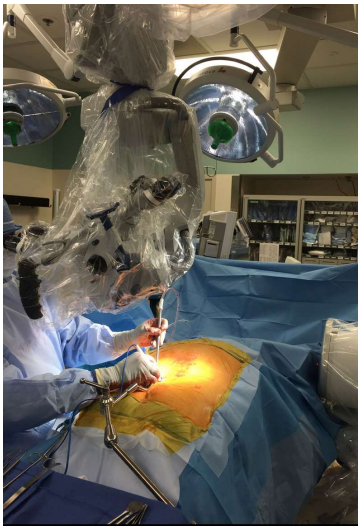
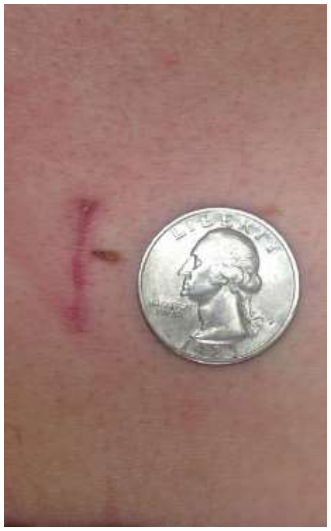
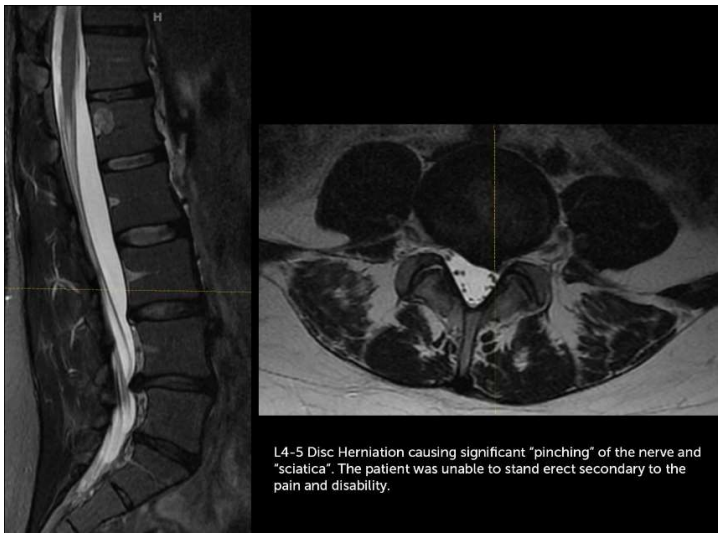
THE SPINE HOSPITAL

ColumbiaDoctors NewYork-Presbyterian The Allen Hospital

Lumbar Spine Surgery: What to Expect







OR Date: _____

Surgery:_____
_____
_____

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Fax: (212) 932-5097

Appointment Scheduling and After-Hours Line: 212-932-5100

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EMERGENCY INFORMATION:

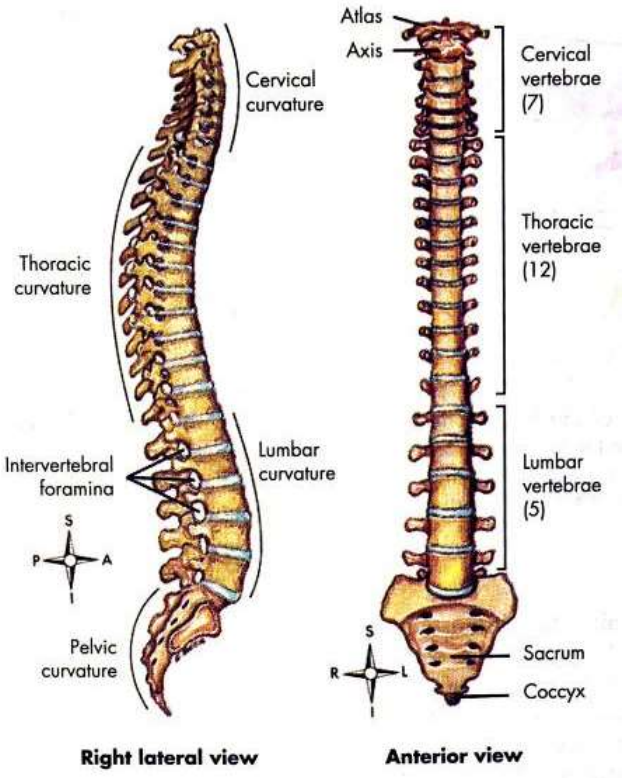
SIGNS OF AN EMERGENT SITUATION INCLUDE

- If you find in the first 5-7 days after your surgery that you cannot swallow even sips of water, you will possibly need to be re-admitted to the hospital for IV hydration.
- If you find that in addition to significant swallowing difficulties that the swelling makes it difficult to breathe, you will need to seek emergent care. If at all possible, it is best that you return to New York Presbyterian/Allen Hospital for your emergent care.
- Any signs or symptoms of an infection like severe redness, swelling, drainage or the edges of your wound have separated

Introduction

We have put this lumbar surgery booklet together to assist you in preparing for your surgery. We hope you find it helpful. Please read through this prior to your surgery so you are familiar with it.

Being more knowledgeable and prepared will hopefully decrease your anxiety and make your overall surgical experience better. You are in excellent hands with Dr. Lombardi.

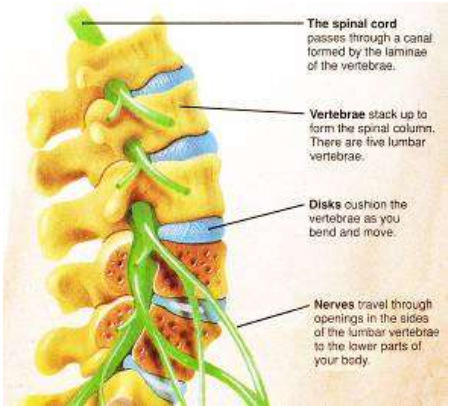


General Information

You are going to have spinal surgery. This is a decision reached by you and Dr. Lombardi after careful consideration.

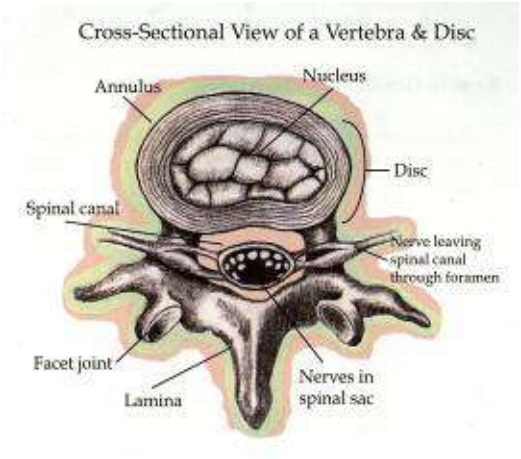
Your spine is made of 26 bones known as vertebrae (7 cervical, 12 thoracic, 5 lumbar, the sacrum and coccyx). Each vertebra is separated (except the top two neck vertebrae) by a disc. Each disc has a soft, jelly-like center surrounded by a tough outer layer of fibers known as the annulus. Discs, bony structures, ligaments and strong muscles stabilize the spine. The spinal cord passes through the bony spine.

The spinal cord is composed of nerves leading to and from the brain. It controls and transmits all muscle movement and sensation for the trunk, arms and legs. Nerve roots come from the spinal cord and carry electrical impulses to and from muscles, organs and other structures. These nerve roots can become pinched or irritated by abnormal conditions.



