

# SPINE SURGERY PATIENT MANUAL



Ortho  SC

THE STRENGTH OF EXPERIENCE

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# Welcome

Thank you for choosing OrthoSC for your upcoming surgery. We have created a team to help you before, during, and after your surgery. In addition to our surgeons who are leaders in their field, our experienced team includes anesthesiologists, nurse anesthetists, physician assistants, nurse practitioners, surgical technicians, physical therapists, medical assistants, and nurses who are expertly trained and dedicated to serving you with exceptional skill and compassionate care.

In the office, medical assistants and clinical assistants work with your surgeon to help manage your care and answer any questions you may have. We are committed to using “best practice” techniques and processes to make your surgery a smooth, safe, and positive experience. Your program will be seamless and well-coordinated, starting from when you first begin considering surgery and extending to the end of your rehabilitation. Our care team will be available to assist you throughout the surgical process as you prepare for your improved quality of life.

While spine surgery has traditionally been done in a hospital, there are many procedures which are now commonly done in ambulatory surgery centers. Innovations in anesthesia, pain management, and the procedures themselves all combine to make these centers a safe, efficient, and comfortable alternative. Together, you and your surgeon will determine which option is best for you based on the specific procedure to be done, your medical history, your home situation, your personal wishes, and your insurance coverage.

The care provided by our team of medical professionals does not end when your surgery is done. Our care team will continue to watch and support your recovery while you are at home to make sure you understand your discharge instructions and are doing well, guiding you to a safe and successful outcome. Please reach out to any member of the team along the way should you have any questions or concerns.

As a team, our goal at OrthoSC is to provide you with the best experience, coordinated care, and quality outcomes possible.



# Preparation Checklist

This checklist is a summary. All the items on this checklist are explained in detail later in this manual. The checklist will make sense and be helpful once you have gone through the rest of the information. Please tear this checklist out and post it at home where you can refer to it as you take all the steps necessary for surgery and recovery. It will help you keep the details straight preparing both for surgery and recovery. Be sure to make a checkmark next to items that have been completed.

You are responsible for items below shown in black. **We will set up any appointments listed in red below (doctor visits, lab work, classes, etc.)**

We hope you find this tool helps to guide you through the activities you'll need to do to be prepared for your surgery.

## WHEN YOU DECIDE TO HAVE SURGERY

- Read this manual and make a list of questions to ask your care team.
- See any specialty doctors required before surgery, i.e.: cardiology (heart), nephrology (kidney), pulmonary (lung).**
- Decide who will be your coach (see Coach section).
- Stop smoking to improve healing and reduce risk of infection after surgery.
- Start getting Care Navigation Tool reminders and messages.
- Receive scheduling packet that lists all your appointments.
- Complete lab work and testing** ordered and scheduled by your surgeon (NOTE: You can eat and drink as usual before these tests).

## 2 WEEKS BEFORE SURGERY (IF TIMING IS POSSIBLE)

- Have medical clearance/physical appointment** (with your own medical doctor or in the surgeon's office).
- Buy any needed equipment—walker, cane, and/or raised toilet seat (see Preparing for Surgery section).
- Arrange for someone to drive you home from surgery.
- Arrange for someone to drive you to doctor visits.
- Begin preparing your home, meals, and pet care for after surgery (see Preparing for Surgery section).
- Arrange for your needed support at home after surgery.

## THE WEEK BEFORE SURGERY

- Map out the drive to your surgery facility if you are not already familiar.

## THE NIGHT BEFORE SURGERY

- Gather things to bring to surgery:
  - Brace or collar, insurance card, and driver's license (or other photo ID)
  - CPAP if you use one when sleeping
- Pack a case or container to put contact lenses, hearing aids, or dentures in while you are in surgery; they will be given to your coach or family to keep.
- Stop eating and drinking at midnight (unless told otherwise by anesthesia team or nurse).

## THE MORNING OF SURGERY

- Bring your brace or collar provided from surgeon's office.
- Bring picture ID and insurance card.
- If you have sleep apnea, bring your CPAP equipment per facility instructions.
- Wear shorts or pants that are loose, baggy, and easy to get on and off (elastic waist is easiest); wear slip-resistant shoes.
- Do NOT wear jewelry, including your wedding band; absolutely no jewelry or metal objects may be worn during the surgery.
- Do NOT use deodorant, powders, or lotions.

*If your surgeon expects you to stay overnight, bring overnight bag with personal toiletries, case or container for eyeglasses, dentures and/or hearing aids, cell phone charger, etc.*

# Frequently Asked Questions

## BEFORE SURGERY

### Can I get a manicure/pedicure before/after surgery?

You may get a manicure or pedicure (polish only) before or after your surgery, but you should avoid having cuticles trimmed or other services that may cause bleeding (avoid for 6 weeks after surgery). Nail polish is acceptable, but please avoid gels and acrylics before surgery. The day of surgery, a monitor that clips to your finger or toe will measure your oxygen level; gels and acrylics can interfere with it working properly.

### Can I get a flu/pneumonia vaccine before/after surgery?

Your surgeon recommends avoiding all vaccines for 6 weeks before and 6 weeks after your surgery. Your body will be working hard to heal from surgery, so it's best to avoid anything else that can stress your immune system.

### I am very anxious about having surgery. Is this normal? Is there anything I can do?

Being anxious or nervous about surgery is completely normal! We hope that the information and support we're giving you will help. However, if you have a diagnosis of anxiety or depression, you may want to consult the healthcare provider who treats it to make sure that it is managed well now and through your recovery.

### When will I be told what time my surgery will be and when to arrive for surgery?

You will get a phone call to tell you exactly what time your surgery is and when to arrive at the facility:

- The call comes from a nurse in the facility where you're having surgery.
- The call will be the day before surgery between 9:00 a.m. and 5:00 p.m.
- If your surgery is on a Monday, the call will be Friday afternoon.

Please be sure you have given your care team your current phone number.

Please answer your phone the day before surgery for this important call.

Please have any last-minute questions written down so you don't forget to ask them.

### What do I bring with me when I come for surgery?

You'll be asked to bring items based on your medical history, the surgery you're having, and the facility where your surgery will take place.

- **All patients:** Bring insurance card and photo ID (such as driver's license); bring Advance Directive if you have one; bring brace or collar you've been provided from your surgeon's office.
- **If you have sleep apnea:** Bring your CPAP equipment per facility instructions.
- **If you are going to a surgery center:** Bring medications ordered by your surgeon for after surgery.
- **If the plan is to stay overnight:** Bring an overnight bag with clothes and personal items (phone, book, toothbrush/toothpaste, etc.).

### Who do I call with questions about my insurance coverage for my surgery?

The best information will come from calling your insurance company directly (the phone number is listed on your insurance card), for answers to questions such as:

- If your surgery has been approved (for both surgeon and the facility you are going to)
- If physical therapy and/or equipment is covered
- An estimate of what you will owe

If you still have questions about the billing for the facility where you are having surgery, please call that facility directly.

## **AFTER SURGERY**

### **I have a lot of swelling and/or bruising. Is something wrong?**

No. Some bleeding can be expected at the surgical site, causing bruising and swelling. It often gets worse in the early days after surgery. You may be bruised and swollen around the incision and surgical site. Your body will reabsorb this fluid over time, but if the swelling becomes significantly uncomfortable or worries you, please call our office.

