

Spine Surgery Guidebook

 **Saint Luke's**
HOSPITAL OF KANSAS CITY

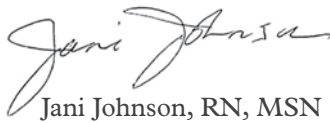
Thank you for choosing Saint Luke’s Hospital of Kansas City’s Spine Surgery Program to help restore your spine function. We are committed to providing you with the best health care experience by combining clinical excellence and patient-centered care that will get you back to your normal activity level as quickly as possible.

At Saint Luke’s Hospital, you will be cared for by our highly specialized and experienced multi-disciplinary team of experts consisting of neurosurgeons, orthopedic surgeons, registered nurses, rehabilitation staff, and social workers, all of whom are dedicated to ensuring you receive the best care and outcome from your spine surgery.

We strongly believe that you as a patient play a key role in ensuring a successful recovery. Our goal is to empower you with the necessary knowledge and involve you in your treatment plan at each step of your recovery. As such, this guidebook is designed to provide you with the information needed to help you and your loved ones navigate the spine surgery process before, during, and after surgery.

Thank you for trusting Saint Luke’s with your spine care. We look forward to serving you.

Sincerely,



Jani Johnson, RN, MSN
CEO

Saint Luke’s Hospital is designated as a Blue Distinction® for Spine Surgery by Blue Cross and Blue Shield of Kansas City, an independent licensee of Blue Cross Blue Shield Association.

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Overview

Using the guidebook

This guidebook is designed to help you understand:

- What to expect during every step of your diagnosis, surgery, and recovery
- What you need to do pre- and post-operatively
- How to care for yourself before and after spine surgery

Remember, this is just a guide. Your surgeon, nurse, or therapist may add to or change some of the recommendations. Always use their recommendations first and ask questions if you are unsure of any information.

Spine education class

If it is determined that spine surgery is the best course of treatment for your back or neck pain, we strongly encourage you to attend one of our weekly spine pre-operative classes where members of your health care team will discuss everything from before the operation to post-discharge.

Classes are held every Friday from 10 a.m. to 12 p.m. in the Neuroscience Administrative Conference Room. Use the main entrance of the Saint Luke's Marion Bloch Neuroscience Institute, and one of our volunteers at the front desk can assist you.

Patients and their caregivers are encouraged to attend this class. Please bring this guide with you.

- › Call 816-932-6705 to sign up for a Pre-Operative Spine Class or if you have any questions.

Pre-anesthesia testing (PAT)

A PAT nurse will call you with a date and time for you to complete your necessary studies before surgery.

Bring the following items to your pre-admission appointment:

- Insurance/Medicare cards
- Advance directive (living will)
- Current list of all medications

Get to Know Your Spine

Spine anatomy

A healthy spine supports the body while letting it move freely. It does this with the help of three natural curves. Strong, flexible muscles help, too. They support the spine by keeping its curves properly aligned. The disks that cushion the bones of your spine also play a role in back fitness.

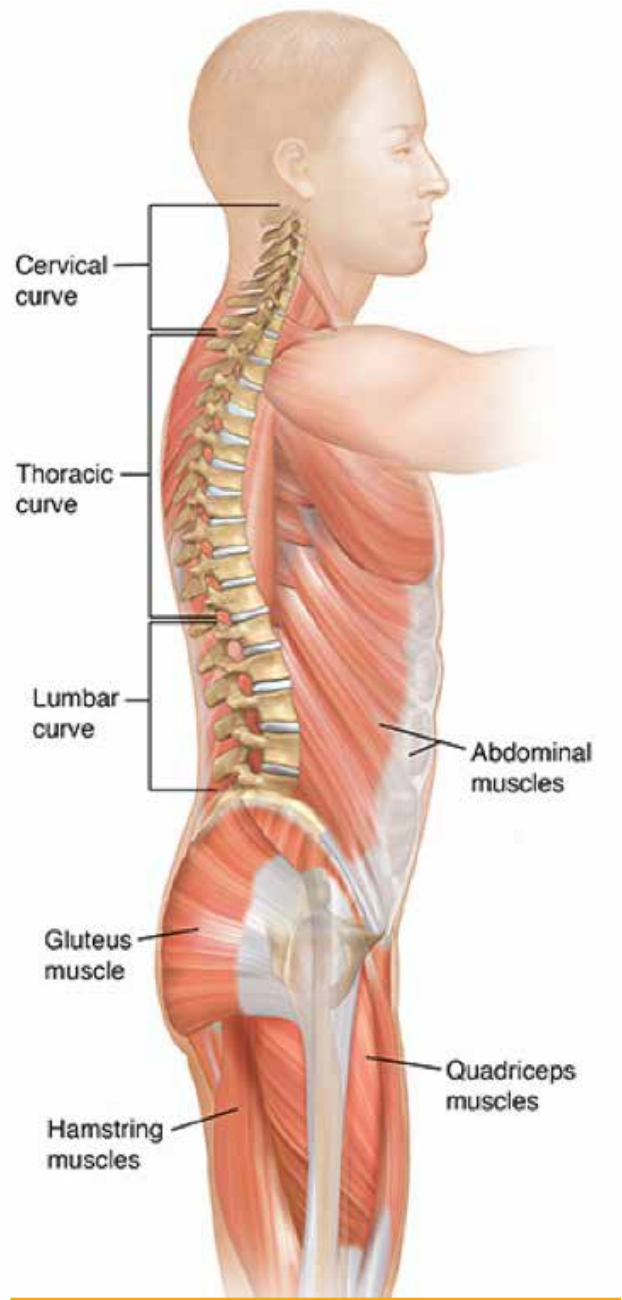
Three natural curves

The spine is made of bones (vertebrae) and pads of soft tissue (disks). These parts are arranged in three curves: cervical, thoracic, and lumbar. When properly aligned, these curves keep your body balanced. They also support your body when you move. By distributing your weight throughout your spine, the curves make back injuries less likely.

Strong, flexible muscles

Strong, flexible back muscles help support the three curves of the spine. They do so by holding the vertebrae and disks in proper alignment. Strong, flexible abdominal, hip, and leg muscles also reduce strain on the back.

The lumbar curve is the hardest-working part of the spine. It carries more weight and moves the most. Aligning this curve helps prevent damage to vertebrae, disks, and other parts of the spine.



Cushioning disks

Disks are the soft pads of tissue between the vertebrae. The disks absorb shock caused by movement. Each disk has a spongy center (nucleus) and a tougher outer ring (annulus). Movement within the nucleus allows the vertebrae to rock back and forth on the disks. This provides the flexibility needed to bend and move.

Common spine and disk problems

The most common serious back problems happen when disks tear, bulge, or rupture. In such cases, an injured disk can no longer cushion the vertebrae and absorb shock. As a result, the rest of your spine may also weaken. This can lead to pain, stiffness, and other symptoms.

