VALLEY SPINE CARE

SPINE SURGERY HANDBOOK

MICHAEL WARREN CLUCK, MD, PHD, FAAOS
Associate Clinical Professor
Department of Orthopaedic Surgery
University of California, San Francisco

1170 W. OLIVE AVE, SUITE B
MERCED, CA 95348
PH: 209.276.2200 | FAX: 209.276.2202
VALLEYSPINECARE.COM

Chapter 1 • INTRODUCTION

You and Dr. Cluck have weighed the options and made the decision to have surgery. Right now, you may be feeling a number of emotions; you may be relieved to have a diagnosis and plan of action, but also anxious about what to expect from surgery. It's our mission and privilege to help make surgery a positive experience. Your care and comfort is our most critical priority. If you have any questions about the information in this booklet, please call our office.

HOW TO USE THIS HANDBOOK

This booklet is designed to increase your knowledge about your hospital experience and help you develop realistic expectations about the surgical experience—before surgery, during your stay, and after your discharge home. Please bring this booklet with you each time you are schedule to see your surgeon and when you come to the hospital for surgery. The booklet is an educational tool, but is not intended to replace medical or professional advice.

YOU'RE IN GOOD HANDS

At Valley Spine Care, you are being taken care of the Central Valley's best spine surgeon. We've surrounded our specialist with the most advanced technologies and highly trained staff. So, no matter what you're feeling, you can rest assured that you are in good hands with Valley Spine Care.

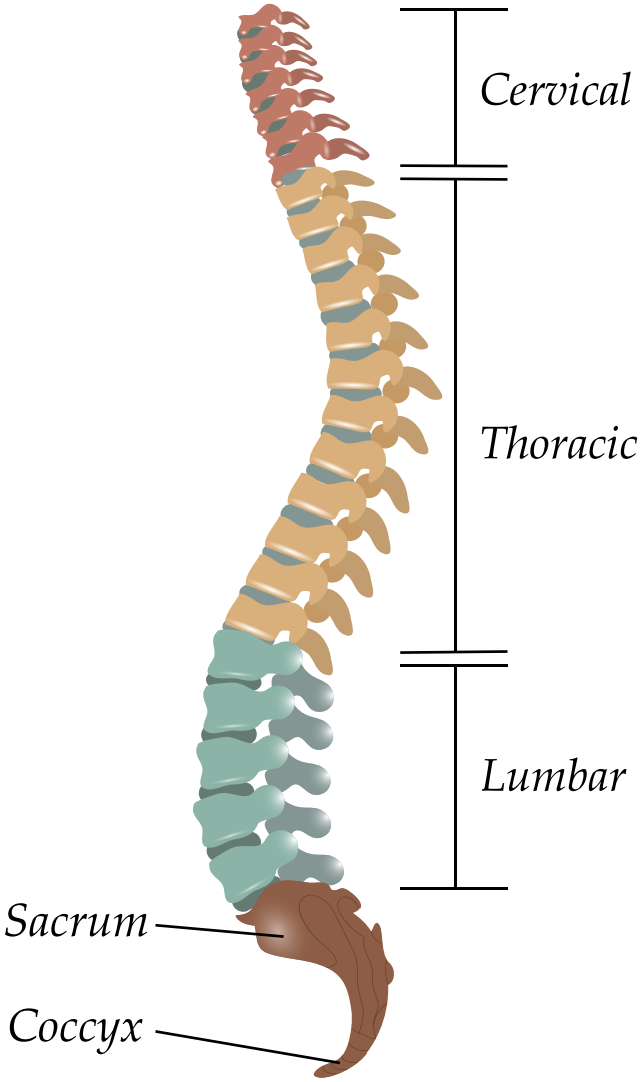
ENHANCING YOUR OWN CARE

We consider you, the patient, a vital part of the healthcare team. As such, we encourage you to become an active participant in your own well-being. By making decisions about your healthcare, you'll likely have less anxiety before surgery and recover more quickly afterward.

So make it a point to work closely with your caregivers. Ask questions. Learn all you can about your condition. Get involved in planning for your recovery and transition back home Knowing what to expect before, during and after surgery will go a long way toward a smooth and successful recovery

Chapter 2 • UNDERSTANDING YOUR SPINE

While many spine conditions can be successfully treated with non-surgical methods, some cannot. Now that you and your surgeon have decided surgery is the best option for your condition, it will be especially helpful to have an in-depth understanding of your spine. These diagrams may help you understand some of the terms your caregivers might use.



SPINE 101: SPINAL ANATOMY

The function of the spine (sometimes call the vertebral column or spinal column) is to protect and support the spinal cord, nerve roots, and internal organs. The spine provides a base of attachment for discs, spinal ligaments, tendons and muscles. The spinal column connects the upper and lower body, provides structural support, aids in balance, and helps distribute weight. The structural elements permit forward and backward bending, spinal rotation and combined movements within normal limits.

The spinal or vertebral column consists of 33 bony vertebrae. The regions or levels of the spine are known as the cervical (neck), thoracic (upper/middle back), lumbar (lower back), sacral (pelvic area) and coccyx (tailbone).