### **Is it normal to have difficulty swallowing after neck surgery?**

Yes, it is normal to have difficulty swallowing for several days to weeks after neck surgery. Swallowing should always be possible, but it may be uncomfortable, especially with harder foods or bigger bites. Thicker liquids may be easier to swallow than water. Since thin liquids may be difficult at first, please be careful with them and drink slowly. It is also best to avoid mucus-causing foods, like dairy products (milk, yogurt, cheese), until swallowing feels normal.

**Swallowing is different from breathing:** You should NEVER have any difficulty or changes in your breathing. This is very different than difficulty swallowing, and you should call 911 immediately for any difficulty breathing.

### **Is it normal to have a sore throat after neck surgery?**

Yes, it is normal to have a sore throat for several days after neck surgery. It is most commonly due to having had an anesthesia breathing tube during your surgery. You can minimize the discomfort by eating a soft diet until the soreness goes away. Some patients prefer drinking either warm or cold fluids to soothe their sore throat, and either is fine. If it's not getting a bit better each day, please call the office.

### **Is it normal to have difficulty or feel like my breathing is changed after neck surgery?**

NO, it is never normal to have your breathing affected after surgery. If you have any difficulty breathing, you should call 911 immediately.

### **Can I use cocoa butter, NEOSPORIN®, vitamin E, or other creams/lotions on my incision?**

No, not for at least 6 weeks. Ask your surgeon's team at your 6-week post-operative visit if further advice is needed.

### **When can I restart using medications, herbals, or supplements that I had to stop before surgery?**

After your surgery, you'll continue taking most prescription medications you were taking before surgery. One exception is blood thinners, which your surgeon will tell you when to resume taking. You may also be given some new medications your surgeon wants you to take for a short period of time. Feel free to ask your care team about any medications you're not sure about.



### When can I shower, bathe, or swim?

When you may take a shower depends on the specific procedure and type of dressing you will have. Instructions will be part of your discharge teaching. Then, at your first post-operative visit, your dressing will be removed, and you'll be taught what to do for the next few weeks. **Regardless of the procedure you've had, you should NOT submerge the incision in water for at least 6 weeks to allow complete healing. This means no bathing, swimming, or getting in a hot tub.**

### When can I drive?

There is little if any literature on driving safety after spine surgery. Typically:

- No one should attempt to drive before the 2-week post-operative office visit.
- Everyone should wait until they are off narcotic pain medication and moving about easily. Recovery is very individual, but this may be within as little as 3 – 4 weeks.
- **After neck surgery**, you can drive once off narcotic pain medication and allowed to be wearing only a soft collar. You cannot drive while wearing a hard collar, as it prevents neck motion needed to drive safely.
- **After low-back surgery**, you'll be advised about driving at the 2-week post-operative office visit.

### When can I go for walks on unlevel surfaces, such as grass or the beach?

Not until after your first post-operative office visit. At that time, you should ask about walking on uneven surfaces such as grass, a golf course, or the sand at the beach. For the first 2 weeks, you can walk outside, but you should stay on hard, level surfaces, such as patios, decks, or sidewalks.

### When can I travel out of the area?

The main concern with traveling is sitting in a car or airplane for long periods of time, risking the formation of a blood clot in your leg. Please check with your surgeon about your specific plans, but several studies have shown that, if certain steps are taken, it can be safe to travel fairly soon after your surgery.

- **By car:** You should wait until your first post-operative office visit for your surgeon's final approval of your travel plans. If you are approved to travel by car, move the car seat back as far as possible to give yourself room to move and exercise your legs; do ankle pump exercises frequently, and stop the car so you can take a short walk every 1 – 2 hours.
- **By plane:** You should typically wait 6 weeks after your surgery. If a sooner flight will be needed, discuss plans with your surgeon before surgery. During the flight, do ankle pump exercises frequently, and get up and walk the aisle of the airplane every 1 – 2 hours.

### When I fly, will I have difficulty getting through airport security?

If your procedure involves an implant, it is possible that the implant will set off the security scanners. There is no card or paperwork that will change this. Plan to arrive early so you will have time to get through the security process. Simply explain to the security staff about your implant and be patient as they do their job.

### If I need to refill my pain medication prescription who should I call?

Call our office or send a request through the Patient Portal. Please remember to call early, well before the prescription is finished. Refill requests can take up to 48 hours, and several factors including insurance rules can slow this process down even more. So please plan ahead.

### **How long will I need to wear compression stockings?**

It varies with the specific procedure, so you will be told as you prepare to go home after surgery.

- Some patients will need to wear the compression stockings on both legs, 23 hours a day for the first 2 weeks until the follow-up visit in the office.
- Some patients can stop wearing the stockings once they return to a fairly normal amount of daily walking at home—in just a few days.
- Some patients won't need to wear compression stockings at all.

### **Can I go to the dentist? Will I need to take antibiotics when I go to the dentist?**

**Before surgery**, the following timing should be used to make sure you are well-healed and there is no infection when you have your surgery:

- Simple cleaning or fillings should be taken care of at least 3 weeks before surgery.
- A single tooth to be pulled, or implant, should be done at least 3 weeks before surgery.
- Multiple teeth to be pulled, or implants, should be done at least 3 months before surgery.

**After surgery**, you may or may not need antibiotics before dental appointments or procedures. This will be discussed at your follow-up visit, and if antibiotics will be needed for dental work, you will be given a prescription.

### **Will I need to take iron or have a blood transfusion?**

Patients having spine surgery rarely require a blood transfusion. Our team will pay close attention to your hemoglobin count (a measure of how much oxygen-carrying capacity is in your blood) before surgery. If your level is not high enough, your surgery will be delayed until it can be treated medically and elevated to a level that would be considered safe for surgery.

If your surgeon thinks you would benefit from it, he or she may recommend that you take an iron supplement (such as Vitron-C®) before or after surgery.

If your surgeon suggests taking an iron supplement:

- You can buy Vitron-C® at your local drugstore without a prescription.
- It should be taken after meals.
- It can change the color of your stools to a tarry black.
- It can often be very constipating—please use a stool softener or laxative.

### **How long should I wait to resume sexual activity after surgery?**

In general, sexual activity may resume as soon as you are comfortable enough.

### **What could cause confusion after surgery, and is it common?**

Sudden confusion after surgery is not expected, but may happen, especially in older adults when taking pain medications (opioids). It may begin quickly or appear a few days after surgery. The confusion can be constant or may come and go. Since there can be other causes of confusion such as low sodium, low potassium, or infection, we highly recommend someone notify your surgeon immediately if confusion is noticed.

# Preparing for Surgery

OrthoSC will be with you every step of the way helping you prepare! Some of the resources available to you throughout your program include:

- **Your Care Team** will be monitoring your progress all along the way—after lab work is done, after doctor’s visits, etc. You may call your care team with any questions or concerns you may have.
- **Care Navigation Tool:** This is our system of reminders and check-ins. If you haven’t already, you’ll be asked to sign up for your preferred way of getting messages (app on your phone, text messages, emails). Care Navigation Tool will then send you brief reminders and updates all along your program pathway. After surgery, it will also ask you questions so we’ll know how you’re doing in between office visits.
- **Your Surgeon and His or Her Team:** As always, your surgeon and his or her team of medical assistants, clinical assistants, nurse practitioners, and physician assistants are available to answer specific questions you may have about the procedure or your planned recovery.

