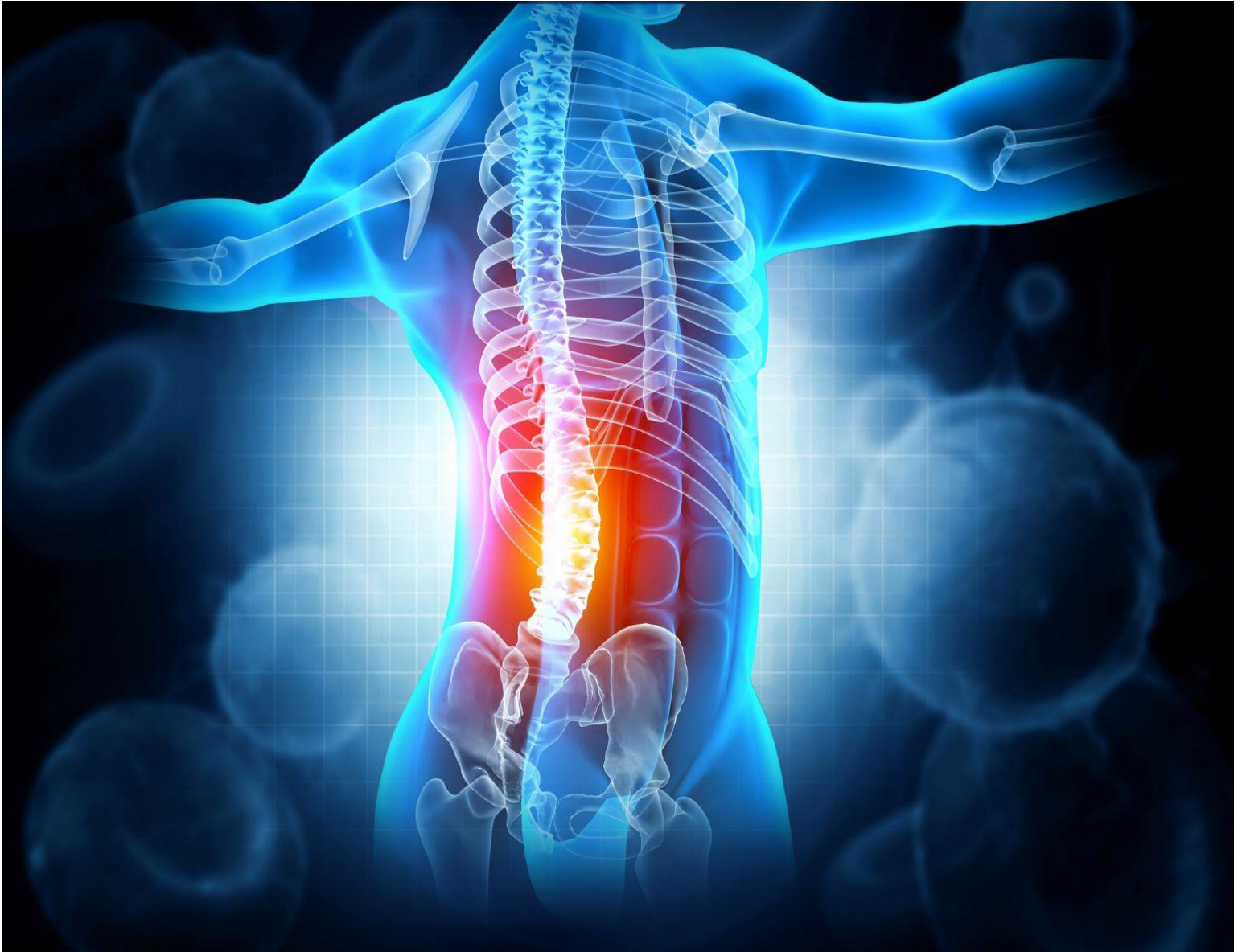


Guidebook for Spines - Lumbar Fusion





Guidebook for Spines - Lumbar Fusion

Table of Contents

Section One – Before Surgery

Using the Guidebook	5
Spine Center Overview	5
Your Nurse Navigator	6
Get Started – Four to Six Weeks Before Surgery	7
Insurance Company.....	7
Billing for Service.....	7
Medical Clearance.....	7
Laboratory Tests.....	7
Medications	7
Herbal Medicine.....	7
Diet Pills	7
Healthcare Decisions	8
Stop Smoking	8
Prepare Your Home.....	9
Pets	9
Breathing Exercises.....	10
Surgery Timeline	11
Ten Days	11
Seven to Five Days Before	11
Day Before	11
CHG Instructions	12
Day of Surgery.....	13
Items to Take to the Hospital	13
Special Instructions	13
What if I live alone	14
FAQs	15-16

Table of Contents

Section Two – At the Hospital

Understanding Anesthesia	17
Anesthesiologists.....	17
Types of Anesthesia.....	17
Side Effects.....	17
Understanding Pain	18
Types of Pain.....	18
Treatment of Pain.....	18
Pain Scale.....	19
Pain Management.....	19
Hospital Care – What to Expect	20
Before Surgery.....	20
During Surgery.....	20
After Surgery.....	20
Post-op Day.....	20
Discharge Options	21
FAQs	22

Section Three – At Home After Surgery

Caring for Yourself at Home	23
Comfort.....	23
Body Changes.....	24
Compression Stockings.....	24
Incision Care.....	24
Dressing Change.....	24
Complications	25
Infection Signs.....	25
Infection Preventions.....	25
Blood Clot Signs.....	25
Blood Clot Prevention.....	25
Pulmonary Embolus Signs.....	25
Pulmonary Embolus Prevention.....	25



Guidebook for Spines - Lumbar Fusion

Table of Contents

Section Three – At Home After Surgery (Cont.)

Post-op Exercises	26
Principles of Exercises	26-27
Activities of Daily Living	28
Spine Precautions	28
Back Brace.....	29
Bed Positioning	30
Bed Mobility	31
Using a Walker.....	32
Personal Care/Getting Dressed.....	33
Body Mechanics	34-35
Other Tips	36
Physician Phone Numbers	37
Notes	38

Guidebook for Spines - Lumbar Fusion

Section One:

Before Surgery

Welcome

We are pleased you have chosen The Advanced Orthopaedic & Spine Center of Excellence at Houston Physicians' Hospital to have spine surgery.

The goal of lumbar spine surgery is to:

- Relieve pain.
- Restore independence.
- Return to an active lifestyle



Using the Guidebook

The Guidebook will assist you with:

- What to expect
- What you need to do
- How to care for yourself after spine surgery

Your doctor, nurse or therapist may add or change any of the recommendations. Always use their recommendations first and ask questions if you are unsure.

Spine Center Overview

We offer a unique program to encourage discharge from the hospital one to three days after surgery.