Cervical Spine

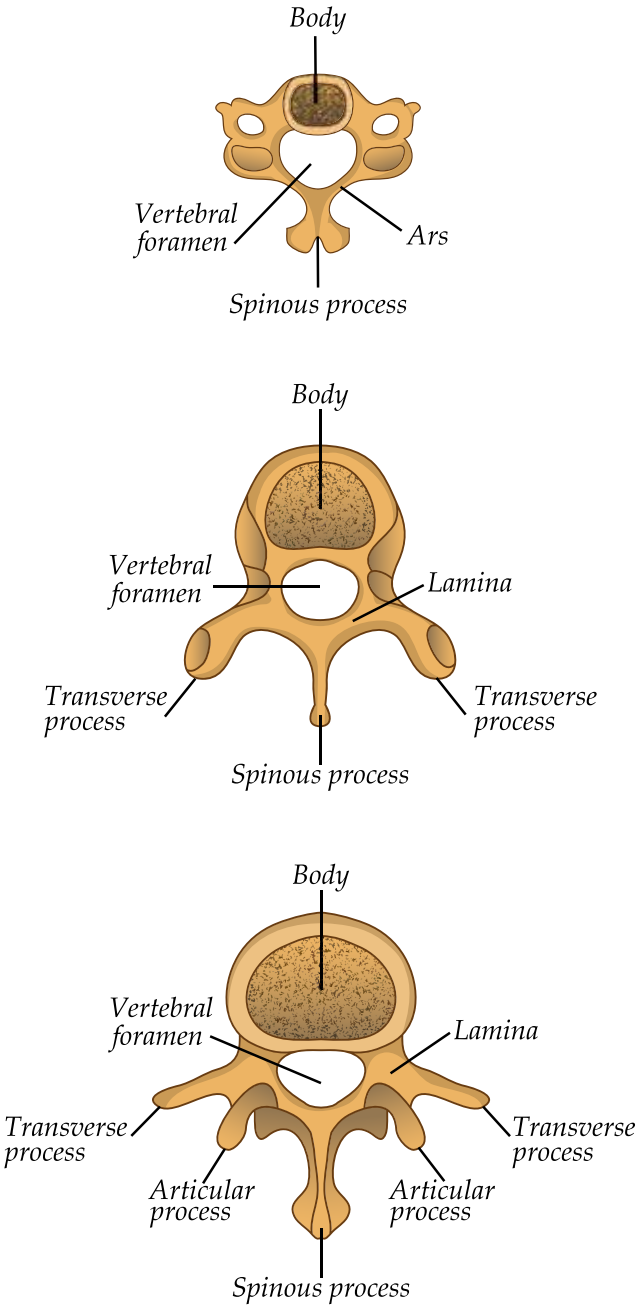
The neck region is the cervical spine. This region consists of seven vertebrae, abbreviated C1 through C7 (top to bottom). These vertebrae protect the brainstem and spinal cord, support the skull and allow a wide range of head movement.

Thoracic Spine

Below the cervical spine are 12 thoracic vertebrae, abbreviated T1-T12 (top to bottom). T1 is the smallest and T12 is the largest. The thoracic vertebrae are larger than the cervical vertebrae and have longer spinous processes. Rib attachments add to the thoracic spine's strength and stability.

Lumbar Spine

The lumbar spine consists of five vertebrae, abbreviated L1-L5. The lumbar vertebrae are the largest in the spine and carry most of the body's weight. This region allows more range of motion than the thoracic spine, but less than the cervical spine.



Sacral Spine

The sacrum is located behind the pelvis. Five bones, abbreviated S1-S5, fused into a triangular shape, form the sacrum. The sacrum fits between the two hip bones connecting the spine to the pelvis. The last lumbar vertebra (L5) articulates (moves) with the sacrum. Immediately below the sacrum are five additional bones, fused together to form the coccyx (tailbone).

Vertebrae

Each spinal vertebrae is composed of many different bony structures. The vertebral body is the largest part of a vertebra.

Intervertebral Discs

Intervertebral discs provide cushioning between the spine's vertebral bodies (with the exception of the first two cervical vertebrae). Comprised of fibrocartilaginous material, each normal sturdy intervertebral disc effectively absorbs and distributes the spinal stress you have a rest and while you're moving.