## Your Medical History

Now that surgery is planned, every detail of your medical history is important in making plans and orders specific to your needs. We need complete information to keep you safe and healthy through surgery, anesthesia, and recovery. So, when asked for your medical history, allergies, and medication list, please help us keep you safe for the future by sharing everything from the past!

### In particular, we need you to tell your care team:

- All details of your past medical history
- If you have had any infections within the last 2 months
- If you are prone to infections of any kind
- If you have frequent UTI’s, pneumonia infections, etc.

**If you have diabetes**, you are at a higher risk of infection. You may be tested for overall blood glucose control before surgery to ensure the risk is minimized. You should have a healthy diet and maintain a hemoglobin A1C of < 7.0 to reduce your risk.

**If you are overweight (more than 20 lbs)**, you may also be at higher risk of infection. Any healthy steps you can take to lose weight before surgery will help lower your risk of infection and make recovery easier. Weight loss resources are listed on the OrthoSC website at:  
[www.orthosc.org/community-resource](http://www.orthosc.org/community-resource)

**If you smoke**, you will be asked/encouraged to stop since smoking also increases the risk of infection after surgery. Smoking cessation resources are listed on the OrthoSC website at:  
[www.orthosc.org/community-resource](http://www.orthosc.org/community-resource)

**Any infection in your mouth** can easily travel to other parts of your body. If you have an abscessed tooth, it should be taken care of at least 3 weeks before your surgery. If more than just 1 tooth, they should be taken care of at least 3 months ahead of surgery.

## **Medications You Take**

When asked, please tell your surgeon and the Spine Program team all medications you take. This includes:

- Prescription medications
- Over-the-counter medications
- Any herbals or supplements
- Any vitamins
- Any lotions, creams, or ointments

Some medicines or products you use may not seem important, but they are! Many of them can thin your blood; if your blood is thinner than normal when you have surgery, you may bleed more during and after the surgery. Your surgeon feels very strongly that you must stop taking/using any of these products soon enough before surgery so that your blood can return to normal by the day of your surgery.

**The next page of this manual is a list of medications and products that need to be stopped before your surgery and the timing to stop. Failure to stop will likely require us to postpone your surgery, so please ask your care team if you have any questions.**

Finally, please do not start taking any new medications or supplements between now and your surgery without asking your surgeon first. If you do, and the medication thins your blood, your surgery may be postponed.

# Medications to Stop Before Surgery

## Medications to Stop Before Surgery

You will need to temporarily stop taking the following medications before your surgery. These medications can thin your blood, change its clotting, and slow the healing process after surgery. **Be aware:** Many over-the-counter products may have some of these ingredients and must also be stopped. Creams and lotions must also be stopped if they have any of these ingredients on the list. If you need help, you can take this list to your pharmacy and ask about any over-the-counter products about which you have questions.

## STOP THESE MEDICATIONS/SUPPLEMENTS 14 DAYS BEFORE YOUR SURGERY

Arava® (Leflunomide)*	Fish Oil (any type or brand)	LOVAZA® (also fish oil)
Chondroitin	Garlic	St. John's Wort
Diet Pills	Ginger	Turmeric
ENBREL*	Ginkgo	Valerian
Energy Drinks	Ginseng	Vitamin E
Ephedra	Glucosamine	

## STOP THESE MEDICATIONS 7 DAYS BEFORE YOUR SURGERY

Adlyxin (Lixisenatide)	Daypro	Naprosyn (Naproxen)
Advil/MOTRIN®/Ibuprofen	Diclofenac	Orudis
Aleve	Disalcid	Oxaprozin
Alka-Seltzer	Ecotrin®	Ozempic® (Semaglutide)
Anacin®	Efficin	Phentermine
Anaprox	Empirin	Piroxicam
Arthrotec	Etodolac	Relafen
Ascriptin	Excedrin® Products	RYBELSUS® (Semaglutide)
Aspirin (any product containing aspirin)	Feldene	Salsalate
Azathioprine (Imuran)*	Fenoprofen	Sulfasalazine*
Bayer Products	Fiorinal	Sulindac
BC Powder® Products	Goody's® Products	Ticlid
Bufferin	Indocin	Tolectin
BYDUREON (Exenatide ER)	Indomethacin	Tolmetin
Byetta (Exenatide)	Ketoprofen	Trulicity (Dulaglutide)
Cama	Lodine	Vanquish
Cataflam	Midol®	Victoza® (Liraglutide)
CELEBREX (Celecoxib)	Mobic (Meloxicam)	VIMOVO
Clinoril	Mounjaro (Tirzepatide)	Wegovy® (Semaglutide)
Cope	Nalfon	ZIPSOR
	NAPRELAN®	

## **STOP THESE MEDICATIONS 3 DAYS BEFORE YOUR SURGERY**

BRENZAVVY (Bexagliflozin)

JARDIANCE (Empagliflozin)

Xigduo (Dapagliflozin/Metformin)

FARXIGA (Dapagliflozin)

Steglatro (Ertugliflozin)

INVOKANA® (Canagliflozin)

SYNJARDY (Empagliflozin-Metformin)

## **STOP THESE MEDICATIONS: THE DOCTOR WHO PRESCRIBED IT AND/OR YOUR SURGEON WILL GIVE YOU SPECIFIC RULES**

The timing listed is the common stop time, but you are to follow your doctor's instructions, as these medications cannot be stopped without their supervision.

BRILINTA (Ticagrelor) – 5 days

ELIQUIS (Apixaban) – 3 days

Ticlid (Ticlopidine) – 14 days

Coumadin (Warfarin) – doctor determined

Plavix (Clopidogrel) – 7 days

XARELTO® (Rivaroxaban) – 3 days

Effient (Prasugrel) – 10 days

Pletal – 2 days

PRADAXA – 5 days

## **SAME INSTRUCTIONS AS ABOVE, BUT FOR TOTAL HIP OR KNEE ONLY 7 DAYS BEFORE**

Evista (Raloxifene Hydrochloride)

SOLTAMOX®

Tamoxifen Citrate

Selective Estrogen Receptor

Modulators (SERMs)

\*For additional guidelines regarding these and other rheumatic disease-modifying medications, please reference the [American College of Rheumatology guideline summary](#).

# Infection Prevention Activities

Wound infection is a risk with any surgery and may occur even in our healthiest patients. Pre-operative history, physicals, and lab test results will confirm that you have no active infection before surgery. The chance of infection is very small, and we will do everything possible to minimize the risk, but we need your help in the following ways.

Patients with **diabetes** may be at an increased risk for infection. Good nutrition and maintenance of a normal blood sugar can reduce this risk.

Any **abscessed teeth or pending dental work** should be taken care of at least 3 weeks before your surgery.

## Screening for Methacillin-resistant Staph aureus (MRSA)

In an effort to reduce your risk of a post-operative infection, you will be screened for the MRSA bacteria. This is done by swabbing the opening of your nostrils with a cotton-type swab. **If you test positive for MRSA**, we will notify you, and we will send a prescription to your pharmacy for an anti-Staph antibiotic ointment called Mupirocin (also known as Bactroban). You will need to apply a pea-sized amount of the ointment to the inside of your nostrils, then pinch and release your nose gently for about a minute to help the ointment cover the inside of your nostrils. You'll do this twice daily starting 5 days before your surgery and then once more the morning of your surgery.