Program features include:

- Nurses and therapists trained to work with spine surgery patients
- Private rooms
- Emphasis on individual care
- Spine Care Coordinator/Nurse Navigator who coordinates pre-operative care and discharge planning.



Guidebook for Spines - Lumbar Fusion

Your Nurse Navigator

The Nurse Navigator is available before your surgery, as well as post-discharge to answer questions about your spine surgery or the recovery process.

The Nurse Navigator will:

- Review at home needs after surgery
- Assess and plan for anesthesia and medical optimization for surgery.
- Coordinate discharge plan with case manager.
- Act as your advocate throughout the course of treatment.
- Answer questions and coordinate your hospital care with spine center team members.

The Nurse Navigator can be reached at 832-340-2165.

We believe patients play a key role in ensuring a successful recovery, so we involve them through every step of our program.

Guidebook for Spines - Lumbar Fusion

Get Started - Four to Six Weeks Before Surgery

Insurance Company

Before surgery, your surgeon's office and hospital billing department will contact your insurance company to find out if pre-authorization, pre-certification, a second opinion or referral form is required. Failure to clarify these may result in a reduction of benefits or delay of surgery. This is especially important if your spine problem is due to an injury at work.

Billing for Service

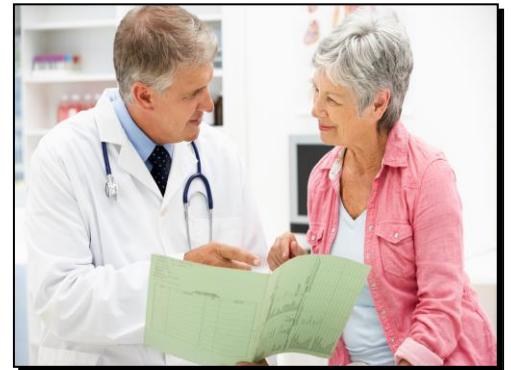
After your procedure, you will receive separate bills from the anesthesiologist, hospital and if applicable, surgical assistant, radiology and pathology departments. If your insurance carrier has specific requirements regarding participation status, please contact them.

Medical Clearance

Your surgeon will advise you about your need to visit other doctors or specialists if additional medical clearance needed. Follow all instructions and keep all appointments for doctor visits and lab or x-rays tests.

Laboratory Tests

The Nurse Navigator will be calling you to set up a pre-op appointment for required lab testing, unless already completed with primary care physician.



Medications

During your pre-op assessment phone call, you will receive instructions about your medications and which ones to stop and when. **STOP all supplements/vitamins 1 week before surgery. STOP all anti-inflammatory medications 1 week before surgery. Stop all Semaglutide medication 2 weeks before day of surgery. (Ozempic, Wegovy, Monjaro)**

Herbal Medicine

Herbal medicines can interfere with other medicines. Check with your doctor to see if you need to stop taking your herbal medicines before surgery.

Diet Pills

Diet pills can interfere with anesthesia. If you are taking diet pills, you will need to stop taking them at least 14 days prior to your surgery date.

Examples of diet pills: Phentermine, Qysmia, Adipex, Apidren, Contrave.



Guidebook for Spines - Lumbar Fusion

Healthcare Decisions

Advance Medical Directives communicate a patient's wishes regarding healthcare. There are different directives. Consult your attorney concerning the legal implications of each.

- **A Living Will** explains your wishes for healthcare if you have a terminal condition, irreversible coma and are unable to communicate.
- **Appointment of a Healthcare Agent** (sometimes called a Medical Power of Attorney) lets you name a person (your agent) to make medical decisions if you become unable to do so.
- **Healthcare Instructions** are your choices regarding use of life-sustaining equipment, hydration, nutrition and pain medications.

If you have an Advance Medical Directive, bring copies of the documents with you to the hospital.

Stop Smoking

Smoking:

- Delays your healing process.
- Reduces the size of blood vessels and decreases the amount of oxygen circulated in your blood.
- Can increase clotting which can cause heart problems.
- Increases blood pressure and heart rate.
- Increases risk of developing blood clots

If you quit smoking before surgery, you will increase your ability to heal.

When you are ready:

- Decide to quit.
- Choose the date.
- Limit the area where you smoke; don't smoke at home.
- Throw away all cigarettes and ashtrays.
- Don't put yourself in situations where others smoke.
- Reward yourself for each day without cigarettes.
- Remind yourself that this can be done – be positive!
- Take it one day at a time – if you slip, get back to your decision to quit.
- Check with your primary care doctor if you need products like chewing gum, patches or prescription aids.

Smoking can impair oxygen circulation to your healing spine.

Oxygen circulation is vital to the healing process.

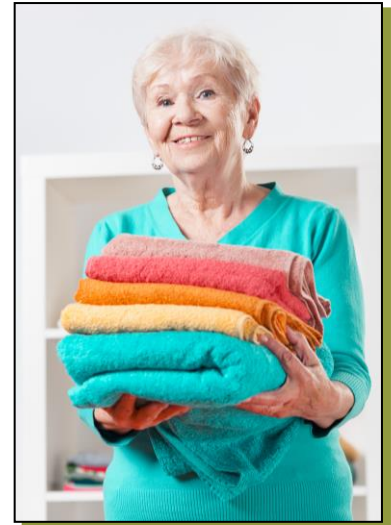
Houston Physicians' Hospital is a Tobacco Free Facility

¹Smoking Threatens Orthopedic Outcomes. Negative effects should prompt orthopedists to address the issue with patients. S. Terry Canale, MD; Frank B. Kelly, MD; and Kaye Daugherty <http://www.aaos.org/news/aaosnow/jun12/cover2.asp> Motrin is a registered trademark of McNeil-PPC, Inc. All rights reserved by trademark owner.

Guidebook for Spines - Lumbar Fusion

Prepare Your Home

- Place items used often on surfaces that are easy to reach.
- Check railing to make sure they are not loose.
- Complete house cleaning, do laundry and put it away.
- Put clean linens on the bed.
- Prepare meals and freeze them.
- Cut the grass, tend the garden and other yard work.
- Pick up throw rugs and tack down loose carpeting to prevent falls.
- Remove electrical cords and other obstructions from walkways.
- Place nightlights in bedrooms, hallways and bathrooms to prevent falls.
- Install grab bars in the shower/bathtub and put adhesive slip strips in the tub.



Pets

- Have help the first days after surgery to keep food and water available for pets.
- Plan for a dog walker during the first week (at the least). You do not want to lose your balance or be jerked by your excited canine friend!
- If you have cats, have someone assist with the litterbox so you do not have to bend to clean it. **It is recommended that you do not move the cat litter box as they may start spraying which would be more work for you.**



Guidebook for Spines - Lumbar Fusion

Breathing Exercises

To prevent problems such as pneumonia, practice breathing exercises using the muscles of your abdomen and chest.