Some examples of conditions are herniated nucleus pulposis (HNP): otherwise known as a herniated disc, spondylolisthesis and degenerative disc disease with spinal stenosis. These conditions can also be corrected by a decompression or discectomy type surgery.

Dr. Lombardi will make an incision on your back. The location of your incision is dependent upon the type of surgery you will have. For a minimally invasive surgery you will likely have an incision about an inch long that is off center. For a multi-level decompression or discectomy, you will likely have a mid-line (in the middle) incision that is 2-3 inches.



During your surgery Dr. Lombardi will utilize an assistant surgeon who is a spine surgery resident. The spine surgery resident is in the process of completing Orthopedic Surgery training. Dr. Lombardi has been working with spine residents for greater than 5 years. He enlists these surgeons to ensure that your surgery is efficient and safe, as all surgeries are enhanced by having at least two skilled surgeons. Please do not hesitate to reach out to Dr. Lombardi's clinical staff if you have any questions.

IMPORTANT NOTE: Unfortunately, Dr. Lombardi's schedule is variable due to the highly complex nature of his practice. In addition to his own patients that may have urgent issues, he is often asked to take care of many other surgeons' most complex cases, some with severe medical or spinal cord/nerve root-related issues that require priority scheduling. We will do our best to minimize any rescheduling but occasionally it is impossible to avoid. We apologize in advance if this occurs in your case. Your surgery date and/or your pre-op visit date may change; please plan accordingly.

Lumbar Decompression and Discectomy Surgeries

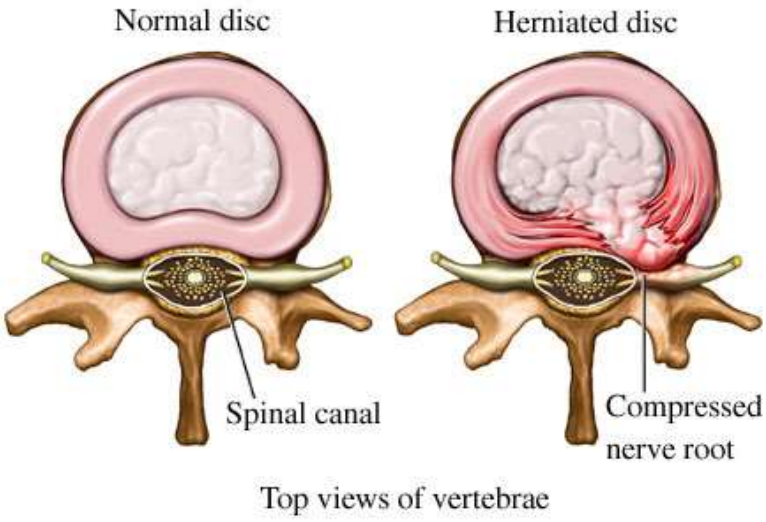
Discectomy: The excision of the intervertebral disc material that may be described as herniated, implying "bulging" or "ruptured" through the ligaments. If the central fragment of disc material has torn through a hole in the ligament, it is called an extruded fragment or extruded disc. The term herniated nucleus pulposus (HNP) is a catchall phrase for all of these conditions.

Decompression: This procedure is carried out to relieve pressure on the spinal cord or nerve roots. The pressure may result from fracture fragments, disc fragments, bone spurs, tumors or infections.

Surgery often helps to relieve your leg pain, numbness, tingling and weakness. This is done by eliminating the pressure on the nerves by removing disc material or bone from the spine. This will allow you to move with greater ease.

Your back and leg symptoms are caused by pressure on a nerve. This pressure comes from a damaged disc or by bone growth. Constant wear and tear can make a disc weak and worn out. This allows the disc to bulge. If the outside of the disc (the annulus) tears the soft insides of the disc can herniate out. This can pinch your nerves. As your spine ages, bone spurs can form and grow into the foramen (area where the nerve comes out) of your vertebrae. The bone spurs then press on your nerves in the spinal canal or through the foramen. The joints in your spine (facets) can enlarge with arthritis and press on your nerves. The ligament that holds your vertebra together may also thicken causing further spinal stenosis (narrowing of the spinal canal) and pressure on the nerves.

Dr. Lombardi will do a surgery to relieve this pressure. He will make an incision on your back that will allow him to access the affected area. The incision size will vary depending on how many levels of your spine Dr. Lombardi needs to address. Dr. Lombardi uses a microscope during the surgery to help enlarge the view of your spine and ensure accuracy. Dr. Lombardi will remove a small piece of bone (the lamina) to allow access to the herniated disc, ligament or bone spurs that may be pressing on your nerves. This is called a laminotomy. If there is no herniated disc, the laminotomy alone will help take pressure off of the nerve. He may also remove bone in the foramen area, if necessary (foraminotomy). This will allow room for your nerves to breathe and take the pressure off of them, thus eliminating pain, weakness and numbness.

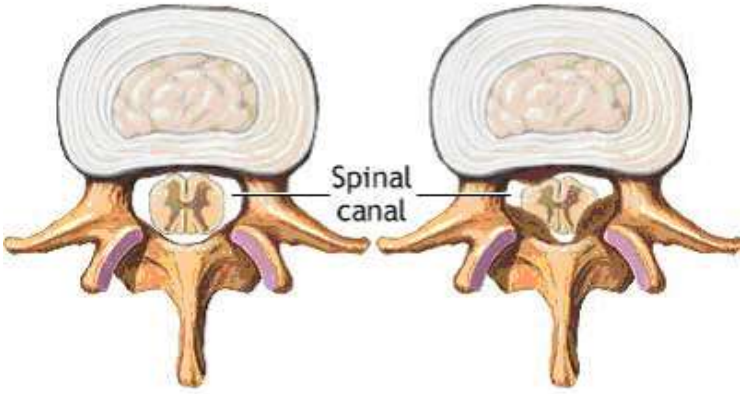


Top views of vertebrae

When the surgery is completed, Dr. Lombardi will close your incision with dissolvable sutures under the skin and Dermabond- Prineo on the outside of your incision.

Post-operative pain is different for each patient. Numbness is always the last thing to improve after this surgery. It can take twice as long as you have had the numbness for sensation to return. For example, if you had a numb left foot for 1 month, it may take 2 months to show improvement of the numbness. Pain and strength respond very quickly. For the first 6 weeks, some patients experience intermittent radiating pain similar to the pain they had before surgery. This is related to the fact that Dr. Lombardi had to protect the nerve during surgery. It can also be inflammation from having surgery and nerve recovery. This pain should subside with time. Please contact Dr. Lombardi's office with any complaints of consistent pain or if you have any questions about your post operative pain.

Spinal stenosis is a narrowing of the spinal canal



Risks of Surgery:

There are risks associated with any surgery. Dr. Lombardi would not recommend this procedure for you unless the expected benefits far outweigh the risks. We tell you about these risks not to scare you, but to make sure you have all the information you need to make an informed decision. Keep in mind that for all risks, steps are taken to minimize and/or prevent them from occurring.