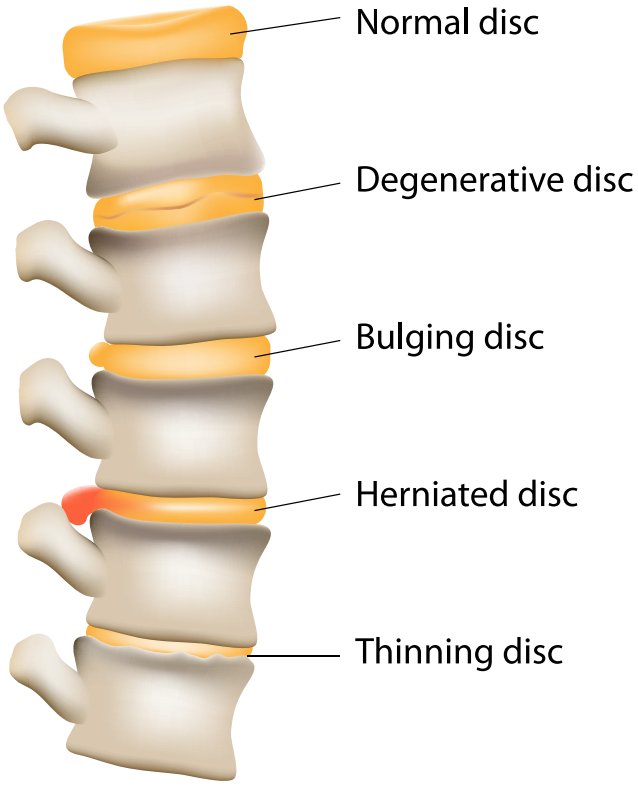
Each disc is made up of two parts: the annulus fibrosus and the nucleus pulposus. The annulus fibrosus is a sturdy tire-like outer structure that encases a gel-like center, the nucleus pulposus.

Muscles, Tendons and Ligaments

Spinal muscles, tendons and ligaments work together to keep the spine stable at rest and during the activity. The muscles contract to cause the body to move.

Tendons connect the spinal musculature to the spine. Tendons are sturdy bands of fibrous connective tissue.

Spinal ligaments are non-elastic fibrous bands or sheets of connective tissue that hold the bones together. Ligaments limit motion and, if overstretched can contribute to joint instability.



SPINE FACTS

- The spine is not straight; it is made up of four continuous curves. These curves allow for flexibility and help the spine in its role as a shock absorber.
- Muscles in the abdomen, back, buttocks, and thighs help support and maintain the four curvatures. Keeping these muscles strong and flexible helps keep your spine in alignment.
- The spine is the strongest in the upright position

SPINAL DISORDERS

Herniated Disc

A disc herniation occurs when the outer wall of the disc (annulus fibrosus) tears, breaks open or ruptures. Some of the matter inside the disc (nucleus pulposus) leaks out and compresses nearby spinal nerves and/or the spinal cord. Although a disc herniation can occur at any level of the spine, the lumbar spine (lower back) and cervical spine (neck) are the most common locations affected. The location of the herniated disc determines where the symptoms are experience in the body. Symptoms such as numbness and tingling, pain and/or muscle weakness may be experience in the arm(s) or leg(s) as a result of a herniated disc.

Degenerative Disc Disease

This spinal condition comes from the normal wear-and-tear process of aging. As we age, our discs lose some of their flexibility, elasticity and shock-absorbing ability. Degenerative disc disease may become problematic if the disc height is reduced or if the disc become thin and stiffen.

Spinal Stenosis

Spinal stenosis is a condition characterized by the progressive narrowing of one or more areas of the spine. Spinal stenosis can result in the compression of the spinal nerves and spinal cord. Although spinal stenosis can occur anywhere in the spine, the cervical and lumbar areas are most often affected. This condition can lead to the development of pain, numbness, weakness in the arms and/or legs or balance disturbances.

Spondylosis

Spondylosis is arthritis of the spine, and is often called spinal osteoarthritis. Spondylosis can occur in the cervical, thoracic or lumbar spine. As with other joints in the body, osteoarthritis causes progressive degeneration of cartilage. Some patients are asymptomatic (have no symptoms) and learn they have spondylosis as a result of X-ray or examination for another problem.

Spondylolisthesis

Spondylolisthesis comes from the Greek words spondylo, meaning vertebrae, and listhesis, meaning slipping or sliding. Spondylolisthesis is a spinal condition in which on vertebra slips forward over the vertebra below. This disorder most commonly occurs in the lumbar spine. Although spondylolisthesis can cause spinal instability, not all patients experience pain.

Radiculopathy

Radiculopathy is not a disease itself, but the result of direct pressure or compression on a nerve root due to a herniated disc or degenerative changes. The nerve roots are branches of the spinal cord that carry signals to the rest of the body at each level along the spine. The location of the radicular symptoms depends on the area supplied by the specific nerve root that is compressed.

Myelopathy

Myelopathy is a term used to describe a disease or disorder of the spinal cord (for example, spinal cord compression). Myelopathy can occur at any age and is often due to the compression of the spinal cord by bone or disc material in the cervical spine.

ITEMS TO DISCUSS WITH YOUR SURGEON

- You'll want to discuss specific details about your procedure with your surgeon including the risks and benefits of our procedure, the location of incision(s) and which vertebral levels will be affected.
- Postoperative activities and recovery time such as:
    - Ask how many nights, if any, can I expect to stay in the hospital?
    - When can I expect to return to work/school?
    - When will I be able to resume driving?
    - Will I need rehabilitation after surgery?
    - Any other questions you have.

Having a thorough understanding of what to expect from your surgical procedure will not only guide you to better decision-making about your care, it also will help you feel more comfortable during the entire experience.

Chapter 4 • OVERVIEW OF SPINE SURGERY

Spinal Fusion – surgical procedure used to correct problems with the bones of the spine (or vertebrae). A fusion essentially "welds" or joins two or more vertebrae of your spine together. During the procedure, your surgeon places bone or a bone-like material within the space between two spinal vertebrae. Metal plates, screws, and rods may be used to hold the vertebrae together, helping them to heal into one solid unit.