Deep Breathing

- Breathe in through your nose as deep as you can.
- Hold your breath for 5 to 10 seconds.
- Breathe out as if you were blowing out a candle. Notice your stomach going in. Breathe out for 10 to 20 seconds.
- Take a break. Repeat the exercise 10 times.

Techniques such as deep breathing, coughing and using an Incentive Spirometer may help prevent respiratory complications after surgery.

Coughing

- Take a slow deep breath. Breathe in through your nose and fill your lungs completely.
- Breathe out through your mouth and concentrate on your chest emptying.
- Repeat.
- Take another breath, but hold your breath and then cough hard. When you cough, focus on emptying your lungs.
- Repeat all steps twice.



Guidebook for Spines - Lumbar Fusion

Surgery Timeline

Ten Days Before Surgery

Pre-operative Visit to Surgeon

Have an appointment in your surgeon's office seven to 10 days before surgery. This is a final check-up and time to ask any questions.

Some patients with acute disc herniation may have a shorter time between the visit and surgery. You should schedule your 10-day and six-week post-operative visits at this time.

Seven to Five days before surgery

Receive a phone call from the pre-operative nurse instructing you what time to arrive at the hospital.

Day Before Surgery

Your surgeon will provide instructions for the night before surgery. Generally: DO NOT eat or drink anything after midnight, EVEN WATER, unless otherwise instructed. Shower and wash your hair. Use your CHG soap as instructed at your pre-admission visit (see instructions pg. 14)

Day of Surgery

Do not eat or drink anything the morning of surgery. Do not chew gum, mints or hard candy. Arrive at the hospital as instructed by pre-admission nurse. This will give staff time to start IVs, prep and answer questions. It is important you arrive on time as occasionally the surgery time is moved up.



Guidebook for Spines - Lumbar Fusion

Pre-Surgery CHG Bathing Instructions

Getting your skin ready for surgery is extremely important! To help prevent a surgical site infection, you should clean your skin with CHG. This is a special chemical found in soaps such as Hibiclens and other brands.

- Gather clean, freshly-laundered washcloths, towels and clothes for each shower
- Before using, read all instructions!
-

For best results, bathe with CHG the day before surgery and on the morning of surgery.

If you experience an allergic reaction (rash, facial swelling) to the soap, stop using and notify your surgeon.

Steps for showering or bathing with CHG /Hibiclens:

1. If you plan to wash your hair, use your regular shampoo; then rinse your hair and body to remove any shampoo residue.
2. Wash your face with your regular soap or water only.
3. Thoroughly rinse your body with water from the neck down.
4. Apply CHG/ Hibiclens directly on your skin or on a clean wet washcloth and wash gently; move away from the shower stream when applying the CHG soap/ Hibiclens to avoid rinsing it off too soon.
5. Rub the soap filled washcloth over your entire body for **3 minutes**; apply more soap as needed (1/2 of bottle should be used with each shower).
6. Avoid scrubbing your skin.
7. **Avoid contact with your eyes, ears, mouth and genitals**; if the solution comes in contact with these areas rinse out promptly.
8. Turn on the shower/return to the shower stream, and rinse the soap off your body completely with warm water.
9. Do NOT use regular soap after washing with the CHG/ Hibiclens.
10. Use a clean washcloth with each shower.
11. Pat your skin dry with a freshly-laundered, clean towel after each shower/bath cleansing.
12. Dress with freshly-laundered clothes after each shower/bath cleansing.
13. Apply clean sheets to your bed the night before your surgery.

Additional instructions for preventing a surgical site infection:

1. Sleep on clean bed linens the night before surgery. Do NOT apply any lotions, deodorants, powders, or perfumes to your body.
2. Do NOT shave the night before or the day of surgery! Facial shaving is the only thing permitted before surgery. Do NOT remove any body hair below the neck.
3. Good hand hygiene is important. Wash hands with soap and water for the time it takes to sing "Row, Row your boat" to ensure adequate cleansing.
4. Do not allow your pet to sleep with you.

I completed the CHG/Hibiclens showers as instructed:

____ 1 day before surgery

____ Morning of surgery



Guidebook for Spines - Lumbar Fusion

Items to Take to the Hospital

- Patient Guidebook
- Copy of Advance Medical Directives (if you have one)
- Insurance card, driver's license and co-payment (if applicable)
- Personal hygiene items (toothbrush, deodorant, razor, etc.)
- Loose fitting clothes (shorts, tops)
- Slippers with non-slip soles, flat shoes or tennis shoes
- Neck or Back brace given by your physician if needed
- Cane or standard rolling walker if you already have one
- Home medications in original bottles

Special Instructions

- Leave jewelry, valuables and large amounts of money at home.
- Do not use creams or oils on your skin the day of surgery.
- Remove makeup before procedure.
- Nail polish and artificial nails may be left on.
- No contact lenses during surgery
- You will be asked to remove hearing aids
- You will be asked to remove unfixed dental appliances (dentures, bridges, partials, etc.)

Guidebook for Spines - Lumbar Fusion

What if I live alone?

Three options are available to you.

- Return home and receive help from a relative or friend.
- Referral to a Home Health Agency pending approval from physician.
- If you meet the required criteria, you may be able to stay in a sub-acute facility following your hospital stay; this option requires approval from your insurance company.



Guidebook for Spines - Lumbar Fusion

Frequently Asked Questions about Lumbar Fusion

What is wrong with my back?

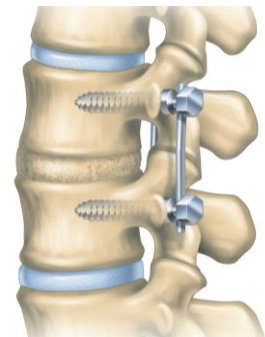
You have one or more damaged discs and/or areas of arthritis in your back. This produces pain, and may produce abnormal motion, or misalignment of your spine. Discs are rubbery shock absorbers between the vertebrae, and are close to nerves that travel down to the legs. If the disc is damaged, part of it may bulge or even burst free into the spinal canal, putting pressure on the nerve and causing leg pain, numbness, or weakness.

What is required to fix the problem?

Your condition may require both a nerve decompression (freeing the nerves from pressure) and a spinal fusion. Discuss options with your surgeon.

What is spinal fusion?

A fusion is a bony bridge between at least two other bones, in this case two vertebrae in your spine. The vertebrae are the blocks of bone which make up the bony part of the spine. Normally each vertebrae move within certain limits in relationship to the other vertebrae. With spinal disease, the movement may become excessive and painful, or the vertebrae may become unstable and misaligned, putting pressure on the spinal nerves. In cases like this, surgeons try to build bony bridges between the vertebrae using pieces of bone, which is called a bone graft. The bone may be obtained either from the patient (usually from the pelvis) or from a bone bank. There are advantages and disadvantages to either source. The bone graft is either laid next to the vertebrae or actually placed between the vertebral bodies (the rubbery disc that normally lies between the vertebrae must be removed). In either case, the bone graft has to heal and fuse to the adjacent bones before the fusion becomes solid. Spine surgeons often use screws and rods to protect the bone graft and stabilize the spine while the fusion heals.



