beginning to Walk

The main focus of the physical therapist is to instruct you in the appropriate technique of getting out of bed, standing, and walking. You will initially be provided a walker and will gradually decrease your dependence on the assistive devices as you feel more comfortable.

Walking the #1 exercise following any spinal surgery. The main thing you can do at home for therapy is to walk.

Precautions after spinal surgery:

Increase your activities as you start to heal. The acute phase of healing is typically six weeks. In the case of fusion operations, patients continue to improve significantly for the first three months but continue to improve for up to 2 years after surgery.

1. Walking is the best activity that you can do for exercise. Increase your walking activity over the course of your recovery period. We ask most patients to walk up to several miles a day if tolerated. The walking can be divided up into multiple smaller walks over the course of the Day.
2. Wear your brace if prescribed for your surgery until advised otherwise by your surgeon
3. Sit in a sturdy chair with a straight back in order to assure good posture.
4. Change positions on a regular basis alternating between sitting, standing, laying, and walking every 30-45 minutes.

DO NOT

1. Do not lift any heavy objects.
2. Do not force any extreme motion.
3. Do not spend any prolonged length of time in any position during the Day.

Transfers out of bed

In order to safely get out of bed

1. Lay on one side
2. Bend your knees and hips
3. Raise yourself up using the down arm and shoulder as you put your feet off the bed keeping your hips and knees bent.

Sitting Position After Spinal Surgery

Do not sit for more than 30-45 minutes at a time.

Be sure that your feet are supported on the floor.

Support your spine on the back of the chair or with a pillow

It is important to change positions throughout the day. Do not spend a great deal of time in any one position.

The more rapidly you normalize your daily routine (wearing normal clothes, shaving, putting on makeup), the more quickly you will feel better and improve your mood. This will result in a quicker and more successful recovery.

Preparing to go home after surgery

The majority of patients are discharged home after spinal surgery once their discharge goals are met. These goals are individualized but may include being able to get out of bed and ambulate with minimal assistance, able to void (urinate) without difficulty.

A small percentage of patients undergoing major spine surgery are not able to return home safely. If you happen to be in that category, the hospital case management team will work with you to develop alternative discharge plans such as going to a skilled nursing facility or a rehabilitation facility. Your insurance company has specific criteria and coverages for these services. The case management team will review the alternatives available to you based on your medical condition, home, healthcare needs, care arrangements you have already made, geographic location, insurance coverage, and financial situation.

The case management team will discuss your post-discharge needs in consultation with your healthcare team. Your involvement is essential in formulating a discharge plan that will suit your needs.

Medications for home use

You will typically be provided a prescription for pain medication, muscle relaxers, and antibiotics after your surgical procedure. The medication can be provided to you in a prescription format to be sent to your chosen pharmacy after the surgical procedure has been performed.

You are finally home Guidelines for recovering at home *Caring for the Surgical incision:*
The incision should be covered with the original surgical dressing for five days after the surgery.

After five days, you may remove the adhesive dressing and the bandage over the incision. Do not remove the surgical closure material (e.g., steri-strip, butterfly band-aid).

You may get the incision wet after removing the dressing (5 days). Before that time, you may wash the rest of your body without directly putting water over the incision/dressing itself.

If the incision becomes bloody and soaked, you may change the dressing with a sterile gauze and a paper tape that can be purchased from your local pharmacy. If the new dressing also becomes bloody, please call us at the Complete Spine Center.

Please inform us at the Complete Spine Center if you notice persistent drainage, redness, or swelling of your incision.

Bracing at home

If you have prescribed a cervical collar, it needs to be worn at all times except when showering or unless otherwise advised by the healthcare team.

If you have been prescribed a lumbar brace, it needs to be worn when out of bed and ambulating unless otherwise advised by the healthcare team.

Medications at home

Your pain medication and muscle relaxer is intended to make you comfortable. You do not have to take medicine if you are not experiencing severe pain. Do not take more than prescribed. You will need to take less as your pain improves.

Take your antibiotics as prescribed until it is finished.

Take your pain medication before the pain becomes severe. Use cold therapy and other measures to help reduce your discomfort.

If you have any side effects from the medication, please contact the Complete Spine Center. If you are taking pain medications, avoid alcoholic beverages.

If you are taking pain medications, do not operate heavy machinery.

It is important to call us if you are running low on pain medication before you are likely to run out for possible refills on medication.

No medication refills on weekends.

You are continuing to take all your routine medications prescribed by your medical doctors at home except for your previous pain medications or drugs that interact with the prescribed medication.

Blood thinners are typically restarted immediately or a few days after your surgery. Please coordinate the exact timing of this restart before discharge.

Dealing with constipation and inability to urinate

Constipation is extremely common after spine surgery due to narcotics use before, during, and after surgery. It is critical that you keep your normal bowel habits. Medications such as milk of magnesia, Metamucil, and magnesium citrate, as well as traditional remedies such as prunes and prune juice, should be used during the postoperative period while you continue on pain medication.