- **Contained herniated disk.** As a disk wears out, the nucleus may bulge into the annulus and press on nerves.
- **Extruded herniated disk.** When a disk ruptures, its nucleus can squeeze out and irritate a nerve.
- **Arthritis.** As disks wear out over time, bone spurs form. These growths can irritate nerves and inflame facets.
- **Spondylolisthesis.** Listhesis is a condition in which one vertebra has moved forward or backward, in relation to the one above or below it. This causes a crack (stress fracture) in the areas that link the vertebrae together. This may put pressure on the annulus, stretch the disk, and irritate nerves.



Contained Herniated Disc



Extruded Herniated Disc



Arthritis



Spondylolisthesis

Pre-Operative Checklist

Patient's Name: _____

Emergency Contact: _____

Discharge Transportation: _____

Discharge Disposition: _____

Post-Operative Therapy: _____

Primary Care Physician: _____

Pharmacy: _____

Allergies: _____

Durable Medical Equipment: Cane Walker Commode Oxygen

Note: Please bring any walkers or home oxygen tanks to the hospital with you at the time of your surgery.

Specialty sign off

Anesthesia _____

Pre-Anesthesia Nurse Screening _____

Pre-Operative Class Nurse Navigator _____

Physical Therapist _____

Note: If you are experiencing progressive weakness, loss of bladder/bowel control (NOT constipation), or neurologic changes, please contact your surgeon's office immediately or call 911. Also, please call the office if you have any changes in health or improvement in symptoms from the time we schedule surgery until the day of surgery.

Surgery Date: ___/___/___ at _____ a.m. / p.m

Medication List

Medication (Name, Route, Frequency)	Take Day of Surgery	Stop Date	Restart Date
_____	<input type="checkbox"/>	__/__/__	__/__/__
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Pre-Operative Week-by-Week Guide

Please call your surgeon if you have any improvements or any change in your medical condition.

Six weeks before surgery

Contact your health insurance company

Before your surgery, you will want to contact your health insurance company via the telephone number listed on your card to find out if:

- The procedure you are having done requires pre-authorization or a second opinion.
- You have any benefits for durable medical equipment (DME) like walkers, canes, commodes, etc.

Note: While our office will work with your insurance company to obtain pre-authorization for your surgery, it is best practice for you to call them and understand your benefits well. You can also contact them if you have any questions regarding your deductible, how much your insurance will pay, etc.

Medical clearance and pre-anesthesia instructions

If you currently see a specialist, contact their office to see if you may need an evaluation for clearance prior to surgery.

It is also important that you verify with your surgeon or prescribing physician which medications you will need to stop prior to surgery, and when to stop them.

Start pre-operative home exercise program (if tolerable)

Since patients with spine problems are more likely to develop muscle weakness as a result of becoming sedentary and deconditioned, it is important to begin a home exercise program pre-operatively to optimize your post-operative result. You can practice using spinal precautions to get in and out of bed, as well as any other recommended exercises from your surgeon.

If wearing a spinal brace, reach out to your physician prior to beginning a home exercise program.

Review your health care advance directive (if applicable)

It is important that if you have an advance directive for health care, that it be current. If you do not have an advance directive and wish to formulate one, or if you have one that needs to be amended, please let your nurse on the unit know and they can contact the social worker.

What to do four weeks before surgery?

Pre-admission screening

Around four weeks prior to your surgery, you will receive a phone call from a member of our pre-anesthesia team inviting you to schedule an evaluation with a member of our anesthesia team, if indicated based on your medical history. During this evaluation, a member of the anesthesia team will go over your medical history, surgical history, and medications. Also while here, we may perform any indicated lab draws, diagnostics, or cardiac screenings. The purpose of this screening is to optimize your health so that you can have the best surgical outcomes. Please have the following information available when you come for your screening:

- **Bag of all current medications**
- **List of medical diagnoses**
- **Name and contact number of all physicians that you see**

What to do two weeks before surgery?

Verify surgery date and time

Reach out to your surgeon's office or your spine nurse navigator if you have not been contacted by the pre-anesthesia testing nurse to verify your surgery date and time.

If there are any changes to the date or time, the pre-anesthesia team will notify you.

Stop taking vitamins and herbal supplements

What to do the week before surgery?

Stop any medications that may increase bleeding

Seven days prior to your surgery, you will need to stop taking any blood thinning agents. This includes NSAIDs (Aspirin, Bromfenac, Celecoxib, Diclofenac, Diflunisal, Etodolac, Ibuprofen, Ketoprofen, Ketorolac, Meclofenamate, Meloxicam, Nabumetone, Naproxen, Oxaprozin, Piroxicam, Sulindac), vitamin E, etc. These medications may cause an unnecessary increase in bleeding during or after your surgery.

If you are on any anticoagulants or any anti-platelet medications (Anagrelide, Apixaban, Aspirin, Betrixaban, Cilostazol, Clopidogrel, Dabigatran, Dipyridamole/aspirin, Edoxaban, Enoxaparin, Fondaparinux, Prasugrel, Rivaroxaban, Ticagrelor, Ticlopidine, Vorapaxar, Warfarin) discuss with your prescriber and your surgeon about how and when to stop taking these medications.

Always consult with your prescribing physicians prior to stopping any medications.

See bathing instructions for what to do the week before surgery on the next page.

Bathing

To reduce the risk of surgical site infection, use either anti-bacterial (Dial Gold) or chlorhexidine gluconate cleanser (CHG), as directed by your surgeon. This should be done at least three days/showers prior to your surgery. The final shower should be performed on the morning of surgery, and on this day, do not apply any deodorant or lotion afterward. See instruction sheet (Appendix) on how to properly use these products.

What to do the night before surgery?

Pre-operative diet instructions

Have nothing to eat 10 hours prior to your scheduled surgery time/eight hours prior to your arrival time. This includes solid food, hard candies, breath mints, and chewing gum.

Clear liquids (water, apple juice, coffee or tea without cream or sugar, clear carbonated beverages) are allowed four hours prior to your surgery time/two hours prior to your arrival time.

Drink one 20 ounce bottle of Gatorade, to be completed two hours prior to your arrival time to the hospital. It can be any flavor, except those that are red in color. **Must be regular strength, not part of the “G2” line.**

If your physician has instructed you to take any medications the morning of surgery, make sure you take them at least two hours prior to your surgery arrival time.

Bathing

You should complete your second pre-operative shower on this day.

What to do the day of surgery?

Bathing

You should complete your final pre-operative shower this morning. No lotion or deodorant to be applied after this shower.