Spinal fusions are done for various reasons, but are most commonly done to treat:

- Spinal stenosis (narrowing of the spinal canal) causing pain
- Abnormal curvatures of the spine
- Weak or unstable spine
- Injury or fracture to the spine

Types of Fusions:

- Anterior Cervical Discectomy and Fusion (ACDF) – your surgeon will remove a herniated or degenerative disc in the neck area of the spine. The incision is made in the front (anterior) of the spine through the throat area. After the disc is removed, a bone graft is inserted to fuse together the bones above and below the disc space.
- Lumbar Interbody Fusion – your surgeon will first remove an intervertebral disc (disc between two connecting vertebrae) of the spine, and in that space, an implant (such as a spacer or cage) is inserted to help maintain normal alignment of the spine. Additionally, a bone graft (real pieces of bone used to stimulate bone growth) or a bone graft substitute (natural or synthetic) will be placed in the space made between neighboring vertebrae to help them fuse together. Your surgeon will choose the best way in which to access your lumbar spine:
  - Anterior Lumbar Interbody Fusion or from the front (ALIF)
  - Lateral Lumbar Interbody Fusion or directly from the side (XLIF)
- Posterior Spinal Fusion (PSF) – your surgeon makes an incision in the middle of your back(posterior). The spinal surgeon will protect the nerve roots and safely remove the material (bone spur, cysts, etc) pressing on the nerve. After the pressure is relieved from the nerve, a bone graft is placed along the back of the spine, allowing the two vertebrae to grow together as one solid unit (fusion).

Minimally Invasive procedures - Some spinal procedures, including spinal fusions can be done using a minimally invasive approach. With minimally invasive procedures, smaller incisions, with less tissue disruption, are utilized.

Additional Spine Surgeries:

Osteotomy – surgical procedure in which a portion of the spinal bone is cut and removed. Spinal osteotomies are usually needed for the correction of rigid deformities or scoliosis (abnormal curving of the spine), where bone is cut, the spine is realigned, and then hardware is used to keep the spine in proper alignment.

Laminectomy – Also known as decompression surgery, a laminectomy involves removing the lamina, the back part (or "roof") of the vertebra that covers your spinal canal. By removing the lamina, the procedure increases the space for your spinal canal and relieves pressure on the spinal cord and/
or nerves. While a Laminectomy is the complete removal of the lamina, a Laminotomy involves only partial removal.

Kyphoplasty – surgical procedure in which cement is injected into a fractured or collapsed vertebrae. This surgery helps to restore the original shape, height, and configuration of the spine, relieving pain caused by spinal compression.

Discectomy - surgical removal of herniated disc material that presses on a nerve root or spinal cord. The procedure involves removing the central portion of an intervertebral disc, the nucleus pulposus, which causes pain by pressing on the spinal cord or surrounding nerves.

Foraminotomy - operation used to relieve pressure on nerves that are being compressed by the intervertebral foramina (the passageway between two vertebrae through which nerve bundles exit from the spinal cord to the body).

Corpectomy - surgical procedure that involves removing all or part of the vertebral body (the large, front part of the vertebrae), usually as a way to decompress the spinal cord and nerves. A corpectomy is often performed in association with some form of decompression.

Chapter 5 • PREPARING FOR SURGERY

Once you have decided to have surgery, there are a number of preparations to make. Remember that you don't have to do everything alone! We're here to help you as much as possible.

VERIFY INSURANCE COVERAGE

If you have health insurance, both the hospital and the surgeon's office will need to contact your insurance company before surgery to verify our coverage. *However, we strongly recommend that you also contact your insurance company to verify your benefits.* The following is a list of questions to ask your insurance provider before your surgery:

- Does my hospital stay need to be pre-approved?If yes, who should pre-approve my hospital stay?
- What do I need to do to receive pre-approval?
- How many days in the hospital have been approved?
- Will additional hospital days be covered if there are complications? If yes, how many extra days are allowed?
- What is my out-of-pocket maximum?
- What is my policy's lifetime maximum?
- Is a second opinion required? If I can't return to my prior living arrangements immediately upon discharge, do I have benefits for rehabilitation and physical therapy?

INSURANCE COVERAGE

Depending on your insurance coverage, you may be responsible for a portion of the surgery. Our surgery scheduler will provide you with a detailed breakout of estimated costs. Please understand, it is only an estimate.

QUESTIONS TO ASK AT YOUR PRE- OP APPOINTMENT

- Which medications should I take the morning of surgery?
- If I take anticoagulants, such as Coumadin®, when should I stop taking them before surgery?
- When should I stop taking aspirin products and non-steroidal anti-inflammatory medicines (NSAIDS), such as Advil® or Aleve® before surgery?
- Don't forget to mention any vitamins, herbs, supplements or other over-the-counter medications you take.
- Are there any other special instructions I should follow as I prepare for my surgery?