## Preparing Your Home

Setting up your home now will help keep you safe and make your daily routines much easier after surgery. Some suggestions:

- Do a simple safety check of your home:
  - ◇ Remove any loose rugs that could cause you to trip.
  - ◇ Remove any long phone or electrical cords that lie across the floor.
  - ◇ Move any items you may trip over on the stairs or in your hallways, including books and magazines.
  - ◇ Consider purchasing a night-light for the bedroom, bathroom, or hallway if you frequently get up at night.
  - ◇ Make sure any handrails (next to the stairs, in the bathroom) are secure.
- Set up your kitchen:
  - ◇ Arrange frequently used utensils and food on shelves or on the counter so they're easy to use without bending or reaching.
  - ◇ Prepare and freeze meals in advance.
  - ◇ Microwaveable foods can be bought and stored in advance.
  - ◇ If you are having low-back surgery, and you have a walker, attach something (plastic grocery bag, cupholder, etc.) to your walker so you can carry small items. Plastic containers and travel mugs also make it easier and safer to carry food or drink while using the walker.

- Set up your bathroom:
  - ◊ Arrange items you use every day (toothbrush, toothpaste, comb, hair dryer, toiletries, towel) where you can easily reach them.
  - ◊ Keep a low pile rug with rubber backing in front of your tub or shower to help prevent slipping.
- Consider a plan to sleep on the first floor for a short time if possible, just in case stairs are difficult right after surgery.
- Find help for household tasks for the first few weeks (i.e.: grocery shopping, laundry, getting the mail, feeding or caring for a pet). Make arrangements now for the help you will need later.
- Prepare now if you'll be with young children or pets for the first few weeks.
  - ◊ Small children may need to be taught how to interact with you in ways that keep you safe while you can't bend over to pick them up or carry them.
  - ◊ If you have pets, you'll need someone to walk them, let them out, and feed them until you are strong enough and mobile enough to do so.
- Decide where you think you'll want to spend most of your time during the day. Firm chairs with arms are usually most comfortable and easiest to get in and out of. A low sofa is not recommended, as it makes sitting down and standing back up more difficult, and it only has an armrest on one side from which you can push up. A chair with wheels is NOT safe, even if it has brakes.
- Plan to be creative in finding a comfortable position for sleeping the first couple weeks.
  - ◊ If you're having neck surgery, you'll probably be most comfortable sleeping in an upright but reclined position on lots of pillows or in a recliner chair.
  - ◊ If you're having low-back surgery, you're allowed to sleep in any position. You'll want to have pillows or a recliner chair ready to find a position that's comfortable for you at first.
- Stock up on books, movies, or other projects to do while recovering at home. Don't feel guilty if you don't get as much done as you had planned. Your goal is focusing on building your endurance and independence—the rest will happen on its own.



## Equipment You May Need

If you're having **neck surgery**, you will most likely not need any equipment.

If you're having **low-back surgery**, you may find equipment helpful to move around right after surgery. A walker and cane are standard equipment used by many patients after low-back surgery.

**If your surgery is at a hospital**, a walker and/or raised toilet seat should be ordered for you while you're there; you'll need to purchase a straight cane if you want one to use.

**If your surgery is at a surgery center**, you'll want to purchase your equipment before surgery.

- If you have regular Medicare, it will cover a walker and raised toilet seat (as pictured below) at 80 percent; Medicare does NOT pay for a straight cane.
  - If you have any other insurance, the walker and raised toilet seat may be covered; however, insurance typically will NOT pay for a straight cane. If you plan to buy equipment and want the option of submitting receipts for possible reimbursement, we recommend contacting your insurance company (the phone number is on your insurance card) to find out what your policy pays for. Ask "Does my policy cover DME?" which includes the items you may need.
- ◇ Walker with 5" wheels on front
  - ◇ Straight cane
  - ◇ Raised toilet seat (called bedside commode or 3-in-1) – After low-back surgery, patients may find this item helpful with getting up and down from the toilet especially if they are tall or their toilet is only standard height.



Walker with 5" wheels  
(Call insurance company to see if covered)



Straight cane  
(NOT covered by any insurance)



Raised toilet seat – fits over toilet  
(Call insurance company to see if covered))

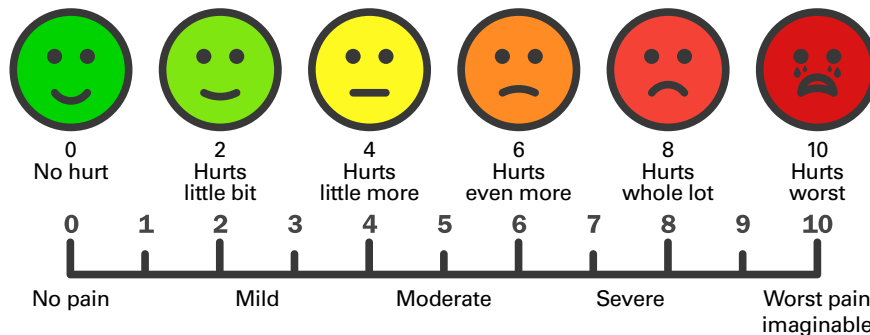
## Practice Using the Pain Scale

It will be very important for you to tell your surgeon and your care team how well your pain is being managed. Your team cares about your pain. We want you to be comfortable, but we also need you to be awake and alert enough to be safe walking and taking care of yourself at home.

We will ask you to describe your pain level using a scale of 0 – 10. This is new for most people, so we suggest you “practice” before surgery. Several times a day, think about how strong your pain is and give it a number from the scale below. By the time your surgery day is here, you’ll find it easy to use the scale to tell your care team how you are feeling.

- “0” means you have no pain.
- “10” means you have unbearable pain, the worst you can possibly imagine.
- “4” means you have pain, but it is manageable. You hurt, but could concentrate to read, watch TV, or play cards.

### Pain Measurement Scale



The goal is to keep your pain level at a 4 or below. You may be advised to take certain medications on a schedule to “stay ahead of the pain.”

After surgery, we usually suggest:

Pain 0 – 3: **TYLENOL®** (Acetaminophen)

Pain 4 or more: Oxycodone or other pain medication

# Your Coach

Select a coach who will help you prepare for surgery and who will be with you afterwards. This person can be a spouse, family member, friend, neighbor, or even a “patchwork quilt” of people joining together to provide the support you need. They will provide you with support and any assistance you may need for the first few weeks. Although our goal is for you to be quite independent when you go home, there will be some things you’ll need help with. Following larger procedures, you may want someone with you at night for the first night or so, because understandably, you’d probably be reluctant to call a neighbor if you need something during the night.

Coaches are an important part of this program and of your success. Some of us aren’t comfortable asking for help, but this needs to be an exception. Please don’t be embarrassed to ask for help after your surgery; it’s only temporary! We have found that patients have smoother recovery if someone is there to support them along the way, and published studies even suggest patients with a coach have improved outcomes.

If you truly can’t identify anyone to be your coach, please let us know as soon as possible so we can help you make other arrangements.