What to Expect the Day of Surgery

Check-In

Neurosurgery patients

Your surgery will be in the Saint Luke's Marion Bloch Neuroscience Institute located in the southeast corner of the hospital campus. You will want to enter the campus via Entrance 1 and park in parking garage 1. You will enter into the hospital on level 1, turn left off of the elevators, and follow the curved ramp down to the Information Desk. The volunteers will be able to then show you to Admitting. Once you are checked in with Admitting, they will escort you down to C level to the Pre-Operative Waiting Room.

Orthopedic surgery patients

Your surgery will be in the Main OR of the hospital. You will need to enter the campus via Entrance 4 (valet parking is available at this location) and enter the hospital at the Peet/Women's Center entrance. If you do not wish to use valet parking, you will need to enter the campus via Entrance 3, park in the visitor parking garage, enter into Medical Plaza 1 building, take the elevators down to the 1st floor, and then follow signs to the hospital/Peet Center. Once in the Peet Center you will take the green elevators down to A level, get off of the elevators to your right, and then follow the hallway directly to Admitting. Once you are check in with Admitting, they will show you to the Pre-Operative Waiting Room.

Patient tracking

Family members will be given a number to monitor your movement between stages (pre-op, OR, PACU) on screens in both waiting rooms. We also offer the option for family members to sign up for email alerts to notify them when you move between the stages. Nurses can also send update messages through this service as well. If interested, please speak to your pre-op nurse.

What to Bring

- Insurance card
- ID

- **Form of payment:** If indicated, our billing department will notify you ahead of time with the amount needed at the time of surgery.
- **Durable Medical Equipment:** If you have a walker, cane, or CPAP, please bring that to the hospital with you.
- **List of medications:** Do not bring your actual medications to the hospital, unless specifically told to do so by your surgeon or the pre-anesthesia testing nurse.

Please leave all valuables at home.

Pre-operative

Pre-operative nursing: Please tell your nurse on admission if your symptoms are improving. Your pre-op nurse will review your medical and surgical history, as well as your medication list, when medications were last taken, and when you last ate or drank. We will continually ask you to confirm this information to help ensure patient safety.

Consent: Your pre-op nurse and/or physician will go over and sign your surgical consent with you.

IV: Your pre-op nurse will start your IV line and begin your maintenance fluids.

Vital signs: Baseline vital signs will be obtained in the pre-op area. We will also hook you up to one of our cardiac monitors to ensure you have an appropriate rate and rhythm.

Labs: If applicable, additional lab work will be completed in the pre-operative area.

MRSA treatment: Your pre-op nurse will swab the inside of both of your nostrils with an iodine-povidine swab for preventative treatment of MRSA.

Anesthesia: A member of our anesthesia team will meet with you to discuss your anesthesia plan. Inform them if you have any personal or family history of problems with anesthesia.

Surgeon: Your surgeon, resident, or advanced practice provider will meet with you prior to your surgery.

Intraoperative neurophysiological monitoring (IOM) technologist: IOM is a tool that may be utilized during your surgery, but is not necessary for all surgeries. If your surgeon decides to use this then you will meet with the IOM technologist who will discuss the procedure and place electrodes on your wrists and ankles. This procedure is used to monitor your brain, spinal cord, and nerves while the surgeon works in and around those sensitive areas.

Once your pre-operative tasks are completed, your family may be allowed to visit you prior to your operation.

Surgery

While you are having your surgery, your family will wait in the surgical waiting room. The surgeon will speak to them afterwards to discuss the case and let them know that you are in the recovery room. It could be at least another hour before you get to recovery.

Post-anesthesia care unit (PACU)

You will recover in the PACU for an average of two hours. There you will begin to take sips of liquids, and pain medication. Your vitals will be monitored every 15 minutes while in the PACU. Visitation is limited in the PACU. However, your family will be updated on your recovery process, as well as notified when you transfer to your hospital room.

After surgery

After you recover in the PACU, you will be transferred to your regular hospital unit where the staff will continue to assess your incision, vital signs, and pain level.

You will be wearing special wraps, called SCDs, around your legs to help decrease the risk of blood clots. You may or may not have a drain near your incision after your operation. We expect you to have pain after your operation. In our facility we utilize a multi-modal approach to pain management. This can include non-narcotic pain medications such as Tylenol, narcotic pain medication such as hydrocodone or oxycodone, anti-inflammatory medications such as Celebrex, and neuropathic medications such as gabapentin. You need to ask for pain medication when you begin to feel your

pain level rising so your nurse can administer your pain medication. If it is too soon for your next dose, your nurse may try to reposition you, mobilize you, or try alternative methods of pain management such as ice therapy. Every effort will be made to keep you comfortable, but we will not be able to take your pain away completely. Remember, **DO NOT** try to get out of bed without assistance.

Most patients are able to discharge on the second or third day after surgery. Most of our patients go home after discharge, although some patients may need to go to an acute rehab facility or skilled nursing facility for additional therapy before returning home.

The first days after your surgery

After your operation, the real work begins. Now is **NOT** the time to get into bed and relax. **Your goal is to start moving and keep moving.**

- We encourage each of our patients to eat meals in the chair, walk in the halls with assistance, and be out of bed most of the day. **Our expectations for our patients is to ambulate at least 30 feet within 24 hours of surgery.** Ambulation can reduce the risk of numerous complications related to surgery as well as reduce your pain.
- You will be given an incentive spirometer, which is a breathing exercise device that helps prevent lung infections such as pneumonia. **Please perform 10 breaths every hour while awake.**
- Please acknowledge you just had a major surgery, and although we would like to make your recovery painless, our realistic goal is to keep you comfortable enough to be able to continue moving. You will be provided with a prescription for oral narcotic pain medication and possibly a muscle relaxer at discharge. **You can expect a gradual reduction in pain over the next few weeks.**
- Anesthesia, pain medication, and decreased mobility can cause constipation. In the hospital we will help prevent this by giving you stool softeners, laxatives, and chewing gum. We recommend continuing stool softeners and laxatives as needed for constipation post-discharge, as well as increasing your daily oral fluid and dietary fiber intake. Physical and occupational therapists will work with you to make sure you are safe for discharge and educate you on spine precautions and how to maintain those while going about your typical activities of daily living. **Refer to the Appendix for more information related to physical therapy.**

Pre-Operative Exercises

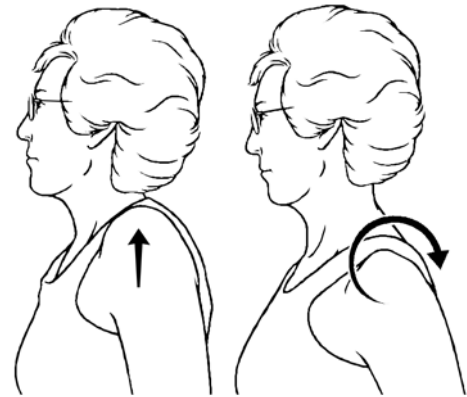
Neck pre-surgical exercises

The following suggested exercises can be helpful to maximize your range of motion and begin to strengthen your neck prior to your surgery.