OTHER THINGS TO DO TO PREPARE FOR YOUR SURGERY

Smoking

Smoking is detrimental to your health, especially during and after spine surgery. Smokers are at greater risk for lung and heart complications during surgery. After surgery, smokers have a higher likelihood of incomplete or delayed healing of spinal fusions. It is important to tell your surgeon if you are a smoker. If is ever more important to quit altogether. Don't wait until the day of surgery to start planning how to quit smoking.

SURGERY TIMELINE

There are important steps to follow prior to your surgery to ensure you are prepared for your surgical procedure. Below is a list of things which need to be completed before your surgery date.

1 MONTH BEFORE SURGERY

- Schedule an appointment for your medical clearance
- You will need to have labs done within 30 days prior to surgery.
- Please ensure the results are faxed to Dr. Cluck's office at 209-276-2202
- Schedule your pre-op appointment with Dr.Cluck, which needs to be a minimum of 7 days prior to surgery
- We will notify you if there are any fees not covered by your insurance

2 WEEKS BEFORE SURGERY

- All lab work must be completed 2 weeks prior to surgery; If lab results are not given to us 2 weeks prior to your surgery we will have to reschedule your surgery.
- Medical clearance must be completed 2 weeks prior to your surgery. If your medical clearance iresults are not faxed to us 2 weeks prior to your surgery we will have to reschedule your surgery.

1 WEEK BEFORE SURGERY

- Stop taking Aspirin and antiplatelet medications, such as Plavix. Stop taking anti-inflammatories (such as Advil, Ibuprofen, Aleve, Motrin, Voltaren, etc.)
- If Aspirin or antiplatelet medication is prescribed by your doctor, please consult with your primary care physician prior to stopping to make sure this is appropriate.
- Attend your pre-op appointment with Dr. Cluck. Bring a list of current medications, CD's of XRAY's, MRI's and CT Scans.
- Any fees not covered by insurance will be due at the pre-op visit.

3 DAYS BEFORE SURGERY

- Call hospital pre-op department and complete pre-admission process; have COVID-19, MRSA and Chest XRAY

THE NIGHT BEFORE SURGERY

- Do not eat or drink anything past midnight unless otherwise instructed by the anesthesiologist
- You will shower with a special soap, given to you by the hospital, the night before your surgery.

If you have a fever, flu, or any other concerning symptoms, please notify Dr. Cluck's office immediately as your surgery may need to be postponed.

Printed name _____ Signature _____ Date _____

Chapter 6: MEDICATIONS THAT SHOULD BE DISCONTINUED PRIOR TO SURGERY

There are medications, vitamins, and herbal supplements that may cause increased bleeding during surgery, have a negative effect on bone healing after spinal fusions, and/or increase risk of infection after surgery. If you are taking any of the following you should discontinue them 7 days prior to your surgery, or as otherwise directed. *If you are requesting consideration for an earlier surgery date you should discontinue them immediately.* Always consult your prescribing doctor prior to discontinuing these medications. Specific instructions will be provided to you during your appointment with the hospital registration department.

Prescription & Over the Counter Medications:

Aspirin & Aspirin containing products - *discontinue 7 days prior to surgery unless otherwise directed by your surgeon.* If your doctor has prescribed aspirin for you, please check with the prescribing MD first.

Examples: Aggrenox®, Bayer®, Fiorinal®, Ecotrin®, Excedrin®, Percodan®, etc.

Cold or Migraine Medications:
Check with a Pharmacist if you are unsure whether they contain aspirin or other medications that should not be taken 7 days before surgery

*You may take Acetaminophen (Tylenol) or medications containing Acetaminophen (DO NOT take more than 4000mg of Tylenol per 24 hours, as exceeding this amount could cause Liver damage). Please avoid taking supplemental Tylenol or acetaminophen simultaneously with medications already containing acetaminophen such as: hydrocodone/acetaminophen (Norco, Vicodin), acetaminophen with codeine (Tylenol #3), or oxycodone/acetaminophen (Percocet).

Vitamins:

Taking a multi-vitamin with 100% of the daily recommended doses of vitamins is fine but please limit your daily intake of vitamins to the recommended daily dose (avoid “Mega dose” vitamin and/or multi-vitamin supplements). Vitamin E over 100 units is an anticoagulant (blood thinner) and should be stopped at least 7 days before surgery.
Herbal Preparations
All herbal supplements, & many over the counter (OTC) supplements, should be discontinued at least 7 days prior to surgery. Examples: Ginkgo Biloba, Fish Oil, Tumeric, etc in concentrated capsule form (This pertains to herbal preparations and not the use of fresh herbs in cooking). For fusion patients, you may be asked to hold these medications for at least 3 months after surgery if they could inhibit fusion growth. If you are unsure, please check with your surgeon’s office.

Non-Steroidal Anti-inflammatory Drugs (NSAIDS)
Please discontinue these medications 7 days prior to surgery unless otherwise directed by your surgeon. Stop Glucosamine/Chondroitin, and other joint health supplements at least 7 days before surgery.

If you are having a spinal fusion surgery, you should NOT restart NSAIDs or drugs like Fosamax until cleared by your surgeon (between 3-6 months after surgery). These medications have a negative impact on bone healing, and can inhibit fusion growth, possibly leading to fusion failure.