Some risks/complications are minor and can be easily treated. Consider these a "bump in the road" but nothing that will affect your ultimate recovery. We can't list, nor can we predict every possible thing that may happen. Following are some of the more common minor complications that may occur:

- Muscle soreness/painful pressure areas (especially in the chest area) from positioning in surgery – Padding and special tables are used in the operating room.
- Skin numbness on the back near the incision – very common but sensation improves over time.
- Superficial wound infection – antibiotics/sterile technique used.
- Bladder infection – possible from having a Foley catheter. A urine culture will be checked when the catheter is removed and you'll be treated with oral antibiotics if you have an infection.
- Excessive pain – controlled with pain medication.
- Constipation – due to anesthesia and narcotics. **Stool softeners with a laxative should be taken until you feel "regular."** Suppositories or enemas can also be used.
- Ileus – Slowing of the abdominal tract with bloating and constipation caused by the surgery, anesthetics, pain medicine and postoperative inactivity. The use of laxatives and suppositories may help this to resolve – usually the key is patience while Mother Nature runs her course.
- Transient nerve irritation (pain/numbness/weakness) – from manipulating/moving nerves during surgery. Spinal cord monitoring is done during surgery to warn the surgeon of any problems.
- Blood clot in your leg – TED hose and sequential compression devices used. It is VERY important that you do plenty of walking postoperatively to prevent blood clots from forming**.** Also avoid crossing your legs for long periods of time for the first several months postoperatively.
- Spinal fluid leak/dural tear – If this occurs, the dura is repaired during surgery and you will be kept on bedrest for 1-2 days.
- Postoperative pulmonary problems – fluid in the lung/collapsed lung. Chest tube used for anterior thoracic surgeries, incentive spirometer and other pulmonary treatments used postoperatively.
- Postoperative confusion/dementia from anesthesia/narcotics – normally clears up when narcotic medication is discontinued. Very rare in children; more common in elderly patients.
- Postoperative depression- this can be quite common most likely related to a combination of anesthesia and a feeling of weakness and helplessness. You may need to contact your primary medical doctor for an anti-depressant temporarily.

Other more significant complications are very rare but still need to be mentioned. Again, steps are taken to reduce the possibility of any risks. Some of the major risks of spine surgery are:

- Neurologic deficit, up to and including paralysis – Spinal cord monitoring is utilized during surgery to pick up nerve irritation/ spinal cord problems. Wake-up tests are also sometimes performed during surgery. (see page 6-7)
- Pulmonary Embolism – again, measures are taken to prevent blood clots in your legs that could break free and travel to your heart or lungs. Some patients will have a filter placed preoperatively to avoid such problems.

- Deep wound infection necessitating surgery to clean out your wound and long term antibiotic treatment – again, sterile technique and antibiotics are used
- Major medical problems – stroke, heart attack, etc. up to and including death cannot be predicted. We obtain preoperative lab work to screen you medically and, if necessary, have you cleared for surgery by your primary care physician.

You will have General Anesthesia for your surgery. Anesthesia risks include throat discomfort; injury to teeth, dental work, eyes (including blindness) & vocal cords (which may affect your ability to speak); headache, backache, nerve damage, awareness under anesthesia, allergic reactions, stroke and heart attack. The anesthesiologist will discuss this with you in more detail before your surgery.

Wake-Up Test

During and/or after your surgery, you will be asked to perform several maneuvers that will test your neurological function. **IF** this is done during surgery, you should not feel any pain and most patients do not remember it. As you will be under the influence of anesthesia, it is important that you are familiar with what will be requested of you prior to your surgery. Please practice the following with the assistance of a family member: (repeat steps with both legs)

- With someone holding under your foot, push down as if you are stepping on the gas pedal.
- With someone holding on the top of your foot, pull up against their hand.
- Hold your leg straight and elevated off the bed. Have someone try to bend it at the knee – don't let them bend it.
- Have someone hold their hands outside your knees and gently push in. Try to push your knees out against them.
- Have someone hold their hands inside your knees and gently push out. Try to push your knees in against them.
- Have someone hold their hand on your knee and gently push down. Try to bend your knee up against them.

KEY PHRASES THAT YOU WILL HEAR IN THE OPERATING ROOM ARE:

1. "SQUEEZE MY HAND"
2. "MOVE YOUR FEET AND TOES UP AND DOWN"
3. "POINT YOUR TOES TO YOUR NOSE"
4. "PUSH DOWN ON THE GAS PEDAL"
5. "STRAIGHTEN YOUR KNEES"
6. "PUSH OUT WITH YOUR KNEES"
7. "PUSH IN WITH YOUR KNEES"

Insurance Preauthorization

Our office will submit your surgical plan to your insurance company for preauthorization (aka precertification). If you have any insurance questions, please reach out to my surgical scheduler at 212-932-5105.

DO NOT BE CONCERNED IF YOU GET A LETTER SAYING THAT YOU ARE APPROVED FOR ONLY 1 to 2 DAYS IN THE HOSPITAL. This is normal – preauthorization basically gives you permission to be admitted and have surgery. Someone at the hospital will review your chart making sure it is still appropriate/medically necessary for you to be in the hospital and communicate this to your insurance company. You should call your insurance company to make sure that Dr. Lombardi is a provider and to find out what your out-of-pocket expenses will be.

Patients Traveling Long Distance for Surgery (More Than 4-6 Hours Away)

We encourage you to plan on staying in the greater New York area at a local hotel/motel for a few days after discharge – possibly even 1-2 weeks depending on the magnitude of surgery and how you are doing. This makes it much easier for us to help you if problems occur in the early postoperative period and you do not live within easy driving distance.

When booking your hotel accommodations, make sure you request a handicapped room.

If you are driving, it is recommended that you plan on driving no longer than 5 hours a day. It is also recommended that you stop every 1 to 1½ hours to get out of the car and walk in order to get your heart pumping and your blood circulating (this will prevent blood clots from forming).

If you are flying home, you should contact the airport to have someone meet you with a wheelchair so they can assist you. When making your reservations, it is advisable to ask for an aisle seat in the front row for easier accessibility.

We recommend you get flexible flights and investigate if various airlines will waive change fees. Dr. Lombardi's schedule changes frequently; it is also difficult to anticipate when you will feel strong enough to fly home.

Preparing for Surgery: BEFORE Your Operation

The stronger and more fit you are prior to having surgery, the better you will do postoperatively!!!

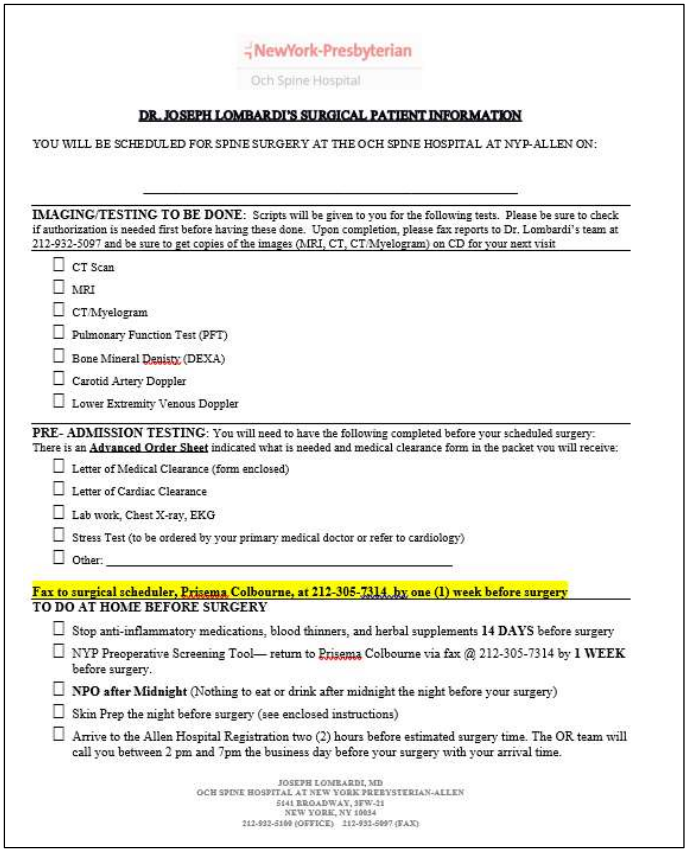
Suggested activities are walking, swimming and deep breathing exercises. Cardio and/or aerobic exercises are also helpful if approved by your medical doctor.

