

The Road To Recovery AFTER LUMBAR SPINE SURGERY



A DETAILED GUIDE TO YOUR SURGERY
AND
THE RECOVERY PROCESS FROM
THE JOHNS HOPKINS SPINE SERVICE

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This book will:

- *Prepare you for surgery*
- *Explain what to expect during and after surgery*
- *Guide you through the recovery process*

The most important thing to remember is the sooner you return to being active – the sooner you will be on the road to recovery.

The Johns Hopkins Spine Service is dedicated to returning you to an active lifestyle. Each member of the spine team has contributed to this book and is here to answer any question. You can also access the book on our website at http://www.hopkinsortho.org/surgery_guide.html.

Thank you for choosing us!

Johns Hopkins Outpatient Center
Department of Orthopaedic Surgery
601 N. Caroline Street
Baltimore, MD 21287
410-955-6930

Johns Hopkins at Greenspring Station
10753 Falls Road, Suite 215
Lutherville, MD 21093
410-583-2850

The first step on the road to recovery is learning how to play an active role in your care.

Before proceeding with surgery, it is important to become an advocate for yourself. Make sure you understand the surgery and what to expect in the weeks and months following.

So the idea is for you to be **Pro-Active**. This means you should seek out information and help from the health care providers around you. It is a good idea to take control, make decisions, and find your best road to recovery. To not be pro-active means you run the risk of having others make decisions for you. These decisions may not be in the best interests of you and your family.

Success at being pro-active depends on knowing your rights as a patient. These rights are:

- The right to considerate and respectful care
- The right to obtain complete and current information concerning your surgery
- The right to receive information necessary to give informed consent prior to your surgery
- The right to be informed of the medical consequences of surgery
- The right to every consideration of privacy concerning care

And the most important right:

The right to ask questions!

The Road To Recovery after Spine Surgery

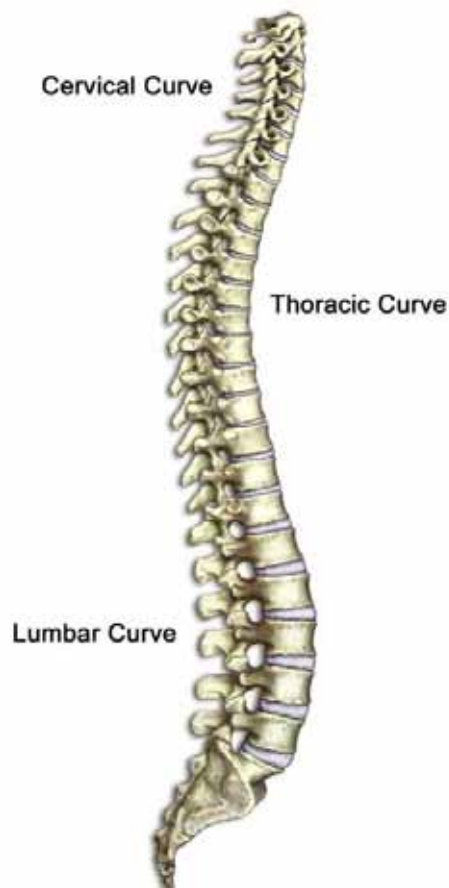


We know the idea of surgery can cause anxiety and leave you with many unanswered questions. Your questions are extremely important to us and we hope that we can make you feel more at ease in the days prior to and after your surgery.

Our intention in constructing this booklet is to allow you to become as involved in your surgery and recovery as your surgeon and the staff.

We approach surgery as a team with you being the most valuable player.

Each surgery is quite different than the next and it is important that you and your surgeon know what to expect of each other.



What Is a Lumbar (Low Back) Fusion?

A fusion stabilizes the vertebrae of the spine creating less chance for slippage of the discs. Bone from the iliac crest (hip), local bone from the operative site, allograft bone and other bone may be used as a bone graft. The graft is inserted between the vertebrae and then rods and screws are placed. The bone from the hip often is removed through the same incision leaving the patient with only one incision postoperatively. **Surgery will last approximately 4 to 8 hours.**

You will be in the hospital approximately 5 days and may go to a rehabilitation unit after the 5 days in the hospital.

Some people will undergo a staged surgery. This will entail a posterior fusion as well as an anterior fusion. The anterior surgery is done through an incision in the abdomen. The posterior fusion is done first and approximately 5 days later, the patient undergoes the anterior fusion.

You will be in the hospital approximately 12-14 days and may go to a rehabilitation unit after the 12-14 days in the hospital.

What Is a Lumbar (Low Back) Laminectomy?

A laminectomy is a procedure which involves removing bone of the vertebrae to allow for more space for the nerves. It relieves pressure on the nerves and decreases symptoms such as numbness, tingling, pain and weakness. **Surgery will last approximately 3 hours.**

You will be in the hospital 3 days.

What is a Lumbar (Low Back) Discectomy?

Pain radiation down the legs may be due to a disc bulge or disc herniation. A discectomy is the removal of the piece of disc or the entire disc that is putting pressure on the nerves and causing your leg numbness, tingling, pain or weakness. **Surgery will last approximately 2 to 3 hours.**

You will be in the hospital 1 night. You will go home the next day.

PREPARING FOR SURGERY

No matter what surgical procedure you are getting ready to undergo, there are general guidelines that will help you prepare for your upcoming surgery. Your cooperation is greatly appreciated in this joint effort.

Make sure you understand what to expect from the surgery

Many people will suffer from back pain as well as leg pain. Make sure you discuss the goals of surgery with your surgeon. If you are suffering from both back and leg pain, the chances of surgery resolving your leg pain are very high compared to relieving your back pain.

Complete the on-line patient survey

As part of our continuing effort to provide the best care to our patients, we routinely collect information through a web-based survey on all patients both before and after surgery. This survey assesses current pain level, functional ability, and beliefs about healthcare and wellness. The information is provided to your surgeon to help improve surgical care and management of your recovery.

The survey also collects outcome information that is essential to the ongoing research efforts of The Johns Hopkins Spine Service. If you haven't already completed the survey on your first visit, please go to <http://sorc.jhmi.edu/Survey.html> and click on the lumbar survey link. You will need your Medical record number to access the survey. This can be found on the orange card or checkout form that you received at one of your clinic visits to the Johns Hopkins Spine Service. If you cannot locate your record number, please contact your surgeon's office for help.

Stop smoking

If you are a current smoker, we advise that you quit smoking tobacco products at least 1 month prior to surgery. Nicotine, in any form, is a hindrance to bone fusion and healing. Because Nicotine is the source of the problem when it comes to healing and bone fusion, smoking cessation products such as Nicorette® gum or nicotine patches must be discontinued as well. Please discuss smoking cessation plans with your medical doctor. There are new medications available to help with this.



Obtain medical clearance

- You will be expected to see your medical doctor or visit the Johns Hopkins Preoperative Evaluation Center for a physical examination, medical history and other testing. ***Please call your surgeon's office to discuss this.***
- If you have heart disease, diabetes or any other diseases and are following by a specialist, you will be expected to receive clearance from them prior to surgery. ***This clearance must be in writing and sent to your surgeon's office.***
- Your surgeon will discuss whether is it necessary for you to meet with one of our anesthesiologists prior to your surgery based on your health history and age.
- If you are suffering from extreme stress or anxiety or have signs of depression, make sure you address this with your surgeon before surgery.
- If you see a pain management specialist, make sure to share the news of your surgery.

Perform the required testing: WITHIN 30 DAYS OF YOUR SURGERY DATE

A comprehensive history and physical will be required that will include:

- CBC with differential, Chem 7, ESR, PT/PTT
- Urinalysis
- EKG
- Chest x-ray

If you choose to have your testing done at Johns Hopkins, please call your surgeon's office and they will make an appointment for you in our Preoperative Evaluation Center.

Avoid these medications prior to surgery

- You will be required to **STOP** any **nonsteroidal anti-inflammatories** such as Ibuprofen (Advil, Motrin), Naprosyn (Aleve), Celebrex, Mobic, Indocin, and Lodine **7-10 days prior to your surgery.**
- You will need to **STOP** taking **aspirin and any anticoagulants** including coumadin and Plavix®, Lovenox®. Please check with your medical doctor about when and how this should be done.
- Please **STOP** taking **any herbal supplements and certain vitamins** 7-10 days prior to surgery including but not limited to St. John's Wart, Garlic, Ginseng, Ginkgo Biloba, Vitamin E and Vitamin C, as these tend to thin your blood.
- Diabetic patients **should not take any oral hypoglycemic agents and insulin products the morning of surgery. Metformin (Glucophage) is the most vital to make sure to avoid.**
- You **should not** take **any diuretics** the morning of surgery (i.e. Lasix, HCTZ) (**Unless you have congestive heart failure**)
- You **should not** take any **ACE/ARB** the morning of surgery. These are classes of antihypertensive medications. Examples include Lisinopril, Lotrel, Captopril, Lotensin, Monopril, Prinzide, Atacand, Benicar, Diovan and Avalide. **If you have congestive heart failure, you should take these medications the morning of surgery.**

Perform the following tasks before surgery

- Make sure you review the postoperative exercises and restrictions which include no bending, twisting, and lifting.
- Arrange for a family member or friend to check on you in your home and help you through the first couple of weeks after your surgery. The type of surgery you have will determine the length of time you will need help.
- If you are coming from out of town, you may want to stay in a hotel the night before surgery. The morning surgery begins at 7:30am and you are expected to arrive at the pre-op area 2 hours prior to your surgery. It is not required that you stay in town after your surgery. However, if you would feel more comfortable staying in the Baltimore area 1-2 days postoperatively, we can help you find accommodations at a discounted rate. Please see the list of hotels that offer the discounted Johns Hopkins rate at the end of the book.
- Arrange to have someone drop you off the morning of surgery and pick you up after discharge. You will not be able to drive yourself home on the day of discharge.
- Your surgeon and staff will send you a list of medications to avoid prior to your surgery. Please pay special attention to this information as you will have to stop some of the medications 1 week prior to surgery.
- You will be required to fast the night before surgery. You should not have anything to drink or eat after midnight the night before surgery.
- Please bathe and wash your hair prior to your surgery. Some surgeons will ask that you use Hibiclens®, which is an antiseptic skin cleanser.
- Pack lightly for your hospital stay. Please do not bring any valuables to the hospital. It is a good idea to bring sneakers and comfortable clothes with an elastic waistband.

DAY OF SURGERY

What are your responsibilities the day of surgery?

Please arrive 2 hours prior to your scheduled surgery time (i.e. if your surgery is 7:30am, please arrive at 5:30am) and report to Osler 7 (pre-op area) the morning of surgery.

It is essential that you bring your MRI and x-rays to your surgery if you have not given them to your surgeon already.

If you have brought a copy of your advance directive or living will, please provide the pre-operative nurse with a copy

What happens in the pre-op area?

You will meet with a provider from the spine team who will complete the surgical consent forms with you. This person will also confirm the type of surgery and initial the surgery site. You will also meet with the anesthesiologist prior to your surgery. He or she will begin an IV as well as place TED stockings on your legs. You will wear TED stockings throughout your hospital stay as well as 1 to 2 weeks after you are discharged from the hospital. These stockings help avoid leg swelling and clots.

Once you are anesthetized (put to sleep), a foley catheter will be inserted which will empty your bladder during surgery. Shortly following the surgery and once you are mobile, this catheter will be removed.

Where will you go immediately after surgery?

Once your surgery is over, you will be transferred to the recovery room. Once you are deemed stable, you will be transferred either to the surgical intensive care unit (SICU) or to Nelson 8, an orthopaedic unit, on the same day of surgery.

If you are moved to the SICU, you will spend approximately 1 night until you are stable to be transferred to Nelson 8

DAYS AFTER SURGERY

After surgery, you will be advised not to twist or bend.

Most people will not need to wear a brace after surgery. However, your surgeon will inform you if a brace is required and one will be ordered in the hospital.

During the days following your surgery, physical and occupational therapists will work with you at your bedside. They will provide you with exercises to regain your strength and with equipment to help you resume your normal activities, such as a reacher to pick things off the floor or a cane or walker to assist with safe walking. They will also help you get out of bed and to sit in a chair. Once you are tolerating getting out of bed and to a chair, a physical therapist will work with you to begin walking. This usually occurs the day after your surgery. Once you are tolerating walking in the halls with the physical therapist, you will be reintroduced to stairs.

Who are the other people you will meet in the hospital?

A social worker and a home care coordinator will discuss your home needs while you are in the hospital and order durable medical equipment which can be delivered to your home.

If you feel the need to speak with pastoral counseling, there are chaplains, rabbis, priests or ministers of your faith.

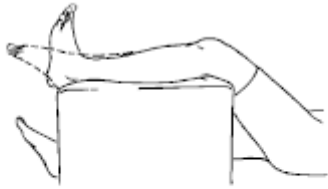
Johns Hopkins Hospital does hold mass every Sunday and patients and their family members are welcome to attend.

What about pain management and diet advancement after surgery?

Immediately following surgery, you will be given pain medications through an IV. The IV medication will be administered through a PCA (Patient-Controlled Analgesia) pump. This form of medication allows patients to control his or her own medication depending on the severity of the pain. You will then be converted to oral pain medications.

Once you are tolerating clear liquids, your diet will be advanced slowly until you are ready for a regular meal again.

Please take the time to review some of the exercises you will do in the hospital.



With left leg elevated, gently flex and extend ankle. Move through full range of motion. Avoid pain.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.

Slowly rotate right foot and ankle clockwise then counterclockwise. Gradually increase range of motion. Avoid pain.



Circle _____ times each direction per set.
Do _____ sets per session.
Do _____ sessions per day.



Raise toes, keeping heels on floor.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Raise heels, keeping toes on floor.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Bring left leg out to side and return. Keep knee straight.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Tighten buttock muscles.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



With left foot turned in, tighten muscles on back of thigh by pulling heel down into surface. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Tense muscles on top of left thigh. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.

GOING HOME AFTER SURGERY

Most people will be discharged home. But for some, rehabilitation may be necessary as a bridge to going home. Johns Hopkins has a rehabilitation floor and your insurance may cover the stay. Depending on availability, you may also go to our sister rehabilitation unit at Good Samaritan Hospital or others depending on your needs.

Pain medications

You will be discharged with pain medications. Be sure to drink plenty of fluids, take stool softeners prescribed and increase your fiber intake while taking narcotic medications as they tend to cause constipation.

You should begin to wean yourself off of the pain medications with a goal of weaning off within 3 months from surgery. If you are still requiring narcotic medications after 3 months, we will be happy to help you find a pain management specialist either here at Johns Hopkins or in your local area.

Medication restrictions after a Lumbar (Low Back) Fusion Surgery

Please ask your surgeon how long you should refrain from non-steroidal anti-inflammatory medications. Usually patients are asked to avoid these medications for 3 months after surgery but this decision can be made by your surgeon.

These medications include, but are not limited to:

Ibuprofen (Advil, Motrin), Naprosyn (Aleve), Celebrex, Mobic (Meloxicam), Indocin, Voltaren, and Lodine.

Surgical incision care

***Please Remember:* **If you notice any increased drainage, redness, swelling, or have a fever of 101.5 or greater, please call you surgeon's office immediately or go to the emergency room.**

Your surgical incision may be closed with dissolvable sutures and steri-strips, staples or sutures. If you have staples or visible sutures, these will need to be removed 14 days after your surgery. Arrangements for a home care nurse can be made in the hospital by our home care coordinators. If you do not qualify for in-home care by your insurance company, you will need to make an appointment for staple/suture removal with your surgeon's office.

Surgical incision care

While you are in the hospital, you will wear a dry gauze dressing. Once your incision is no longer draining, you may take off the dressing and leave the incision open to air.

Do not apply any ointments or lotions to the incision while it is healing.

YOU MAY NOT BATHE IN A TUB, SWIM OR USE A HOT TUB UNTIL YOUR INCISION IS HEALED.

Sexual activity

You can resume sexual activity when you are feeling up to it. You may find certain positions will be more comfortable than others.

Driving

You can drive when you feel up to driving and are not taking narcotic pain medications. This is usually 2 to 3 weeks after a laminectomy and discectomy and 4 to 6 weeks after a lumbar fusion. Narcotic pain medications will delay your reflex time. Begin with short trips first and get out of the car every 30 to 45 minutes to walk around and reposition.

Return to work

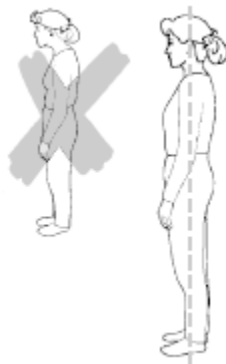
Naturally, you will feel tired and weak after surgery. You will begin to feel yourself after 2 to 3 weeks. You should tell your employer you will be out of work for approximately 8 to 12 weeks but may be able to return earlier than that.

Walking is the best activity you can do for the first 6 weeks after surgery. You should start out slowly and work up to walking 30 minutes at least twice a day.

Do not be surprised if you require frequent naps during the day. Between the narcotic pain medications you will be discharged with and the stress your body has undergone in surgery, you will be tired.

Don't forget about your **restrictions** for the first 6 weeks after surgery. You need to avoid twisting and bending. You also need to avoid lifting, pushing or pulling objects greater than 10 lbs.

Lifting and activity restrictions will be gradually removed as the healing process takes place. Remember to keep your spine in the neutral position and maintain good posture throughout the day.



Below are some ways for you to avoid twisting and bending during daily activities.



Avoid twisting or bending back. Pivot around using foot movements, and bend at knees if needed when reaching for articles.



Bend at hips and knees, not back. Keep feet shoulder-width apart.



Lie on back to pull socks or slacks over feet, or sit and bend leg while keeping back straight.



Stand with one foot on ledge of cabinet under sink.



Place one foot on ledge and one hand on counter. Bend other knee slightly to keep back straight.



Squat with knees apart to reach lower shelves and drawers.



Squat down to reach into clothes dryer.
Small items can be placed in a large zippered mesh bag and pulled out using a reacher.



Squat or kneel. Knee pads may be helpful.



Stand close and keep back straight. Bend knees to put baby in or take baby out of car seat.

You will also need proper technique to lift light objects. Proper technique is essential for reducing pain and discomfort.

The best way to lift an object is as follows:

- Stand close to the object, with feet firmly planted, and in a wide stance.
- Bend your knees and keep your back straight.
- Make sure you have a secure grip on the object and keep the object as close to you as possible.
- Lift the load by slowly straightening your knees and avoid jerking your body.
- When standing upright, shift your feet to turn instead of twisting.

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Below are some ways for you to lift properly, but remember lifting objects greater than 10 lbs for the first 6 weeks after surgery is not recommended.

Low Shelf



Squat down, and bring item close to lift.

One Knee



Slide object up one thigh, and hold close at waist level with both hands before standing up.

Deep Squat

Squat and lift with both arms held against upper trunk. Tighten stomach muscles without holding breath.

Use smooth movements to avoid jerking.



Laundry Basket



Squat down and hold basket close to stand. Use leg muscles to do the work.

Childcare - Picking Up from Floor



Squat down to pick up baby, and bring close before standing up. Use knees and keep back straight.

A proper technique can be difficult when lifting objects from the trunk of your car, but the following suggestions can help: (1) When lifting items in and out of your trunk, place your foot on the bumper of your car for support if it is not too high; (2) Items should be stored in the trunk close to the bumper; (3) Items can be lifted onto the car frame first and then lifted from car frame to carry; (4) Brace yourself with one arm if you need to reach something deep inside the truck.



Pushing and pulling objects greater than 10 lbs for the first 6 weeks after surgery is not recommended. If possible, always push rather than pull and remember to pace yourself and take frequent breaks. Proper body mechanics when pushing or pulling objects is important. The following examples display proper technique for daily activities. However, all of these activities should be avoided for the first 6 weeks.

Pushing / Pulling

Pushing is preferable to pulling. Keep back in proper alignment, and use leg muscles to do the work.



Housework - Vacuuming

Hold the vacuum with arm held at side. Step back and forth to move it, keeping head up. Avoid twisting.



Gardening - Mowing

Keep arms close to sides and walk with lawn mower.



SLEEPING AFTER SURGERY

The best sleeping position to reduce your pain after surgery is either on your back with your knees bent and a pillow under your knees or on your side with your knees bent and a pillow between your legs. If side sleeping provides the most benefit, then make sure your legs rest on top of each other with your knees bent or have your top leg slightly forward. Avoid resting your top knee on the bed and sleeping with your arms under your neck and head. A pillow placed behind the body and tucked under the back and hips can help you from rolling out of this position. When sleeping on your back, avoid sleeping with your arms over your head because this puts too much stress on your shoulders and neck. Both positions decrease the pressure on the spinal discs and low back. Sleeping on your stomach is not recommended.



Place pillow under knees. A pillow with cervical support and a roll around waist are also helpful.



Place pillow between knees. Use cervical support under neck and a roll around waist as needed.

Changing positions in bed can be very difficult for people after surgery. To reduce discomfort, always use the **log roll** when turning. A log roll means to keep your back straight and avoid twisting when rolling from side to side and onto your back.



The **log roll** can also be used for getting in and out of bed. If getting out of bed on the right side – log roll onto your right side and use your left hand to push yourself up onto your right elbow. Slowly drop your lower legs off the bed as you push yourself up onto your right hand and into a sitting position. Scoot to the edge of the bed and place both feet on the floor. Use your legs and not your back to come to a standing position.



SITTING AFTER SURGERY

Sitting places a lot of stress on your back and can be painful after surgery. It is important to maintain your normal spinal curves when sitting to help minimize this stress, because slouching or sliding down in your chair unnecessarily places strain on your back. To avoid slouching, keep your ears, shoulders, and hips aligned. Make sure you have a proper chair that fits you. Choose a chair that provides support for your lower back and allows your feet to be flat on the floor with your knees the same level as your hips. After surgery, avoid sitting in soft chairs and on couches where your hips drop below your knees. If a chair is too high for you, place your feet on a small stool or box to help maintain correct sitting posture. Take frequent breaks by standing up and stretching every 30 to 45 minutes.



SITTING AT YOUR DESK AFTER SURGERY

If working at a desk after surgery, having a chair that swivels or turns is better than trying to twist your body to reach objects. If you need to turn, try moving your body as a single unit. Keep your hips and feet pointed in the same direction when you are moving. If you have a telephone that you constantly twist to answer, move the phone so it is in front of you. When you are on the phone, do not use your head to hold the receiver. Support the arm that is holding the phone by placing that elbow on the desk or arm rest and keep your neck in good alignment. You may also want to consider using a headset or headphones if you are on the telephone quite often. Items should always be placed within easy sight and access and keyboards should be placed directly in front of you. Heavy books should be arranged close by and not above your head on shelves.



GETTING IN AND OUT OF A CHAIR OR CAR

Getting in and out of a chair or in and out of a car can be difficult after surgery. To get out of a chair, slide to the edge of the chair and straighten your hips and knees to lift yourself from the chair. Sometimes placing one foot in front of the other can help. If a chair has arm rests use your hands to assist you and remember to keep your back straight. Avoid bending at the back or leaning too far forward. To return to a sitting position, move backwards until the backs of your legs are touching the chair. Place one foot in front of the other and keeping your back straight, lower yourself to the edge of the chair by bending at the hips and knees.



To sit: Bend knees to lower self onto front edge of chair, then scoot back on seat.
To stand: Reverse sequence by placing one foot forward, and scoot to front of seat. Use rocking motion to stand up.



Lower self onto seat, scoot back, then bring in one leg at a time. Reverse sequence to get out.

6 WEEK FOLLOW-UP APPOINTMENT

****Please call your surgeon's office to make a 6 week follow-up appointment.****

Complete the on-line patient survey

You will need to complete a follow-up survey before your scheduled visit.

This survey can be found at <http://sorc.jhmi.edu/Survey.html>. You will need your Medical record number to access the follow-up survey. This can be found on the orange card or checkout form that you received at one of your clinic visits to the Johns Hopkins Spine Service. If you cannot locate your record number, please contact your surgeon's office for help. If you do not complete the survey before your visit you will be asked to arrive 30 minutes early to your follow-up appointment. A staff member will direct you to a computer where the survey can be completed.

X-rays

If you cannot have x-rays at Johns Hopkins or American Radiology, please call the office for a prescription ahead of time. It is important to obtain x-rays at your 6 week follow up appointment to evaluate healing.

Physical Therapy

At your 6 week follow-up appointment in the clinic, you will be given a handout of lower back exercises to begin at home. You may also be given a prescription for outpatient physical therapy, depending on how well you have recovered so far. You may go to the physical therapist of your choice. Until that time, focus on walking.

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Please take the time to review the exercises you will begin to do at 6 weeks after surgery.

Stand with **right** foot back, leg straight, forward leg bent. Keeping heel on floor, turned slightly out, lean into wall until stretch is felt in calf. Hold _____ seconds.



Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.



Supporting **right** thigh behind knee, slowly straighten knee until stretch is felt in back of thigh. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



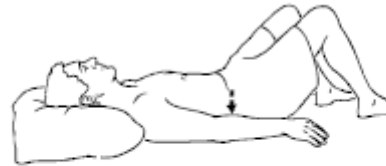
Kneeling on **right** knee, slowly push pelvis down while slightly arching back until stretch is felt on front of hip. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Cross legs, **right** on top. Gently pull other knee toward chest until stretch is felt in buttock/hip of top leg. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Sit in chair with knees spread apart. Bend forward to floor. A comfortable stretch should be felt in lower back. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Lying on back with knees bent, tighten stomach by pressing elbows down. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Tighten stomach and slowly raise **right** leg _____ inches from floor. Keep trunk rigid. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Keeping arms folded across chest, tilt pelvis to flatten back. Raise head and shoulders from floor.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.

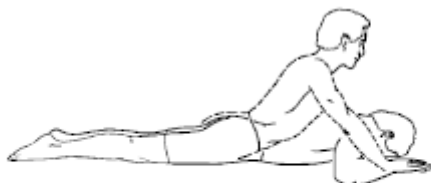
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Slowly raise buttocks from floor, keeping stomach tight.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



With pillow supporting abdomen, clasp hands behind back and lift upper body from floor. Keep chin tucked while lifting.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Press upper body upward, keeping hips in contact with floor. Keep lower back and buttocks relaxed. Hold _____ seconds.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Bend knees toward chest one at a time. Use hands only to support position. Hold _____ seconds.
Repeat _____ times.



Tighten stomach and raise left arm parallel to floor. Keep trunk rigid.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Lift right leg back with knee slightly flexed. Do not arch neck or back.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.



Tighten stomach and raise right leg and opposite arm. Keep trunk rigid.
Repeat _____ times per set. Do _____ sets per session.
Do _____ sessions per day.

Leaning on wall, slowly lower buttocks until thighs are parallel to floor. Hold _____ seconds. Tighten thigh muscles and return.

Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.



What happens if my expectations of surgery are not met?

- First, discuss your symptoms with your surgeon.
- Your surgeon may order a new MRI or CT scan.
- Your surgeon may provide you with a referral to a pain management specialist.

The best thing to do is to stay positive and resume normal activity. Walking is a great way to increase your energy level and decrease pain and stiffness.

Even if the surgery is not 100% successful, you are probably better and are walking further than you were before surgery. Do not become discouraged. Your own attitude and pro-active approach to your care will lead to a faster recovery.

Remember, as we mentioned before, the chances of surgery resolving your leg pain are very high compared to relieving your back pain. Many people still have some back pain after surgery.

Don't stop doing things if you still have pain, simply find an easier way to do them. Inactivity will cause you to stiffen up and will lead to more pain and discomfort. Try to establish a daily exercise routine. If you don't have time to exercise, try these helpful hints:

- Take the stairs instead of the elevator
- Park far away from work or shopping centers and walk to the entrance
- Stand up and stretch every hour when sitting at a desk

Thanks again you choosing the Johns Hopkins Spine Service! We look forward to your successful recovery.

Additional resources to help you with a successful recovery!

| | |
|---|--|
| Johns Hopkins Medicine: | www.hopkinsmedicine.org |
| Johns Hopkins Orthopaedic Surgery Department: | www.hopkinsortho.org |
| Johns Hopkins Spine Outcomes Research Center: | sorc.jhmi.edu/Home.html |
| American Academy of Orthopaedic Surgeons: | www.aaos.org |
| Mayo Clinic: | www.mayoclinic.com |
| North American Spine Society: | www.spine.org |
| eSpine: | www.espine.com |
| Spine Health: | www.spine-health.com |
| Spine Universe: | www.spineuniverse.com |

Important telephone numbers:

| | |
|--|--------------|
| Office | 410-955-6930 |
| (Call between 8:30am - 4:30pm, Monday - Friday) | |
| On-call emergency | 410-955-5000 |
| (Call between 4:30pm - 8:30am, Saturday - Sunday). | |
| Ask for the on-call ortho spine resident. | |
| Admitting Office | 410-955-6495 |
| Marburg Pavilion | 410-614-4777 |
| Surgical ICU | 410-955-5370 |
| Weinberg ICU | 410-502-1048 |
| Neuro ICU | 410-955-2560 |



The Instant Benefits of Quitting Smoking

January 25, 2007

By Johns Hopkins Health Alerts; www.johnshopkinshealthalerts.com

Virtually the minute you quit smoking, your health begins to improve.

The negative effects of smoking are clear: One in every three people who starts smoking will die prematurely of a smoking-related illness, according to the American Lung Association. And one in every five deaths stems directly from tobacco exposure. But the good news is that it's never too late to quit smoking. The benefits of smoking cessation begin within a few minutes of your last cigarette and continue for life, even for people with lung disease.

The Risks of Smoking

Although the link between smoking and lung cancer is well known, smoking is even more likely to cause a range of other illnesses. According to a 2003 survey published in *Morbidity and Mortality Weekly Report*, some 8.6 million Americans were living with a major smoking-related illness in 2000. The most common smoking-related illness was chronic bronchitis (35% of cases), emphysema (24%), heart attacks (19%), non-lung cancer (12%), strokes (8%), and lung cancer (1%).

The true number of people affected by smoking is probably much higher than the researchers stated because this study depended on people to report whether a doctor had ever told them they had a certain condition. People tend to underreport their own illnesses. In addition, the researchers did not look at non-debilitating conditions, such as impotence and sinusitis, that are often caused by cigarette smoking.

The Benefits of Quitting Smoking

Regardless of how long you've been smoking, your health begins to improve shortly after your last cigarette. And the longer you are cigarette free, the greater the benefits become. Look at the timeline below:

- Time Since Last Cigarette -- 20 minutes: Elevated blood pressure levels begin to drop, and the temperature in your extremities begins to return to normal.
- Time Since Last Cigarette -- 8 hours: You achieve normal blood levels of carbon monoxide.
- Time Since Last Cigarette -- 1 day: Your risk of a heart attack begins to decline.
- Time Since Last Cigarette -- 2 weeks–3 months: Circulation improves, and lung function increases, decreasing the risk of lung infections.
- Time Since Last Cigarette -- 1–9 months: Shortness of breath, sinus congestion, coughing, and fatigue improve. A few months of smoking cessation improves lung function about 5% in patients with chronic obstructive pulmonary disease (COPD), and the risk of death from COPD declines.
- Time Since Last Cigarette -- 1 year: Your risk of having a heart attack is cut in half.
- Time Since Last Cigarette -- 5 years: The risk of cancer in the oral cavity and esophagus is already half that of continuing smokers, and the risk continues to decline with continued cessation.
- Time Since Last Cigarette -- 5–15 years: The risk of a stroke becomes similar to that of a lifelong nonsmoker.
- Time Since Last Cigarette -- 10 years: Your risk of developing lung cancer is 30–50% lower than it would be had you continued to smoke, and the risk continues to decline with continued abstinence. Also, you've significantly decreased your risk of developing cancer of the bladder, cervix, esophagus, kidney, mouth, pancreas, and throat.
- Time Since Last Cigarette -- 10–15 years: Your odds of dying of any cause are the same as those of someone who never smoked.
- Time Since Last Cigarette -- 15 years: Your risk of having a heart attack is the same as a lifelong nonsmoker.

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HOTEL ACCOMODATIONS

Contact: Patient Services Accommodations
Office: **410-614-1911** or Toll Free: **800-225-2201**

Discount rates for Johns Hopkins guests are available at all the hotels listed. Rates do not include tax and are subject to change without notice. Please consult each individual hotel for information on special services, parking rates and shuttle service to and from the hospital. For shuttle service to and from BWI Airport please contact Baltimore Shuttle Service at **800-258-3826**.

Rate Key:

\$ = \$60 - \$100 \$\$ = \$100 - \$150 \$\$\$ = \$150 - \$200 \$\$\$\$ = \$200 - \$300

| Hotel | Rate | Notes | Distance |
|--|----------------------------|--|--|
| 1840's Carrollton Inn 50 Albemarle Street Baltimore, MD 21202 410-385-1840 | \$\$ \$\$\$ \$\$\$\$ | Taxi Vouchers Comp. Breakfast | 1 mile from Hospital |
| Admiral Fell Inn 888 S. Broadway Baltimore, MD 21231 410-522-7377 | \$\$\$ | Shuttle to JHH Parking \$25/night Comp. Breakfast | 1 mile from Hospital |
| Best Western 5625 O'Donnell Street Baltimore, MD 21224 410-633-9500 | \$ | Shuttle to JHH & Bayview Free Parking Comp. Breakfast 24H Premises Security | 4 miles from Hospital 1 mile from Bayview |
| Brookshire Suites 120 East Lombard Street Baltimore, MD 21202 410-625-1300 | \$\$ | Shuttle to JHH Parking \$29/night Comp. Breakfast | 2 miles from Hospital |
| Courtyard Inner Harbor 1000 Aliceanna Street | \$\$\$ | Comp. Breakfast Parking \$22/night | 1 mile from Hospital |

The Road To Recovery after Spine Surgery



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|---|----------|--|--|
| Baltimore, MD 21202 443-923-4000 | | | |
| Days Inn Inner Harbor 100 Hopkins Place Baltimore, MD 21201 410-576-1000 | \$\$ | Taxi Vouchers Restaurant onsite Parking \$18/night | 2 miles from Hospital |
| Hampton Inn C. Yards 500 Washington Blvd Baltimore, MD 21230 410-685-500 | \$\$ | Comp. Breakfast Parking \$26/night | 2.5 miles to Hospital |
| Hyatt Place BWI 940 International Drive Linthicum, MD 21090 410-859-3366 | \$\$ | Comp. Breakfast Free Parking | 12 miles to Hospital |
| Hyatt Place Owings Mills 4730 Painters Mills, MD 21117 410-998-3630 | \$\$ | Comp. Breakfast Free Parking | 20 miles to Hospital 10 miles to Greenspring |
| Holiday Inn Express 1701 Russell Street Baltimore, MD 21230 410-727-1818 | \$\$ | Shuttle to JHH Free Parking | 3 miles to Hospital |
| Hyatt Regency Baltimore 300 Light Street Baltimore, MD 21202 410-528-1234 | \$\$\$\$ | Taxi Vouchers Parking \$36/night Restaurants onsite RoomService | 2 miles from Hospital |
| Intercontinental 550 Light Street Baltimore, MD 21202 410-234-0550 | \$\$\$\$ | Parking \$29/night Restaurants onsite Room Service | 2 miles from Hospital |
| La Quinta Inn BWI 1734 W. Nursery Road Baltimore, MD 21090 410-859-2333 | \$ | Shuttle to Airport (BWI) Free Parking Comp. Breakfast | 12 miles to Hospital |
| La Quinta Inn N. Baltimore | \$ | Shuttle to JHH | 7 miles from Hospital |

The Road To Recovery after Spine Surgery



| | | | |
|---|-------------------------------|---|---|
| 4 Philadelphia Court Baltimore, MD 21237 410-574-8100 | | Free Parking Comp. Breakfast | |
| Marriott Inner Harbor 110 S. Eutaw Street Baltimore, MD 21201 410-962-0202 FAX 410-625-7892 www.marriotthotels.com | \$\$ | Taxi vouchers \$12.00/day parking \$17.00 valet Restaurant Fitness Center | 2 miles - Hospital 2 blocks - Harbor |
| Marriott Inner Harbor 110 S. Eutaw Street Baltimore, MD 21201 410-962-2202 | \$\$\$ | Parking \$22/night Restaurant on Site Room Service | 2 miles from Hospital |
| Marriott Waterfront 700 Aliceanna Street Baltimore, MD 21201 410-385-3000 | \$\$\$\$ | Parking \$32.00/night Taxi Vouchers Restaurants onsite | 1 mile from Hospital |
| Peabody Court 612 Cathedral Street Baltimore, MD 21202 410-727-7101 | \$\$ | Taxi Vouchers Parking \$29/night Restaurant onsite | 1.5 miles from Hospital |
| Pier 5 Hotel 711 Eastern Avenue Baltimore, MD 21202 410-539-2000 | \$\$\$ | Shuttle to JHH Parking \$28/night Restaurant onsite | 2 miles from Hospital |
| Radisson Cross Keys 100 Village Square Baltimore, MD 21210 410-532-8400 | \$\$ | Shuttle to Greenspring & JHH Restaurant onsite Room Service Free Parking | 6 miles from Hospital |
| Radisson Inner Harbor 20 W. Baltimore Street Baltimore, MD 21201 410-539-8400 | \$ \$ with Breakfast | Shuttle to JHH Restaurant onsite Room Service Parking \$25/night | 2 miles from Hospital |
| Renaissance Harborplace | \$\$\$\$ | Taxi Vouchers Parking \$30.00/night | 2 miles from Hospital |

The Road To Recovery after Spine Surgery

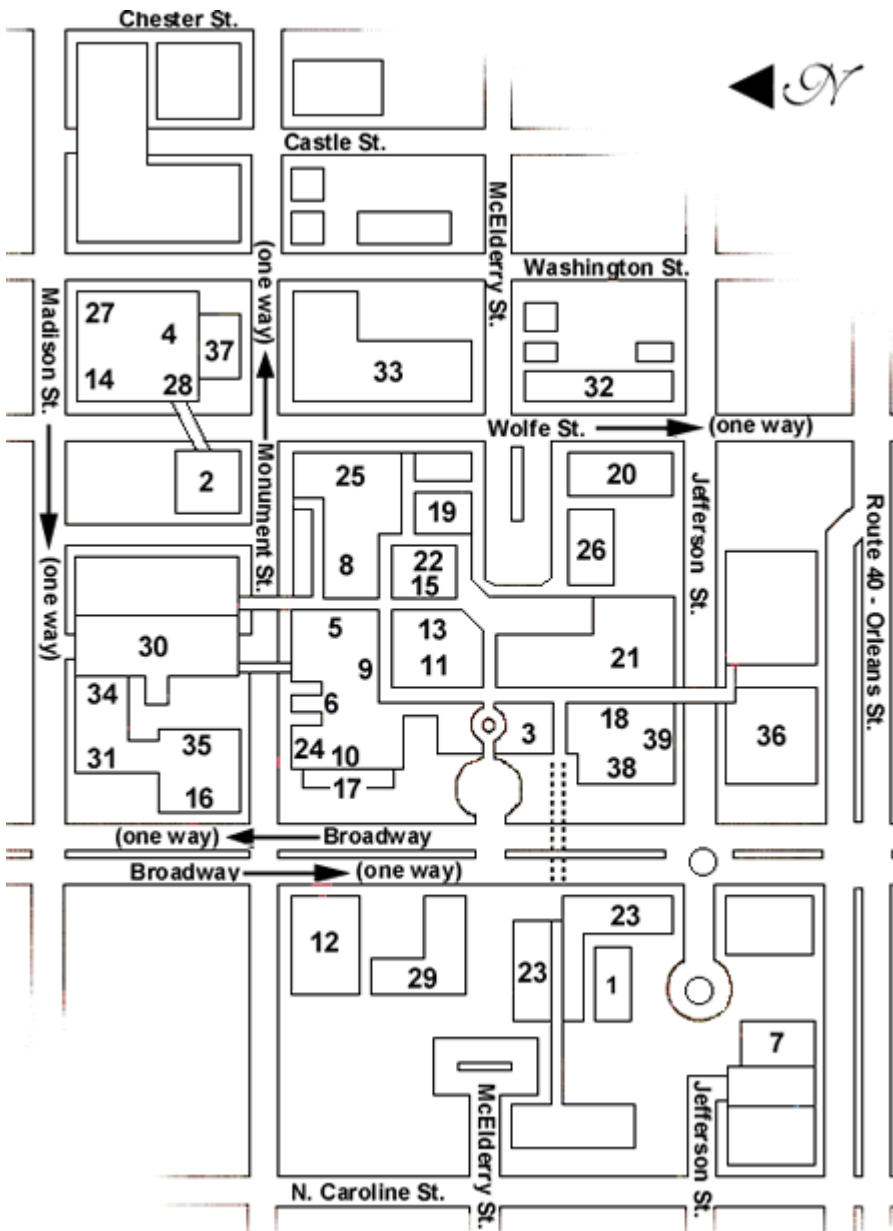


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|---|--|---|---|
| 202 E. Pratt Street Baltimore, MD 21202 410-547-1200 | | Restaurant onsite Room Service | |
| Residence Inn BWI 1160 Winterson Road Baltimore, MD 21090 410-691-0255 | \$\$\$\$ | Shuttle to Airport (BWI) Kitchenette Suites Free Parking | 12 miles from Hospital |
| Residence Inn Downtown 17 Light Street Baltimore, MD 21202 410-962-1220 | \$\$\$\$ | Johns Hopkins Shuttle Kitchenette Suites Parking \$28/night | 2 miles from Hospital |
| Sheraton City Center 101 W. Fayette Street Baltimore, MD 21201 410-752-1100 | \$ | Discounted Parking Shuttle to JHH Restaurants onsite Room Service | 2 miles from Hospital |
| Sheraton Inner Harbor 300 S. Charles Street Baltimore, MD 21201 410-962-8300 | \$\$\$ | Taxi Vouchers Parking \$28/night Room Service Restaurants onsite | 2 miles from Hospital |
| Sheraton Towson 903 Dulaney Valley Road Towson, MD 21093 410-321-7400 | \$\$ | Shuttle to Greenspring Free Parking Room Service Restaurants onsite | 15 miles from Hospital 10 miles to Greenspring |
| Tremont Park Hotel 8 E. Pleasant St. Baltimore, MD 21202 410-576-1200 | \$\$ Studio Suite \$\$ 2 QN Suite | Shuttle to JHH 7am - 10:30 pm Parking \$18/night Kitchenettes in rooms | 2 miles from Hospital |
| Tremont Plaza Hotel 222 St. Paul Street Baltimore, MD 21202 410-727-2222 | \$\$ | Parking \$25/night Kitchenettes in rooms | 2 miles from Hospital |
| TownePlace Suites 1171 Winterson Road Linthicum, MD 21090 410-694-0060 | \$\$\$ | Kitchenettes in Rooms Shuttle to Airport (BWI) Free Parking | 12 miles to Hospital |

The Road To Recovery after Spine Surgery



Johns Hopkins Medical Campus Map



Building Key

1. 550
2. 1830
3. Billings Administration
4. Biophysics
5. Blaylock Clinical Sciences
6. Brady
7. Bunting-Blaustein Cancer Research
8. Carnegie
9. Children's Center
10. Emergency Care
11. Halsted
12. Hampton House
13. Harvey Teaching Tower
14. Hunterian
15. Hurd Hall
16. Kennedy Krieger Institute
17. Marburg (Brady Urological Institute)
18. Maumenee (Wilmer)
19. Meyer Center for Psychiatry and the Neurosciences
20. MRI
21. Oncology Center
22. Osler
23. Outpatient Center, Heyssel
24. Park (Pediatric Emergency)
25. Pathology
26. Phipps
27. Physiology
28. Preclinical Teaching
29. Reed Hall
30. Ross
31. School of Medicine
32. School of Nursing
33. School of Public Health
34. Traylor Research
35. Turner Auditorium
36. Weinberg
37. Welch Medical Library
38. Wilmer Eye Institute
39. Woods Research

The Road To Recovery after Spine Surgery