# Anesthesia

Anesthesia is defined as the intentional loss of pain sensations for the purpose of a surgery or painful procedures. OrthoSC is committed to providing excellence in all aspects of anesthesia to create the safest, most pleasant experience possible regardless of which location you are going to for your surgery.

Your anesthesia team will meet with you the morning of your surgery. He or she will conduct a pre-operative interview based largely on the information you've already given us and the medical clearance you've already had. You may be asked some of the same information including medications you've stopped taking, your medical history, and previous anesthesia experiences. From this information, the specific anesthesia plan will be customized to best meet your unique needs. There will be ample opportunity for you to ask questions or share concerns. Our goal is for you to feel as comfortable as possible before, during, and after surgery.

Spine surgery is typically performed under general anesthesia which produces temporary unconsciousness with loss of feeling throughout the entire body. It involves multiple drugs and gases in order to safely "get you to sleep" and ensure that you feel and remember nothing during your surgery. Breathing is safely managed through a tube placed either into the back of your throat or into your windpipe after you are fully asleep.

# Possible Issues After Surgery

There are potential risks with any surgery. Outlined below are some of the potential issues that can occur after spine surgery along with the steps you can take to help prevent them. While the chances of complications are small, they are almost always treatable. We will do everything possible to make your recovery smooth. However, it is important for you to be a well-informed patient, so you can identify any issue that arises, and we can address it quickly. It is our goal to keep you safe and make your surgical experience as smooth as possible.

*This list is not intended to cover all possible issues that can occur after spine surgery, only the more common ones. By discussing your exact procedure, its risks and benefits, techniques used, alternative treatments, and expected outcomes, we hope to reassure you of our commitment to your well-being and return to an active lifestyle.*

## **Bladder or Urinary Tract Infection (UTI)**

After surgery, it is important to drink plenty of fluids to prevent a bladder or urinary tract infection. If you experience any signs or symptoms of an infection (burning, frequency, or inability to void), please call your primary care physician immediately.

## **Blood Clots (Deep Vein Thrombosis or DVT)**

Any surgery, and the decreased activity level afterward, increases your risk of blood clot formation in your legs. This is called deep vein thrombosis (DVT). This typically presents with:

- Significant calf, thigh, or whole leg swelling
- Redness
- Calf pain (may increase with putting foot flat on floor)
- Warmth

Very rarely, a clot may break away and travel to the lung, creating a pulmonary embolism (PE), which can cause shortness of breath, chest pain, and can potentially be fatal. There are several treatments that may reduce your risk for DVT or PE:

- Early and frequent activity (walking and ankle pumps) may be the single most important part of blood clot prevention, as it increases your blood flow and prevents blood pooling in your veins.
- Compression stockings (TED stockings) may be ordered for you to wear.
- Blood thinning medication (pill or injection) is NOT typically ordered. However, if you already take a blood thinner, you will most likely be put back on the same medication when it is deemed safe, but possibly with a different dose for a short period of time.

## **Constipation or Ileus (Intestinal Blockage)**

Constipation is the condition of not having bowel movements regularly, comfortably, or easily. It is very common after surgery and can be a significant source of discomfort.

Ileus is the condition where the normal pumping action of the intestines slows or completely stops. It is much less common than constipation, but more severe and needs to be identified and managed as quickly as possible to prevent a true blockage.

Either of these conditions can develop after surgery due to factors including anesthesia, stress, changes in diet or fluid intake, decreased physical activity, and pain medication (highly constipating). Symptoms of either can include abdominal pain, bloating, belching, nausea, vomiting, or inability to have a bowel movement.

**To help prevent these conditions, we strongly recommend that you:**

- Use an over-the-counter fiber laxative (i.e.: MiraLAX®, Dulcolax®, Colace®, Senokot®, Milk of Magnesia) or stool softener (i.e.: Citrucel®, Metamucil) immediately after returning home. Continue until you have stopped using pain medication for several days.
- Limit your use of narcotic pain medication (oxycodone, hydrocodone, Percocet, tramadol, etc.) to what is necessary.
- Increase your activity and time walking as much as possible. Gravity works!
- Eat foods high in fiber such as beans, whole grains, bran, fresh fruits and vegetables, or any food you know works for you.
- Limit intake of cheese, dairy, and processed foods, which are naturally constipating.
- Eat small, frequent meals throughout the day rather than large meals.
- Drink plenty of water.
- Prune juice and apple cider (cider, not juice) are natural laxatives.

**Infection – Please refer to the “Preparing for Surgery” section.**

**Atelectasis or Pneumonia**

Decreased activity following surgery may increase the risk of developing **atelectasis**, a term for when one’s lungs don’t fully expand and fill with air. In rare instances, atelectasis can progress to pneumonia, which is an infection in the lungs. Sitting upright, walking, and deep breathing are all important to reduce this risk of either. After surgery, you will be instructed on deep breathing techniques to be done every hour while you’re awake to keep your lungs clear. You will be expected to be out of bed most of the day and to be taking short walks in the house every 1 – 2 hours.

# Surgery Day

On the morning of surgery, please arrive to the facility on time. Take any medications discussed with our anesthesiologist or nurse with a small sip of water BEFORE you leave home. Check in at the registration desk, just inside the entrance. As part of the registration process, an identification bracelet will be placed on your wrist. It is okay to bring some personal items to pass the time while you are in our recovery suite after surgery, but please leave them in the car or with your coach when you first arrive. Please do not bring valuables in with you before surgery.

After registration, you'll be escorted to the pre-operative area. You will be asked your name, date of birth, and the surgery for which you are scheduled several times. Your name and birth date will be compared to the information on your bracelet. This is for your safety and the safety of all our patients. Our team asks all patients this information before any testing or procedures.

On arrival to the pre-operative area, you will be assisted into a hospital gown, your vital signs (blood pressure, pulse, temperature, and oxygen level) will be taken, and a series of questions will be asked. The pre-operative team will also start an IV and prep your surgical site as directed by your surgeon. They will ask questions about previous surgeries and/or anesthesia and tell you what to expect in the operating room. You will be given medications (some pills with a tiny sip of water and some through the IV) including a preventative antibiotic to reduce the risk of post-operative infection. Once you are ready for surgery, your coach or family are welcome to join you. Before your surgery, you'll meet with members of your surgery team, including:

- The anesthesia team to discuss and finalize your anesthesia plan. During this time, feel free to ask any questions you may have.
- You will also meet with your surgeon, who will answer any remaining questions that you have. For your safety, the surgical site will be marked with a skin marker just before you are taken to the operating room.

You may be given a pre-operative medication through the IV by your anesthesiology team to help you relax as you are taken back to the operating room by stretcher. Your operating room team will make you comfortable, provide warm blankets, and connect you to equipment to monitor your heart, blood pressure, and oxygen levels during the surgery.

Infection prevention measures continue the day of your surgery. You will be given antibiotics in accordance with national "best practices."

As you are taken to the operating room, your coach or family will be asked to take your personal belongings while you are in surgery. They may wait in the waiting room where they will be informed when your surgery begins. With your permission, they will be updated periodically throughout your surgery and again when surgery is done. When appropriate, they will be brought to join you in the recovery suite or hospital room.