Maintaining some physical activity prior to surgery will allow you to recover faster and reduce your post-operative pain.

The following exercises are suggestions and may not be appropriate for all individuals. If any of the following increase your neck pain or create arm pain, stop them until you consult with your doctor or a physical therapist.

The following routine can be done once or twice a day.



Bring shoulders up and rotate around backward.
Repeat 10 times.

With head in a comfortable position and chin gently tucked in, rotate head to the right.



Hold 5 seconds.
Repeat to the left.

Repeat 10 times.

With head in comfortable, centered position and chin slightly tucked, gently bring right ear toward right shoulder.



Hold 5 seconds.
Repeat with left side.

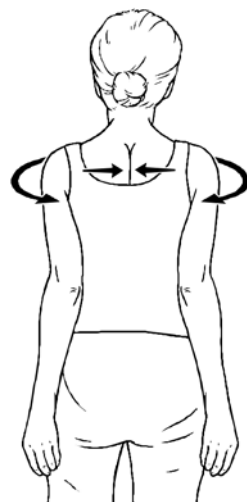
Repeat 10 times.

Pull arms back, pinching shoulder blades together.

Hold 5 seconds. Relax.

(If necessary, steady self with arms back on support high enough so legs need not bend.)

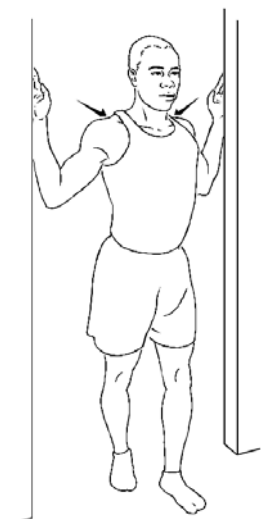
Repeat 10 times.



Stand in doorframe with palms against frame and arms at 45°. Lean forward and squeeze shoulder blades.

Hold 30 seconds.

Repeat 3 times per session.



Pre-Operative Exercises

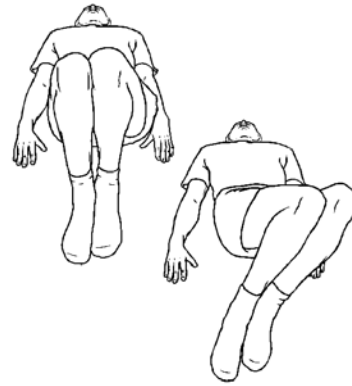
Low back pre-surgical exercises

The following suggested exercises can be helpful to maximize your range of motion and begin to strengthen your back and abdominal muscles prior to your surgery.

Maintaining some physical activity prior to surgery will allow you to recover faster and reduce your post-operative pain.

The following exercises are suggestions and may not be appropriate for all individuals. If any of the following increase your back pain or create leg pain, stop them until you consult with your doctor or a physical therapist.

The following routine can be done once or twice a day.



Lie on back, with knees bent and together, feet flat. Slowly lower knees toward the side. Go as far as is comfortable. Hold 5 seconds. Repeat to other side.

Repeat 10 times.



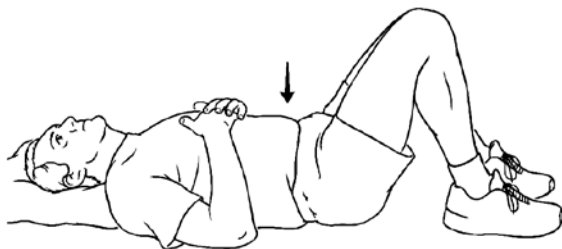
Pull knee toward chest. Feel stretch in lower back or buttock area. Breathing deeply, Hold 30 seconds. Repeat with other knee.

Repeat 3 times.



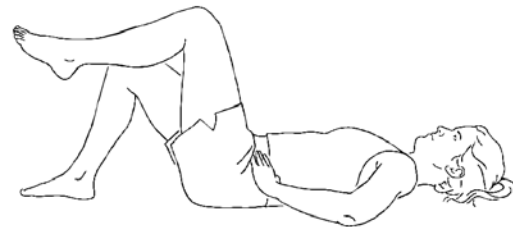
Squeeze buttocks muscles as tightly as possible while counting to 5.

Repeat 10 times.



With feet flat and knees bent, flatten lower back into bed. Tighten stomach muscles. Hold 5 seconds.

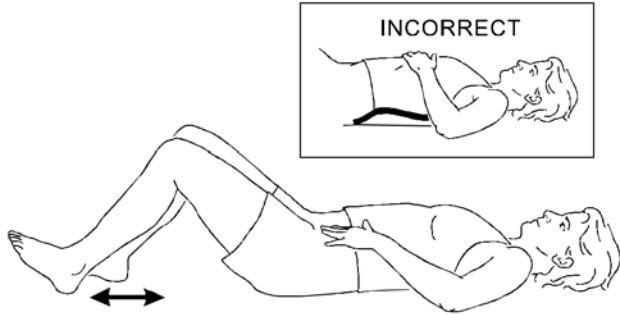
Repeat 10 times.



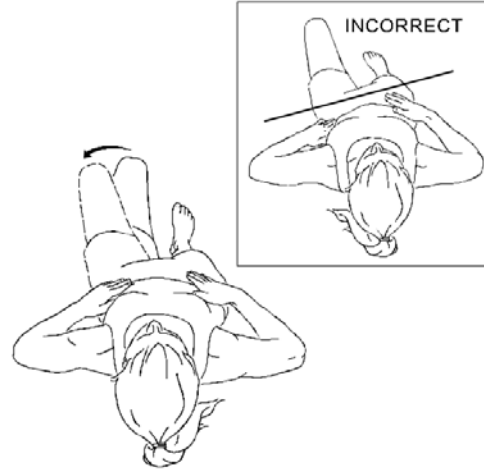
Bring one knee up, then return. Be sure pelvis does not rock backward or forward. Keep pelvis still. Lift knee 10 times.

Restabilize pelvis. Repeat with other leg.

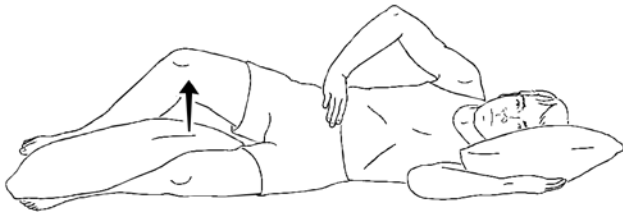
Low back pre-surgical exercises



Slide heel down. Be sure pelvis does not tip forward or backward. Do 10 times. Restabilize pelvis. Repeat with other leg.