How is the operation performed?

A four- to five-inch incision is made in middle of lower back. Muscles supporting the spine are pushed aside temporarily. Spinal nerve is exposed, moved aside and protected, and ruptured disc or bone spur is removed to loosen the nerve. Fusion is performed as described above. Wound is then closed and dressings are applied. Operation typically takes a minimum of three hours and may be longer, depending on complexity of problem. Sometimes spinal fusion is performed with an anterior approach. In this case, the surgeon would make a four- to five-inch incision in lower abdomen, gently move the internal organs aside, and proceed with surgery as described above.



Guidebook for Spines - Lumbar Fusion

Who is a candidate for lumbar fusion, and when is it necessary?

When back and nerve problems cannot be corrected in a more simple procedure and pain persists at an unacceptable level, it may be necessary to do a fusion. Consult your surgeon to determine options. Some conditions which require spinal fusion are discussed in “What is spinal fusion?”

Who performs this surgery?

Both orthopedists and neurosurgeons who specialize in spine surgery may perform this procedure, either individually or as a team.

Could I be paralyzed?

Neurologic injury with spine surgery is possible, but not likely. The possibility of catastrophic injury such as paralysis, impotence or loss of bowel or bladder control is also unlikely, but not impossible. Injury to a nerve root with isolated numbness and/or weakness in the leg is possible.

Are there other risks involved?

There are general risks with any type of surgery. These include, but are not limited to, possibility of wound infection, uncontrollable bleeding, and collection of blood clots in wound or in veins of leg, abdominal problems, pulmonary embolism (movement of a blood clot to lung), heart attack, or stroke. These events may rarely happen, especially to a generally healthy patient. Rarely, death may occur during or after any surgical procedure.

What are my chances of being relieved of my pain?

The goal of surgery is to relieve pain, especially relief from their nerve symptoms or leg pain. Relief of back pain is also possible, although may be less predictable.

Will my back be normal after surgery?

No. Even if you have excellent relief of pain, the spine is not completely normal after a fusion. Stiffening one segment of the spine with fusion may put additional strain on other areas. Other discs may have started to wear out. Even if they aren't causing you pain now, they may do so in the future. For these reasons, you may have more back pain than a normal person would have. However, most people can resume almost all of their normal activities after their fusion has healed. Your surgeon can discuss this with you in detail.



Guidebook for Spines - Lumbar Fusion

Section Two: At the Hospital

Understanding Anesthesia

Anesthesiologists

The Operating Room, Post Anesthesia Care Unit (PACU) at the hospital are staffed by qualified anesthesia providers. Each practitioner has privileges to practice at Houston Physicians Hospital.

Type of Anesthesia

Spine surgery requires the use of general anesthesia which provides loss of consciousness. You will be completely asleep. The Anesthesia Provider will speak to you before your surgery and inform you of the anesthesia support that will be provided.

Side Effects

Your anesthesia provider will discuss the risks and benefits associated with each anesthetic option, as well as complications or side effects that can occur. You will be given medications to treat nausea and vomiting which sometimes occurs with the anesthesia. The amount of discomfort you experience will depend on several factors, including the type of surgery. Your discomfort should be minimal, but do not expect to be totally pain free. Staff will teach you the pain scale to assess your pain level.



Guidebook for Spines - Lumbar Fusion

Understanding Pain

Effective pain management involves patients and the healthcare team to start with a shared understanding of the type of pain you can experience. Pain can be described by when it starts and how long it lasts as well as by its medical origin. Listed below are descriptions of several types of pain that will help you provide good information to the healthcare team as they strive to manage your pain after surgery.

Types of Pain

- **Acute Pain** - Sudden onset of pain such as that which occurs with an injury or surgery; usually lasts a short time and gets better quickly.
- **Chronic Pain** - Pain that lasts long after the initial cause of the pain (i.e. injury or other trauma); this pain can be more challenging to manage.
- **Incisional Pain** - Often described as a feeling of soreness or pressure.
- **Nerve Pain** - Often described as Numbness and tingling, a shooting pain or a hot pain.
- **Muscle Spasm** - Often described as tight, grabbing sensation that makes it uncomfortable to move.

Treatment of Pain

Your surgeon and healthcare team will work closely together to provide you the best pain management they can so you are able to eat, sleep and walk comfortably after surgery.

Your surgeon will choose the best medication(s) to provide you with the most comfort possible.

Medications may be given to you as a pill, an injection or through your IV. If you are receiving IV medications, the goal is to switch to oral pain medications within 12-24 hours. This will decrease the risk of some common side-effects from IV pain medications such as sedation and nausea.

Your surgeon may order different types of medications to manage your pain. These might include pain medications like acetaminophen (Tylenol®), non-narcotics (like Ultram®), narcotics (like Percocet®), muscle relaxants (like Flexeril®) as well as some other medications that help relieve pain.

In addition to medications, your nurses or physical therapists may also use the following measures to help increase your comfort:

- Cold Therapy (ice or gel packs)
- Positioning
- Walking
- Relaxation Activities

Guidebook for Spines - Lumbar Fusion

Pain Scale

Using a number to rate your pain can help the healthcare team understand and help manage it. “0” means no pain and “10” means the worst pain possible. With your good communication, the team can make changes to your medication to make you more comfortable.



From Wong D.L., Hockenberry-Eaton M., Wilson D., Winkelstein M.L., Schwartz P.: *Wong's Essentials of Pediatric Nursing*, ed. 6, St. Louis, 2001, p. 1301. Copyrighted by Mosby, Inc. Reprinted by permission.

Pain Management

Throughout your hospital stay, your bedside nurses will assess your physical condition and look for signs of pain. Using the pain scale above, notify your nurse as you feel your pain level increase to the mid-range of 4 or slightly above. It is generally easier to reduce pain at these levels than it is to reduce pain that reaches extreme levels such as a pain score of 9 or 10. Remember, you will have pain after surgery. Keep a realistic pain management goal in mind and work with the nurses to stop the pain from increasing before it gets out of control.



Guidebook for Spines - Lumbar Fusion

Hospital Care - What to Expect

Before Surgery

- Your anesthesiologist will review your information to evaluate your general health. This includes your medical history, laboratory test results, allergies and current medications.
- Intravenous (IV) fluids will be started and pre-operative medications may be given.
- You will be fitted with compression stockings.
- Before you receive the anesthesia, monitoring devices will be attached (blood pressure cuff, EKG and other devices).

During Surgery

- The anesthesiologist will manage vital signs — heart rate and rhythm, blood pressure, body temperature and breathing, as well as monitor your fluid and need for blood replacement if necessary.