Pre-Operative Testing:

Before your operation it will be necessary to have blood tests, a chest x-ray and/or an EKG performed to evaluate your general condition before undergoing anesthesia. All patients will need to have a medical evaluation by their internist prior to surgery. Some patients will require cardiac clearance as well

Please see your Pre-Operative To-Do list that my clinical team will provide for you at your appointment for a list of what you need to have done before you can have surgery. Remember, these are not orders or prescriptions. This is for your own reference to keep track of what you need to have done before your surgery.

You will be given a packet that includes a letter for your doctor, the advanced orders sheet and all prescriptions needed for your pre-admission testing/clearance.



NewYork-Presbyterian
Och Spine Hospital

DR. JOSEPH LOMBARDI'S SURGICAL PATIENT INFORMATION

YOU WILL BE SCHEDULED FOR SPINE SURGERY AT THE OCH SPINE HOSPITAL AT NYP-ALLEN ON:

_____

IMAGING/TESTING TO BE DONE: Scripts will be given to you for the following tests. Please be sure to check if authorization is needed first before having these done. Upon completion, please fax reports to Dr. Lombardi's team at 212-932-5097 and be sure to get copies of the images (MRI, CT, CT/Myelogram) on CD for your next visit

- ☐ CT Scan
- ☐ MRI
- ☐ CT/Myelogram
- ☐ Pulmonary Function Test (PFT)
- ☐ Bone Mineral Density (DEXA)
- ☐ Carotid Artery Doppler
- ☐ Lower Extremity Venous Doppler

PRE- ADMISSION TESTING: You will need to have the following completed before your scheduled surgery: There is an **Advanced Order Sheet** indicated what is needed and medical clearance form in the packet you will receive:

- ☐ Letter of Medical Clearance (form enclosed)
- ☐ Letter of Cardiac Clearance
- ☐ Lab work, Chest X-ray, EKG
- ☐ Stress Test (to be ordered by your primary medical doctor or refer to cardiology)
- ☐ Other: _____

Fax to surgical scheduler, Prisema Colbourne, at 212-305-7314 by one (1) week before surgery

TO DO AT HOME BEFORE SURGERY

- ☐ Stop anti-inflammatory medications, blood thinners, and herbal supplements **14 DAYS** before surgery
- ☐ NYP Preoperative Screening Tool— return to Prisema Colbourne via fax @ 212-305-7314 by **1 WEEK** before surgery.
- ☐ **NPO after Midnight** (Nothing to eat or drink after midnight the night before your surgery)
- ☐ Skin Prep the night before surgery (see enclosed instructions)
- ☐ Arrive to the Allen Hospital Registration two (2) hours before estimated surgery time. The OR team will call you between 2 pm and 7pm the business day before your surgery with your arrival time.

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OCH SPINE HOSPITAL AT NEW YORK PRESBYTERIAN-ALLEN
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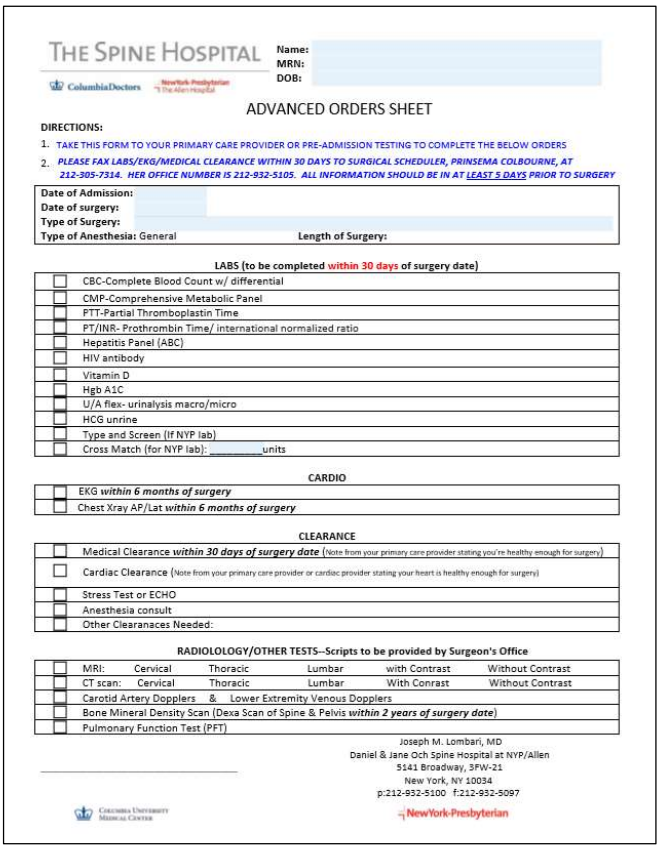

THE SPINE HOSPITAL
ColumbiaDoctors NewYork-Presbyterian The Allen Hospital

Name:
MRN:
DOB:

ADVANCED ORDERS SHEET

DIRECTIONS:

1. TAKE THIS FORM TO YOUR PRIMARY CARE PROVIDER OR PRE-ADMISSION TESTING TO COMPLETE THE BELOW ORDERS
2. ***PLEASE FAX LABS/EKG/MEDICAL CLEARANCE WITHIN 30 DAYS TO SURGICAL SCHEDULER, PRINSEMA COLBOURNE, AT 212-305-7314. HER OFFICE NUMBER IS 212-932-5105. ALL INFORMATION SHOULD BE IN AT LEAST 5 DAYS PRIOR TO SURGERY***

Date of Admission:	
Date of surgery:	
Type of Surgery:	
Type of Anesthesia: General	**Length of Surgery:**

LABS (to be completed within 30 days of surgery date)

- ☐ CBC-Complete Blood Count w/ differential
- ☐ CMP-Comprehensive Metabolic Panel
- ☐ PTT-Partial Thromboplastin Time
- ☐ PT/INR- Prothrombin Time/ international normalized ratio
- ☐ Hepatitis Panel (ABC)
- ☐ HIV antibody
- ☐ Vitamin D
- ☐ Hgb A1C
- ☐ U/A flex- urinalysis macro/micro
- ☐ HCG unrine
- ☐ Type and Screen (If NYP lab)
- ☐ Cross Match (for NYP lab): _____units

CARDIO

- ☐ EKG ***within 6 months of surgery***
- ☐ Chest Xray AP/Lat ***within 6 months of surgery***

CLEARANCE

- ☐ Medical Clearance ***within 30 days of surgery date*** (Note from your primary care provider stating you're healthy enough for surgery)
- ☐ Cardiac Clearance (Note from your primary care provider or cardiac provider stating your heart is healthy enough for surgery)
- ☐ Stress Test or ECHO
- ☐ Anesthesia consult
- ☐ Other Clearanaces Needed:

RADIOLOLOGY/OTHER TESTS--Scripts to be provided by Surgeon's Office

- ☐ MRI: Cervical Thoracic Lumbar with Contrast Without Contrast
- ☐ CT scan: Cervical Thoracic Lumbar With Conrast Without Contrast
- ☐ Carotid Artery Dopplers & Lower Extremity Venous Dopplers
- ☐ Bone Mineral Density Scan (Dexa Scan of Spine & Pelvis ***within 2 years of surgery date***)
- ☐ Pulmonary Function Test (PFT)

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Columbia University Medical Center
NewYork-Presbyterian

Medical Clearance: Your primary care manager (internist or primary care doctor) will need to write a note stating you are healthy enough for surgery. There will be a worksheet provided to you with your surgery confirmation packet. If you doctor chooses to write a note rather than complete the worksheet that is acceptable.