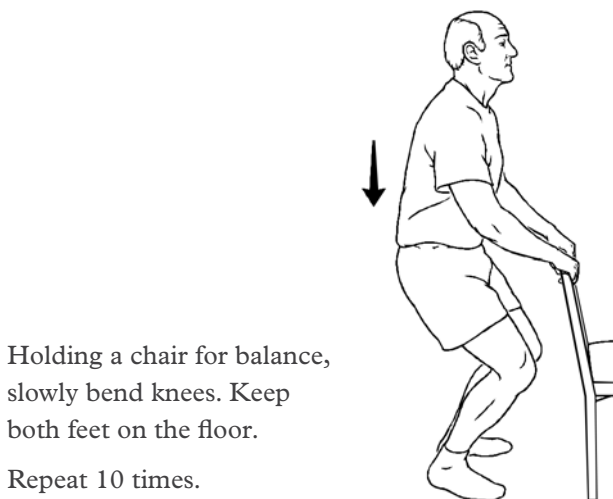
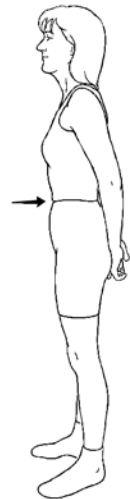


One knee bent, one leg straight. Slowly roll bent knee out. Be sure pelvis does not rotate. Do 10 times. Restabilize pelvis. Repeat with other leg.

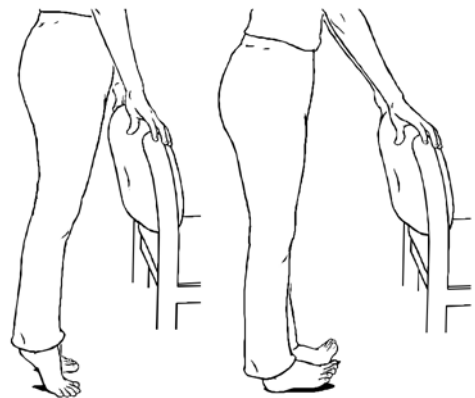


Lying with hips and knees bent 45°, one pillow between knees and ankles. Lift knee. Be sure pelvis does not roll backward. Do not arch back. Do 10 times, each leg

Standing with good posture, slowly inhale, and then exhale. Pull navel toward spine and hold for 5 seconds. Continue to breathe in and out during hold. Rest for 5 seconds. Repeat 10 times.



Holding a chair for balance, slowly bend knees. Keep both feet on the floor. Repeat 10 times.



Gently rise up on toes, then roll back on heels. Repeat 10 times.

Pre-Operative Fasting Instructions

To reduce the risk of anemia, dehydration, and low blood pressure after surgery, we recommend patients drink one bottle of Gatorade prior to their arrival for surgery. Research on the topic of enhanced recovery after surgery supports the concept of using Gatorade to help restore your body's electrolytes while completing your pre-operative fasting.

Instructions

- What?** One 20 ounce bottle of regular Gatorade. This can be any flavor as long as the color of the drink is NOT red.
- When?** Please finish your drink two hours prior to your arrival time to the hospital (or four hours prior to your operation time).

Other fasting instructions

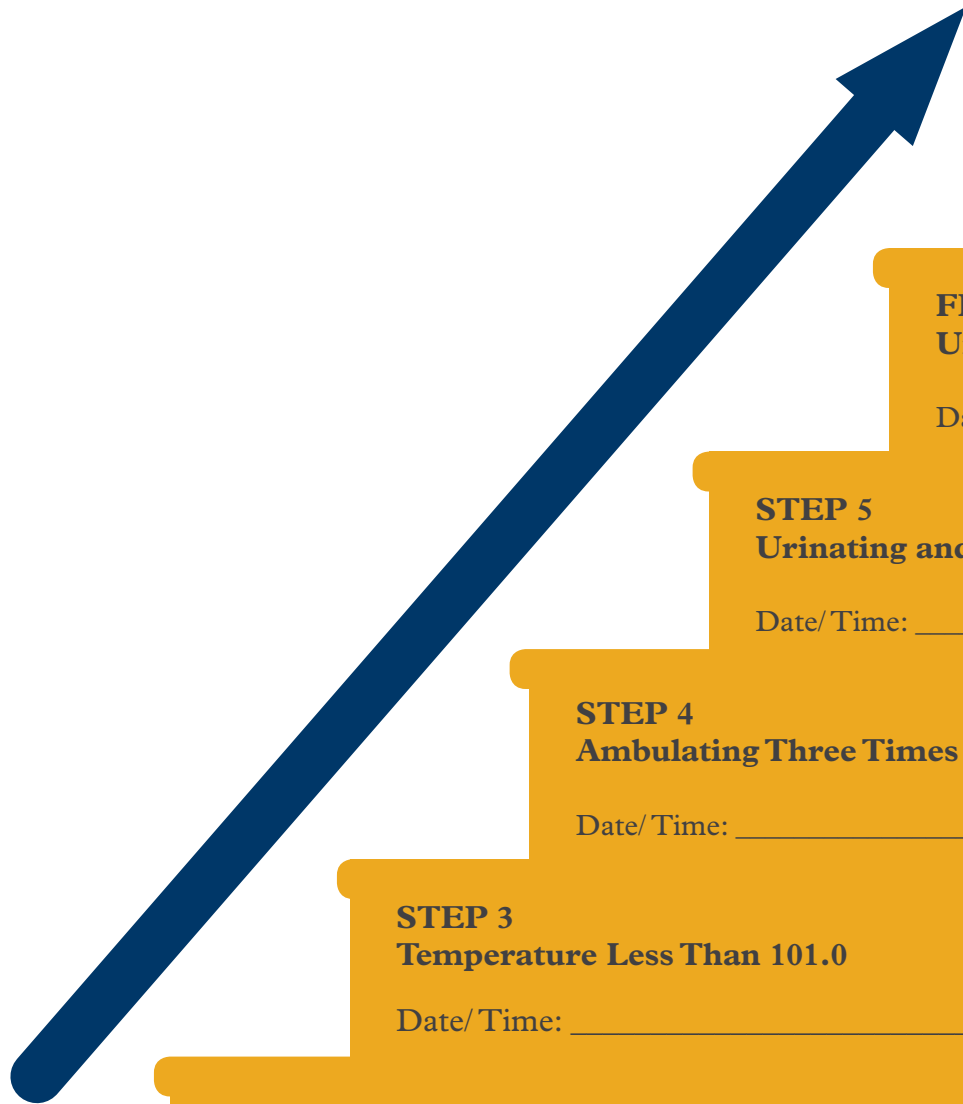
- Food** No solid food, gum, cough drops, or breathe mints for eight hours prior to your arrival time to the hospital (or 10 hours prior to your operation time).
- Liquids** Clear liquids are allowed up until two hours prior to your arrival time to the hospital (or four hours prior to your operation time). These include water, black coffee (NO cream or sugar), tea (NO cream or sugar), clear carbonated beverages (Sprite, 7Up), and apple juice.