After Surgery

- You will be taken to the Post Anesthesia Care Unit (PACU). Pain control will be assessed and vital signs will be monitored.
- As expected after surgery, discomfort may occur, so you may receive pain medication through your IV.
- ***Only one or two very close family members or friends should visit on surgery day. Please plan to leave young children at home.***
- There will be a dressing over your back incision.
- At some point on this day, you will be assisted out of bed to walk or sit in a chair. Mobility helps relieve discomfort. You are free to eat soft foods.
- We will instruct you on breathing exercises, ankle pumps, compression stockings and benefits of ambulation.

Post-op Day

- Each day generally starts with blood work obtained early in the morning.
- Staff will help you to a chair for breakfast.
- Intravenous (IV) pain medication will likely be stopped and oral pain medication will begin.
- If you require evaluation and treatment by a member of physical or occupational therapy, these services will begin the day after surgery.



Guidebook for Spines - Lumbar Fusion

Discharge Options

Going Directly Home

When patients are ready for discharge, certain criteria are generally met:

- Patients are walking independently
- Eating and drinking well
- Taking oral medication to control discomfort

The surgeon will let you know what to expect for your hospitalization and if you will be able to go home. Discuss any concerns you have about being able to take care of yourself once you do go home.

While most patients go directly home, sometimes the services of home health services or sub-acute care facility is needed. If so, the Spine Care Coordinator will make these referrals for you.

Do not go home alone, but have someone with you to be your caregiver for the next two to three days. This can be a friend or family member who can help with meals and household activities. During these first few days at home, you should concentrate on your recovery. If support equipment (rolling walker, bedside commode) is needed, it will be ordered for you with your consent either before admission or before you are discharged.

Going to a Sub-acute care Facility

Patients who desire sub-acute facility prior to returning home must meet their insurance Company's specific criteria before approval can be granted. If you do not meet these criteria, but strongly wish to pursue rehab, you may have the option to pay privately for your stay.

The requirements for Medicare patients are somewhat different. Medicare patients who are considering a rehab stay must first satisfy a three-night stay in the hospital. This three-night stay must be due to the need for continued medical care. If you meet these conditions, Medicare will cover all or part of the stay at the after-hospital care facility. Please contact the admissions office at the facility to discuss your options and insurance coverage.

If you are considering rehab, it is strongly recommended that you also develop an alternate plan in the event you do not meet the insurance criteria.

Guidebook for Spines - Lumbar Fusion

Frequently Asked Questions (FAQs)

Questions about Lumbar Fusion Surgery

How long will I be in the hospital?

The hospital stay is generally one to three days.

What can I do after surgery?

You should get up and move around frequently as soon as you feel like it. If you are feeling well enough, you may begin driving in two to three weeks with your back brace on. Your surgeon will provide guidance on resumption of work or activities following surgery.

What shouldn't I do after surgery?

Generally, you should avoid bending, lifting, and twisting for six to nine months. Even if screws or rods are used, six to 12 months are generally required for the fusion to heal completely. You must protect your spine during this time. Most likely, your surgeon will prescribe a brace for you to wear for part of this time. If you are a smoker, you definitely should not smoke until your fusion is completely solid. Smoking interferes with bone healing.*

When can I return to work?

This should be discussed with your surgeon. Generally, patients may return to sedentary jobs whenever they are comfortable, which is usually within three to six weeks. If you drive more than 30 minutes to work, your surgeon may want you to wait longer. It takes much longer to get back to work that requires strenuous physical activity due to the increased stress these activities play on the healing bone.

Could this happen to me again?

Unfortunately, yes. A fusion may add stress to the levels above and below the fusion. If the fusion doesn't heal solidly, even with plates and screws, your symptoms may recur and additional surgery may be needed.

Should I avoid vigorous physical activity?

No. Exercise is good for you! You should get some sort of vigorous, low-impact aerobic exercise at least three times a week. Walking outside or on a treadmill, using an exercise bike and swimming are all examples of exercise that is appropriate for spine patients. Your surgeon will provide guidance on resumption of work or activities following surgery.



*Behrend, C., Prasm, M., Coyne, E., Horodyski, M., Wright, J., Rechtine, G., Smoking Cessation Related to Improved Patient-Reported Pain Scores Following Spinal Care, J Bone Joint Surg Am, 2012 Dec 05; 94 (23): 2161-2166.

Section Three:

At Home after Surgery

Caring for Yourself at Home

Things you need to know for safety, recovery and comfort.

Be Comfortable

- Take pain medicine before pain becomes too severe.
- For three months after surgery, do not take over-the-counter anti-inflammatory medication such as Ibuprofen (Motrin®, Advil®) and Aleve® unless specifically prescribed by your surgeon. If you have prescription anti-inflammatory medication, consult your physician before taking it.
- Use ice for pain control. Applying ice to the wound will decrease discomfort. Do not use ice for more than 20 minutes each hour.
- If your surgeon has prescribed a muscle relaxer, take this to help muscle spasms. Gentle stretching may ease muscle spasm.
- Muscle spasm can often be reduced by elevating your arms with pillows. Using this positioning technique along with pain medication will help you be more comfortable.
- Do not use heat around your incision; this will cause swelling.
- Change position frequently (every 45 minutes – 1 hour) to prevent stiffness.
- Avoid bending, lifting and twisting (B.L.T's).
- Take slow, controlled, deep breaths. Cough deeply and use your incentive spirometer several times each hour. This helps to expand your lungs and prevent pneumonia or respiratory complications. Deep breathing can also assist in relaxing your muscles and body.
- Regular breathing and relaxing while you move will help reduce muscle tension.

***Try not to nap
during the day so
you will sleep at
night.***



Guidebook for Spines - Lumbar Fusion

Body Changes

- Appetite may be poor, but your desire for solid food will return.
- Drink plenty of fluids.
- May have difficulty sleeping.
- Energy level will be low.
- Pain medication that contains narcotics promotes constipation. Use stool softeners or laxatives, if necessary. Do not let constipation continue. If softeners or laxatives do not relieve discomfort, contact your primary care doctor or surgeon.

Compression Stockings

You will wear special stockings to compress veins in your legs. This helps keep swelling down and reduces chance for blood clots.

- Wear stockings continuously, removing one to two hours twice a day.
- **Wear stockings for two weeks after surgery; ask your surgeon when you can discontinue.**

Incision Care

- Notify your surgeon if there is increased drainage, redness, pain, odor or heat around the incision.
- If you feel warm or sick, take your temperature. Call your surgeon if temperature exceeds 101 degrees.
- Prior to discharging from the hospital, your nurse will explain any incision care that you may have.

Dressing Change Procedures

Check with your surgeon for specifics. Your nurse will discuss with you any dressing changes that you may have to perform prior to discharging from the hospital.