Cardiac Clearance: For patients with a cardiac history or over the age of 50, Dr. Lombardi requires that a cardiologist state that their heart is healthy enough for surgery. You will get a prescription for cardiac clearance in your advanced order sheet.

All preoperative results and clearances should be faxed to my surgical scheduler before your scheduled surgery date.

PREPARING YOUR HOME

- ☐ Make or have made single servings of food to freeze (larger meals for you and your family).
- ☐ You cannot sleep on a mattress on the floor or on a free float waterbed
- ☐ Plan an "indoor track" cleared of obstacles. Remove throw rugs. Plan to walk your "track" 6 times a day for at least 5 minutes per walk.
- ☐ Install adjustable height hand held shower head (optional) Apply non-skid stickers/mat to bathtub/shower.
- ☐ Be careful with pets (dogs, cats) as you won't want to trip over them.

Please note: Your occupational and physical therapist will help you obtain a wheeled walker prior to discharge, if needed.

HELP YOU MAY NEED:

- ☐ Arrange for someone to pick you up from the hospital in a reasonable vehicle.
- ☐ Arrange for someone to stay with you for **2-6 weeks** after you go home from the hospital. Length of time depends on the magnitude of surgery and your recovery. It's better to have too much help than not enough. If after the first couple of weeks you feel okay to be on your own with someone "on call", it's easier to cancel planned help than to scramble at that point to find someone to stay with you.
- ☐ Arrange for someone to assist you with light to heavy household chores (cleaning, laundry, etc.)
- ☐ Arrange for someone to do the grocery shopping.
- ☐ Arrange for transportation for 2 weeks (you will not be able to drive for approximately 2 weeks or more until you are off the heavier narcotics).

DO NOT FORGET

The night prior to your surgery **DO NOT DRINK OR EAT ANYTHING AFTER MIDNIGHT** the night before your surgery.

It is suggested to eat light meals the day before surgery and make sure your bowels have been regular prior to surgery.

ITEMS TO BRING WITH YOU TO THE HOSPITAL:

- Please leave all valuables at home.
- You will need to bring any personal toiletry items you feel you will need during your hospital stay (toothbrush, toothpaste, comb, brush, deodorant, lotion, etc.).
- Do not bring your home medications to take in the hospital as they will be provided by the hospital pharmacy. This includes narcotics! It is a good idea to bring a list of your medications and the dosages so they can be correctly ordered for you. (If you live far away and are going to be staying for a period of time after discharge (not counting a rehab stay), you WILL need your own routine medications so bring a supply with you. We will give you prescriptions for postoperative pain medication.
- **Clothing:** Hospital gowns are available for you to wear. It is easier to wear the hospital gown due to all the various IV lines and tubes and so we are able to easily check your dressing and incision. You may bring rubber-soled slippers. Loose-fitting clothing with elastic waistbands are recommended after discharge as they are easier to put on and take off and you may have some postoperative swelling.

***Please arrive on time for your surgery*.** The OR staff will also call you between 4pm and 7pm the day before to confirm your arrival time.

On days where Dr. Lombardi does more than one case please be prepared to wait. The entire team works very hard to run an efficient OR but sometimes surgery goes slower than expected.

Prior to the Day of Surgery

Light meals are recommended the day prior to surgery. Nothing to eat or drink after midnight the night before your surgery. You can brush your teeth, just do not swallow any water.

Medications to Stop Before Surgery:
Some medicines can make you bleed longer so need to be stopped preoperatively.

- **Aspirin** products and **blood thinners** (Coumadin, Persantine) need to be stopped 2 WEEKS prior to surgery. Talk to the ordering physician for instructions on stopping and restarting these medications. Please make sure these instructions are included with your clearance so Dr. Lombardi's team can care for you appropriately.
- **Non-steroidal anti-inflammatory medications** (such as Advil, Aleve, Ibuprofen, Motrin, Clinoril, Indocin, Daypro, Naprosyn, Celebrex, Vioxx, etc.) need to be stopped 2 WEEKS before surgery. Tylenol products are suggested.
- **Bone strengthening** medications need to be stopped 2 WEEKS before surgery. Forteo may be resumed 1 week postop. Fosamax and Reclast may be resumed at 4 months postop.
- **Hormones** (such as birth control) will need to be stopped 1 MONTH before surgery and can be continued 2 weeks after surgery.
- Medications such as Insulin and Prednisone have specific instructions that may need to be adjusted prior to your surgery. Please let your surgeon know all medications you are on.

Medications for blood pressure, heart and breathing may be taken with a small sip of water the morning of surgery. The OR will provide you with instructions the day before your surgery.

REMINDER for Out of Town Patients: For those patients coming from out of town, bring your home medications with you. You will not need them during your hospital stay but will need them once you are discharged.

Breast Implants: Patients with breast implants need to be aware that there is an increased risk of skin irritations, abrasions, and implant rupture during surgery while prone on the OR table. Dr. Lombardi will do all that he can to optimize positioning.

Pacemakers: Patients with **pacemakers** need to give us a copy of their card with the pacemaker make/model and settings. The electrical currents in the operating room could alter pacemaker rhythm if the settings are not adjusted. Someone will come into the OR at the beginning and end of the surgery to reset it.

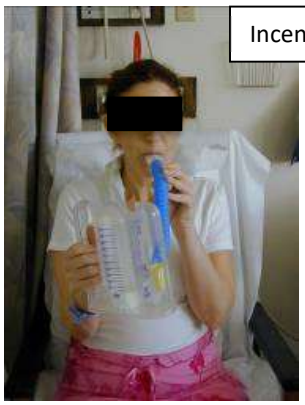
Immediately After Surgery

Adult patients at The Spine Hospital (New York Presbyterian- the Allen Hospital) will be taken to the recovery room (PACU Post Anesthesia Care Unit). After your stay in the recovery room, you will have physical therapy and be discharged home in the afternoon. If an overnight stay in the hospital is required, you will be transferred to the spine floor, 2 River West.

- You may have a cardiac monitor on to watch your heart rate and rhythm.
- You will have oxygen to make breathing easier.
- You will wear inflatable sequential pumps and may also wear elastic stockings (TED hose) on your legs. Both the TED hose and sequential pumps are used to help prevent blood clots.
- You may have a Foley catheter. This is a tube that is placed into the bladder to drain urine. The catheter will be inserted after you are asleep in surgery. Your nurse will monitor the amount and color of your urine to make sure you are getting enough fluids. The Foley catheter will be removed once you are able to get out of bed fairly easily.
- You will have one or more drains (Hemovac) near your incision(s). These drains collect excess bleeding and drainage from under the skin. This keeps your wound from swelling and helps the doctors estimate your blood loss.
- Your nurse will be monitoring your intake and output.
- Your diet with be advance as tolerated (ADAT). This means as long as you are tolerating food without nausea or vomiting, you will be allowed to eat what you would like.

Please remember that during your hospital stay you will have a list of “as needed medications” or “PRN” meds, as the medical staff refers to, that will always be available to you. These medications will be for symptoms such as muscle spasms, nausea, indigestion, pain and itching. PLEASE speak to your nurse if you have any symptoms that are not being controlled so she can go over the “PRN” medication list with you.

Nurses will be listening to your lungs and helping you take deep breaths and cough. An Incentive Spirometer (IS) is also used to help you measure how deeply you breathe. It is recommended you use your incentive spirometer 10 breaths every hour during the day (7:00am - 11:00pm) during your hospital stay. **Family members, please remind your loved one to use the IS frequently in the hospital**.



Incentive Spirometer

Postoperative Pain Management

Pain is an uncomfortable feeling that tells your body something has happened. Receptor nerve cells in and beneath your skin sense pain and send the "message" of pain to your brain. Pain medicine blocks these messages or reduces their effect on your brain.

After your surgery, you will be on special pain medicines to help keep you comfortable. Morphine and Dilaudid are most commonly used. Please be sure to tell your doctors and nurses if you know you are allergic to one of these medications.

You may have a special pump, called a **Patient-Controlled Analgesia** pump or **PCA**, will administer your pain medicine. This pump is at your bedside and you will be able to control the pain medicine.

Shortly after you wake up from surgery, the PCA pump will be hooked up for you to use. The medicine will go right into your "IV" line only when you want it to. This way you don't have to call the nurse to get a shot. The PCA pump has a special button you push when you think you need more pain medicine. **The button is only for your use, not to be pushed by the nurse or your family.** We make sure your PCA is set up so you don't give yourself too much medicine.


PCA Button

Spine Pain Team:
Because we think pain relief is so important, you will see the Pain Team, a special group of nurse practitioners that will help you achieve better pain control. The Pain Team is part of the Department of Anesthesia. Too much pain medicine is not good for your heart, lungs, stomach or your brain. If you feel that your pain is not at a manageable level, please tell your doctor or nurse.

Oral Pain Medication:
When you pain is managed or if you are planning to be discharged the day or surgery, you may be started with oral pain medication. These are the medications that you will be discharged with. Most patients with a discectomy or decompression surgery will be discharged with the following medications.
Celebrex (or other anti-inflammatory)- to help with any post op swelling and pressure on your nerves
Neurontin (Gabapentin)- to keep your nerves calm after surgery
Tylenol- first line of pain control
Oxycodone- second line pain control

Consider talking with your primary care doctor regarding this issue to see if he/she will assume your pain management after surgery.

Postoperative Activities & Precautions

Physical Therapy (PT) will work with you twice a day in the hospital on activity and ambulation.

Occupational Therapy (OT) will see adult patients if needed.

Bending and Lifting and Twisting:
To help protect your incision, minimize bending or lifting anything weighing more than 10 pounds for the first 6 weeks after surgery.

Other Tips to Protect Your Spine

- Bend your knees and stoop if you need to pick something up below hip level (preferably not for the first 6 to 8 weeks).
- When you lift something, keep it close to your body so that your leg and arm muscles do the work.
- You may find it easier to dress and undress sitting in a supportive chair with armrests.
- Avoid pushing, pulling or twisting. Avoid lifting anything over 20 lbs.
- Walk to stay in shape and keep your spine healthy.

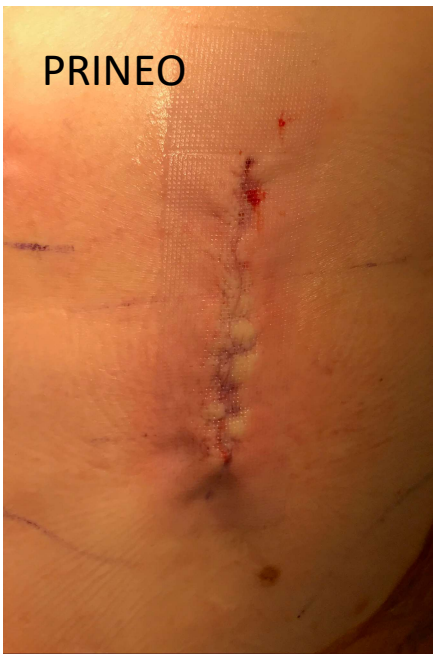
Discectomy Patients: Avoid sitting in a straight back chair for more than 30 minutes at a time. This will help to avoid putting you at risk of re-herniating a disc.

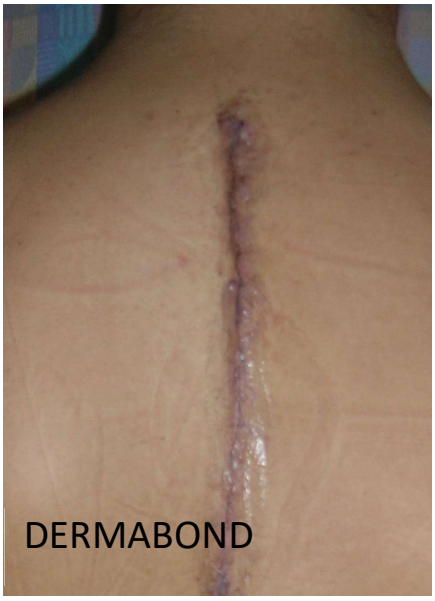
Walking is EXCELLENT exercise. Walking helps your pulmonary, cardiovascular and digestive systems. It also prevents blood clots from forming and it increases muscle strength and endurance. Once you are home it is important to continue walking activities. Clear a “path” in your home for an imaginary track. Walk this “track” 6-8 times/day for at least 5 minutes, increasing every few days, as tolerated.

Your physical therapist will practice stairs with you before you go home. You should use a handrail when possible. Never use a walker on the stairs. Your therapist may have special instructions for you depending on your home environment and physical abilities.

Incision(s)

Generally, patients are sent home with glue (Dermabond or Prineo) or Steri-Strips (small tape strips) on their incision(s). Occasionally, staples are used. Family members/caregivers will not need to apply anything to the incision(s) at home, they just need to check them a couple times a day to observe for wound problems. Allow the glue or Steri-Strips to fall off on their own. If they are still there 3 weeks postoperatively someone may remove them. Remember DO NOT scratch the Dermabond or Prineo.





It is very common for the patient to report numbness around the incision(s) after surgery. This is expected with any skin incision and the area of numbness gradually shrinks with time but may take up to 1-2 years.

Bathing

Most patients will be able to shower **2 weeks** after surgery. If you have staples or skin stitches it may be longer. Dermabond-Prineo is used on the outside of the incision; the stitches underneath the skin dissolve on their own and if they get wet, they dissolve too quickly and wound problems may develop. You may gently wash the area **around** (not over) the incision and pat it dry but no showers for the first 2 weeks after surgery. Once the incision can get wet, you may stand in the shower or use a shower bench.

For some patients it may be difficult to determine the safest equipment due to architectural barriers or environmental structures at home. Discuss these issues with your occupational therapist while you are still in the hospital.

Summary of Activities

First Few Weeks
Expect to feel weak and tired when you first get home. You should feel a little stronger each day. Keep moving as much as you can without increased pain. Walking is the best and only exercise you will perform.

Preventing Setbacks
Increased pain for more than 2 hours after an activity usually means you've done too much too soon. Don't just reach for the pain pills. Take pain as a warning sign to slow down and pay attention to your posture and movements. Make sure you're bracing your abdominal muscles and keeping your ears, shoulders and hips in line.

Walking Program
Walking is the best exercise after back surgery. It strengthens your back and leg muscles and increases your endurance. It also relieves stress, which can cause the muscles in your back to tighten. You should take several (6 to 8) walks a day that are at least 5 minutes long. Brace your abdominal muscles and take medium strides.

Six Weeks and After
By about the 6th week, your back is well on its way to healing. If you're using correct posture and movements and exercising regularly, you should feel better and be able to do more each week. Continue to let pain be a warning to slow down. Your restrictions are lifted at this point.

Physical therapy
Most patients will start physical therapy at about 4-6 weeks after surgery, unless otherwise indicated by Dr. Lombardi.

Sexual Relations
You should generally wait until about 6 weeks after surgery. Lying on your back with the support of the mattress is preferable. Side-lying positions may be more comfortable since you won't bear any weight. Avoid arching your back. Avoid a lot of back motion or stress on your spine.

Pets
If you have pets, you may need assistance to care for them after surgery. You will not be able to lift heavy bags of dog/cat food or bend down to the floor to fill their dishes. You especially will **NOT** be able to walk your large dog using a leash for the first few weeks after surgery. Too often a dog will take off and jerk as you try to hold onto the leash which can cause injury to your spine. It is very easy to trip over your pet if they are underfoot. Please make arrangements for assistance with pet care after your surgery.

Lumbar Discectomy Post-Operative Instructions

Wound Care:

- Keep your incision area clean and dry. Dressings are not required - can leave open to air
- Do not put any kind of ointments or antimicrobial solutions over the incision or Prineo dressing.
- Please call the office if you notice any drainage, redness, swelling, increased pain at the incision site or if you have a fever of greater than 101°F/38.5°C
- At 2 weeks post op, please send clinical staff a picture of your incision via email.
-

Showering:

- DO NOT take a shower for 2 weeks after surgery- Your incision cannot get wet.
- No need to cover the incision - leave open to air.
- After 2 weeks, you may shower. Let the soap and water run over your incision. Do Not Scrub the incision. Pat dry.
- DO NOT take a bath in the bathtub or get into any type of pool for at least 4 weeks, or until the incision is well healed.

Activities:

- You may walk as much as you like. Walking is good for you. We recommend low impact aerobic activity.
- You may recline in a reclining chair.
- Physical therapy will start after 4 weeks unless otherwise indicated by Dr. Lombardi. You should get a prescription at your 4 week Post Op visit with Dr. Lombardi

Restrictions:

- Limit sitting in a straight back chair to 30 minutes at a time. If you need to sit in a straight chair for longer than 30 minutes, use a towel roll or lumbar support behind your low back for support
- Do not pick up any objects weighing more than 20 pounds (for example a full gallon of milk) for at least 6 weeks following your date of surgery.
- No athletic activities until you have discussed your limitations with Dr. Lombardi at your 4 week check up.

Medications:

- Please take your medication as directed on your hospital discharge instructions.
- IMPORTANT: Refills of medications need to be done during business hours-NO pain medications will be given over the phone after hours.

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Lumbar Decompression Post-Operative Instructions

Wound Care:

- Keep your incision area clean and dry. Dressings are not required - can leave open to air
- Do not put any kind of ointments or antimicrobial solutions over the incision or Prineo dressing.
- Please call the office if you notice any drainage, redness, swelling, increased pain at the incision site or if you have a fever of greater than 101°F/38.5°C
- At 2 weeks post op, please send Samara a picture of your incision via email (ss4049@cumc.columbia.edu).

Showering:

- DO NOT take a shower for 2 weeks after surgery- Your incision cannot get wet.
- No need to cover the incision - leave open to air.
- After 2 weeks, you may shower. Let the soap and water run over your incision. Do Not Scrub the incision. Pat dry.
- DO NOT take a bath in the bathtub or get into any type of pool for at least 4 weeks, or until the incision is well healed.

Activities:

- You may walk as much as you like. Walking is good for you. We recommend low impact aerobic activity.
- You may recline in a reclining chair.
- Physical therapy will start after 4 weeks unless otherwise indicated by Dr. Lombardi. You should get a prescription at your 4 week Post Op visit with Dr. Lombardi

Restrictions:

- Do not pick up any objects weighing more than 20 pounds (for example a full gallon of milk) for at least 6 weeks following your date of surgery.
- No athletic activities until you have discussed your limitations with Dr. Lombardi at your 4 check-up.

Medications:

- Please take your medication as directed on your hospital discharge instructions.
- IMPORTANT: Refills of medications need to be done during business hours-NO pain medications will be given over the phone after hours.

Conclusion

The purpose of a lumbar decompression or discectomy is to relieve your leg pain, weakness, numbness and tingling by taking the pressure off the nerves.

We have put this book together to provide reasonable guidelines for you and your family to follow. Avoid things that put pressure or stress on your spine. Remember, with all activities, to keep your spine in good alignment.

Your nurse, social worker, physical therapist and occupational therapist will help you prepare for discharge. Length of stay in the hospital is greatly influenced by insurance restrictions.

IMPORTANT NOTIFICATION about TYLENOL:

Today more than 600 over-the-counter (OTC) and prescription (Rx) medications contain Acetaminophen or Tylenol. Some patients exceed the recommended dose either by accidentally taking multiple acetaminophen-containing products without realizing it or by not following dosing instructions. The liver warning on the OTC label states that severe liver damage may occur if more than 4,000 mg of Acetaminophen is taken in a 24 hour period.

Narcotics such as Percocet, Vicodin and Norco have Acetaminophen (Tylenol) in them, either 325 mg or 500mg per tablet. It is **VERY** important that you are aware of the dosage and do NOT combine it with other products containing Acetaminophen.

Gastrointestinal (bowel) information

- You will be given a prescription for a stool softener/laxative combination (e.g. Senna-S)
- If it has been 3 days since your last bowel movement, increase the Senna-S to 2 tablets twice a day. (This is the maximum dose allowed.)
- If you do not have a bowel movement for 5 days, take MiraLAX as directed in addition to the Senna-S.
- If you have not had a bowel movement for 6 days, take a suppository as directed on packaging.
- If no bowel movement for 7 days postop use a Fleets Enema – as directed on packaging
- If this does not give you results, contact our office for further instructions.
- If at any time you are nauseated, have vomiting, abdomen is swollen and hard and/or you have severe abdominal cramping, please contact our office immediately.

For Urgent Matters

Please call 212-932-5171 during normal business hours
The number to 2 River West is 212-932-4120.
All urgent matters are reported to Dr. Lombardi.

Post-Operative Appointments:
2 weeks post op: please send incision picture to my clinical team.

First post-op appointment:
All patients should be seen by Dr. Lombardi at 4 weeks post op. No x-rays needed unless otherwise indicated.

Patients who need a **wound check or suture removal** should be scheduled with Dr. Lombardi at 2 weeks post op. This will be indicated on an as needed basis.

Physical Therapy will be ordered by Dr. Lombardi at 4-week post op appointment as needed.

Post op with Dr. Lombardi:
Any patient with instrumentation will need x-rays at all appointments.
No instrumentation, no x-rays needed.
First post op appointment is at 4 weeks.
4 months
1 year
2 years
5 years
10 years
15 years

GLOSSARY OF TERMS

Anterior: The front portion of the body. It is often used to indicate the position of one structure relative to another.

Cervical Spine: Seven spinal segments (C1-C7) between the base of the skull (occiput) and the thoracic spine.

Decompression: This procedure is carried out to relieve pressure on the spinal cord or nerve roots. The pressure may result from fracture fragments, disc fragments, bone spurs, tumors or infections.

Decompression Laminectomy: A posterior approach decompression done by removing the lamina and spinous process.

Disc Degeneration: The loss of the fluid content, structure and functional integrity of the disc.

Discectomy: The excision of the intervertebral disc material that may be described as herniated, implying "bulging" or "ruptured" through the ligaments. If the central fragment of disc material has torn through a hole in the ligament, it is called an extruded fragment or extruded disc. The term herniated nucleus pulposus (HNP) is a catchall phrase for all of these conditions.

Dura: The thick outer covering of the spinal cord.

Facet: A posterior structure of a vertebra which articulates with a facet of an adjacent vertebra to form a facet joint that allows motion in the spinal column. Each vertebra has two superior and two inferior facets.

Flatback Syndrome/Fixed Sagittal Imbalance Syndrome: Forward posture usually due to a flattened lumbar spine from postoperative or degenerative changes. When viewed from the side, the patient's head may be several centimeters in front of their hips.

Foramen: An opening allowing for the emerging of spinal nerve roots between two vertebrae.

Foraminotomy: A procedure carried out in conjunction with disc surgery. The foramen (openings for the individual nerve roots to pass from the spine) may become narrowed because of disc impingement, intervertebral collapse, and spondylolisthesis. The surgical widening of the foramen is an attempt to relieve the pressure on the nerve roots.

Gardner-Wells tongs: A device used to position the head or apply traction to the neck during surgery. The tongs are attached to your skull with a screw above each ear after you are asleep in surgery.

Hemivertebra: A congenital abnormality of a vertebral body. Usually a wedge shape which causes scoliosis or kyphosis.

Idiopathic: Unknown cause. No evidence of underlying physical or radiographic pathology. The most common type of scoliosis.

Interspinal or intervertebral disc: The structure that normally occupies the space between two moving vertebrae. It is more prominent in the cervical and lumbar spines. It is much like a radial tire. The centermost portion of the disc (nucleus pulposus) is normally composed of a clear gelatinous material that varies in consistency from a firm jelly material to a very thick and less pliable substance. This core is then surrounded by numerous layers of fibrous (fibrocartilaginous) material called the annulus fibrosus. That structure goes to the normal margins of the vertebral body. There is a thick ligament (approximately 2mm) that covers the anterior part of the vertebral body called the anterior longitudinal ligament, and on the spinal canal side posteriorly is the posterior longitudinal ligament.

Kyphosis: The normal forward curvature of the thoracic spine. The condition "kyphosis" refers to an abnormal increase in this forward curvature.

Lamina: An anatomical portion of a vertebra. For each vertebra, two laminae connect the pedicles to the spinous process as part of the neural arch.

Laminectomy: An operation for removal of part or all of the lamina of a vertebra commonly performed in order to be able to remove an intervertebral disc protrusion or to decompress a nerve root.

Lordosis: The normal mild "swayback" curve of the lumbar spine.

Lumbar spine: Five mobile segments of the lower back (L1-L5). These are the largest of the vertebral segments and provide most of the bending and turning ability of the back, in addition to bearing most of the weight of the body.

Nerve Root: The portion of a spinal nerve in close proximity to its origin from the spinal cord.

Pedicle: The part of each side of the neural arch of a vertebra that connects the lamina to the vertebral body.

Posterior: Located behind a structure, such as relating to the back side of the body. It is often used to indicate the position of one structure relative to another.

Pseudarthrosis: An area of the spinal fusion where the bone did not heal (fuse). Often found with broken instrumentation and, in some instances increased pain, although not always.

Sacral spine (sacrum): The five fused segments of the lower spine that connect to the pelvis and have four foramen on each side.

Sciatica: A lay term indicating pain along the course of a sciatic nerve, especially noted in the back of the thigh and below the knee.

Scoliosis: Lateral (sideways) curvature of the spine. Rotation of the vertebrae also occurs which produces the rib cage asymmetry.

Spinal Canal: The long canal between the vertebral bodies anteriorly and the lamina and spinous processes posteriorly through which the spinal cord passes. The spinal cord and nerve roots extend to the level of the second lumbar segment in adults. Below this level are numerous nerve roots from the spinal cord that resemble a horse's tail and is referred to as such (cauda equina). The thick outer covering of the spinal cord is called the dura.

Spinal Fusion: A surgical procedure to permanently join bone by interconnecting two or more vertebrae in order to prevent motion.

Spinal Stenosis: Reduction in the diameter of the spinal canal due to arthritic overgrowth of bone and soft tissue, which may result in pressure on the spinal cord or nerve roots.

Spinous Process: The portion of the vertebrae that protrudes posteriorly from the spinal column. The spinous processes create the "bumps" felt on the midline of the back.

Spondylolisthesis: A defect in the construct of bone between the superior and inferior facets with varying degrees of displacement so the vertebra with the defect and the spine above that vertebra are displaced forward in relationship to the vertebrae below. It is usually due to a developmental defect or the result of a fracture.

Spondylolysis (also referred to as a stress fracture or a pars fracture): Fracture of a posterior portion of the vertebra. A defect in the neural arch between the superior and inferior facets of vertebrae without separation at the defect and therefore no displacement of the vertebrae. It may be unilateral or bilateral and is usually due to a developmental defect but may be secondary to a fracture.

Thoracic (dorsal) Spine - Twelve spinal segments (T1-T12) incorporating the 12 ribs of the thorax. Other than a slight increase in size from top to bottom, they are fairly uniform in appearance.

Vertebra: One of the bones of the spinal column. A cervical, thoracic, or lumbar vertebra has a cylindrically shaped body anteriorly and a neural arch posteriorly (composed primarily of the laminae and pedicles as well as the other structures in the posterior aspect of the vertebra) that protect the spinal cord. The plural of vertebra is vertebrae.

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Spine

PHONE NUMBERS FOR
COLUMBIA/NEW YORK PRESBYTERIAN THE ALLEN

DEPARTMENT	PHONE NUMBER
2 River West – Inpatient Unit	212-932-4120
Admitting	212-932-5079
Bone Density @ Harkness	212-305-2789
Client Services	212-932-5780
CT/MRI Scheduling	212-305-9335
Dopplers	212-932-4162
Front Desk	212-932-4147
General Information	212-932-4000
Gift Shop	212-932-5050
Global Services	212-305-4900
Insurance	212-632-7440
Medical Records	212-932-4547
Outpatient Lab (8a-5:30p)	212-932-4234
Pastoral Care	212-932-5310
Patient Info	212-932-4300
Patient Services Administration	212-932-4321
Physiatry (Physical Medicine and Rehab)	212-305-3535
Private Accommodations	212-932-5079
Private Duty Nursing	212-305-2525
Pulmonary Function Test (PFT)	212-932-4571
Radiology Department	212-932-4161
Security/Lost & Found	212-932-4400
Telephone/TV	212-932-4048

Mailing ADDRESS:
Och Spine Hospital
New York Presbyterian – The Allen Hospital
5141 Broadway
3FW-21
New York, NY 10034
(212) 932-5100

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Spine

Client Services:
If you have questions about the hospital, accommodations, where to park etc… please reach out to the Allen Hospital Client Services team. (212) 932-5780

Parking
Allen Hospital: Parking is valet parking only. You may also park on the street if parking is available. There is a parking garage approximately 1 block away that has pay by the hour parking.

Visiting Hours
Allen Hospital: The Allen Hospital has open visiting hours. Children under 12 need to be accompanied by an adult at all times when visiting. Please be respectful when having family visit in the evening hours and overnight.

HELPFUL WEBSITES
New York Presbyterian Spine Hospital: www.nyp.org/spinehospital/index.html
Columbia Orthopedics www.ColumbiaOrtho.org