Generic Name	Examples of Brand Names
Celecoxib	Celebrex®
Choline Salicylate	Arthropan®
Choline Magnesium Trisalicylate	Trilisate, Tricosal®
Diclofenac	Arthrotec, Cataflam, Voltaren®
Diclofenac patch	Flector®
Diflunisal	Dolobid®
Etodolac	Lodine®
Fenoprofen	Nalfon Pulvules®
Ibuprofen	Advil®, Motrin®, Midol®, Nuprin®, Vicoprofen®, others
Indomethacin	Indocin®
Ketoprofen	Orudis KT®, Oruvail®, Actron®
Ketorolac	Toradol®
Magnesium Salicylate	Doans Backache Pain Relief®, Mobidin®, others
Mefanamic Acid	Ponstel®
Meclofenamate Sodium	Meclomen® or same as generic name
Meloxicam	Mobic®
Nabumetone	Relafen®
Naproxen	Aleve®, Anaprox®, Naprelan®, Naprosyn®
Oxaprozin	Daypro®
Piroxicam	Feldene®
Salsalate	Amigesic®, Argesic®, Salflex®, Salsitab®
Sulindac	Clinoril®
Tolmetin	Tolectin®

Osteoporosis medications:

Most osteoporosis medications (such as Fosamax or Boniva) should be stopped 30 days before surgery if possible or as soon as possible (if surgery is less than 30 days away). Forteo (teriparatide) is an exception and should be continued up until surgery.

*Stroke or Blood Clot prevention medications *Generic (Brand):*

If you are currently taking any stroke or blood clot prevention medications, please let your surgeon know and call the physician who prescribed this medication to you, as you WILL need to be directed on how to taper off before surgery.

Generic Name	Brand Name
Coumadin	Warfarin®
Heparin	N/A
Danaparoid	Orgaran®
Dalteparin	Fragmin®
Enoxaparin	Lovenox®
Fondaparinux	Arixtra®
Tinzaparin	Innohep®
Aspirin & Dipyridamole	Aggrenox®
Dipyridamole	Persantine®
Clopidogrel	Plavix®
Ticlopidine	Ticlid®
Apixaban	Eliquis®
Dabigatran	Pradaxa®
Rivaroxaban	Xarelto®

Immunomodulators:

Please discontinue these medications 7 days prior to surgery unless otherwise directed by your surgeon. If you are having a spinal fusion surgery, you should NOT restart these medications until cleared by your surgeon (between 3-6 months after surgery). These medications have a negative impact on bone healing, and can inhibit fusion growth, possibly leading to fusion failure.

Generic Name	Brand Name
Methotrexate	Rheumatrex®, Trexall®
Hydroxychloroquine	Plaquenil®
Leflunomide	Arava®
Sulfasalazine	Azulfidine®
Abatacept	Orencia®
Adalimumab	Humira®
Anakinra	Kineret®
Certolizumab Pegol	Cimzia®
Entaercept	Enbrel®
Infliximab	Remicade® (should stop 4-8 weeks before surgery)
Golimumab	Simponi®
Tocilizumab	Actemra®
Tofacitinib	Xeljanz®

Medications & Vitamins/Herbal Supplements requiring Special Consideration:

If you are currently taking any of the following medications listed below, please call the physician who prescribed this medication to you, as you may need to be directed on how to taper off before surgery. **The vitamins, and/or herbal supplements highlighted in bold should be stopped at least 7 days before surgery.*

- **Monoamine Oxidase Inhibitors:**

Generic Name	Brand Name
Isocarboxazid	Marplan®
Phenelzine	Nardil®
Selegiline	Eldepryl®, Carbex®
Tranylcypromine	Parnate®
Rasagiline	Azilect
Furazolidine	Furoxone®
Linezolid	Zyvox®
Procarbazine	Matulane®

Nicotine:

If you use any form of nicotine containing products (which include chewing tobacco, vaporizers/vape pens, e-cigarettes, nicotine patches, etc.) you will need to be completely nicotine-free at LEAST 4 weeks before surgery. Patients who smoke have a significantly higher rate of failure of the surgery and especially fusion failure. If you are trying to quit smoking, please note that all nicotine replacement systems (as mentioned above) all have the same effects on your surgery as smoking – you cannot not utilize these smoking cessation methods prior to your surgery or during your rehabilitation period. Please note, you will need get a urine nicotine test a few weeks before surgery and again the morning of. Surgery may be cancelled if your nicotine test is positive.

Please make sure the hospital has an updated list of the medications you are taking. This list should include: your current medications including supplements (with correct name, dose, & directions), allergies (with reactions), your pharmacy name & phone number. If you are not sure, or this information has changed, please bring a current list to the hospital with you.

Questions? If you have any questions regarding this list or whether medications or supplement you are taking must be stopped, please contact our office at 408-295-2200 x1.