Discharge Readiness Checklist

Partners in Care

Making sure you are prepared for discharge



HOME

FINAL STEP

Understand Discharge Plan

Date/Time: _____

STEP 5

Urinating and Passing Flatus

Date/Time: _____

STEP 4

Ambulating Three Times a Day

Date/Time: _____

STEP 3

Temperature Less Than 101.0

Date/Time: _____

STEP 2

IV Fluids Stopped, Pain Tolerable on Oral Medications

Date/Time: _____

STEP 1

Food and Liquids Tolerated

Date/Time: _____

Procedure Specific Information

☐ Spinal fusions

- During spinal fusion, your surgeon locks together, or fuses, specific bones in your spine that are causing pain. This limits the movement of these bones, which may help relieve your pain. You may feel more flexible after a fusion because you can move with less pain.

• Types of spinal fusion surgery

Which section of the spine is fused depends on where your pain is. Sections of the spine that may be fused include:

- The neck (called cervical fusion)
- The midback (called thoracic fusion)
- The lower back (called lumbar fusion)

Fusion can be done from the front (anterior), side (lateral), or back (posterior) of the body. Your surgeon will decide which is best for you.

- It is important to provide your body with all essential nutrients to optimize the probability of a successful spinal fusion. There are several steps you can take to improve outcomes.
 - Maintain a healthy balanced diet including fruits, vegetables, proteins, and dairy. If you have concerns or would like to speak with a nutritionist, let us know.
 - Take an over-the-counter calcium supplement with vitamin D as labeled for six months following surgery.
 - Avoid NSAID's (aspirin, bromfenac, celecoxib, diclofenac, diflunisal, etodolac, ibuprofen, ketoprofen, ketorolac, meclufenamate, meloxicam, nabumetone, naproxen, oxaprozin, piroxicam, sulindac). They can impair bone healing.

☐ Anterior cervical decompression fusion

- This surgery removes a herniated or degenerative vertebral disc in your neck and replaces it with a bone graft. This can relieve painful pressure on spinal nerves.
- It is not uncommon to have a sensation of “a lump in the throat” when swallowing following surgery. It is very important to take your time when eating and chew food very well. You may need to avoid difficult to chew food such as steak immediately following surgery.
- **Risks:** The risks include, but are not limited to: bleeding/hematoma/seroma, infection, scar, permanent/transient hoarseness, permanent/transient dysphagia, carotid/esophageal/tracheal/jugular injury, spinal fluid leak, need for lumbar drain, continued symptoms, weakness, numbness, nerve root injury, C5 palsy, failure of fusion, pseudoarthrosis, adjacent level degeneration, need for further surgery, anesthetic complications, and medical complications.

☐ Transforaminal lumbar interbody fusion

- Transforaminal lumbar interbody fusion is generally used to treat back or leg pain caused by degenerative disc disease. The surgeon will stabilize the spine by fusing vertebrae together with bone graft material.
- It is expected to have soreness and low back pain for weeks following surgery. It is important to get up and walk as much as you are able following surgery. This helps to decrease risk of complications such as blood clot, pneumonia, constipation.
- **Risks:** The risks include but are not limited to: bleeding/hematoma/seroma, infection, scar, scar around the nerve root, spinal fluid leak, need for lumbar drain, arachnoiditis, continued symptoms, weakness, numbness, nerve root injury, anesthetic complications, medical complications, failure of fusion, pseudoarthrosis, adjacent level degeneration, hardware failure, hardware malposition, and the need for further surgery.

□ Anterior lumbar interbody fusion

- Anterior lumbar interbody fusion is generally used to treat back or leg pain caused by degenerative disc disease. The surgeon will stabilize the spine by fusing vertebrae together with bone graft material.

A general/vascular surgeon will assist in your case to provide exposure to the spine from the front. You will see both surgeons for follow up at your post-op visit.

- **Risks:** The risks include but are not limited to: bleeding/hematoma/seroma, infection, scar, scar around the nerve root, spinal fluid leak, need for lumbar drain, arachnoiditis, continued symptoms, weakness, numbness, retrograde ejaculation, nerve root injury, anesthetic complications, medical complications, failure of fusion, pseudoarthrosis, adjacent level degeneration, hardware failure, hardware malposition, and the need for further surgery and failure of pain improvement.

□ Lateral lumbar interbody fusion

- Unlike traditional back surgery, lateral lumbar interbody fusion is performed through the patient's side. By entering this way, major muscles of the back are avoided. This minimally-invasive procedure is generally used to treat leg or back pain caused by degenerative disc disease.
- **Risks:** The risks included bleeding, infection, hematoma, seroma, scar, thigh weakness, neuropathic pain, hernia, vena cava injury, aortic injury, abdominal organ injury, need for colostomy, ureter injury, need for further surgery, nerve root injury, spinal fluid leak, failure of fusion, pseudoarthrosis, adjacent level degeneration, hardware failure, hardware malposition, continued symptoms, weakness, numbness, paralysis, death, medical complications, anesthetic complications.

□ Discectomy

- It is designed to relieve pain caused by herniated discs pressing on nerve roots. This surgery is usually performed on an outpatient basis, which allows the patient to leave the hospital the same day.
- **Risks:** The risks include but are not limited to: bleeding/hematoma/seroma, infection, scar, scar around the nerve root, spinal fluid leak, need for lumbar drain, reherniation, continued symptoms, weakness, numbness, nerve root injury, spinal cord injury/paralysis, anesthetic complications, and medical complications.

□ Laminectomy

- This procedure relieves pressure on the nerve roots in the spine. It is most commonly performed to relieve the pain of stenosis. This is a narrowing of the spinal canal that is often caused by the formation of bony growths that can press against the nerve roots. The surgeon may treat one or more vertebrae.
- **Risks:** The risks include but are not limited to: bleeding/hematoma/seroma, infection, scar, scar around the nerve root, spinal fluid leak, need for lumbar drain, restenosis, spondylolisthesis, continued symptoms, weakness, numbness, nerve root injury, spinal cord injury/paralysis, anesthetic complications, and medical complications.

Preventing Falls in the Home

An adult or child can fall for many reasons. If you are an older adult, you may fall because your reaction time slows down. Your muscles and joints may get stiff, weak, or less flexible because of illness, medicines, or a physical condition.

Other health problems that make falls more likely include:

- Arthritis
- Dizziness or lightheadedness when you get out of bed (orthostatic hypotension)
- History of a stroke
- Dizziness
- Anemia
- Certain medicines taken for mental illness
- Problems with balance or gait
- History of falls with or without an injury
- Changes in vision (vision impairment)
- Changes in thinking skills and memory (cognitive impairment)

Injuries from a fall can include broken bones, dislocated joints, and cuts. When these injuries are serious enough, they can make it impossible for you or a child who is injured in a fall to live on his or her own.