Guidebook for Spines - Lumbar Fusion

Recognizing and Preventing Potential Complications

Infection

Signs	<ul style="list-style-type: none">• Increased swelling and redness at incision site.• Change in color, amount and odor of drainage.• Increased pain around incision.• Fever greater than 101 degrees.
-------	--

Prevention	<ul style="list-style-type: none">• Take proper care of incision.• Take sponge baths for first two days.• After that, shower as long as wound is clean, dry and not red.• AVOID tub bathing for at least three weeks after surgery.
------------	--

Blood Clots

Surgery may cause blood to slow and coagulate in veins of legs (either leg), creating a blood clot. If a clot occurs, you may need to be admitted to the hospital to receive intravenous blood thinners.

Signs	<ul style="list-style-type: none">• Swelling in thigh, calf or ankle that does not go down with elevation.• Pain or tenderness in calf.
-------	--

Prevention	<ul style="list-style-type: none">• Perform foot and ankle pumps.• Walk several times a day.• Wear compression stockings.• Elevate your feet/legs.
------------	---

Pulmonary Embolism

An unrecognized blood clot could break away from the vein and travel to the lungs. This is an emergency — **CALL 911**.

Signs	<ul style="list-style-type: none">• Sudden chest pain• Difficult and/or rapid breathing• Shortness of breath• Sweating• Confusion
-------	---

Prevention	<ul style="list-style-type: none">• Follow guidelines to prevent blood clots.
------------	---



Guidebook for Spines - Lumbar Fusion

Post-operative Exercises

A post-operative exercise program is an important component of successful spine surgery. Patients should work with physical therapists to develop a maintenance program specific to their needs and one they enjoy. The ultimate goal is to restore strength, flexibility and mobility through a progressive and safe exercise program. **Consult with your surgeon or physical therapist before starting any exercise program.** Depending on your specific surgery, you may receive additional exercises either at the hospital or when you start outpatient physical therapy.

Principles of Exercises

When Standing

1. Keep head level with chin slightly tucked in.
2. Stand tall by looking forward and keeping shoulders over hips.
3. Relax shoulders.
4. Tighten stomach muscles by pulling in stomach. This will relieve undo stress on spine.

When Sitting

1. Keep head level and chin up.
2. Place buttocks all the way to back of chair. A rolled towel in small of back provides lumbar support. Do not slouch.
3. Keep feet flat on floor to support back. When feet dangle, it pulls at lower back. If feet don't firmly touch the ground, place feet on stool and put a pillow behind your back.
4. Tighten stomach muscles by pulling in stomach. This will relieve undo stress on spine.

When Lying

1. Use a firm mattress.
2. Lie on side with hips and knees slightly bent and place a pillow between your knees.
3. Lie on your back with pillow under head and one under knees to take strain off lower back. Do not lie on your stomach.



Guidebook for Spines - Lumbar Fusion

When Lifting

1. Keep head level and chin up.
2. Keep back straight, bend knees and hips, and squat as low as possible keeping feet apart and chest up.
3. Lift with strength of legs.
4. Never twist or turn while lifting.
5. Hold objects close to body.
6. Use a partner when necessary, especially if lifting is heavy or the object is an awkward size.

When Walking

1. Goal is to advance the distance you walk each day.
2. For first few days at home, do multiple short walks throughout the day.
3. Advance your walking distance. Frequency is better than walking distance. This approach is better for reducing stiffness.
4. Keep head up, chest up, shoulders back and relaxed, buttocks and stomach tucked in and use walker as needed. Use a walker for distance ambulation to keep pressure off back. Wean yourself from the walker unless told otherwise by surgeon or therapist.
5. Wear proper footwear when standing or walking for long periods.

Guidebook for Spines - Lumbar Fusion

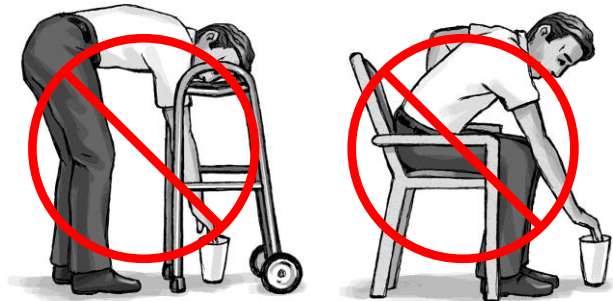
Activities of Daily Living

Lumbar Spinal Precautions: No “B.L.T.”

Check with surgeon or physical therapist for specific precautions. General guidelines include:

No Bending

- Keep shoulders in line with hips. Avoid leaning forward while standing up or reaching down to the floor while you sit down.
- Practice optimal body mechanics by keeping chest up, shoulders back and abdominal muscles tight. This helps maintain neutral spine position and reduces stress on spine.



No Lifting

- Do not lift more than 10 pounds for two months after surgery.
- To lift an object, keep chest upright, bend at the knees and hips, and hold the object close to your body.



No Twisting

- Keep shoulders and hips pointing in the same direction.
- To look behind or to either side, the turn entire body. Do not just turn your head and shoulders.



Guidebook for Spines - Lumbar Fusion

Back Brace (Only needed if Physician approves)

Several types of back braces help provide support and/or limit motion to your back.

One of the more popular braces used after a spinal fusion is the **California brace® or lumbosacral brace**. This soft brace has Velcro® closures and it is worn down over your hips. The brace is adjusted on the sides and centered low over abdomen. Make sure the two Velcro panels fasten on either side, not in front.

To tighten, pull the "rip cord". It is best to do last part standing to ensure a snug fit.

To remove the brace, unfasten the "rip cord" and secure it to one side of brace. Next, undo Velcro closure on other side of brace and remove.

There is no recoil mechanism so strings must be "reset" by pulling either end of brace lightly until cords are fully extended.

Another type of back brace is the **thoraco lumbar sacral orthosis (TLSO)**. This brace is commonly referred to as a body jacket or "clam shell" brace. Patients having thoracic or high lumbar surgery may need to wear this type of brace.

It is often recommended patients wear a back brace during post-operative period so that motion is limited at the surgical site. Wearing a back brace whenever out of bed may aid in optimal healing. Some patients may need to wear their brace for as little as four weeks or as long as three months. Your surgeon will advise you.



© 2013 Velcro Industries B.V. ©Viscent, LLC © 2013

Guidebook for Spines - Lumbar Fusion

Bed Positioning

Lying on Your Back

- Place a pillow under knees or thighs, under neck and under arms. This positioning reduces stress on the spine.
- When you change positions, tighten abdominal muscles and log roll keeping hips, shoulders and ears lined up.



Lying on Your Side

- With knees slightly bent up toward chest, place a pillow between knees and one under neck. This provides optimal spine alignment.
- Tighten abdominal muscles and log roll when changing positions.
- Adding a pillow under your arm will increase comfort and further reduce stress on spine.