Chapter 7: THINGS TO CONSIDER WHEN RECOVERING AT HOME

- In order to minimize delays, please identify who will help you to get home from the hospital after surgery. Please plan accordingly when arranging your transportation home.
- You should not plan to be alone more than 1-2 hours at a time for one week after your surgery, and for at least two weeks after complex spine surgery.
- It will be determined during your in-patient stay, whether you will need to be transferred from the hospital to a Continuing Care Facility (such as a Nursing Home, Skilled Nursing Facility, etc). Many factors will determine if this is necessary, including your rate of recovery, mobility, pain control after surgery, etc. A Case Manager while you are in the hospital will work closely with you to ensure your transition from the hospital to your home is as smooth as possible.
- Any home equipment needed will be recommended by physical therapy and occupational therapy and ordered by our discharge coordinator before discharge.
- Please be advised that insurances do not cover all equipment and some may need to be purchased. Please contact your insurance company if you have specific questions or concerns.
- Examples of home equipment typically not covered by insurance: shower chairs, raised/ elevated toilet seats, shower grab bars, reachers, sock-aids, etc.
- If home care is recommended by the health care team, it will be arranged before discharge by the hospital. This will be determined by physical therapy & occupation therapy as they assist you with activities after surgery.
- The hospital staff will encourage you to be out of bed walking as soon as possible after surgery, in hopes of expediting your recovery and rehabilitation.
- Almost all of our patients are walking at least 50 feet, transferring in and out of bed independently, and are cleared on any stairs they need to use at home before discharge.
- If your surgeon determines that you need out-patient Physical Therapy, you will most likely be cleared to start after your 6 week follow-up visit. Patients who have undergone spinal fusion will be asked to refrain from out-patient Physical Therapy or independent exercises (other than walking) until cleared by their surgeon (typically at 3-6 weeks post-operatively but patients with large fusions or complex spine surgery, they may be asked to wait 6-12 after surgery).
- If you should want a personal attendant to assist you at home for bathing, laundry, cleaning, etc. you will likely need to arrange this yourself (it is very unlikely that medical insurance will pay for this).
- You should not be driving for the first 3 weeks after surgery; If you anticipate you will need to drive prior to that time please discuss it with Dr. Cluck at your pre-op appointment.

Chapter 9 • WHAT TO EXPECT AFTER DISCHARGE FROM THE HOSPITAL

Restrictions:

- Depending on the type of surgery, you will need to follow these precautions after spine surgery for approximately 6 weeks to 3 months.
- Reposition frequently from sitting to standing to walking during the day.
- Walk as much as possible increasing distance and/or time slowly but surely.

Remember, No BLT!

- Bending - Avoid bending. No squatting if you had surgery that extends to the low back
- Lifting - No lifting anything heavier than a gallon of milk
- Twisting – Avoid twisting motions. Always turn your entire body in the same direction.

Pain Management:

- It is normal for you to feel some level of back soreness and/or stiffness after surgery, especially if you had a spinal fusion. Applying icepacks, warm compresses, & taking muscle relaxants such as Baclofen & Flexeril (as ordered) can offer pain relief.
- Your nerves can get irritated from being moved around during your spinal procedure, so it is not uncommon to feel numbness and tingling after surgery. These symptoms should improve over time.
- Stay ahead of your pain. Do not wait until your pain is severe. Take your pain medications when you need them. It may be helpful to take them prior to Physical therapy sessions or when you anticipate being more active.
- Take your pain medications only as directed. Please contact your surgeon's office if your pain is not adequately controlled.
- Do not discontinue pain medications abruptly. Always taper off them slowly.

Managing constipation:

- If you are taking pain medications, be sure to take your ordered medications to prevent constipation (such as Colace, Dulcolax Miralax). These medications are available over the counter at most pharmacies/drug stores.
- Be sure to drink 6-8 glasses of water per day to stay well hydrated and prevent constipation. Limit caffeinated drinks to 1-2 cups per day.
- Eat plenty of fresh fruits & vegetables to prevent constipation. Brown rice, legumes/beans, high fiber cereal, oatmeal, granola, and whole grain bread are also good options.
- If you have not had a bowel movement in 3 or more days, please call your surgeons office right away. You may need to use a fleets enema or suppository (which are available over the counter) so that you can have a bowel movement.

Chapter 10 • PREVENTING INFECTION

An infection that occurs in any part of the body where surgery takes place is called a surgical site infection or SSI. SSI's can happen on your body where you had the surgery. You can get an SSI on your skin or deeper in the muscle or bone. SSI's can also include the metal or plastic parts (also known as implants) that you may get when you have surgery. SSIs happen because germs that are on the skin can get into the surgical area. Some factors can raise your risk for SSI such as: smoking, older age, being overweight, having diabetes, or other health problems that affect your immune system and the length of your surgery.

Only 1 out of every 100 patients having spine surgery will get an SSI. This may seem like a low number but we want to make it even lower. SSI's can make it hard to heal after surgery. SSI's may also cause more pain, stress, and the need for additional medications. SSI's can make you back to the hospital or have more surgery. Our goal is to prevent SSI from happening to you whenever possible.

Your doctors, nurses and others caring for you will do many things to prevent SSI, such as

- Wear hair covers, masks, gowns, and gloves during surgery to keep the surgery area clean
- Clean their hands and arms with a special soap just before surgery
- Clean your skin at the surgery site with a special soap that kills germs
- Give you antibiotics (drugs that kill germs) at the start of your surgery and sometimes during the surgery

To prevent SSIs, here is what you can do:

- Talk to your doctor about any health problems (such as diabetes) before your surgery.
- If you smoke, quit. Your doctor can help.
- Shower or clean your skin with a special soap/rinse you will get from your doctor before your surgery.
- Use a special nose cream before your surgery, only if your doctor gives it to you.