After surgery, you will be transported to the post-anesthesia care unit (PACU) or recovery suite. The recovery room nurses will coordinate your care, provide pain management, and assist in your daily activities. They will frequently check your blood pressure, temperature, heart rate, and oxygen level. The circulation in your feet will also be monitored. Depending on the facility you're in and the procedure you've had, you may be wearing

compression stockings (used to reduce your risk of developing a blood clot), and you may have cold packs around the surgical site to begin reducing the swelling.

How soon you go home will be determined by the procedure you're having, your medical recovery, your pain control, lack of side effects, ability to walk with minimal assistance/supervision, and your ability to urinate. Once these criteria are satisfied, you will be able to go home.

- **If your surgery is being done in a surgery center:** Most patients spend between 1 – 6 hours in the recovery suite before being discharged, but some stay overnight if the surgery was late in the day and the discharge goals aren't yet met.
- **If your surgery is being done in a hospital:** You may go home directly from the recovery suite, you may go to a nursing unit or you may stay 1 – 2 nights before going home.

Before you go home, regardless of where your surgery was done or how long you stay, you'll:

- Practice getting in and out of bed and walking to make sure you're steady and safe.
- Be given a written set of instructions that include what medications to take, activity guidelines, and when you should call your surgeon. Your nurse will review them with you.





# Going Home – The First 24 Hours

No matter how much you've prepared for your homecoming, it will be an adjustment. If you are a bit anxious, this is a totally normal feeling. Try to relax and focus on your recovery. Once you arrive home, you should plan to rest for the remainder of the day and evening.

Take short walks within your home as you can, and ice your surgical site frequently. Remember, much of your pain around the surgical site after surgery is from swelling and inflammation, so "ice is your best friend!" Use the ice on and off for 15 – 20 minutes at a time if it is really cold, or almost continuously if it is a milder cold. Always remember, it is important to have a protective layer between the ice and your skin to prevent burns. Ice should never be painful or turn your skin pale/white. Please always remember to keep your dressing dry.

You should feel strong enough and safe enough to walk about in your home, but don't be surprised if you tire out quickly the day of your surgery. While sitting or lying down, continue to do your ankle pump exercises to prevent blood clots from forming. You may have difficulty getting or staying comfortable enough to sleep through the night at first. This is normal and will get better over the first couple of weeks. Keep experimenting to find positions where you are comfortable. Experiment with various pillows, cushions, and different types of furniture until you find what works best for you.

Spend some time every hour you're awake to take several good deep breaths. Hold the breath in and then let all the breath out. This will help keep your lungs healthy until you're more active.

Your care team is still thinking about you even though you've gone home. Expect a call from the team, wanting to know how you're doing. You may find it helpful to write down any questions or concerns to remember to ask them during the call.

Your OrthoSC team is available to help you 24 hours a day, 7 days a week. During regular business hours, you can receive reassurance with most concerns or get answers to general questions by calling the office, sending a message through the Patient Portal, or calling the care team. Outside of regular business hours, you may call the office at (843) 353-3460 to reach the answering service if you have a more urgent question or concern and the on-call provider will get back to you.

# Ice Is Your Best Friend!

Typically, much of the pain after surgery is around the area of the incision (often called incisional pain) and is from inflammation and swelling. Ice is one of the best treatments for both, so you will want to use ice as frequently as possible to help with post-operative pain. Ice comes in several forms, and any form can be effective. However, some ice options are much more convenient than others, some are more or less expensive than others, some provide a stronger or milder cold than others, and some are much better suited to use at night if you find it helpful to sleep.

**Ice is typically NOT covered by insurance. Options include:**

- **Cold therapy machines**
  - ◇ More expensive than other ice options, but also much more convenient: fill it, plug it in, and the cold will last the entire day.
  - ◇ More consistent cold temperature than other options.
  - ◇ Doesn't get you or furniture wet from leaking or "sweating" as some ice options can.
  - ◇ Best option for use through the night since it is adjustable and won't leak. Make sure to set the unit on the milder cold option and have plenty of layers between the ice and your skin for safety.
  - ◇ Available in our office, so it is easy to pick up when you are already there.
- **Ice from freezer in ice pack:** Simple, least expensive option. If you ice as frequently as you should, most home freezers can't keep up the pace, so you will need to buy additional bags of ice. Chipped ice will be more comfortable on your surgical site than large ice cubes that can have hard edges.
- **Bags of frozen peas or corn:** Buy at least 4 so you can use 2 at a time and freeze the others.
- **Gel cold packs:** Available at many retail stores or online. Remember to buy 2 sets of packs so you can use 1 set and freeze the other.
- **Homemade cold packs:** There are lots of recipes for making ice packs. With any of these, put the ingredients in a ziplock bag, then place in a second one just to be leak-proof. Ingredients commonly used for homemade cold packs include:
  - ◇ 1 cup rubbing alcohol with 2 cups water
  - ◇ Corn syrup (i.e. Karo syrup)
  - ◇ Dishwashing detergent

**Check your skin:** With any cold therapy, be sure to monitor your skin closely and make sure to always keep a cloth between your skin and the ice (thin towel, clothing, etc.). Mild ice packs can be left on for longer, but stronger cold should be used 15 – 20 minutes at a time with about a 20-minute break to let your skin and circulation recover. **With any form of cold therapy, remember to keep the dressing dry!**

# Your Daily Routine at Home

During the first several weeks, your goal is to keep moving! Remember “movement is medicine!” You should be making progress week-by-week. We encourage you to be up, showered, dressed comfortably, have meals where you usually would, go to the bathroom, and be out of bed as much as you tolerate throughout the day. At first, your progress may seem slow and you may get frustrated, but stay positive and soon you’ll see the results!

Every day, starting the morning after surgery, you should:

- Take a shower once you feel strong enough.
- Dress in loose, comfortable clothes.
- Eat your meals where you normally do.
- You may nap, but don’t plan to stay in bed all day.
- Do not sit for longer than 30 – 60 minutes at a time. Sitting longer may leave you stiff and more sore around the area of your incision. Firm chairs with arms are usually most comfortable and easiest to get in and out of.
- Elevate your legs to help reduce any leg swelling you may experience; elevate your legs if you can comfortably, with your feet higher than your heart to let gravity help your circulation.
- Take short walks every hour during the day; it will help you regain your endurance, keep your back and neck moving, and help your circulation. Short walks (to the kitchen, bathroom, mailbox, etc.) every hour are better than just one long walk during the day.
- Be able to climb stairs with a railing as your endurance allows.



- Continue to use ice around the surgical site as described earlier: on-and-off for 15 – 20 minutes at a time if it is really cold, or almost continuously if a milder cold. Just remember that the ice should never be painful or turn the skin white.
- Do your ankle pump exercises every hour during the day. Find something such as commercials on TV or finishing each chapter in a book to remind you to keep up with them.
- Avoid lifting anything heavier than a bag of sugar.
- If you had neck surgery, also avoid any activity with reaching overhead.

## **When You Need to Call Your Surgeon's Office**

In general, patients do very well after surgery. However, it's important to look at your incision or dressing every day. Call your surgeon's office if you have any of the following, as this could be a sign of infection or other complication:

- Fever greater than 101.5 for 24 hours
- Increasing redness at the incision site
- Increasing swelling at or around the incision
- Drainage from incision site (dressing is more than 50 percent soaked)
- Foul odor from incision site or dressings
- Calf pain, tenderness, or warmth to the touch

## **Pain Management**

You should expect to have pain after surgery, most likely in your back/neck where the incision is and where the work was done.