It is important that you maintain your normal bowel habits after surgery with decreased use of pain medication and the use of medications and remedies listed above.

Urinary retention can be seen at times. Patients with enlarged prostates are at especially high risk for this condition. It is typically associated with significant abdominal pain. It is a dangerous condition that needs to be addressed as soon as possible. After surgery, you need to urinate the

same amount and frequency as you usually do. If you are frequently urinating (every 1 hour) and urinate small amounts, you may have urinary retention. Please contact your primary care physician or us if you have any concerns about urinary retention.

Physical Activity at Home

Most spine surgery patients do not have formal physical therapy after discharge. If necessary, we will set up an appropriate outpatient or home health visitations after your followup visits.

Walking is the most important exercise for your postoperative recovery. Monitor your walking distance and gradually increase the distance and frequency as tolerated. It is important to walk with INTENT and to walk for set periods for maximal benefit. Walking on even flat surfaces outside the home when safe helps maximize the benefits of walking.

You can stop using your assistive device when you can walk with relatively pain-free, stable, and without a limp, or when advised to so by your therapist or healthcare provider.

Activities of Daily Living

It is important to return to your daily (non physically demanding) routines once discharged home as soon as possible. Returning to daily grooming activities, eating habits, and reasonable socialization habits help facilitate your recovery with improving your physical and mental well being.

Toileting

A raised toilet seat may be necessary for ease of getting on and off the toilet. The hospital case management may be able to facilitate obtaining the seat.

Showering

You may shower five days after surgery, assuming the incision is not draining and closed. You may wash the rest of your body before that time, assuming you can keep the surgical area and bandage relatively dry.

Managing your symptoms

Take pain medications as necessary.

Using cold therapy to either side of the surgical site for the first two weeks in 20-minute intervals. After two weeks, ice 20-minute interval before and after walks when soreness or pain is present or after exercise. (Cold therapy consists of placing ice in a ziplock bag and then wrapping the bag in a towel to avoid direct skin contact with the ice/ziplock).

It is not usual to feel tired and low energy a period of time after large operations. Daily naps during the late morning and late afternoon are helpful in enabling your body to heal.

Moving your ankles up and down helps circulate blood and fluid throughout your legs.

Limit your sitting time to 45 minutes to an hour at any given time. Get up, walk around, and then return to sitting.

Make sure you have a regular bowel movement by taking regular walks, decreasing your narcotic intake, and taking medications and remedies such as Metamucil, milk of magnesia, fleets enema, magnesium citrate, prune juice, or prunes.

Maintain a healthy, high protein diet supplemented with vitamin D (2000-5000 Units/day) and keep hydrated by drinking plenty of water.

Contact the Complete Spine Center if these modalities do not help.

Things to look out for

Mild to moderate pain at the surgical site is not uncommon during the initial period after surgery.

Occasional pain radiating down the arm or leg is not uncommon after surgery during the initial period.

Severe excruciating pain is not common in the surgical site; constant significant pain, numbness, or weakness in the extremity is not typically anticipated after surgery. If you have or develop these symptoms, please contact the Complete Spine Center.

The typical postoperative course is an improvement on a daily basis. It is not unusual to have some occasional leg or arm pain, numbness, or tingling that resolves with a few hours starting a few days the surgery. This pain, however, should not be severe and should not be persistent. This pain will typically resolve 4-6 weeks after the surgery. If you have any concerns, please contact the Complete Spine Center.

Bloody drainage for a few days after surgery is normal. If you have discharge that is consistent for more than 4-5 days after the surgery, please contact the Complete Spine Center.

If you are unable to urinate or urinate more frequently than is usual and smaller volumes than is typical, or you have severe abdominal pain, you may be in urinary retention. Please call the Complete Spine Center.

If you have not had a bowel movement for several days despite attempting the measure mentioned previously, please call the Complete Spine Center.

If you have severe headaches that improve significantly with lying down, you may have a spinal fluid leak; please contact the Complete Spine Center immediately.

It is not unusual to have a fever for the first 2-3 days after surgery. This condition is likely due to inflammation from not taking deep breaths or from being constipated. A fever of 101 F or greater that is consistent may indicate a more severe condition such as a urinary tract infection or possible pneumonia, which has to be treated promptly.

Please contact the Complete Spine Center, your primary care physician, or visit an emergency center if you have persistent fever, low blood pressure, high pulse (elevated heart rate), worsening pain, increasing discharge from your incision, increased neurological deficits (weakness, numbness, tingling, difficulty walking, poor balance, difficulty using your hands and arms).

The above items are not intended to be a comprehensive list. If you have any questions or concerns, please contact the Complete Spine Center, your primary care physician, or visit an emergency center.

Follow-up

You will be seen 10-14 days after surgery at the Complete Spine Center. At that point, we will go over postoperative plan. If you have any sutures, they will be removed. Further medical treatment will be planned.

Conclusion

We hope that the documents above can help you navigate through the before, during, and after your surgery. The guide is general and is not intended to cover all different patients, surgeries, and scenarios. Please feel free to contact us with any questions or concerns.