Chapter 11 • DISCHARGE INSTRUCTIONS FOR WOUND CARE

Skin Glue

- Skin glue appears white, dry, and crumbly. Sometimes it is brown and crumbly.
- The skin glue will gently break down and crumble off your skin, leaving it healed underneath. DO NOT PEEL IT OFF - ALLOW IT TO COME OFF NATURALLY.
- Cover the dressing with gauze and tape for 1 week after surgery. After 1 week, you may remove the dressing and leave the incision uncovered.
- Avoid getting skin glue wet for 24 hours (unless instructed otherwise by your surgeon).
- Do not scrub off the skin glue.

Showering

- If you have staples or sutures:
    - Cover the dressing with Saran wrap or freezer bag.
    - Use medical tape to tightly secure the edges to prevent water entry.
    - You can shower 24 hours after surgery but do not take a bath or soak in water.

Contact your doctor immediately if any of the following happens

- Fever over 101° F
- Redness and/or swelling at the incision area or opening of incision area
- Pus, bad smelling drainage, or pain at or around the incision area
- Flu-like symptoms (shaking, chills, body ache, etc)

CALL 911 for any EMERGENT SYMPTOMS (for example: Shortness of breath, Chest pain, acute neurologic changes such as limb weakness, loss of bowel/bladder function)

Chapter 12 • POST-OPERATIVE PAIN MANAGEMENT

Pain

- It is normal to have some discomfort or pain at the surgical site during activity and at night for a few weeks after surgery.
- Using an icepack for 10 to 15 minutes may relieve pain at the surgical site.
- Take your pain medication as instructed by your doctor.
- The medication will not completely eliminate the pain, but the expected benefit is to reduce it enough to improve quality of life directly after surgery. Research has shown that opioid analgesics ***will relieve pain by 30% on average***, but will not improve function. The medication is not designed to eliminate all pain, but to decrease pain.
- Call your doctor's office if the pain becomes uncontrollable.

Pain Medication Policy

- We will only prescribe pain medications and refills for our post-operative patients up to 3 months from the surgery date. Exceptions will only be made in unique cases.
- We do not prescribe narcotic pain medications to patients who have not undergone surgery with us.
- Narcotic pain medications prior to surgery should be prescribed by either the patient's primary care physician or by a pain management doctor. Patients are to take these medications as ordered by the original prescriber.
- If a patient currently has a pain management physician, they will be referred back to them after surgery to optimize the post-operative pain management protocol.
- Pain medications cannot be ordered by multiple prescribers. This is not only our policy but also a Food & Drug Administration rule.
- *If you need a refill on a prescription please let us know 72 hours in advance of running out. We do not fill prescriptions on nights or weekends.*
- Lost or stolen medications may not be refilled until the next approved refill

Chapter 13 • PATIENT EDUCATION ABOUT OPIODS

What are the benefits of opiate treatment? Opiates, also called opioids, provide relief from pain and a sense of well-being. They can allow you to perform activities that you might otherwise find limited due to pain.

What are the risks of opioid treatment? Opioids produce physical dependency with prolonged use. That means that you may experience discomfort if you discontinue these medications abruptly after taking them for over a few weeks. Some individuals have a hard time remaining medication free after being on long term opioids for that reason.

Opioids may decrease your ability to breathe deeply. This is especially true when they are combined with other sedating drugs like alcohol and some tranquilizers. This can lead to accidental overdose deaths.

Less serious side effects may include: constipation, decrease in sexual interest and performance, weight gain, sleepiness, urination difficulties, and itchiness. As with any medication, there is the rare possibility of a severe allergic reaction.

Some people are at risk of abusing these medications and may feel compelled to take them for their pleasurable effect. Therefore we are obliged to provide safeguards to protect you from these potential risks.

Suggestions for safely handling your prescription: These medications can be dangerous if combined with other sedating substances. These medications are sought after by drug abusers. Therefore we ask that you follow these suggestions to provide safety for you and your medications:

- Keep all medicines in a safe, preferably locked container, out of sight and out of the reach of children.
- Never share these medicines with others. Never take other people's pain medications.
- Avoid drinking alcohol while taking these medicines.
- Never combine these medications with other opioids or benzodiazepines (tranquilizers like lorazepam/Ativan, alprazolam/Xanax, diazepam/Valium, clonazepam/Klonopin) unless advised to by your provider.
- Never use illicit drugs while using these medications.
- Be aware that opioids may affect your judgment and driving skills, particularly when your dose is increasing.

Will this medication relieve my pain? It is unrealistic to expect opioids to relieve all discomfort. We hope to reduce your pain so that you can regain function; that is to allow you to enjoy activities that you participated in prior to the onset of your pain. We will continue to ask that you participate in activities that improve your ability to perform daily activities. We may, in the course of your treatment, ask you to exercise, attend classes, or see a specialist of our choosing.