Do not lie on Your Stomach

- Avoid this position. It places too much strain on lower back.

Note

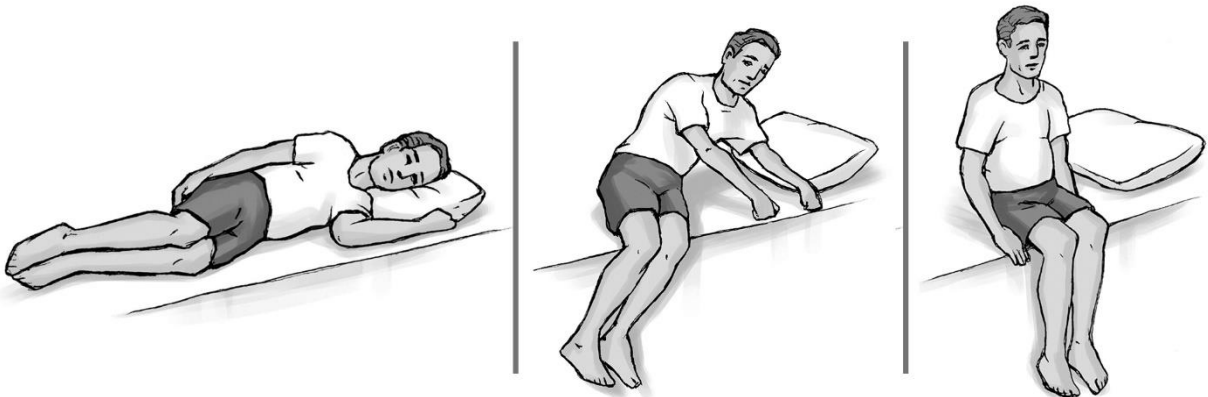
Do not sleep on a soft bed or couch. Doing so takes the three spinal curves out of alignment and adds extra stress to the back.

Guidebook for Spines - Lumbar Fusion

Bed Mobility

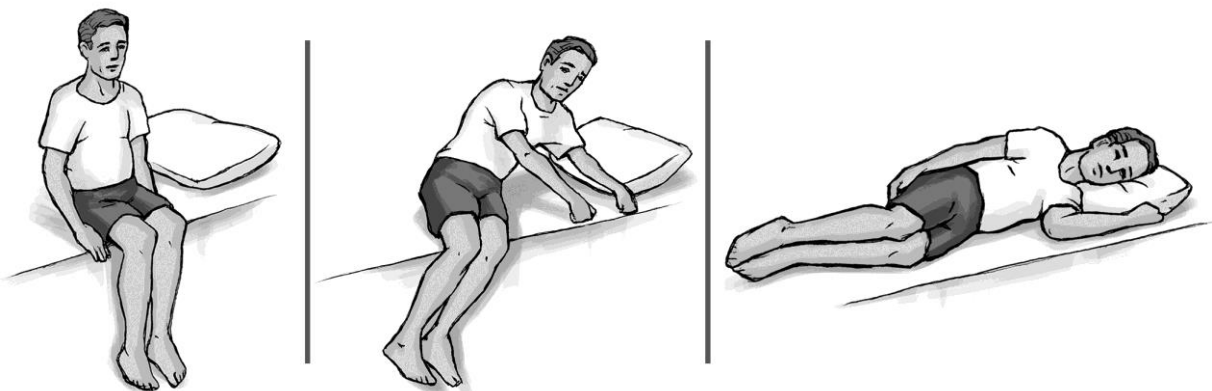
Getting Out of Bed

To move in and out of bed, "log roll" to prevent bending or twisting of spine. Start by bending knees while lying on back. Now roll onto your side keeping hips, shoulders and ears moving together to avoid twisting (i.e. roll like a log).



Returning to Bed

Reverse the above technique for returning to bed. Back up to bed until you feel bed at back of legs. Reach for the bed with hands as you lower to sitting position on bed. Scoot hips back on bed. The further back you scoot the easier it will be to lie down on your side. As you lean down on an arm, bring feet up onto the bed until you are lying down on side. Then, roll onto back keeping shoulders, hips and ears in alignment.

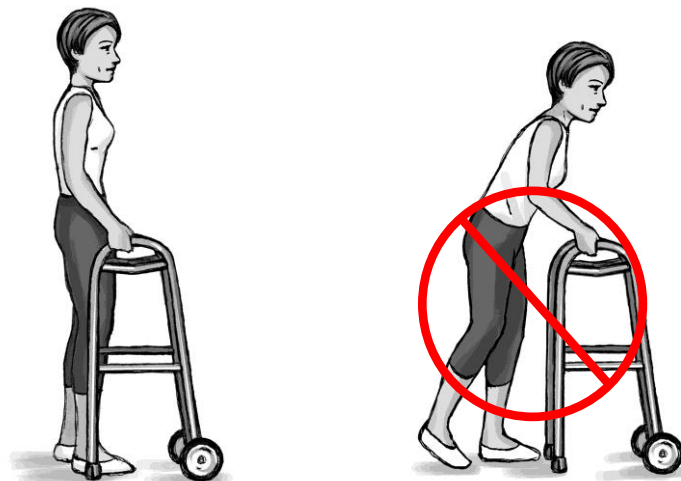


Guidebook for Spines - Lumbar Fusion

Using a Walker

When using a walker, it is important to remember key rules.

- Push up from the surface you are sitting on (e.g., bed or chair). Avoid pulling on walker to stand could easily tip backward and will not offer optimal support to stand.
- It is easier to stand up from a chair with armrests and from a bedside commode with armrests. Armrests give better leverage and control to stand and sit safely.
- A walker takes pressure off your back. Push down through the walker with arms as needed without raising shoulders or leaning too far forward.
- Keep your feet near the back of the walker frame or rear legs. Don't stand too close or too far from walker. Stay inside walker.
- Stand up straight when walking. Keep shoulders back, head up, chest up and stomach muscles tight.
- If your walker has wheels, there is no need to lift it; just push the walker forward as you walk.
- Each day increase frequency and distance. Frequent walks are very important to decrease stiffness and pain. Six weeks after surgery, your goal is to walk three miles unless otherwise instructed by doctor or therapist.
- Taking smaller steps and walking slower does not necessarily make it easier to walk. You may end up expending more energy than necessary. Move at your own pace and comfort level.
- Take six to eight walks per day at home. During at least one of the walks, you want to increase the distance as tolerated.



Guidebook for Spines - Lumbar Fusion

Personal Care

Using a Reacher

Using a reacher limits the amount of bending required to dress. Sit in a chair with your back supported. Use the reacher to hold the front of undergarments or pants and pull the garment over one foot at a time, then up to your thighs. Stand up, squat to reach clothing and pull up both garments at same time. Reverse process to remove your clothing.