Your pain control regimen has been proven to be effective in medical literature and verified in our own practice to be least likely to produce unwanted side effects. Your surgeon has created a pain program that layers medications that work together to create adequate pain control with the fewest side effects possible. Remember: We want you to be comfortable, but we also need you to be awake and alert enough to be safe at home and to be able to participate in an active recovery.

You will be asked to fill prescriptions for medications that can be used together to best achieve pain control and manage any expected side effects of pain medication. Although each patient's routine will be different due to medical history, allergies, or personal preferences. We recommend taking the medications in a layered fashion. Your specific instructions will be provided before your discharge home. Most patients benefit most from:

- Tylenol ES (extra strength) every few hours throughout the day.
- A strong pain medicine such as oxycodone, hydrocodone, or percocet for the initial days, then decreasing the amount taken each day as soon as able.
- A muscle relaxer is sometimes prescribed.
- Zofran for nausea can be ordered if needed.
- A laxative or stool softener to counteract the constipation that can be caused by the pain medicine.

## Wound Care

The type of dressing covering your incision for the first couple weeks will vary based on your procedure, and so will how to care for it. You'll get detailed instructions after your surgery before going home.

After the follow-up visit, the incision is usually left uncovered. It will be important to continue to protect it while healing continues. Keep it clean and dry and inspect it daily for any worsening redness, drainage, or odor. If you notice any of these things, you should notify your surgeon's office via phone call or the Patient Portal (with pictures, if applicable).

## Diet

Healthy eating aids the healing process:

- Eat foods rich in iron (lean red meat especially grass-fed; dark green, leafy vegetables; raisins; and prunes) to prevent anemia that can be normal after surgery.
- Eat foods high in vitamin C to help your body absorb the iron (oranges, cantaloupe, and tomatoes).
- Eat more fiber to help avoid constipation, which is common after surgery and when on pain medication (beans, whole grains, bran, fresh fruits, and vegetables).
- Get enough calcium for bone health (milk; yogurt; dark, leafy greens; and fortified cereal).
- Drink plenty of fluids and stay well-hydrated to help prevent constipation. The best choices include water, non-caffeinated drinks (caffeine both dehydrates and reduces iron absorption); prune juice, and apple cider are also good choices, as they are natural laxatives.
- Limit intake of cheese, dairy, and processed foods, which are naturally constipating.
- Eat small, frequent meals throughout the day rather than large meals.

## Keeping Your Lungs Clear: Breathing Exercises

When you first come home, you won't be as active as normal. Until you're back to a "normal activity level," you'll probably be taking smaller, more shallow breaths than usual. Taking several deep breaths every hour while you are awake will increase oxygen flow to the lungs to prevent pneumonia. This technique can also help you relax and ease your discomfort as you move and change position in the early days after surgery. Do the following simple activity about 6 – 10 times every hour:

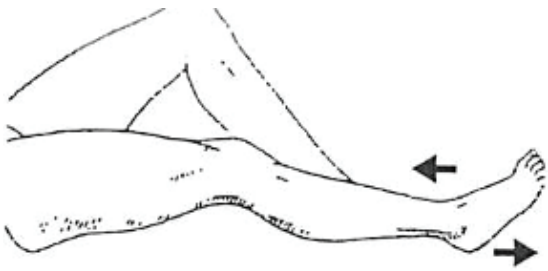
- Inhale deeply through your nose while counting to 5.
- Exhale slowly through pursed lips while counting to 5.

## Activity Recommendations

Patients often ask, "How much should I be walking?" and "What exactly should I be doing?" There are no right or wrong answers to these questions. We recommend:

- Wearing your brace or collar as instructed by your surgeon for your specific surgery.
- No specific "exercises" for your back or neck after surgery. Just walking and gradually increasing your general activity level.
- Frequent, low-intensity walking at first; don't worry about walking fast or far, as lots of short, gentle walks are best even if you are just walking from room to room in the house the first few days.
- Staying on firm surfaces (decks, patios, sidewalks, etc.); no grass, golf course, or beach until your first post-operative visit.

- You can gradually increase your distance as able; you can't really "overdo" it with walking, meaning you are unlikely to cause any structural problem in your back/neck. But you will want to weigh the benefits of increasing activity too soon with the increase in inflammation and discomfort you will likely experience if you get too aggressive.
- Until your first post-operative visit, no strenuous activity, no sports, and no driving. Just walk. Listen to your body and let it tell you if you are doing too much.
- If you are having a larger low-back procedure, you should plan to use a walker at first. Progress to a cane when your balance, strength, and confidence are good enough. How quickly you begin walking on your own without the cane is completely up to you, and it may be a gradual process. You may find yourself walking in your home without a walker/cane yet still wanting to use one for a while when out in the community where uneven surfaces, crowded spaces, and longer distances are more challenging. There's no absolute timeline—you'll progress at your own pace.
- Finally, you'll be expected to do **ankle pump exercises**. Right after surgery, when you're not as active as normal, ankle pumps promote circulation in your legs and help prevent blood clots. The exercise is simple, but getting in the habit of doing some ankle pumps every hour you're awake, can be a bit more difficult. If you begin practicing now, you can develop "muscle memory" making the habit of doing some ankle pumps every hour a bit easier after your surgery.



#### **ANKLE PUMPS**

Move your ankles up and down. Move your ankle in circles like a figure 8.

Your first post-operative office visit, about 2 weeks after surgery, will have been scheduled before your surgery. At any time before that, should any problems, questions, or concerns develop, please contact us. Almost all issues can be handled initially over the phone, although some may require follow-up in the office, usually the same or next day. It is usually more effective and more convenient for you if you contact us rather than someone unfamiliar with the details of your surgery, such as in an emergency room or urgent care setting. However, if you feel you may have a life-threatening condition, please do go directly to the closest emergency room or call 911.

# First Office Visit After Surgery

When you return for your first post-operative office visit:

- We will want to hear how you are doing with your return to typical daily activity and talk about next steps.
- We will talk about weaning pain medication as able.
- We will answer any questions you have. Write questions down so you'll remember to ask them. The more specific your questions, the more specific and helpful the answers can be.
- Your dressing will be removed, and your incision will be inspected. Incision care directions will be given depending on current healing.
- If you've been wearing compression stockings, you'll probably now be able to stop wearing them, as long as your activity level is adequate.
- You'll be given specific guidance on what to expect and your anticipated progress for the next few weeks.
- You'll be told if and when you need to continue wearing your brace or collar.
- You may notice some swelling around your incision. This is normal. Continue to use ice as needed. If any of these occur, please call the office immediately:
  - ◇ Drainage from the incision
  - ◇ Opening of the incision
  - ◇ Fever or chills
  - ◇ Increased redness or swelling around the incision
  - ◇ New or increased pain, numbness, tingling, or weakness

# About Your Spine

Your surgeon will share information with you about your condition and your planned surgery. The information provided here is basic and general in nature. It will give you definitions of many of the terms you may hear and reinforce the information your surgeon provides to help you understand how your spine functions and the options for your care.

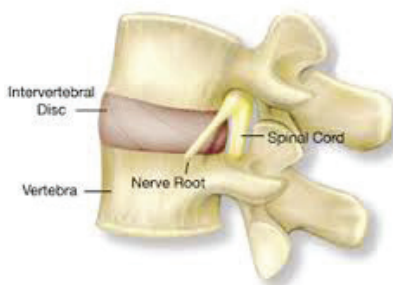


## Basic Spinal Anatomy

There are five major sections of the spine:

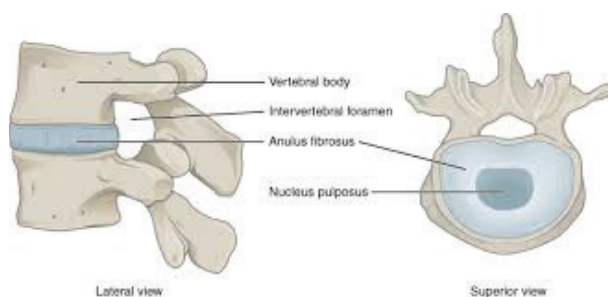
- **Cervical:** The neck region
- **Thoracic:** The upper trunk or ribcage region
- **Lumbar:** The lower back region
- **Sacrum:** A large triangular bone at the bottom of the spine
- **Coccyx:** The lowest bone in the spine, the “tailbone”
- The bones in each section are numbered starting at the highest point and often referred to by the first letter of the region. For example: L2 would be the second lumbar bone from the top of the lumbar section.

## Normal Spinal Segment



## Spinal Segment

The spine consists of bony segments called **vertebrae**. Between each two vertebrae is a structure called a **spinal disc**. The **spinal cord** runs up and down the spine, behind the discs. **Nerve roots** (bundles of nerve fibers) branch off of the spinal cord and exit the spinal canal through spaces between the vertebrae (spaces called intervertebral foramen). These nerves provide signals for muscle movement and for sensation to our arms and legs.



## Spinal Disc

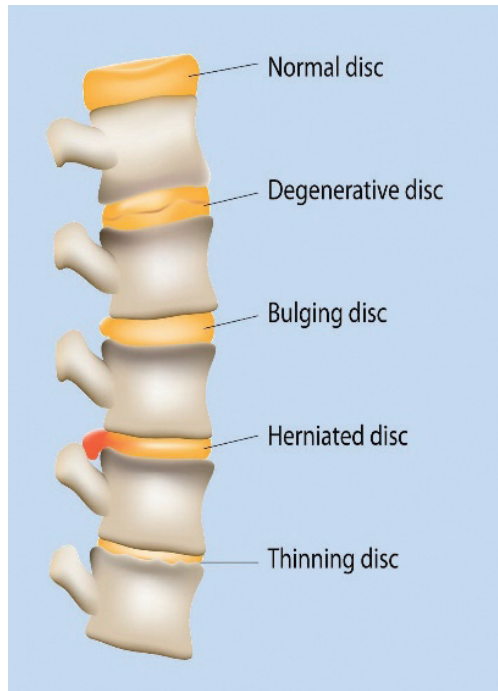
The spinal discs sit between each pair of bony vertebrae and function like shock absorbers as you move through the day.

- **Annulus:** The tough, fibrous outer covering that protects the soft, inner core.
- **Nucleus:** The soft, inner jelly-like center that provides cushioning between each two vertebrae.



## Common Spinal Problems

There are many different conditions that can occur in the spine. Most of these problems involve the disc or another structure putting pressure or compressing nerves, which then can cause a variety of symptoms including pain, tingling, or numbness. Some of the most common spine problems include:

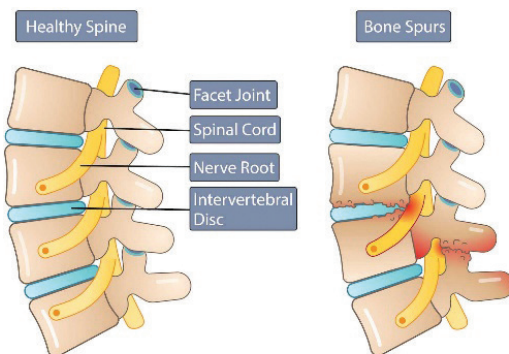


**Degenerated Disc:** Wear and tear or age can cause small tears in the outer layers of the annulus and may or may not cause any symptoms, but may be discussed in the reports of testing.

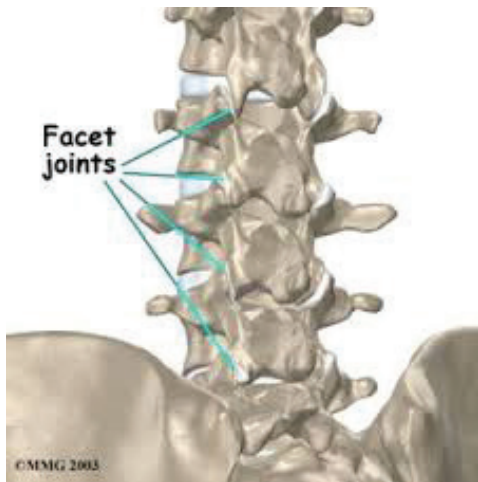
**Bulging Disc:** Tears in the inner lining of the annulus can allow the jelly-like nucleus to bulge outwards. This can result in pain, numbness, or tingling in the arm or leg if it presses against a nerve.

**Herniated Disc:** A complete tear of the outer covering (annulus) that allows the jelly-like nucleus to ooze out. If it presses on the nerve, it can cause pain, numbness, or tingling.

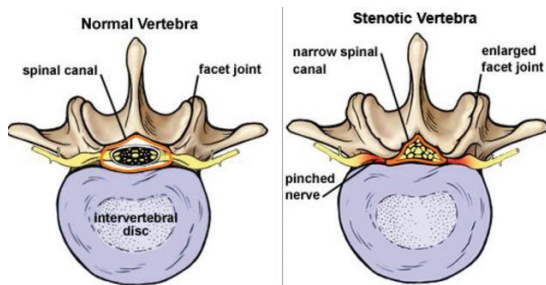
**Thinning Disc:** The wearing down of the outer protective layer (annulus) causing one vertebra to close in on the vertebra below it. If the annulus gets thin enough, there may not be enough space for the nerve that exits at that level. This can cause pain, numbness, or tingling.



**Osteophytes (or Bone Spurs):** Small, smooth, bony growths that may develop near the edges of a vertebral body or the facet joints. They don't always cause neck or back pain and don't always require medical treatment. A bone spur may become problematic if it compresses a spinal nerve or the spinal cord.



**Facet Joint Problems:** Between each two vertebrae, on the back of the spine, are a pair of small joints, called facet joints. They both allow and restrict motion as you bend or twist, they absorb your body weight and provide support. As with any other joint, a facet joint can develop arthritis, bone spurs, or age-related wear, each of which can cause pain.



**Spinal Stenosis:** Any narrowing of any of the spaces within the spine. This narrowing can be at any level of the spine and can be caused by any of the disc or bony problems listed above. If this narrowing causes pressure on the spinal cord or the nerves exiting the spine at that level, then there can be a variety of symptoms including pain, numbness or tingling, or strange sensations (paresthesia). If the stenosis is at certain levels in the low back, there can be changes in bowel or bladder function, which would need to be addressed immediately.