It is important that you prepare your home in the weeks before your surgery.

Make floors safer by doing the following:

- Put nonskid pads under area rugs.
- Remove throw rugs.
- Replace worn floor coverings.
- Tack carpets firmly to each step on carpeted stairs. Put nonskid strips on the edges of uncarpeted stairs.
- Keep floors and stairs free of clutter and cords.

- Arrange furniture so there are clear pathways.
- Clean up any spills right away.
- Wear shoes that fit.

Bathrooms

Make bathrooms safer by doing the following:

- Install grab bars in the tub or shower.
- Apply nonskid strips or put a nonskid rubber mat in the tub or shower.
- Sit on a bath chair to bathe.
- Use bathmats with nonskid backing.

Lighting and the environment

Improve lighting in your home by doing the following:

- Keep a flashlight in each room. Or put a lamp next to the bed within easy reach.
- Put nightlights in the bedrooms, hallways, kitchen, and bathrooms.
- Make sure all stairways have good lighting.
- Take your time when going up and down stairs.
- Put handrails on both sides of stairs and in walkways for more support. To prevent injury to your wrist or arm, don't use handrails to pull yourself up.
- Install grab bars to pull yourself up.
- Move or rearrange items that you use often. This will make them easier to find or reach.
- Look at your home to find any safety hazards. Especially look at doorways, walkways, and the driveway. Remove or repair any safety problems that you find.

When to Call Your Surgeon's Office

➤ Please call your surgeon's office (**Neurosurgery: 816-932-2700 or Orthopedic surgery: 913-319-7600**) if you have any of the symptoms listed below. They have a physician on-call 24/7.

- **Any new changes in sensation or weakness**
- **Any signs of infection**
 - Chills
 - Temperature greater than 101.0 degrees
 - Any redness, swelling, or warmth around the incision
- **Any increased, yellow or cloudy, or foul smelling drainage from your incision**
- **If incision site separates**
- **Any signs of a blood clot**
 - Pain, swelling, redness, or warmth in your calves
- **Increase in pain**
- **Vomiting**
- **Any bowel or bladder changes**

➤ **Please call 911 if you have:**

- **Fainting**
- **Dizziness**
- **Difficulty breathing/shortness of breath**
- **Chest pain not relieved by rest or medication**
- **Disorientation**



Frequently Asked Questions

Q. Do I need to contact my insurance company and tell them about my surgery?

A: While our office will work with your insurance company to obtain pre-authorization for your surgery, it is just best practice for you to call them and understand your benefits. You can also contact them if you have any questions regarding your deductible, how much your insurance will pay, etc.

Q. My surgery is scheduled but I am in a lot of pain. Will my physician prescribe pain medication prior to surgery?

A: Our physicians typically do not prescribe pain medication prior to surgery. Please contact your primary care provider or family doctor.

Q. I am only a few days out from surgery and I am still experiencing pain. Is this normal?

A: Yes, it can take up to 12 weeks to recover. However, if you notice your pain is not controlled with pain medication or you notice the pain is getting increasingly worse please contact your surgeon's office.

Q. My incision is swollen, is this normal?

A: You can expect some mild swelling and redness around the incision after surgery. This is especially true of minimally invasive incisions in spine surgery. If you notice green or yellow drainage coming from the incision, if the incision is hot to the touch, or if you have a fever, contact our office immediately.

Q. Will I have restrictions following surgery?

A: Unless otherwise directed you should lift no more than 10 pounds at least until your follow up appointment. Bending should be limited to no more than what is needed to brush your teeth. Twisting while lifting is prohibited. Your doctors and nurses may also provide you with other restrictions.

Q. When can I drive?

A: Your surgeon will let you know when it is safe to drive again. You cannot drive while taking narcotic pain medication. Discuss driving with your surgeon.

Q. When can I return to work after surgery?

A: Returning to work will depend on the type of surgery you have as well as the type of work that you do. Discuss your specific work activities with your surgeon. Your surgeon's office can complete short term disability/FMLA paperwork for you if needed.





APPENDIX

Pre-Operative Bathing Guide

Instructions: To reduce the risk of surgical site infection, use either anti-bacterial or chlorhexidine gluconate cleanser, as directed by your surgeon, for at least three days/showers prior to your surgery. The final shower should be performed on the morning of surgery, and on this day, do not apply any deodorant or lotion afterward. See instructions below.



Complete normal shower routine above the neck and any necessary hair removal (*no shaving in the region of the operation within 48 hours of surgery time*), then rinse entire body with warm water.



Pour amount necessary to cleanse entire body from the neck down onto a clean washcloth.



Scrub entire body from the neck down with cleanser saturated cloth (*gloves not necessary, despite use in photo*). Be sure to pay particular attention to surgical site area. **Do not use on head, face, or genitals. Chlorhexidine contact with eyes or ears can contribute to blindness and deafness.**



Thoroughly rinse any cleanser with warm water.

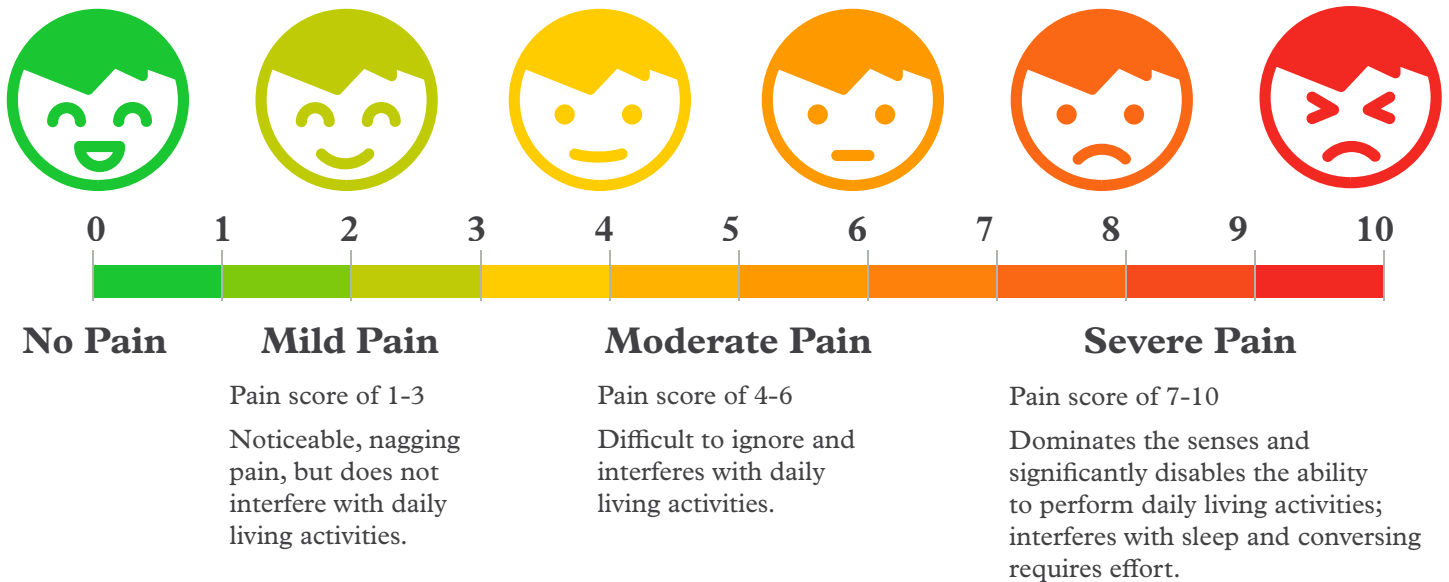


Dry with a clean towel (*gloves not necessary, despite use in photo*).

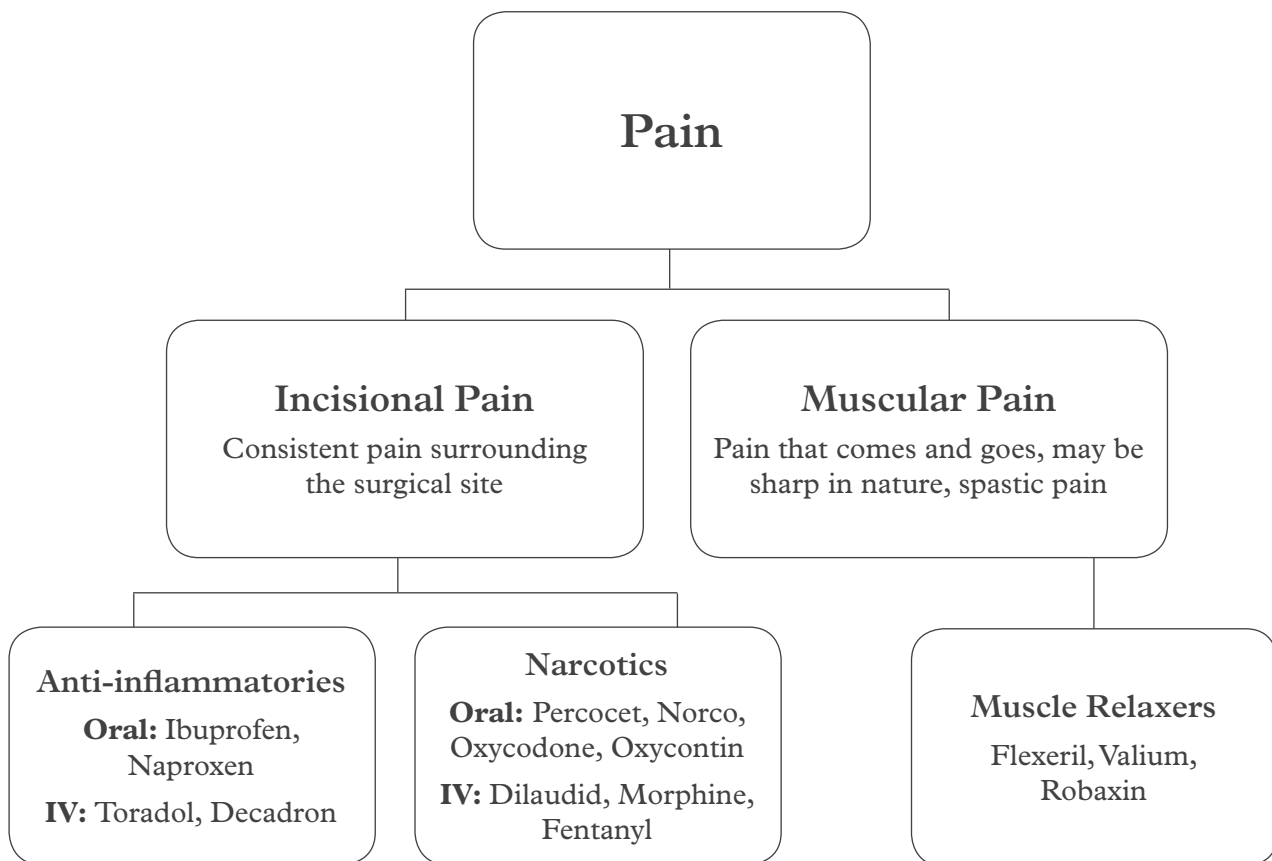
Medication Side Effects

Reason for Medication	Medication Names: Generic (Brand)	Most Common Side Effects
Pain Relief – Narcotics	<ul style="list-style-type: none"> • Intravenous (IV) <ul style="list-style-type: none"> - Fentanyl - Morphine - Hydromorphone (Dilaudid) • Oral <ul style="list-style-type: none"> - Oxycodone - Oxycodone/ Acetaminophen (Percocet) - Hydrocodone/ Acetaminophen (Norco) - Tramadol (Ultram) • Transdermal (Patches) <ul style="list-style-type: none"> - Fentanyl 	Dizziness Drowsiness Constipation Nausea Vomiting Rash Itching Confusion
Pain Relief – Anti Inflammatory Agents	<ul style="list-style-type: none"> • Celecoxib (Celebrex) • Dexamethasone (Decadron) • Ketorolac (Toradol) 	Upset Stomach Sleeplessness Bruising Bleeding
Pain Relief – Muscle Relaxants	<ul style="list-style-type: none"> • Methocarbamol (Robaxin) • Cyclobenzaprine (Flexeril) • Tizanidine (Zanaflex) • Diazepam (Valium) • Baclofen 	Drowsiness Dizziness Dry Mouth
Pain Relief – Nerve Pain	<ul style="list-style-type: none"> • Gabapentin (Neurontin) • Duloxetine (Cymbalta) 	Drowsiness Dizziness Fatigue Constipation Nausea
Nausea or Vomiting	<ul style="list-style-type: none"> • Ondansetron (Zofran) • Metoclopramide (Reglan) • Prochlorperazine (Compazine) • Promethazine (Phenergan) • Scopalamine Patch 	Headache Constipation Drowsiness
Blood Clot Prevention	<ul style="list-style-type: none"> • Heparin 	Bleeding Bruising
Infection Prevention – Antibiotics	<ul style="list-style-type: none"> • Cefazolin (Ancef) • Clindamycin (Cleocin) • Vancomycin 	Upset Stomach Diarrhea Rash Itching Flushing Headache

Pain Scale



Breakthrough Pain | Severe pain that erupts while the patient is already medicated with a long-acting painkiller.





PRE-OPERATIVE CLASS PRESENTATION

PRE-OPERATIVE CLASS THERAPY PRESENTATION