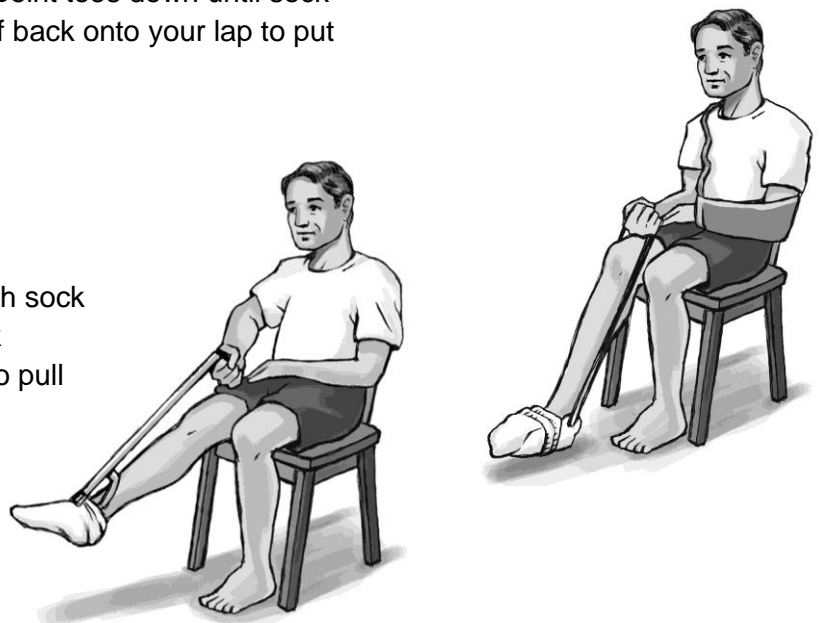
Using a Reacher to Pick Up Items

A reacher also helps you pick up items that fall while you are under "no bending" restrictions.



Using a Sock Aid

A sock aid helps you reach feet without bending. Sit supported in a chair and hold the sock aid between your knees. Slide a sock onto the plastic cuff making sure to pull toes of sock all the way onto the sock aid. Hold ropes and drop the sock aid down to foot. Place foot into cuff and pull up on the ropes as you point toes down until sock is on foot. Let go of one rope and pull cuff back onto your lap to put on the other sock.



Removing a Sock with the Reacher

Use the black hook on the reacher to push sock over back of heel. Continue pushing sock completely off or use the jaw of reacher to pull sock completely off.

Guidebook for Spines - Lumbar Fusion

Body Mechanics

This section provides general tips on how to practice and adapt safe body mechanics to everyday work activities. There is **not** only one correct way to do a task. It depends on your abilities. You may need to alter ways of moving based on your strength, flexibility, pain level, and/or other medical conditions. Check with surgeon or physical therapist for details.

Standing

- Do not lock knees. A bent knee takes stress off lower back.
- Wear shoes that support feet to help align the spine.
- If you stand for long periods, raise one foot slightly on a step or inside frame of a cabinet. Resting a foot on a low shelf or stool helps reduce pressure and constant force placed on the spine. Shift feet often.
- While standing, keep shoulders back so they do not roll forward.
- Keep back as upright as possible; keep head and shoulders aligned with hips.



Bending

- Bend at your knees and hips instead of at your waist/back. Keep chest and shoulders upright, centered over hips. This maintains the three natural spinal curves and keeps stress off your back.
- Hold objects close to your body to limit strain on back.
- Do not bend over with your legs straight. This puts great pressure on lower back and can cause serious injury.

Turning

- Think of your upper body as one straight unit, from shoulders to buttocks.
- Turn with your feet, not your back or knees. Point your feet in direction you want to go. Step around and turn. Maintain the spine's three curves.
- Do not keep your feet and hips fixed in one position, and do not twist from back. The joints in your back are not designed for twisting and this kind of motion increases the risk of injuring discs and joints.

Lifting

- Lift your body and the load at same time, allowing your legs to do most of lifting.
- Squat to pick up heavy objects and let your leg muscles do the work. Hold heavy objects close to your body to keep the back aligned. Lift objects only to chest height.
- Do not bend over at the waist to lift anything or twist while lifting. Avoid trying to lift above shoulder level.

Guidebook for Spines - Lumbar Fusion

Kneeling Lift

- With awkward objects, kneel and move object onto one knee.
- Bring it close to body and stand up.

Lifting Object from Floor

- Stand with item between your feet, grasping both handles while squatting. Keeping your back straight, extend knees, and lift the item.
- Return to original position in same manner.

Reaching

- Store commonly used items between shoulder and hip level.
- Get close to the item. Use a stool or special reaching tool, if you need to.
- Tighten your abdominal muscles to support your back. Use the muscles in arms and legs (not back) to lift the item.
- When retrieving objects that are low, but not low enough to kneel or squat, brace yourself by placing your hand on a fixed object such as counter.



Twisting

- Avoid twisting your trunk or core to reach things.
- Step in the direction of the object you are trying to reach.

Pushing vs. Pulling

- Push, rather than pull, large or heavy objects.
- Make sure to lower your hips and keep your back stabilized by your muscles.

Moving Objects

- Keep your elbows close to your side and use your total body weight and legs to push or pull.





Guidebook for Spines - Lumbar Fusion

Safety Tips and Avoiding Falls

- Remove throw rugs and tack down loose carpeting. Cover slippery surfaces with carpet that is firmly anchored to the floor or has a non-skid backing.
- Be aware of floor hazards such as pets, small objects or uneven surfaces.
- Provide good lighting throughout your home. Install nightlights in bathrooms, bedrooms and hallways.
- Keep extension cords and telephone cords out of pathways. Do NOT run wires under rugs — this is a fire hazard.
- Do NOT wear open-toe slippers or shoes without backs. They do not provide adequate support and can lead to slips and falls.
- Sit in chairs with arms. It makes it easier to get up.
- Rise slowly from either a sitting or lying position to avoid getting light-headed.
- Do not lift heavy objects for first three months and then only with surgeon's permission.
- Stop and think and always use good judgment.



Guidebook for Spines - Lumbar Fusion

Advanced Orthopaedic & Spine Center of Excellence Clinic Contacts

Nurse Navigator.....832-340-2165

Other Important Phone Numbers

Houston Physicians' Hospital Main Number281-557-5620

Houston Physicians' Hospital Inpatient Nurse Station.....281-557-5633

Houston Physicians' Hospital Emergency Room281-557-5639

Houston Physicians' Business Office.....281-557-2918

Houston Physicians' Hospital Spine/Neuro Surgeons

Dr. Jeremy C. Wang.....281-333-1300

Dr. Eric R. Santos.....281-333-2727

Dr. Kim J. Garges.....281-333-2727

Dr. Thomas L. Jones II.....713-987-7760

Dr. James G. Bonnen.....281-922-5099



Guidebook for Spines - Lumbar Fusion

Notes:
