



## **What You Need to Know about Spine Surgery** General information, surgery and postoperative care.

This booklet is designed to help you become a well-informed participant in your health care before and after surgery. We hope this will relieve any anxiety you may have about having surgery and help you toward a speedy recovery.

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# Spine Orientation Class

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  - Post-anesthesia recovery unit
  - Pain management
3. Transfer to the orthopedic unit
4. Rehabilitation services
5. Discharge planning

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## **Introduction**

Your physician has diagnosed your spine problem and recommended surgery as the best treatment option for you. Knowing the anatomy of the spine may help you to understand the reason you are going to have spine surgery and what you can expect afterward.

### **Review insurance and financial planning**

Thoroughly review your insurance benefits and/or alternative plans for payment. Find out what your insurance plan or Medicare covers. Are medical aids such as crutches, walkers and raised toilet seats reimbursable expenses? Does your plan cover in-patient care in a skilled nursing facility? What about home healthcare?

If you have any questions about your health insurance benefits, please call your insurance plan's customer relations department. The number is usually toll-free and may be found on the back of your insurance card.

### **Arrange for home care**

Before going into the hospital, consider the support system you will have when you return home. You may need some assistance for the first few weeks with cooking, bathing, housekeeping, shopping and driving errands, etc, depending on what type of surgery. Do you have a caregiver, spouse, companion, friend or family member who will be able to help?

If an adequate support system at home is not available you may need to hire a caregiver. It may be appropriate to go to a skilled nursing facility for further therapy.

### **Visitors during your hospital stay**

Think about when you want friends and relatives, other than your primary caregiver, to visit you. Perhaps you would rather they wait until you return home, since you will be busy with your rehabilitation in the hospital. Put yourself into the best possible frame of mind for the challenges ahead.

## Understanding the Spine

A healthy spine or vertebral column provides support for the body and protection for the spinal cord. It also allows you to move freely because of the three natural curves of the spine which keep your body balanced. Strong, flexible muscles and ligaments support the spine and keep the curves in normal alignment. Spine problems often start because of poor posture and/or sedentary lifestyle. Moving incorrectly also puts extra stress on the spine and discs.

The bones, or vertebrae, are stacked one on top of each other. Soft, cushioning discs, which act as shock absorbers, are located between each vertebrae allowing the spine to bend and move. The discs are made of a tough outer lining called the annulus, and a jelly-like center called the nucleus. The movement of fluid within the nucleus allows your vertebrae to rock back and forth on your discs, giving you the flexibility to bend and move. The shape, size and flexibility of your discs change throughout the day.

When the normal curvature of the spine is changed, there may be excess stress on structures, such as the bones, ligaments and discs. Disc degeneration occurs because of a gradual and progressive loss of water content in the nucleus of the disc. The result is a loss of elasticity, the disc becomes narrow and the vertebrae shift closer together, and become irritated. Worn out or injured discs can lead to a variety of other spine and disc problems. The most common problems happen when discs tear, bulge or extrude, losing their ability to cushion and absorb shock. The rest of the spine may degenerate leading to pain, stiffness and other symptoms.

Other spinal conditions that may require surgery are: spinal stenosis, bone spurs and scoliosis. Spinal stenosis occurs when the vertebral canal, nerve root canals or intervertebral foramina narrows causing irritation of the nearby nerves, congenital or due to spinal degeneration. Bone spurs can develop, which can encroach upon, or narrow the spinal canal or spinal foramen. Scoliosis is a lateral, or side to side, curvature of the spine, which can lead to disc degeneration and/or compression of the internal organs.

Surgery may be necessary to help correct any of these conditions. When this is the case, it is important to remember that proper exercise and good body mechanics will help your spine to heal and significantly reduce the risk of further injury.

# Diagrams of the Spine

Diagram #1  
Normal spinal disc

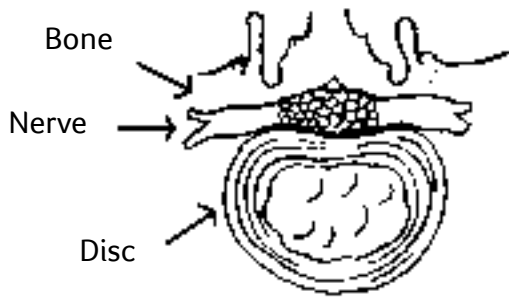


Diagram #2  
Torn disc

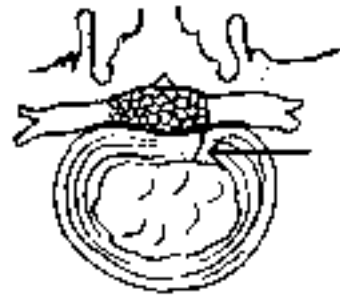


Diagram #3  
Bulging or protruding disc

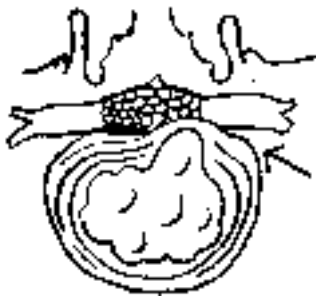


Diagram #4  
Extruded disc

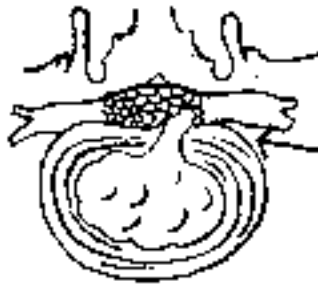


Diagram #5  
Bone spur

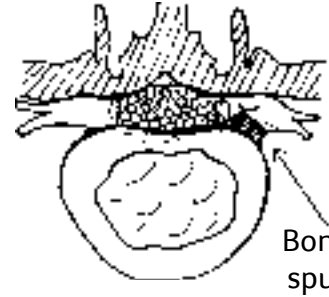


Diagram #6  
Normal spine

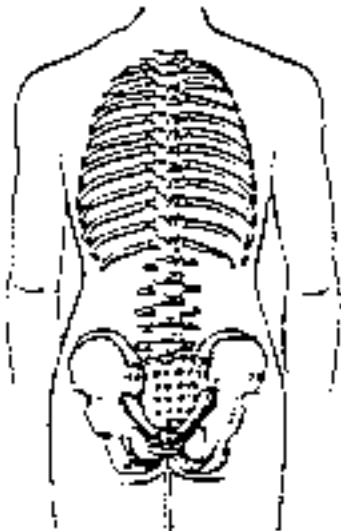
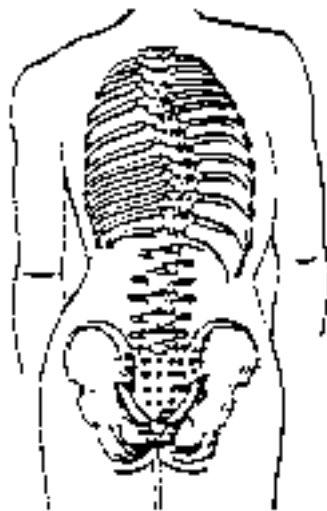


Diagram #7  
Scoliosis





# Pre-Hospital Introduction

## Surgery Pre-Admission Orientation

If you and your physician agree that surgery is the best option for your health, Hoag Orthopedic Institute offers a spine surgery pre-admission orientation class. This one-hour class is offered twice a month. The goal of the class is to prepare you and your caregivers for spine surgery and to let you know what to expect following surgery. To register for this class, please call 800/514-4624.

## Pre-admission Screening Appointment

The pre-admission staff at Hoag Orthopedic Institute will call you within hours to days of being scheduled for surgery. During this call, they will confirm your personal information is correct, confirm your dates for pre-admission testing and any medical clearance your physician may require you have prior to your surgery. The staff at the pre-admission and navigator department will assist you in planning appropriate dates for these appointments. You may call them at 949/727-5010.

Pre-admission testing should be completed 25-30 days prior to surgery or as soon as possible if your procedure is booked in less than 30 days. Medical clearances are very important to complete if you have been asked to have one. They help the physicians determine your needs for care and if not completed in time, it can result in cancellations of surgery. Booking an appointment with your primary care physician or specialist as early as possible is vital, as they may be difficult to see you with short notice. Call to make an appointment as soon as possible or discuss this with the pre-admission staff or navigator.

You should complete clearances as early as possible within 30 days prior to your surgery, but not prior to your lab testing.



# Pre-Admission Check List

Here is a check list to assist you in completing your pre-hospital preparations. Included are resource telephone numbers. Your physician will decide which diagnostic appointments and tests he/she would like you to receive.

- My surgery is on (date) \_\_\_\_\_ at (time) \_\_\_\_\_
- I have made my appointments with other physicians as requested.  
Dr. \_\_\_\_\_ on (date) \_\_\_\_\_ at (time) \_\_\_\_\_  
Phone number \_\_\_\_\_  
Dr. \_\_\_\_\_ on (date) \_\_\_\_\_ at (time) \_\_\_\_\_  
Phone number \_\_\_\_\_
- I have started my pre-operative exercise program.
- I have had my lab work drawn at (place) \_\_\_\_\_ on (date) \_\_\_\_\_  
Reports sent to \_\_\_\_\_
- I have had my EKG done at (place) \_\_\_\_\_ on (date) \_\_\_\_\_  
Reports sent to \_\_\_\_\_
- I have had my urine analysis done at (place) \_\_\_\_\_ on (date) \_\_\_\_\_  
Reports sent to \_\_\_\_\_
- I have had my nasal swab done at (place) \_\_\_\_\_ on (date) \_\_\_\_\_  
Reports sent to \_\_\_\_\_
- I have had my chest x-ray done at (place) \_\_\_\_\_ on (date) \_\_\_\_\_  
Reports sent to \_\_\_\_\_
- I have/will complete my admission process by including verification of my insurance and signing the Conditions of Admission forms. (This may be completed prior to your surgery date or the morning of your surgery.)
- I have a completed copy of my Advanced Directive to take to the hospital.
- I have a short medical/surgical history and a list of my medications for the anesthesiologist.
- I will STOP taking aspirin, blood thinner or any anti-inflammatory medications on (date) \_\_\_\_\_
- I will NOT eat or drink anything after (time) \_\_\_\_\_ on (date) \_\_\_\_\_
- I will STOP/cut down smoking cigarettes.
- I will take my Spine Book to the hospital.
- I will NOT take any valuables to the hospital.
- I will NOT bring any of my medications to the hospital.
- I have made tentative arrangements for my discharge home.

## Resource Phone Numbers:

Nurse Navigator Office: 949/727-5010  
Case Manager – Orthopedics: 949/727-5439  
Rehab Department: 949/517-3170

## Pre-Registration

You will be required to pre-register in person at the HOI Nurse Navigator office or by telephone at 949/727-5010. Our admitting department personnel will assist you in completing the hospital's pre-registration forms and answer any questions regarding your insurance and the admission process. You must bring verification of insurance and sign your admission forms **in person** prior to admission to the nursing floor. If you have an *Advance Directive for Healthcare*, please obtain a copy that will be included with your medical chart. California law recognizes the *Durable Power of Attorney for Healthcare*, the *Natural Death Act Declaration*, and to a lesser extent, *Living Wills*. These documents are available in most stationery stores and with Patient Relations, 949/727-5151.

## Preliminary Tests

Before your surgery, you will need to have preliminary tests such as blood tests and possibly an electrocardiogram (EKG) and a chest X-ray, urine analysis and nasal swab three weeks prior to surgery. It is important that these tests be completed prior to surgery. The tests may be done at Hoag Hospital, your physician's office, or at another facility as directed by your physician. If these studies are completed at a facility other than Hoag Hospital, it is important that the test results be faxed to Hoag Orthopedic Institute at 949/727-5012.

## Risks And Possible Complications of Spine Surgery

The following is a list of potential complications and risks associated with major surgeries such as your spine surgery. This list is provided not to frighten you, but to inform you of the possible risks of the procedure. Your physician will be able to explain those risks that are more pertinent to your specific surgery.

- ▶ Complications from anesthesia
- ▶ Infection
- ▶ Injury to blood vessels
- ▶ Injury to nerves
- ▶ Blood clots
- ▶ Blood loss
- ▶ Transfusion reactions
- ▶ Death

There may be many potential risks that may apply to you as an individual that are not listed. Your physician is aware of these possible complications and takes many precautions to reduce these risks. If you have any questions or concerns about these or other complications of surgery, please discuss them with your physician.

## Decision-making, Advance Directives and Other Rights

### **Who makes decisions about my treatment?**

Doctors provide you with information and advice about treatment, but you have the right to choose which treatment option(s) will be followed. You can say “Yes” to treatments you want, and “No” to any treatment you don’t want - even if the treatment that you refuse might improve your health or keep you alive longer.

### **How do I know what I want?**

Doctors must tell you about your medical condition, explain what different treatments can do for you and what “side effects” they may cause. Your doctor must offer you information about any serious problems that medical treatment is likely to cause.

Often, more than one treatment might help you and different people have different ideas about which is best. Your doctor can tell you which treatments are available, but he or she can’t choose for you. That choice depends on what is important to you.

### **What if I’m too sick to decide?**

If you can’t make treatment decisions, your doctor will ask your closest available relative or friend to help decide what is best for you. Most of the time that works, but sometimes not everyone agrees. That’s why it is helpful if you specify in advance what you want in case you can’t speak for yourself later. There are several kinds of “advance directives” that you can use to say what you want and who you want to speak for you.

One kind of advance directive under California law lets you name someone to make healthcare decisions for you when you are unable. This form is called a DURABLE POWER OF ATTORNEY FOR HEALTHCARE.

### **Who can fill out this form?**

If you are 18 years or older and of sound mind, you are able to complete a DURABLE POWER OF ATTORNEY FOR HEALTHCARE form. You do not need a lawyer to fill it out.

### **Who can I name to make treatment decisions when I’m unable to do so?**

You can choose an adult relative or friend you trust as your “agent” to speak for you when you’re too sick to make your own decisions. Among those people you cannot designate as your agent are your healthcare provider or any employee of your healthcare provider, unless that person is a friend employed by the same provider as the patient completing the DURABLE POWER OF ATTORNEY FOR HEALTHCARE.

**How does this person know what I would want?**

After you choose someone, talk to that person about what you want. You can also write down in the DURABLE POWER OF ATTORNEY FOR HEALTHCARE the circumstances when you would or wouldn't want medical treatment. Talk to your doctor about what you want and give your doctor a copy of the form. Give copies to the person named as your agent, any alternative agents and family members. And take a copy with you when you go into a hospital or other treatment facility.

Sometimes treatment decisions are hard to make and it truly helps your family and your doctors if they know what you want. The DURABLE POWER OF ATTORNEY FOR HEALTHCARE also gives them legal protection when they follow your wishes.

**What if I don't have anybody to make decisions for me?**

If you can't decide on an "agent," you can use another kind of advance directive to write down your wishes about treatment. This is often called a "living will" because it takes effect while you are still alive, but have become unable to speak for yourself. The California Natural Death Act lets you sign a living will called a DECLARATION. Anyone 18 years or older and of sound mind can sign one without an attorney.

When you sign a DECLARATION it tells your doctors that you don't want any treatment that would prolong your dying. All life-sustaining treatment would be stopped if you were terminally ill and your death was expected soon, or if you were permanently unconscious. You would still receive treatment to keep you comfortable.

The doctors must follow your wishes about limiting treatment or turn your care over to another doctor who will. Your doctors are also legally protected when they follow your wishes.

**Are there other living wills I can use?**

Instead of using the DECLARATION in the Natural Death Act, you can use any of the available living will forms. You can use a DURABLE POWER OF ATTORNEY FOR HEALTHCARE form without naming an agent, or you can just write down your wishes on a piece of paper. Your doctors and family can use what you write to decide about your treatment. But living wills that don't meet the legal requirements of the Natural Death Act don't give as much legal protection for your doctors if a disagreement arises about following your wishes.

**What if I change my mind?**

You can change or revoke any of these documents at any time as long as you can communicate your wishes.

### **Must I complete one of these forms?**

No, you don't have to fill out any of these forms if you don't want to. You can just talk with your doctors and ask them to write down what you've said in your medical chart. And you can talk with your family. But people will understand your treatment wishes more clearly if you write them down. Your wishes are also more likely to be followed if you write them down.

### **Will I still be treated if don't fill out these forms?**

Absolutely. You will still get medical treatment. We just want you to know that if you become too sick to make decisions, someone else will have to make them for you.

Remember:

- A DURABLE POWER OF ATTORNEY FOR HEALTHCARE lets you name someone to make treatment decisions for you. That person can make most medical decisions – not just those about life sustaining treatment – when you can't speak for yourself. Besides naming an agent, you can also use the form to specify when you would and wouldn't want particular kinds of treatment.
- If you don't have someone you want to name to make decisions when you can't, you can sign a NATURAL DEATH ACT DECLARATION. This DECLARATION says that you do not want life prolonging treatment if you become terminally ill or permanently unconscious.

### **How can I get more information about advance directives?**

If you would like to complete an advance directive, please ask your nurse for a copy or call Hoag Patient Relations at 949/727-5151. Hospital employees cannot witness these forms and therefore you are encouraged to complete them before coming to the hospital. If you wish to complete one while you are here, contact family members and/or friends or request a Notary Public to come in to witness your signature.

All of us at Hoag Orthopedic Institute want our patients to understand their right to make medical treatment decisions. The hospital complies with California laws and court decisions on advance directives. We do not condition or otherwise discriminate against anyone based on whether or not you have completed an advance directive. We have formal policies to ensure that your wishes about treatment will be followed.

## Patient rights

Your rights as a patient include the following:

- You have the right to enjoy an environment free of discrimination based on gender, sexual orientation, economic status, educational background, race, age, color, religion, disability, ancestry, national origin, marital status or source of payment.
- You have the right to considerate and respectful care.
- You have the right to be well-informed about your illness, possible treatments, side effects, likely outcome and to discuss this information with your doctor. You have the right to know the names and roles of people treating you.
- You have the right to consent to or refuse a treatment, as permitted by law, throughout your hospital stay. If you refuse a recommended treatment, you will receive other needed and available care.
- You have the right to leave the hospital, even against the advice of a physician.
- You have the right to privacy. The hospital, your doctor and others caring for you will protect your privacy as much as possible.
- You have the right to expect that treatment records are confidential unless you have given permission to release information or if reporting to outside agencies is required or permitted by law. When the hospital releases records to others, such as insurers, it emphasizes that the records are confidential.
- You have the right to review your medical records and to have the information explained, except when restricted by law.
- You have the right to expect that the hospital will give you necessary health services to the best of its ability. Treatment, referral or transfer may be recommended. If transfer is recommended or requested, you will be informed of risks, benefits and alternatives. You will not be transferred until the other institution agrees to accept you.
- You have the right to participate in planning for the relief of any pain which may be associated with your condition or treatment. Staff will advise you of their role in managing pain as well as the potential limitations and side effects of pain treatments.

- You and the hospital have the right to establish restrictions on visitors. Additionally, you can expect the hospital to make reasonable efforts to contact your family and physician upon your admission.
- You have the right to be free from unreasonable restraint. Staff strives to provide a safe environment using the least restrictive measures possible. Please call for assistance if staff has advised you to do so.
- You have the right to know if this hospital has relationships with outside parties that may influence your treatment care. These relationships may be with educational institutions, other healthcare providers or insurers.
- You have the right to consent or decline to take part in research affecting your care. If you choose not to take part, you will receive the most effective care the hospital otherwise provides.
- You have the right to be told of realistic care alternatives when hospital care is no longer appropriate.
- You have the right to know about hospital resources, such as patient representatives or the ethics committee, that can help you resolve problems and questions about your hospital stay and care.
- You have the right to know about hospital rules that affect you and your treatment, and about charges and payment methods.
- You have the right to examine and receive an explanation of your bill, regardless of source of payment.

### **You also have responsibilities as a patient**

You are responsible for providing accurate information about yourself including past illnesses, hospital stays and use of medicine. You are also responsible for being involved in your own care, including plans for pain control and discharge planning. You are responsible for asking questions when you do not understand information or instructions, and for telling your doctor or nurse if you feel you are getting inadequate pain relief. If you believe you can't follow through with your treatment, you are responsible for telling your doctor. If you have completed an advance directive, you are responsible for bringing a copy with you for placement in your medical record.

Hoag Orthopedic Institute works to provide care efficiently and fairly to all patients and the community. You and your visitors are responsible for being considerate of the needs of other patients, staff and the hospital. You are responsible for providing information for insurance and for working with the hospital to arrange payment, when needed.

A hospital serves many purposes. Hospitals work to improve people's health; treat people with injuries and disease; educate doctors, health professionals, patients and community members; and improve understanding of health and disease. In carrying out these activities, Hoag Orthopedic Institute works to respect your values and dignity.

## Respecting your wishes

Hoag Orthopedic Institute, its board of directors, medical staff and employees conduct patient care and all other business operations in an ethical manner consistent with the hospital's mission, vision, values, strategic plan and guidelines set forth in the hospital policies. We recognize that patients have the right to participate in decision-making regarding medical care, including the right to refuse treatment – even if it's necessary to sustain one's life.

Sometimes family members are called upon to make difficult decisions regarding care when there is no single "right" answer or easy solution. At Hoag Orthopedic Institute, resources from nursing, social services, patient relations, pastoral care and other disciplines are available to help address your concerns. Hoag Orthopedic Institute's multi-disciplinary Healthcare Ethics Committee is also available.

## Who to call for assistance

If you have any issues regarding your care you should immediately contact Hoag Patient Relations, which is a department of administration. Its staff of patient advocates is your primary resource for:

- Healthcare Ethics Committee
- Patient/family advocacy
- Advance directives
- Complaints regarding care or service
- Disability or discrimination claims
- Patient rights

For assistance, call 949/727-5151.

If you need assistance even after contacting Hoag Patient Relations, you may call the Department of Health Services (714/456-0630 or 800/228-5234) or the U.S. Department of Health & Human Services (415/437-8310 or TDD at 415/437-8311).





# Pre-Hospital Preparedness

## The Evening Before Surgery

The evening before your surgery, your anesthesiologist may call you to discuss your medical-surgical history. You may wish to prepare a list of questions or concerns regarding your anesthesia and be prepared to discuss your daily medication routine.

Your surgeon may have given you specific instructions in preparation for your surgery. It is important to follow them closely. Here are some general instructions that should be followed:

- Do not eat or drink anything after MIDNIGHT unless directed otherwise by your anesthesiologist
- Prepare a list of current medications, dosage instructions and a list of known drug allergies
- Prepare a short medical/surgical history
- Body wash as instructed by your surgeon

## Admission

If your surgery is scheduled for 7:30 a.m., please arrive at 5:30 a.m. All patients scheduled for surgery after 7:30 a.m. should arrive two hours prior to your surgery.

Do not take any medications the day of surgery unless directed to do so by your physician. If your surgeon or anesthesiologist has instructed you to take your routine medications, please take them with a small sip of water.

Bring your prepared list of routine medications and known drug allergies. Bring all medications in original pharmacy bottles except pain medications, sleeping pills, vitamins or supplements, or over-the-counter medications.

Leave money, valuables and jewelry at home. You will be allowed to wear dentures, hearing aids and wedding bands. Please bring eyeglasses and eyeglass case with you, or contact lenses, case and solution, as you will be signing your surgical consent on admission.

## For Your Hospital Stay

### ***Consider bringing the following items:***

- Light-weight pajamas or nightgown
- Non-skid, closed-heel slippers or shoes
- Personal toiletry items, such as: hair comb/brush, toothpaste, toothbrush and any other items you may need
- Cell phone
- Comfortable and loose clothing for admission and discharge
- MD issued brace or corset

## Medications to Avoid Before Surgery

### 1. Aspirin medications:

Bufferin, Ascriptin, Ecotrin, codeine with aspirin, Fiorinal, Percodan

### 2. Anti-inflammatory medications:

Motrin, Nuprin, Advil, ibuprofen, Indomethacin, Orudis, Aleve, any non-steroid anti-inflammatory medications. Check with your physician regarding prescription medications.

### 3. Anti-clotting medications:

Coumadin, heparin, Persantine, Plavix, aspirin (for medical treatment)  
Check with your prescribing physician regarding cessation and resumption of blood thinners.

### 4. Dietary supplements that contain:

ginger, licorice, valerian, goldenseal, ginkgo biloba, ginseng, Siberian ginseng, garlic, St. John's wort, alfalfa, echinacea

Examples of medications that can be taken include: Tylenol, Vicodin, Percocet.  
If you have specific questions regarding these medications, speak with your physician.

## Pre-procedure Patient Shower Information

Showering will decrease bacteria on your skin and help prevent infections. You should shower the night before your procedure and the morning of your procedure. You will receive SAGE cloth wipes with instructions in your surgeon's office. You should shower the night before your procedure. Apply SAGE wipes, do not rinse. The morning of your surgery, apply SAGE wipes, but do not shower.

## Preparing Your Home

Now is the time to prepare your home for your return from the hospital. It is important that your house be free from hazards that could cause you to fall or lose your balance. Use the Home Safety Checklist provided to assure a safe environment.

## Home Safety Checklist

- Be aware of uneven surfaces both outside and inside your home.
- Remove scatter rugs and secure extension cords out of the way.
- To avoid rushing to answer the phone, consider using a portable, cordless, phone or cell phone next to your bed or at hand.
- Provide a place for your pets to be kept while you are walking around the house.
- Maintain adequate lighting in all areas. Use night-lights in the bathroom and in hallways.
- Safety rails are recommended for the tub/shower and wherever you may need additional support.
- Make sure stair handrails are securely fastened.
- You may need a raised toilet seat or commode (for lumbar surgery).
- Tubs and showers must have non-skid surfaces or safety mats inside and outside. Be cautious of wet floors.
- Select footwear that stays securely on your feet and that has non-skid soles.
- Use chairs with arm rests or place a firm cushion or pillow on seat of chairs.
- Move frequently used items to shelves and counters that are easy to reach. This can minimize unnecessary and unsafe reaching.
- Prepare simple meals using stovetop or counter-level appliances to avoid bending. Make food ahead of time and store in small containers for heating later.

## Pre-Operative Exercise for Spine Surgery

Gentle exercises help stretch and strengthen your trunk and leg muscles. By exercising pre-operatively you can begin to train your muscles for the exercises and movements you will be doing post-operatively. You will do some of these exercises after surgery with the help of your physical therapist.

- Before performing the exercises, use proper body mechanics as you position yourself on a firm surface or bed. Avoid twisting or bending your back. Think of your body as a log from your shoulders to your hips. Keep your ears, shoulder and hips in alignment.

Start performing these exercises today and continue until the day of your surgery. Do them twice each day while lying on a firm, flat surface such as the bed or couch. Do them slowly and gently without increasing your pain. Remember to continue breathing while exercising.

### 1. Ankle pumps:

Move ankles up and down and around in circles. Repeat a minimum of 10 times, per hour.



### 2. Quad sets:

Slowly tighten muscles on thigh of straight leg. Hold for a count of 5 while continuing to breathe. Repeat 10 times, per hour. You may have both legs flat on bed to do this exercise



### 3. Gluteal sets:

Pinch your buttocks together and hold contraction for a count of 5 while continuing to breathe. Repeat 10 times, 3 times per day.



#### 4. Isometric abdominal sets:

Lying on your back with your knees bent, place your fingertips on your lower abdominals. Tighten your abdominals as if you were pulling on a tight pair of pants. Hold for a count of 5 while continuing to breathe. Repeat 10 times, per hour.



## Healthy Eating

### 1. Eat a variety of foods

Forty different nutrients are needed for good health. One way to assure variety, as well as a nutritious diet, is to choose foods each day from five major food groups.

- vegetables – three to five servings
- fruits – two to four servings
- breads, cereals, rice and pasta – six to 11 servings
- milk, yogurt and cheese – two to three servings
- meat, poultry, fish, dry beans and peas, eggs and nuts – two to three servings

Eat at least three (or more) well-balanced small meals each day to ensure all nutrient needs are met.

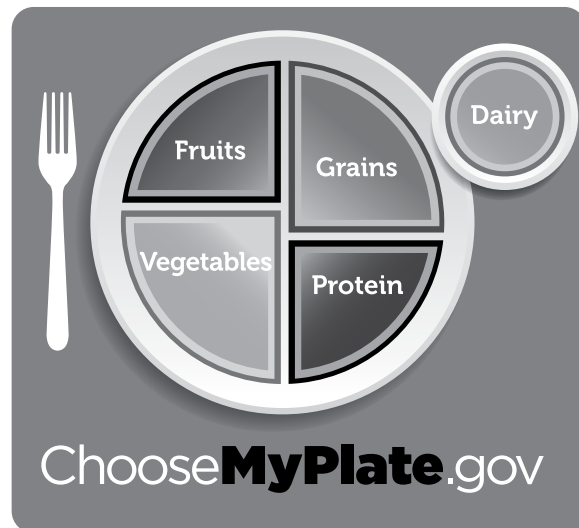
- increase fluids

### 2. Reach and maintain your desirable weight

A desirable weight will promote optimal health and make physical activity easier. In addition, obesity has been related to heart disease, high blood pressure, stroke, diabetes and some forms of cancer.

Being underweight has been linked with osteoporosis in women and a greater risk of early death in both men and women.

If attempting to lose weight, eat less fat and sugar, increase physical activity and lose no more than one to two pounds per week. Do not skip meals! This will eventually slow down your metabolism and thwart any attempts at weight loss as your body perceives itself being starved – and will hold on to the fewer calories you give it.



## Healthy Eating, continued

### 3. Bone up on calcium

Calcium is important for:

- primary component of bones and teeth
- heart beat regulation
- transmission of nerve impulses

Most adults need 1,000-1,200 mg. per day. If your diet is deficient in calcium, it will be “stolen” from your bones, eventually weakening them.

Examples of foods which are rich in calcium:

- milk (non-fat or one percent low-fat is slightly higher than whole milk)
- cheese (choose low-fat cheeses with six grams of fat per ounce or less)
- yogurt
- salmon
- broccoli
- tofu

### 4. Reduce fat

Americans currently get more than 35 percent of their calories from fat. We need to decrease that level to 25 percent or less.

- Use non-fat or one percent low-fat milk in place of whole milk and try lowfat cheeses and sour cream.
- Use a non-stick pan spray for cooking in place of butter, margarine, lard and oils.
- Trim the fat from your meat and take the skin off your chicken before cooking.
- For cooking: Try baking, broiling, barbecuing, or boiling foods to reduce fat.
- Read labels: Beware of hidden fats in convenience and processed foods.

### 5. Fiber

A balanced diet includes 25-35 grams of fiber per day. Therefore, eat more complex carbohydrates such as whole grain breads, cereals, potatoes, pasta, beans, brown rice and vegetables.

Dietary fiber, a part of plant foods, is found in whole grain breads, and cereals, dry beans and peas, vegetables and fruits.

Benefits of fiber:

- Helps prevent constipation
- May help lower serum cholesterol
- Helps control blood sugar
- Helps you feel full

## 6. Reduce sugar

Use sugar sparingly if your calorie needs are low. Diets high in sugars have not been shown to cause diabetes, however, simple sugars supply calories but are limited in nutrients.

Included are:

- Table sugar
- Brown sugar
- Raw syrup
- Glucose
- Lactose
- Fructose
- Honey
- Syrup
- Corn sweeteners
- Molasses
- Maltose
- Fruit juice concentrate
- High fructose corn syrup

## 7. Reduce salt (sodium)

Americans eat an average of 4,000-8,000 mg. of sodium each day. The American Heart Association recommends an intake of 1,000-3,000 mg. each day.

- Use salt sparingly in cooking and at the table.
- Check labels for sodium content.
- Choose foods that are lower in sodium most of the time.
- Use selected snacks, such as chips, cheeses, pretzels, and nuts sparingly.
- Omit salt in recipes – substitute fresh herbs and seasonings without salt.
- Use fresh vegetables, fruits, meats, poultry, fish and unprocessed grains as much as possible.

Also watch for these!

- packaged or canned soups
- cured or smoked vegetables/meats
- baking soda
- soy sauce
- Alka Seltzer
- sauerkraut
- pancake mixes, Bisquick

## What about herbs, vitamins & nutraceuticals?

**CAUTION:** Be sure to inform your physician and nurse if you are taking any herbs, vitamins, or nutraceuticals. Many of these may interfere with medications, causing adverse effects.

Herbal supplements: Herbs are medicinal plants, also called botanicals or phytomedicinals. These may include: Valerian Root, Melatonin, St. John's wort, Kava-kava, Ginkgo biloba, Black cohosh, Dong quai, etc.

**CAUTION:** Use of some herbal supplements may interfere with medications and your body's ability to stop bleeding. Please talk to your physician about any herbals you are taking. Avoid taking any herbals for at least seven days prior to surgery.



**Vitamins:** There are both water-soluble and fat-soluble. Water-soluble vitamins include: Vitamin C, Thiamin (B1), Riboflavin (B2), Niacin, Vitamin B6, Folate, B12, Biotin, and Pantothenic Acid. Fat soluble include: Vitamins A, D, E, and K.

**Nutraceuticals:** These are substances that may be considered a food or part of a food and provides medical or health benefits, including the prevention and treatment of disease. Examples are oat bran to reduce heart disease and some types of cancer, soy for women’s health, etc.

### A word about lactose intolerance

Lactose intolerance is when a person has trouble digesting lactose, the natural sugar in milk. This common condition may affect some people for their entire life or just for short periods of time, and affect each person in differing degrees from mild (when large amounts of dairy products are eaten) to severe (when small amounts of dairy products are eaten). The symptoms of lactose intolerance include upset stomach, bloating, gas and diarrhea. Generally the treatment of lactose intolerance is to modify your intake (either quantity and/or type) of some dairy products. Cheese & yogurt have less lactose than milk, and can sometimes be tolerated when milk cannot. If you think you have a lactose intolerance, notify your registered dietitian for more information.

### 3-4 Weeks Prior to Surgery

This sample diet is designed to be low in excess fats and calories while providing adequate vitamins and minerals. Basic guidelines include:

- Small portions
- Avoiding fried and greasy foods
- Avoiding caffeine, pepper, alcohol

### 48 Hours Prior to Surgery

Basic guidelines include:

- Small portions
- Avoiding fried and greasy foods
- Avoiding caffeine, chili pepper, alcohol, highly seasoned foods strong tea & cola
- Suggest eating at home if possible

Amount	Food Item	Amount	Food item
	<b>BREAKFAST</b>		<b>2:00 PM SNACK</b>
1/2 cup	1% Lowfat milk	1	Granola Bar
1/2 cup	Hot Cereal	1 container	Fruit Yogurt
1/4 cup	Scrambled Egg/Egg Substitute		<b>DINNER</b>
1 Slice	Toast	3 oz.	Baked Chicken
2 tsp.	Margarine	1/2 cup	Mashed Potatoes
	<b>10:00 AM SNACK</b>	2 tsp.	Gravy
1 oz.	Cheese	1/2 Cup	Cooked Vegetables
6	Crackers	1/12th	Pie
3/4 cup	Fruit		<b>8:00 PM SNACK</b>
	<b>LUNCH</b>	8 oz.	1 % Lowfat milk
3 oz.	Hot roast beef with bun	1/2	Sandwich (lean meat with mustard)
1 tsp.	Mayonnaise (or 1 tbsp. lowfat Mayonnaise)		
	Green Salad or fruit		
2 tbsp.	Salad dressing		
2	Cookies		

# Healthy Eating for Vegetarians

## 1. Variety

Choose a variety of foods from the major food groups.

Lacto-ovo vegetarian (minimum servings):

- milk – two servings
- protein sources – two servings
- fruits and vegetables – four servings
- grains – four servings

Vegan vegetarian (minimum servings):

- milk alternative – two servings – fortified soybean-based protein drink
- protein sources – two servings
- fruits and vegetables – four servings
- grains – four servings

## 2. Vegetarian diet types

- lacto-ovo vegetarian: includes both eggs and dairy products; may possibly be low in energy
- lacto vegetarian: includes only dairy products; may be low in energy and iron
- vegan vegetarian: consumes no animal products; may be low in energy, vitamins B12, D and riboflavin, calcium, iron and protein

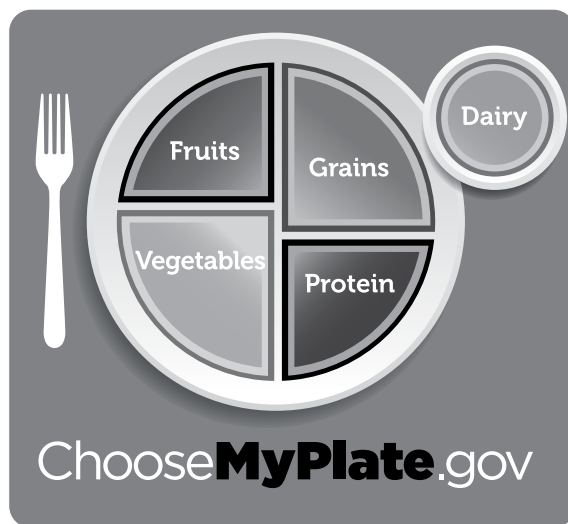
## 3. How to choose a vegetarian meal pattern

<b><i>If: Food Excluded</i></b>	<b><i>Then: Key Nutrients Excluded</i></b>	<b><i>Replace with: Alternate Foods</i></b>
meat, fish, poultry	protein, thiamine, iron, energy, zinc, vitamin B12, folate, EFA	milk, dairy products, grains, legumes, nuts, seeds, fortified soy milk
milk, dairy products	calcium, protein, riboflavin, vitamins B12, A&D	dark green vegetables, legumes, nuts, seeds, fortified soy milk
grains	protein, energy, riboflavin, niacin	legumes, dairy products
legumes	protein, iron, zinc, calcium	dairy products, grains
fruits	fiber, vitamins A&C	vegetables, grains
vegetables	fiber, vitamins A & C	fruits, grains

## Healthy Eating for Vegetarians, continued

### 4. Remember to...

- Keep your intake of less nutrient-dense foods (sweets, high-fat foods) to a minimum.
- Choose whole or refined grain products whenever possible.
- Use a variety of fruits and vegetables, including a good source of vitamin C to enhance iron absorption.
- If dairy products are consumed, use low-fat or skim.
- Limit intake of eggs to three yolks per week to ensure that your cholesterol intake is not too high.
- For vegans, use a properly fortified food source of vitamin B12, such as fortified soy milks or breakfast cereals, or take a cobalamin supplement (available at your local pharmacy).
- For infants and children, ensure adequate intakes of iron, vitamin D and calories.
- Consult a registered dietitian to assist with proper meal planning.
- Eat iron-rich foods



## Iron-Rich Foods

*Minimum Daily Requirement: Men (age 19 to 50+) 10 mg per day  
Women (age 19 to 50+) 18 mg per day*

### **Beef:**

Chuck stew 4 oz.....	3.1 mg
Hamburger 4 oz.....	3.5 mg
Liver 3.5 oz.....	6.6 mg
Roast 8 oz.....	4.6 mg

### **Chicken:**

Fried, 1/4 broiled.....	1.8 mg
Breast (fried).....	1.1 mg
Roasted 3.5 oz.....	2.1 mg
Livers, 2 large.....	7.4 mg

### **Turkey:**

Roasted 3 slices.....	5.1 mg
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### **Fish:**

Tuna (in oil) 3.5 oz.....	1.9 mg
– (in water) 3.5 oz.....	1.6 mg
Scallops 3.5 oz.....	1.6 mg
Shrimp 1.2 lb.....	2.5 mg
Clams (hard) 5-10.....	7.5 mg
– (soft) 4-9.....	3.4 mg
Oysters 5 to 8.....	5.5 mg

### **Veal:**

Cutlet 4 oz.....	3.3 mg
Stew meat 3.5 oz.....	3.5 mg

### **Lamb:**

Leg 4 oz.....	1.3 mg
Loin chop 4 oz.....	1.2 mg

### **Pork:**

Loin 4 oz.....	2.3 mg
Spareribs 8 oz.....	2.9 mg

### **Ham:**

Baked 2.5 oz.....	2.1 mg
Canned 4 oz.....	3.0 mg

### **Luncheon Meats:**

Liverwurst 1 slice.....	1.6 mg
Salami 1 slice.....	1.0 mg

### **Eggs:**

1 large whole.....	1.2 mg
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### **Fruits:**

Apple Juice 1 cup.....	1.5 mg
Apricots, 1/2 cup	
– dried uncooked.....	3.6 mg
– cooked.....	2.3 mg
Avocado 1/2.....	1.3 mg
Banana, mashed 1 cup.....	1.6 mg
Cantaloupe 1/2 med.....	1.6 mg
Dates, pitted 10.....	2.4 mg
– cut up 1/2 cup.....	2.6 mg
Orange juice - canned 1 cup....	2.6 mg
Prunes, canned 1/2 cup.....	1.1 mg
– dried, uncooked 10.....	3.3 mg
Raisins 1/2 cup.....	2.9 mg
Strawberries 1/2 cup.....	1.0 mg
Watermelon 8" X 4" wedge.....	2.1 mg

**Breads and Grains:**

- Bagel 3"..... 1.2 mg
- Bran flakes 40% 1 cup ..... 12.3 mg
- with raisins 1 cup..... 17.7 mg
- Breadcrumbs dry 1 cup.....3.6 mg
- Gingerbread 1 slice ..... 1.0 mg
- Macaroni, cooked 1 cup..... 1.4 mg
- Egg noodles, cooked 1 cup ..... 1.4 mg
- Oatmeal, cooked 1 cup..... 1.7 mg
- Cream of Wheat 1 serving.....2.5 mg
- Rolls
- Hot dog/Hamburger 1..... 1.2 mg
- Hard 1 med ..... 1.3 mg

**Nuts:**

- Shelled
- Almonds 1/4 cup..... 1.7 mg
- Cashews 1/4 cup..... 1.2 mg
- Walnuts 1/4 cup..... 1.9 mg

**Vegetables:**

- Artichoke 1 whole..... 1.4 mg
- Jerusalem 1 med .....3.4 mg
- Asparagus 6 stalks ..... 1.3 mg
- Brussels sprouts 6-7 ..... 1.1 mg
- Chard 1/2 cup cooked..... 1.3 mg
- Chestnuts 10 ..... 1.2 mg
- Dandelion greens
- cooked 1/2 cup..... 1.8 mg
- Endive 1 cup ..... 1.0 mg
- Lentils, dry cooked 1/2 cup. ....2.1 mg
- Lettuce (Boston 1 cup) ..... 1.1 mg
- Mustard Greens, cooked 1/2 cup.1.8 mg
- Potato, baked 1 med ..... 1.1 mg
- Spinach, raw 1 cup ..... 1.7 mg
- cooked 1/2 cup.....2.0 mg
- Sweet Potato, baked 1 med ..... 1.0 mg
- Tomato, fresh 3" .....0.9 mg
- juice 1 cup .....2.2 mg

**Beans:**

- Dry, Lima 1 cup .....2.9 mg
- Navy Pea 1/2 cup.....2.5 mg
- Kidney 1/2 cup.....2.2 mg
- Fresh, Lima cooked 1/2 cup.....2.1 mg
- Sprouted Mung 1 cup ..... 1.4 mg

**Peas:**

- Blackeye (fresh or dry)
- cooked 1/2 cup..... 1.7 mg
- Green cooked 1/2 cup..... 1.4 mg

# Surgery

## The Day of Surgery

### Parking

Patients and Visitors are welcome to use the parking lot located across from the main entrance to Hoag Orthopedic Institute. Parking is free.

### Pre-operative Admission Area

After completing your registration, signing all forms and providing verification of insurance in the Nurse Navigator area, your nurse navigator will escort you to the pre-operative admission area. This admission process may be completed prior to your surgery day. The PAS is staffed by nurses specializing in the care of patients undergoing surgical procedures. It is important that you arrive at the requested time so the nurses and other staff can complete the activities that will prepare you for surgery.

### Pre-operative Area

Preparations for your surgery are completed in the pre-op room. Your anesthesiologist will meet you here to review your chart, complete the physical examination and discuss any concerns or questions you might have regarding anesthesia. An intravenous line will be started and you may receive some sedation. You will then be transferred to the Operating Room by a nurse or an orderly.

### Operating Room

The Operating Room will be kept cool, but you will be kept comfortable. When you arrive in the Operating Room you will be given an anesthetic. After you are asleep a Foley catheter may be inserted into your bladder. You will be positioned on a bed that is specially designed for spine surgery, your surgical site will be scrubbed and the surgery will begin. After surgery you will be transferred by bed to the Post Anesthesia Care Unit (PACU).

## **Post Anesthesia Care Unit (PACU)**

In the PACU, when you awaken, you will have on an oxygen mask. You will be closely monitored until you are recovered from anesthesia and ready to be transferred to the nursing unit. You will be turned from side to side at least twice while you are in PACU. Your dressing will be checked, and it is important that you do not twist or arch your back while turning. Approximately every 30 minutes, your circulation and nerve function will be checked. You will be asked to push down with both feet against the nurses hands, and to flex your feet toward your head.

Like the Operating Room, the PACU is maintained at a cool temperature. You may shiver or feel cool when you first wake up from surgery, this is very normal. You will be medicated for the shivering and warm blankets will be provided. You will be given pain medication as needed. When you are ready to leave the PACU, you will be transferred to the nursing unit in a bed by an orderly.

## **Surgical Waiting Area**

Family members should let the volunteer in the surgery waiting area know that they are there and the name of the patient for whom they are waiting. If leaving the lobby area, they should let the volunteer know where they are going and when they will return. The physician will contact the family members in the surgery waiting area to discuss the surgery and the patient's condition.

## **Hoag Orthopedic Institute Café**

The hospital cafeteria is located in the lower level of the hospital. Please take the elevators to the lower level and follow the signs.

## **Hospital Chaplain**

Chaplain office can be reached at 949/517-3484. Please ask at the front desk for information.

# Hospital Stay: Same Day Surgery

## Laminectomy Laminotomy Discectomy Microdiscectomy

You may be returning to home the same day as your surgery. You must have a responsible person to drive you to and from the hospital. We recommend someone stay with you overnight. Medications given may have significant effect. It is not unusual to feel sleepy or dizzy following surgery, therefore change positions slowly. Do not drive motor vehicle operate power tools or make critical decisions for 24 hours.

## Post Anesthesia Care Unit (PACU)

After surgery you will return to PACU. You will have an oxygen mask. You may shiver or feel cool when you first wake up from surgery this is normal. You will be medicated for the shivering and warm blankets will be provided. You will be given pain medication as needed. You will be closely monitored until you are recovered from anesthesia. You will be turned from side to side to check your dressing. It is important you do not twist or arch your back while turning. You will be asked to push down with both feet against the nurses hand and to flex your feet toward your head. The nurse will monitor your vital signs and pain level until you are fully awake. Physical therapy may see you to review spine precaution and instruct you on activity limitations for home. You will receive written instruction regarding incisional care determined by your surgeon. Your nurse will assist you in dressing. Your family member will be called when you are ready to return home. You will be transported by a hospital staff member in a wheelchair to your car.





# Hospital Stay: Cervical Spine

## After Your Surgery

### Recovery

When you arrive on the nursing unit, a nurse will take your vital signs (blood pressure, pulse and respirations). These will be monitored until you are discharged from the hospital.

Your nurse will check your extremities for numbness or tingling. The circulation in your extremities will also be monitored and you will be instructed to exercise your ankles and feet 10 times every hour while awake. These exercises are very important to help increase circulation and reduce the risk of blood clot formation in your legs. You may be given white support hose (called T.E.D. Stockings). Your physician may also recommend “pump-activated” stockings to help improve your circulation. You should wear the stockings during and after your hospital stay or until your physician says you no longer need them. The nurse will remove the stockings twice a day or as needed to check the condition of your skin.

During these visits, the nurse will also check your surgical dressing. Usually the first dressing change will be done by your physician. If you have an incisional drain, it will be connected to a reservoir and will be checked frequently.

### Breathing exercises

It is very important to exercise your lungs and you will be asked to perform deep-breathing exercises every hour in the immediate post-operative period. Deep-breathing exercises help to expand your lungs fully and prevent pneumonia and high fevers. You may be given a tool known as an incentive spirometer to help you expand your lungs and take deeper breaths. The spirometer will be placed at your bedside table and a nurse will instruct you in the proper use of this device. We encourage you to use this ten times an hour as instructed while awake.

### Call light system

A call light is located by your bed to keep you in constant contact with the nursing staff. When the call light is pushed, it is activated to ring at the nurse’s station. The nursing unit’s clerical coordinator will personally answer your call or your nurse will automatically be paged on her phone. Should your nurse be involved with another patient, another nurse will attend to your needs. Please do not hesitate to use your call light so our staff can assist you.

### Swallowing

After your surgery, you may have swelling in the incisional area making it difficult and/or painful to swallow. Your nurse will assess your swallowing before starting your diet. You may be more comfortable in an upright position. Your nurse can help you to elevate the head of bed. Depending on the severity, a swallowing evaluation by a speech therapist may be ordered by the physician.

## Pain control

It is normal to have some pain and discomfort in your neck and shoulders after surgery. Your pain medication may be given to you through a Patient Controlled Analgesia (PCA) device. Analgesia means “the relief of pain.” PCA is a system that allows you to better control your pain. The device, containing a syringe of pain medication prescribed by your physician, is attached to a pole near your bedside. The syringe connects directly to your intravenous line so that when you push a button, medication can be released into your bloodstream for immediate pain relief. You will be instructed in the use of the PCA. Your comfort level will be monitored to determine whether you are receiving adequate pain relief. The PCA will be used for up to 24 hours after surgery, then you will be switched to pain medication taken by mouth. Do not wait too long to request oral pain medication as it may take longer to begin relieving your pain. Please let your nurse know if you are not receiving effective relief from your pain medication.

## Diet/IV fluids

Intravenous therapy is necessary for the first 24 hours after surgery. Intravenous antibiotics are administered intermittently for approximately 24 hours after surgery to help prevent infection. IV antibiotics and the PCA are discontinued when you can comfortably take food, fluids and medication by mouth. Advancing from liquids to a regular diet is a gradual process. Your nurse will listen to your stomach for bowel sounds to determine the progression of your diet.

## Hygiene

- Day of surgery: You will be assisted with brushing your teeth and/or rinsing your mouth.
- Post-Operative days: Assistance with a sponge bath and other hygiene needs will be provided. Because of morning activities and physical therapy, your bath may not be scheduled until later in the day. If you prefer to have your bath early, please let your nurse know. We encourage you to assist as much as possible and welcome your family to help you with your hygiene needs. If a shower is permitted, your dressing will be covered with a plastic protector.

## Pain management

A question that concerns most spine surgery patients is the amount of pain they will experience after surgery – and how to manage that pain. First of all, it is important to note that surgery is designed to reduce the amount of pain you are currently experiencing. However, you will have pain following surgery as your wound heals.

***While in the hospital, you will be asked to describe your level of pain based on a scale of 0-10 (shown at right). Our goal is to keep your pain at a level of five or lower.***

Pain Scale	
0	No pain
1	Some discomfort
2	
3	Having discomfort
4	
5	Some pain
6	Having pain
7	
8	Severe pain
9	
10	Worst pain imaginable

## Diet Immediately After Surgery

You may not start a diet the day of surgery until bowel sounds are present, which may take up to 24 hours after surgery. Clear liquid diet will be ordered when appropriate. This means a diet that consists of clear juice (e.g. cranberry, grape or apple juice), broth, gelatin and tea.

We will suggest a menu for your immediate post-surgical needs.

## Diet During Your Hospital Stay

When you are tolerating liquids, your diet will be advanced to your mechanical soft diet. We recommend that you avoid ordering foods that are spicy or acidic – such as orange or pineapple juice, tomato salsa, or tomato/marinara sauce.

We recommend a well-balanced diet as you are able to tolerate. There will be between meal snacks available on the unit.

## Nausea

Nausea is a common side effect of surgery. Your nurse can administer anti-nausea medication. Your diet can be modified as your nausea subsides to include more foods that you enjoy. Let your common sense be the guide and please discuss any discomfort or problems with your ability to handle foods with your nurse. It is usual to begin the first meal with clear liquids and then progress to a mechanical or soft diet. Following are some guidelines to help prevent nausea:

- Avoid fried, fatty, greasy foods.
- Avoid foods that are excessively sweet, spicy, hot or have strong odors.
- Avoid foods that disagree with your stomach or sound unappealing.
- Drink few liquids with your meal.
- Have foods near room temperature; extremes may add to nausea.
- Avoid favorite foods when nauseated, as this may cause a permanent ill association with that food in the future.

## Daily Activities Guidelines: Cervical Spine

To help keep you informed about what to expect as you recover from your surgery, we recommend that you refer to the following daily patient activity guidelines. Most hospital stays range from one to two days. This is an example of patient activities based on an average two day stay.

### Patient Activities – Day of Surgery

#### 1. Medical Assessments

R.N. will assess vital signs, neuro assessment for circulation sensation and movement of upper extremities. Assess ability to swallow liquids and clear secretions. Assessment for bowel and lung sounds, incisional dressing and pain management.

#### 2. Medications

PCA for pain management, flexeril for spasms if needed.

#### 3. Activity

If the patient is able, nursing staff will help the patient to the edge of the bed, ambulate to the bathroom, transfer to a commode, etc. as ordered by the Physician. Neck braces will be ordered by the Physician as appropriate for further activity. Physical therapy may perform an evaluation, if ordered by the Physician. The first therapy session may include transfer training, gait training, exercises, education of donning/doffing brace, and review of cervical limitations.

#### 4. Nutrition and Diet

When bowel sounds present, clear liquids to start diet.

#### 5. Education and Preparing To Go Home

Ankle pumps for circulation. You may experience a sore throat; avoid dry foods. Elevate head of bed for comfort. Avoid neck flexion, extension and rotation. Review donning of brace or soft collar for home.

### Patient Activities – Post Operative 1

#### 1. Medical Assessments

R.N. to assess vital signs, neuro assessment for circulation sensation and motion of upper extremities. Assess ability to swallow liquids and clear secretions. Assessment for bowel and lung sounds, incisional dressing and pain management.

#### 2. Medications

Transition from PCA to oral pain meds and resume routine home medications.

### 3. Activity

A physical therapy evaluation will be initiated today if not initiated on day of surgery. Therapy sessions may include transfer training, gait training, instruction in donning/doffing brace (if ordered by Physician), as well as education on car transfers, stair training, spine precautions, and progression for activities in the home. The patient will continue to get up with the nursing staff for bathroom privileges and to sit up in a chair. To assist in resuming the activities of daily living, the patient will be encouraged to walk in the hallways with the nursing staff and family members, get dressed in casual clothes for all activities, and increase overall activity level. (Note: Pending progress of the patient, all of above activity with a physical therapist may be completed in one session)

### 4. Nutrition and Diet

Mechanical soft diet. Sit upright for meals. Avoid dry foods (i.e. crackers and breads). Smoothies, soups, and wet foods are better tolerated.

### 5. Education and Preparation To Go Home

Review wound care activity limitations for home, ability to don brace and evaluate need for home equipment. Review discharge orders along with home medications and pain medications. You may be discharged to home on post-op day one.

## Patient Activities – Post Operative Day 2

### 1. Medical Treatments

R.N. to assess vital signs, pain management, and incision. Neuro assessment of upper extremities. Assess ability to tolerate mechanical diet and clear secretions.

### 2. Medications

Oral pain medications and routine home medications.

### 3. Activity

Physical therapy will continue with education and training with activities as necessary. Depending on the patient's progress and medical status, education on spine precautions, car transfer and stair training.

### 4. Nutrition and Diet

Sit upright for all meals. Wet foods maybe better tolerated until swelling is resolved. Mechanical soft diet, food high in fiber for constipation, and high in protein for growth and repair.

### 5. Education and Preparing To Go Home

Review proper body mechanics, wound care, and activity limitations for home. Good understanding and ability to don brace. Review discharge orders along with home medications and pain medication prescriptions. Anticipate discharge by 11:00 a.m.

## Post-Op Exercises for Cervical Patients

### 1. Ankle pumps:

Move ankles up and down and around in circles. Repeat a minimum of 10 times, per hour.



### 2. Quad sets:

Slowly tighten muscles on thigh of straight leg. Hold for a count of 5 while continuing to breathe. You may have both legs flat on bed to do this exercise. Repeat 10 times, per hour.



### 3. Gluteal sets:

Pinch your buttocks together and hold contraction for a count of 5 while continuing to breathe. Repeat 10 times, per hour.



### 4. Isometric abdominal sets:

Lying on your back with your knees bent, place your fingertips on your lower abdominals. Tighten your abdominals as if you were pulling on a tight pair of pants. Hold for a count of 5 while continuing to breathe. Repeat 10 times, per hour.

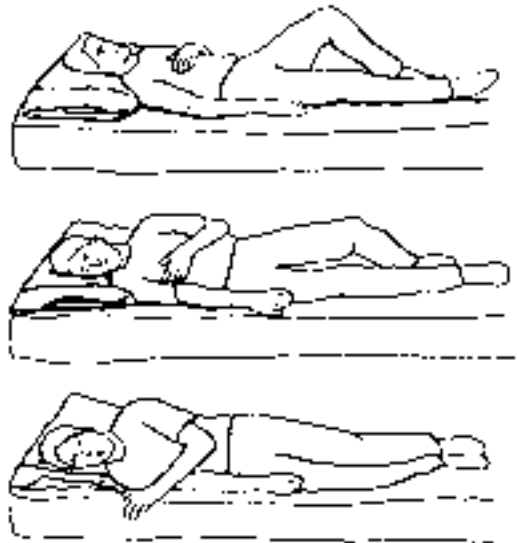


## Physical Therapy Activities

The following techniques will enable you to move safely, and get in and out of bed while protecting your neck and back.

### A. Rolling side to side

Lying on your back, begin by bracing your abdominals. Bend both your knees up, keeping feet on the bed. Initiate the roll to one side, keeping shoulders, hips and knees in line, to avoid twisting in the low back and keeping head and shoulders in line to avoid movement in the neck.



### B. Getting in and out of bed

To sit at the side of the bed, log roll to your side as above, brace your abdominals, lower your legs off the bed at the same time as you push with elbow underneath you and other hand in front of body to attain upright position. Maintain your shoulders, hips and knees in alignment. Maintain your head and shoulders in alignment. To return to bed: reverse the above.



### C. Sit to side lying

Place hand that is closest to the head of bed towards corner of bed. Lower self down onto elbow then shoulder while bringing legs up to lie self directly onto side. Now log roll self so back is completely flat on bed. Remember to keep shoulders, knees and hips moving together to maintain neutral (straight) spine.



#### D. To stand

Scoot to edge of the chair. Place one foot forward and the other foot back. Your front leg is the weight bearing leg and the back leg is the propelling leg. Hinge forward from hips so that your weight shifts onto your front foot and your nose moves over your knees. Stand up by pushing feet into the floor. One or both hands on chair to push to stand or sit back down to maintain contact with sit to stand transition.



#### E. To sit

Shift weight back, hinge at hips and sit gently on edge of the chair, then scoot back.

#### F. Positioning in bed

Lying down decreases the pressure on your spine but it is important to maintain proper alignment when you are either on your back or on your side. No lying on your stomach. Choose a firm, supportive surface to lie on and soft pillows for support.

Lying on your back: Place a pillow under your neck and head for support, avoiding excessive forward head motion. Place a pillow under your knees and thighs.



Lying on your side: Place a pillow under your neck and head to support it in midline, keep head, shoulders and hips in alignment. Place a pillow between your knees with the knees slightly bent. A pillow held in front of your chest to support your arm may prevent your shoulder rolling forward and improve your comfort.



#### G. Walking program

After your surgery, your therapist will teach you to walk safely and properly. The best exercise for you after surgery is walking. It helps avoid blood clots and improve your endurance. You will be instructed on stair training as appropriate.

It is important to continue your walking program after your discharge from the hospital. It is best to take several short walks rather than one long fatiguing walk. Try to walk on level surfaces and at a moderate pace. It is recommended to walk with good closed shoes (e.g., tennis shoes).

## Guidelines For Good Body Mechanics: Cervical Spine

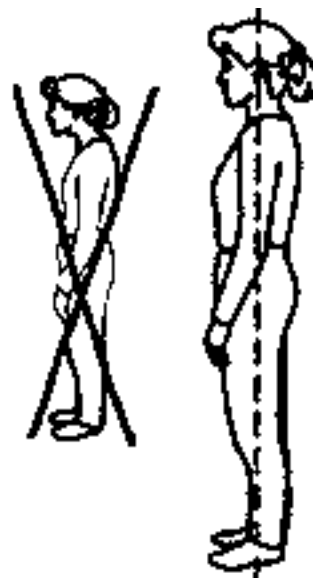
- Avoid any motion (flexion turning extension) at the neck by keeping head and shoulders aligned. Pivot on your feet and turn your whole body instead.
- Avoid reaching for objects by moving closer to the object and use a step stool to keep objects at eye level.
- Avoid reaching overhead for objects; ask for assistance (normal hygiene activity is allowed).
- Avoid pushing or pulling activities by keeping elbows held close to the side of the body, shifting weight forward or backward, and using your body weight to push rather than pushing with the trunk and arms.
- Avoid lifting objects weighing over 5 pounds. These objects include laundry, groceries, trash, small pets, small children, household furniture, vacuum cleaner, etc.
- Avoid slouching by keeping your three natural curves (cervical, thoracic, and lumbar) aligned with your head and shoulders over your hips and knees. This includes standing and sitting positions.
- Avoid any neck motion which includes nodding “yes” or “no” when speaking.
- When lying down, avoid excessive pillows under the head which might push your head forward.
- When eating, loosening custom braces one notch to allow for chewing is permitted. However, especially during this time avoid neck motion as you will have less support from the brace.
- When showering, use shower braces for support. (if ordered by a physician)

## Good posture is important

Avoid slouching and forward head thrust; maintain curve in low back and align ears over shoulders, hip, knees over ankles.

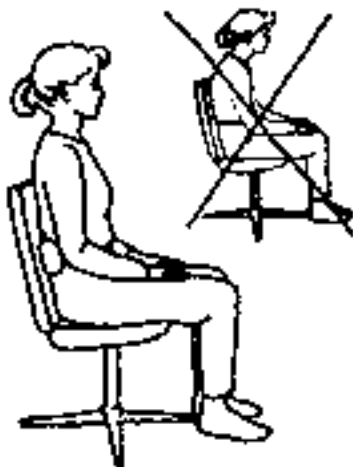
## Keep spine in neutral position

In this position your body is maintaining its three natural curves (cervical, thoracic, lumbar). A vertical line through your body should go through your ear, shoulder, pelvis and ankle. You should attempt to maintain your “stable spine” with all activities. This is done by bracing your stomach and back muscles with initiating all movements and activities.



## Sit upright, head facing forward

Try using a rolled up towel to support your lower back. Keep shoulders relaxed, avoid rounded back. Keep hips level with knees. Avoid crossing legs for long periods.



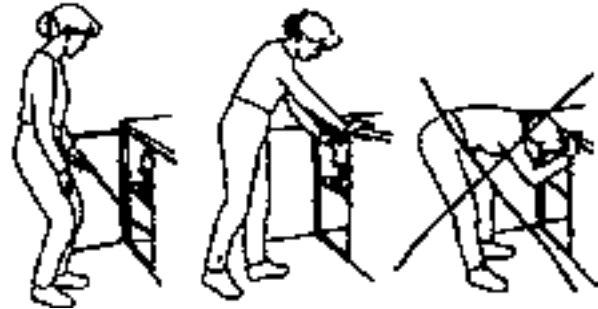
Sitting postures are used for resting, conversation and other activities.



## Activities of Daily Living

### Reaching for household items

If you are unable to bend your knees or squat, use a Lazy Susan to keep items within easy reach. Store only light unbreakable items on the lowest shelves and use a reacher to pick items up.



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



### Car transfers

Lower onto the seat, scoot back then bring one leg in at a time. Reverse to get out. Pivot on bottom to turn to get in/out of the car. DO NOT grab the door to get in/out of car.



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## Grooming - applying lotion

- Use long-handled lotion applicator or soft rubber spatula for hard to reach area such as legs or back.
- DO NOT ROTATE NECK OR EXTEND OR BEND.



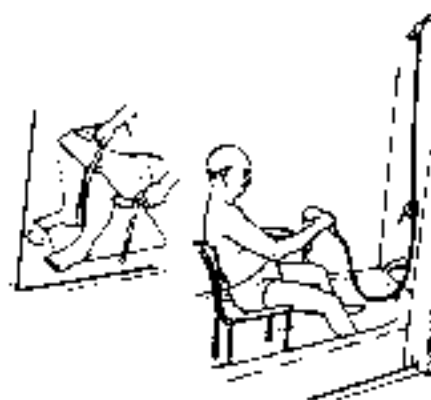
## Grooming - brushing teeth/shaving

- Place one foot on ledge and knee on counter. Bend other knee slightly to keep back straight. Brace self with opposite arm while grooming self with other hand. Use cup or emesis basin to spit into to avoid leaning over sink.



## Bathing - legs and feet

- Use a long-handled sponge or brush for soaping, rinse off with hand-held shower. Special brushes allow reaching between toes to wash and dry.
- Use a reacher with a towel to dry feet and lower legs.
- Make sure that tub or shower has a non-skid floor mat (e.g., Rubbermaid floor mat).
- Use shower brace in the shower if ordered by your surgeon.
- Focus on a spot on the wall to keep neck straight during bathing.



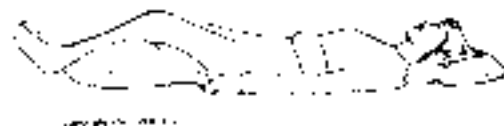
### Sidelying in bed

To maintain positioning in midline, place pillows between knees and under head.



### Sleeping on back

Place pillow under knees. A pillow under head keeping neck in neutral position.



### Dressing – lower body

Cross leg over opposite leg to bring foot on to lap to start clothing over foot. May use dressing aids to assist in pulling up. Keep back in neutral position-avoid arching back or bending.



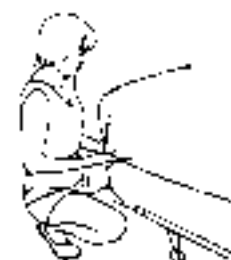
### Home/Work Management – reaching down

- To adhere to your spine precautions, bend at your hips and knees. Use a Lazy Susan to keep items within easy reach.
- Use a reacher to pick up light unbreakable items from low shelves.



### Housework – bed

- Use light bedding.
- Place one knee up on bed to reach when making the bed.
- Use extra-depth fitted sheets and squat down when tucking in corners.
- Eliminate extra work by not tucking in top sheets or comforters.





# Hospital Stay: Simple & Complex Lumbar Spine

## After Your Surgery

### Recovery

When you arrive on the nursing unit, a nurse will take your vital signs (blood pressure, pulse and respirations). These will be monitored until you are discharged from the hospital. You may have a tube in your bladder to drain your urine for the first 24 hours after surgery or until you are able to get out of bed.

Your nurse will check your extremities for numbness or tingling. The circulation in your extremities will also be monitored and you will be instructed to exercise your ankles and feet 10 times every hour while awake. These exercises are very important to help increase circulation and reduce the risk of blood clot formation in your legs. You may be given white support hose (called T.E.D. Stockings). Your physician may also recommend “pump-activated” stockings to help improve your circulation. You should wear the stockings during and after your hospital stay or until your physician says you no longer need them. The nurse will remove the stockings twice a day or as needed to check the condition of your skin.

During these visits, the nurse will also check your surgical dressing. Usually the first dressing change will be done by your physician or nurse. If you have an incisional drain, it will be connected to a reservoir and will be checked frequently.

### Breathing exercises

It is very important to exercise your lungs and you will be asked to perform deep-breathing exercises every hour in the immediate post-operative period. Deep-breathing exercises help to expand your lungs fully and prevent pneumonia and high fevers. You may be given a tool known as an incentive spirometer to help you expand your lungs and take deeper breaths. The spirometer will be placed at your bedside table and your nurse will instruct you in the proper use of this device. We encourage you to use this ten times an hour as instructed while awake.

### Chest tubes for complex spine surgery

Depending on the complexity of your surgery, chest tubes may be utilized. Your physician will discuss this with you.

### Call light system

A call light is located by your bed to keep you in constant contact with the nursing staff. When the call light is pushed, it is activated to ring at the nurse’s station. The nursing unit’s clerical coordinator will personally answer your call or your nurse will automatically be notified on her phone. Should your nurse be involved with another patient, another nurse will attend to your needs. Please do not hesitate to use your call light so our staff can assist you.



## Pain control

It is normal to have pain and discomfort in your back after surgery. Your pain medication may be given to you through a Patient Controlled Analgesia (PCA) device. Analgesia means “the relief of pain.” PCA is a system that allows you to better control your pain. The device, containing a syringe of pain medication prescribed by your physician, is attached to a pole near your bedside. The syringe connects directly to your intravenous line so that when you push a button, medication can be released into your bloodstream for immediate pain relief. You will be instructed in the use of the PCA. Your comfort level will be monitored to determine whether you are receiving adequate pain relief. The PCA may be used for 24 hours after surgery, then you will be switched to pain medication taken by mouth. Do not wait too long to request oral pain medication as it may take longer to begin relieving your pain. Please let your nurse know if you are not receiving effective relief from your pain medication.

## Diet/IV fluids

Intravenous therapy is necessary for the first 24 after surgery. Intravenous antibiotics are administered intermittently for approximately 24 hours after surgery to help prevent infection. IV antibiotics and the PCA are discontinued when you can comfortably take food, fluids and medication by mouth. Advancing from liquids to a regular diet is a gradual process. Your nurse will listen to your stomach for bowel sounds to determine the progression of your diet.

## Hygiene

- **Day of surgery:** You will be assisted with brushing your teeth and/or rinsing your mouth.
- **Post-Operative days:** Assistance with a sponge bath and other hygiene needs will be provided. Because of morning activities and physical therapy, your bath may not be scheduled until later in the day. If you prefer to have your bath early, please let your nurse know. We encourage you to assist as much as possible and welcome your family to help you with your hygiene needs. If a shower is permitted, your dressing will be covered with a plastic protector.

## Pain Management

A question that concerns most spine surgery patients is the amount of pain they will experience after surgery – and how to manage that pain. You will have some pain following surgery as your wound heals. However, the goal is to keep pain at a 5 or below.

***While in the hospital, you will be asked to describe your level of pain based on a scale of 0-10 (shown at right). Our goal is to keep your pain at a level of five or lower***

Pain Scale	
0	No pain
1	Some discomfort
2	
3	Having discomfort
4	
5	Some pain
6	Having pain
7	
8	Severe pain
9	
10	Worst pain imaginable

## Diet Immediately After Surgery

You may start on a clear liquid diet the day of surgery. This means a diet that consists of clear juice (e.g. cranberry, grape or apple juice), broth, gelatin and tea. When bowel sounds are present, your nurse will then advance your diet.

We will suggest a menu for your immediate post-surgical needs.

## Diet During Your Hospital Stay

When you are tolerating liquids, your diet will be advanced to your regular diet. We recommend that you avoid ordering foods that are spicy or acidic – such as orange or pineapple juice, tomato salsa, or tomato/marinara sauce.

We recommend a well-balanced diet as you are able to tolerate. There will be between meal snacks available on the unit.

## Nausea

Nausea is a common side effect of surgery. Your nurse can administer anti-nausea medications. Your diet can be modified as your nausea subsides to include more foods that you enjoy. Let your common sense be the guide and please discuss any discomfort or problems with your ability to handle foods with your nurse. It is usual to begin the first meal with clear liquids and then progress to a regular diet or “progressive” diet, as it is sometimes referred to. Following are some guidelines to help prevent nausea:

- Avoid fried, fatty, greasy foods.
- Avoid foods that are excessively sweet, spicy, hot or have strong odors.
- Avoid foods that disagree with your stomach or sound unappealing.
- Drink few liquids with your meal.
- Have foods near room temperature; extremes may add to nausea.
- Avoid favorite foods when nauseated, as this may cause a permanent ill association with that food in the future.

## Daily Activities Guidelines: Simple Posterior Lumbar Spine (Laminectomy Discectomy)

To help keep you informed about what to expect as you recover from your surgery, we recommend that you refer to the following daily patient activity guidelines. Most hospital stays range from one to two days. This is an example of patient activities based on an average two day stay.

### Patient Activities – Day of Surgery

#### 1. Assessments

R.N. will assess vital signs, neuro assessment for circulation, sensation and movement of lower extremities and pain management. Assessment for bowel and lung sounds and incisional dressing.

#### 2. Medications

May have PCA or oral pain medications for pain management. Flexeril for spasms and Xanax for anxiety if needed.

#### 3. Activity

If ordered by the physician and if the patient is able to tolerate initiation of mobility training, a physical therapist will assist the patient to sit up at the edge of the bed via log rolling and progress to standing at the bedside with the aid of a walker. Progression of ambulation will be determined by the patient's tolerance to the activity. The therapist will review log rolling, proper body mechanics, donning/doffing lumbar brace (if ordered by Physician), positioning in bed, and post surgical exercises with the patient. The nursing staff will instruct the patient in performing ankle pumps hourly to help with circulation and assist in positioning in side lying for comfort. Mobility and exercises in conjunction with physical therapy.

#### 4. Nutrition and Diet

When bowel sound are present, clear liquids to start diet. Progress to regular diet when passing gas.

#### 5. Education and Preparing To go Home

Use of incentive spirometer and ankle pumps. Reinforce spine precautions: no twisting, lifting or bending; log roll in and out of bed.

### Patient Activities – Post Operative Day 1

#### 1. Medical Assessments

R.N. will assess vital signs, pain management, incision, neuro assessment (circulation sensation and motion) and bowel sounds (ability to pass flatus).

## 2. Medications

Resume routine medications and oral medications for pain.

## 3. Activity

A physical therapy evaluation will be initiated today if not initiated on day of surgery. Therapy sessions may include transfer training, gait training, instruction in donning/doffing brace (if ordered by the physician), as well as education on car transfers, stair training, spine precautions and progression of activities for home. The patient will continue to get up with the nursing staff for bathroom privileges and to sit up in a chair. To assist in resuming the activities of daily living, the patient will be encouraged to walk in the hallways with the nursing staff and family members, and increase overall activity level. (Note: Pending progress of the patient, all of above activity with a physical therapist may be completed in one session. The patient may be discharged home if cleared by physical therapy and the physician.)

## 4. Nutrition and Diet

Progress diet to regular. Foods high in fiber for constipation and protein rich foods for growth and repair.

## 5. Education and Preparing to Go Home

Spine pathway exercises, incentive spirometer, spine precautions and proper body mechanics. Discuss equipment needs for home (i.e. walker or commode). Review incision care and activity limitations for home. Review discharge orders along w/ home medication and pain prescriptions. Anticipate discharge by 11:00 a.m.

## Patient Activities – Post Operative Day 2

### 1. Medical Assessments

R.N. to assess vital signs, neuro assessment (circulation sensation and movement), pain management, and incision.

### 2. Medications

Continue routine medications. Review pain medications for home.

### 3. Activity

Physical therapy will continue with the progression of ambulation and wean off the walker if deemed appropriate by the therapist. Physical therapy will also continue with a progression of an exercise program, review lumbar spine precautions as well as log rolling technique until the patient is independent with all activity. To assist in the activities of daily living, the patient will be encouraged to walk in the hallways with the nursing staff and family members, and increase overall activity level, which includes sitting up at the side of the bed or in a chair. The patient may be discharged today depending on patient's progress and medical status. (Note: Pending progress of the patient, all of above activity with a physical therapist may be completed in one session)

#### 4. Nutrition and Diet

Fruit and fiber for constipation, and protein rich foods for growth and repair.

#### 5. Education and Preparing To Go Home

Review proper body mechanics, spine precautions, wound care and activity limitations for home. Use of home equipment possible walker/commode. Review discharge orders along with home medications and pain medication prescriptions. Anticipate discharge by 11:00 a.m.

## Daily Activities Guidelines: Complex Anterior and/or Posterior Lumbar Spine Fusion

To help keep you informed about what to expect as you recover from your surgery, we recommend that you refer to the following daily patient activity guidelines. Most hospital stays range from three to five days. The length of hospital stay is variable based on your spinal procedure. This is an example of patient activities based on an average four day stay.

### Patient Activities – Day of Surgery

#### 1. Medical Assessments

R.N. will assess vital signs, neuro assessment for circulation sensation, and movement of lower extremities. Also assess bowel, lung sounds and incisional dressing.

#### 2. Medications

PCA for pain, may need muscle relaxer for spasms. The start of oral medications will begin when tolerating a solid diet.

#### 3. Activity

If ordered by the physician and if the patient is able to tolerate initiation of mobility training, a physical therapist will assist the patient to sit up at the edge of the bed via log rolling and progress to standing at the bedside with the aid of a walker for side steps. Progression of ambulation will be determined by the patient's tolerance to the activity. The therapist will review log rolling, proper body mechanics, donning/doffing lumbar brace (if ordered by a physician), positioning in bed, and post surgical exercises with the patient. The nursing staff will instruct the patient in performing spine pathway exercises hourly to help with circulation and assist in positioning in side lying for comfort.

#### 4. Nutrition and Diet

Nothing by mouth until bowel sounds present. May take 24 hours to start diet. Clear liquid diet to start. Advance diet slowly to avoid nausea.

## 5. Education and Preparing To Go Home

Use of PCA for pain management, incentive spirometer and spine pathway exercises to increase circulation. Spine precautions: no twisting lifting or bending. Log roll for repositioning in bed and getting out of bed.

## Patient Activities – Post Operative Day 1

### 1. Medical Assessments

R.N. will assess vital signs, pain management, incision, neuro assessment (circulation sensation and motion) and bowel sounds (ability to pass flatus). Removal of Foley catheter.

### 2. Medications

Resume routine medications, may need muscle relaxer for spasms and continue PCA for pain until able to tolerate a diet.

### 3. Activity

A physical therapy evaluation will be initiated today if not initiated on day of surgery (Note: For those with anterior and posterior operations, physical therapy may not be initiated until second post operative day depending on the patient's medical status). The physical therapy sessions may include transfer training, proper donning/doffing of lumbar brace, gait training with the use of a walker, exercise instruction, as well as review spine precautions and limitations of the lumbar spine. Depending on the progress of the patient with physical therapy, the patient may be able to get up with the nursing staff for bathroom privileges.

### 4. Nutrition and Diet

If bowel sound present will start on clear liquids and advance to full liquids and then soft diet when passing flatus.

### 5. Education and Preparing To Go Home

Review proper body mechanics log rolling for bed mobility, reinforce use of incentive spirometer and ankle pumps. Assess for home needs i.e. equipment or home physical therapy vs. rehab facility.

## Patient Activities – Post Operative Day 2

### 1. Medical Assessments

R.N. will assess vital signs, lung sounds, neuro status (circulation sensation and movement) incision, pain management and bowel sounds to advance diet if appropriate.

### 2. Medications

Resume routine medications, may transition to oral pain medications if tolerating soft diet.

### 3. Activity

The physical therapy sessions may include progression of gait training, with the walker, progression of the exercise program, progression of transfers into and out of bed via log rolling technique, and review spine precautions. The patient may be able to get out of the bed with the nursing staff for bathroom privileges if cleared by Physical Therapy.

### 4. Nutrition and Diet

Full liquids or soft diet if passing flatus.

### 5. Education and Preparing To Go Home

Use of incentive spirometer. Review proper body mechanics and ankle pumps. Possible transition to oral pain medications and removal of foley catheter. Assess home needs, i.e. equipment or home physical therapy versus rehab facility.

## Patient Activities – Post Operative Day 3

### 1. Medical Assessments

R.N. will assess vital signs, lung sounds, neuro status(circulation, sensation, and movement of lower extremities) incision, pain management and bowel sounds.

### 2. Medications

Resume routine medications, oral pain medications, and stool softener possible laxative if needed.

### 3. Activity

The physical therapy sessions may include stair training, curb training, car transfers, and progression of gait training to wean off the walker if deemed appropriate by the therapist. The therapist will review donning/doffing of the lumbar brace, spine precautions, limitations of the lumbar spine with activities in the home, and log rolling transfers until the patient is independent with all activity. To assist in the activities of daily living, the patient will be encouraged to walk in the hallways with the nursing staff and family members, and increase overall activity level, which includes sitting up at the side of the bed or in a chair for less than 20 minutes.

#### 4. Nutrition and Diet

If passing gas, may advance to regular diet.

#### 5. Education and Preparing To Go Home

Review proper body mechanics, log roll in and out of bed, spine precautions, donning of lumbar corset incentive spirometer, and ankle pumps. Instructions for wound care at home. Assess home needs and option for rehab facility if indicated. Review discharge orders along with home medication and pain prescriptions. Anticipate discharge by 11:00 a.m.

### Patient Activities – Post Operative Day 4

#### 1. Medical Assessments

R.N. will assess vital signs lung sounds neuro assessment (circulation, sensation, and movement of lower extremities) incision, pain management, and bowel sounds.

#### 2. Medications

Oral pain medication, stool softener, continue with routine home medications. May need laxative or suppository if no bowel movement.

#### 3. Activity

Physical therapy will continue with education and training with activities as necessary. Depending on the patient's progress and medical status, discharge may occur today. (Note: Patients who have anterior and posterior operations, whose physical therapy was initiated on the second post operative day, may stay one day longer depending on activity level).

#### 4. Nutrition and Diet

Diet for home to include fruit and fiber for constipation, and protein rich foods for growth and repair.

#### 5. Education and Preparing To Go Home

Review proper body mechanics, spine precautions, donning of lumbar corset, wound care and activity limitations for home. Use of home equipment possible walker/commode. Review discharge orders along with home medications and pain medication prescriptions for home. Anticipate discharge by 11:00 a.m.



## Post-Op Exercises for Simple and Complex Lumbar Spine Patients

### 1. Ankle pumps:

Move ankles up and down and around in circles. Repeat a minimum of 10 times, per hour.



### 2. Quad sets:

Slowly tighten muscles on thigh of straight leg. Hold for a count of 5 while continuing to breathe. You may have both legs flat on bed to do this exercise. Repeat 10 times, per hour.



### 3. Gluteal sets:

Pinch your buttocks together and hold contraction for a count of 5 while continuing to breathe. Repeat 10 times, per hour.



### 4. Isometric abdominal sets:

Lying on your back with your knees bent, place your fingertips on your lower abdominals. Tighten your abdominals as if you were pulling on a tight pair of pants. Hold for a count of 5 while continuing to breathe. Repeat 10 times, per hour.



### 5. Heel slides:

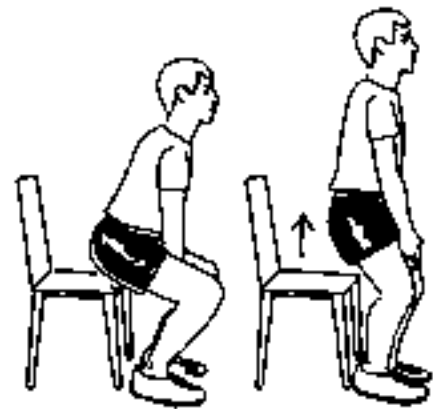
Contract lower abdominals, bend knee and pull heel toward buttocks. Straighten knee, relax abdominals and repeat with other knee. Repeat 10 times, 3 times per day.



### 6. Sit to Stand

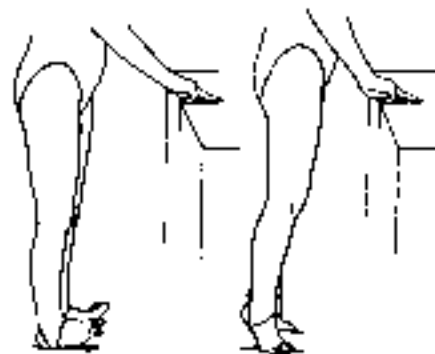
While sitting at the edge of bed or chair, scoot buttocks to the edge of the sitting surface. Slide feet back to place underneath your buttocks. Lean trunk forward while bending at your hips (not back). Push with at least one or both hands on the sitting surface while pushing with your legs to attain standing.

To sit down, back up to the sitting surface until you feel the bed or chair against legs. Sit hips back towards the sitting surface while reaching with one or both hands. One hand may remain on AD (SPC, FWW, etc) while sitting down. Slowly lower self down onto sitting surface until you feel your buttocks securely on bed or chair.



### 7. Heel raises and toe raises:

Stand erect without leaning forward. Your hand may touch something for balance only. Tighten abdominals and buttocks. Rise on balls of feet with knees straight. Return to starting position. Now raise toes up toward ceiling without moving trunk.

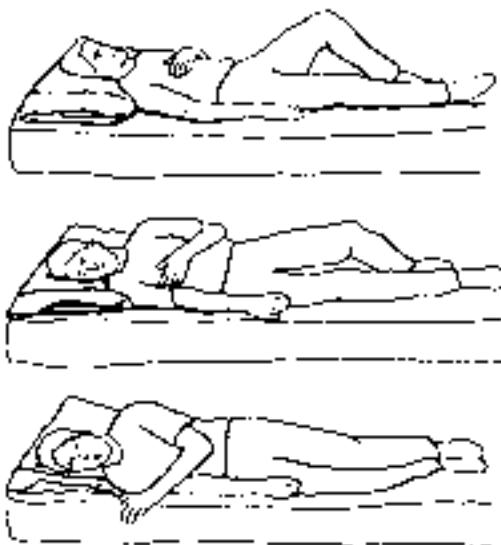


## Physical Therapy Activities

The following techniques will enable you to move safely, and get in and out of bed while protecting your neck and back.

### A. Rolling side to side

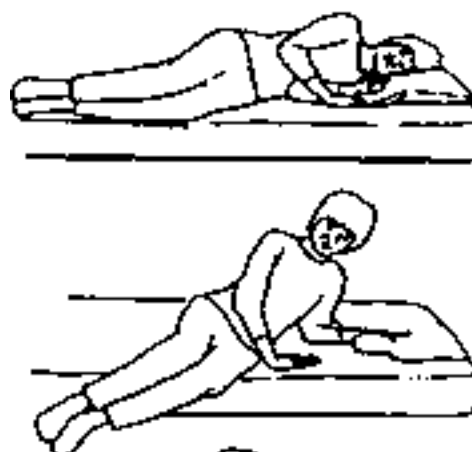
Lying on your back, begin by bracing your abdominals. Bend both your knees up, keeping feet on the bed. Initiate the roll to one side, keeping shoulders, hips and knees in line, to avoid twisting in the low back and keeping head and shoulders in line to avoid movement in the neck.



### B. Getting in and out of bed

To sit at the side of the bed, log roll to your side as above, brace your abdominals, lower your legs off the bed at the same time as you push with elbow underneath you and other hand in front of body to attain upright position. Maintain your shoulders, hips and knees in alignment. Maintain your head and shoulders in alignment.

To return to bed: reverse the above.



### C. Sit to side lying

Place hand that is closest to the head of bed towards corner of bed. Lower self down onto elbow then shoulder while bringing legs up to lie self directly onto side. Now log roll self so back is completely flat on bed. Remember to keep shoulders, knees and hips moving together to maintain neutral (straight) spine.



#### D. To stand

Scoot to edge of the chair. Place one foot forward and the other foot back. Your front leg is the weight bearing leg and the back leg is the propelling leg. Hinge forward from hips so that your weight shifts onto your front foot and your nose moves over your knees. Stand up by pushing feet into the floor. One or both hands on chair to push to stand or sit back down to maintain contact with sit to stand transition.



#### E. To sit

Shift weight back, hinge at hips and sit gently on edge of the chair, then scoot back.

#### F. Positioning in bed

Lying down decreases the pressure on your spine but it is important to maintain proper alignment when you are either on your back or on your side. No lying on your stomach. Choose a firm, supportive surface to lie on and soft pillows for support.

Lying on your back: Place a pillow under your neck and head for support, avoiding excessive forward head motion. Place a pillow under your knees and thighs.



Lying on your side: Place a pillow under your neck and head to support it in midline, keep head, shoulders and hips in alignment. Place a pillow between your knees with the knees slightly bent. A pillow held in front of your chest to support your arm may prevent your shoulder rolling forward and improve your comfort.



#### G. Walking program

After your surgery, your therapist will teach you to walk safely and properly. The best exercise for you after surgery is walking. It helps avoid blood clots and improve your endurance. You will be instructed on stair training as appropriate.

It is important to continue your walking program after your discharge from the hospital. It is best to take several short walks rather than one long fatiguing walk. Try to walk on level surfaces and at a moderate pace. It is recommended to walk with good closed shoes (e.g., tennis shoes).

## Guidelines For Good Body Mechanics: Lumbar Spine

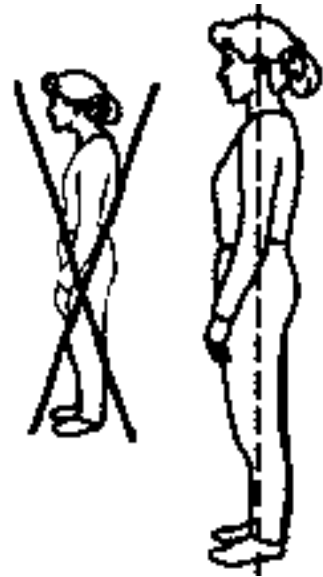
- Avoid bending the trunk by keeping the back straight, hinge at the hips, and squat at the knees.
- Avoid twisting by keeping shoulders, hips and knees facing the same direction.
- Avoid reaching by moving close to the object and use a step stool to keep objects at eye level.
- Avoid reaching overhead, ask for assistance.
- Avoid prolonged positioning by changing position frequently before fatigue or pain sets in.
- Avoid strain in pushing or pulling activities by keeping elbows held close to the side of the body, shifting weight forward or backward, and using your body weight to push rather than pushing with the trunk and arms.
- Avoid or modify tasks which commonly involve a combination of bending, twisting, reaching, pushing, and pulling. These include tasks such as vacuuming, laundry and food preparations.
- Avoid slouching and maintain the normal three curves of your spine (cervical, thoracic, and lumbar) by keeping your head and shoulders over your hips and knees. This is true for sitting and standing positions.
- When lying down on your back, use pillows under the knees and under the head and neck. Avoid pillows under the shoulders. When lying on your side, use pillows between knees and under your neck to maintain a midline posture.
- Avoid lifting any object weighing over 5 pounds. Such objects include groceries, trash, small pets, small children, laundry, household furniture, vacuum cleaner, etc.
- Do not sit for long periods of time. Physician will advise you further on first follow-up appointment.

## Good posture is important

Avoid slouching and forward head thrust; maintain curve in low back and align ears over shoulders, hip, knees over ankles.

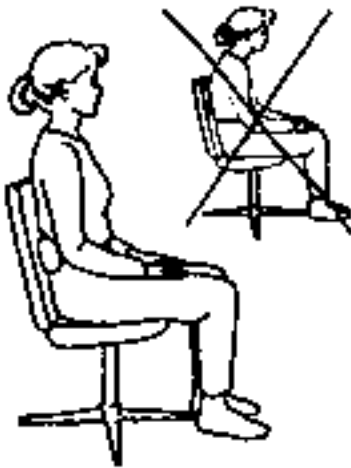
## Keep spine in neutral position

In this position your body is maintaining its three natural curves (cervical, thoracic, lumbar). A vertical line through your body should go through your ear, shoulder, pelvis and ankle. You should attempt to maintain your “stable spine” with all activities. This is done by bracing your stomach and back muscles with initiating all movements and activities.



## Sit upright, head facing forward

Try using a rolled up towel to support your lower back. Keep shoulders relaxed, avoid rounded back. Keep hips level with knees. Avoid crossing legs for long periods.



Sitting postures are used for resting, conversation and other activities.

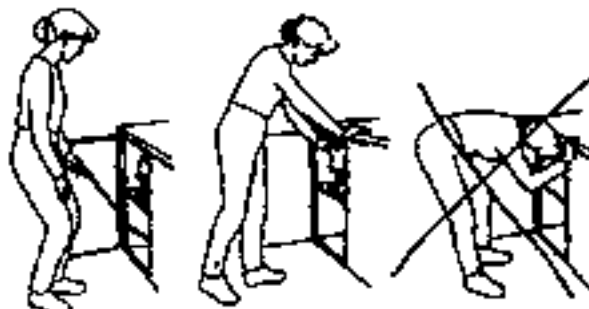


Sitting: Hips should not be below knees. Recliner supported back with legs elevated.

## Activities of Daily Living

### Reaching for household items

If you are unable to bend your knees or squat, use a Lazy Susan to keep items within easy reach. Store only light unbreakable items on the lowest shelves and use a reacher to pick items up. Keep commonly used items on easy-to-reach shelves.



Bend at hips and knees, not at the back. Keep feet shoulder width apart. Sit down onto heels. Keep entire back and neck straight. Maintain spine in neutral position.



### Car transfers

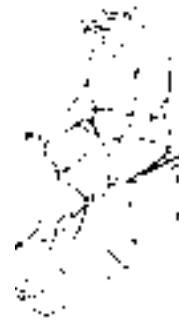
Lower onto the seat, scoot back then bring one leg in at a time. Reverse to get out. Pivot on bottom to turn to get in/out of the car. DO NOT grab the door to get in/out of car.



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### Grooming - applying lotion

- Use long-handled lotion applicator or soft rubber spatula for hard to reach area such as legs or back.
- DO NOT TWIST, BEND OR EXTEND TRUNK.



### Grooming - shaving legs

- Sit on a shower chair and cross your legs to reach.
- Or, lie on supportive surface, large towel over area. Bring leg toward chest, keeping other leg in position as shown. Do not arch back.



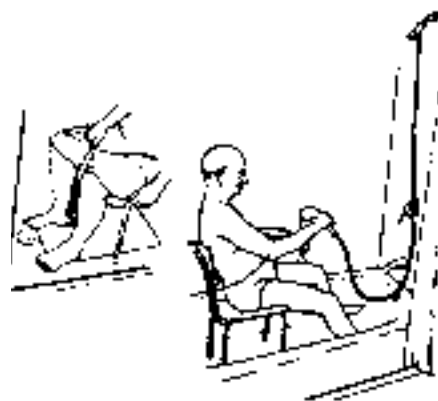
### Grooming - brushing teeth/shaving

- Place one foot on ledge and knee on counter. Bend other knee slightly to keep back straight. Brace self with opposite arm while grooming self with other hand.



### Bathing - legs and feet

- Use a long-handled sponge or brush for soaping, rinse off with hand-held shower.
- Use a reacher with a towel to dry feet and lower legs.
- Make sure that tub or shower has a non-skid floor mat (e.g., Rubbermaid floor mat).
- Or sit on a shower chair and cross your legs to reach.





## Bathing – legs and feet (special precautions)

### For lumbar spine patients

- Leave back brace on until seated on the tub/shower chair.
- Remove back brace and proceed with shower. DO NOT TWIST, FLEX OR EXTEND BACK.



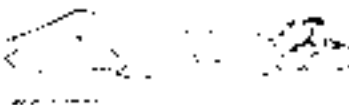
## Sidelying in bed

- To maintain positioning in midline, place pillows between knees and under head.



## Sleeping on back

- Place pillow under knees. A pillow with cervical support.



## Dressing – lower body

- Cross leg over opposite leg to bring foot on to lap to start clothing over foot. May use dressing aids to assist in pulling up. Keep back in neutral position-avoid arching back or bending



## Home/Work Management – reaching down

- To adhere to your spine precautions, bend at your hips and knees. Use a Lazy Susan to keep items within easy reach.
- Use a reacher to pick up light unbreakable items from low shelves.



## Housework – bed

- Use light bedding.
- Place one knee up on bed to reach when making the bed.
- Use extra-depth fitted sheets and squat down when tucking in corners.
- Eliminate extra work by not tucking in top sheets or comforters.



# Discharge Home

## Planning Your Discharge from the Hospital

A Social Services Representative/Discharge Planner will visit you on your first post-operative day and as necessary during your hospital stay to discuss your needs after leaving the hospital. The social services representative will also obtain authorization from your insurance company for the items that you will need at home. It is important to anticipate what your needs will be and discuss them with your physician since he/she will have to prescribe all items for your care at home. These needs **may** include:

- A list of agencies that provide home maker services
- A walker or other assistive device
- A high rise toilet seat
- A home health agency to provide physical therapy or nursing care if order by physician

## Leaving the Hospital

Anticipate discharge by 11:00 a.m. if physical therapy has been completed. Patients are released upon physician order and after completion of nursing discharge education. If possible, plan ahead and arrange transportation home before your admission.

Once your physician has released you from the hospital, you may begin preparing for discharge.

- If not already planned, arrange for transportation home
- Account for all personal belongings
- Notify your nurse when you are ready to leave
- Your nurse will review your discharge instructions
- The social services representative should have equipment and home care arranged prior to discharge
- Your nurse will call for a transport person to assist you to your car

## After Leaving the Hospital

The following are general guidelines. They are helpful suggestions to make your recovery safe and comfortable.

### Activity at home

Your level of activity at home will vary according to your individual abilities and by the type of procedure performed. Before you go home, your physician will instruct you on your specific activities and restrictions for the first weeks following surgery. Your nurse will review the instructions with you and your family before you leave the hospital.

Maintaining proper body mechanics and good posture can help minimize stress on your spine. Here are some tips for keeping your spine in good working order:

- The sooner you become active, the sooner you'll get back to normal. But you also need to protect your spine so it can heal. Plan frequent rest periods throughout the day. Remember, do not overdo your activities.
- Lifting, twisting, bending, stooping, pushing and pulling motions should be avoided to prevent pain and further injury to your spine.
- Think ahead before you act – consider movements and body mechanics involved.

### ***For lumbar spine patients only:***

- Sitting for long periods puts more pressure on your spine than does lying or standing. When you sit, you should use a firm, upright chair.
- Avoid lying on your stomach. Lie on your back or your side.
- Wearing a corset/brace when out of bed will give added support to your spine. Specific instructions will be discussed with you by your physician or physical therapist.
- Walking is the best exercise after spine surgery. The amount of time you spend walking should be gradually, but steadily increased each day, as tolerated.

### ***For cervical patients:***

- Limit activities which require overhead reaching - you may perform normal hygiene activities but should not lift objects over 5 pounds.
- Neck movement should be avoided to prevent pain and further injury to your spine.

### Medication

You may take oral pain medication as needed and as prescribed by your physician. If you have any unusual symptoms such as nausea or upset stomach from the medication, promptly contact your physician's office. Pain medication taken with food or milk may help prevent an upset stomach. **DO NOT CONSUME ANY ALCOHOL WHEN TAKING PAIN MEDICATION.** It is recommended that you use a stool softener or a bulk laxative on a regular basis while you are inactive and taking pain medication. Pain medications and restricted activities may contribute to constipation. You may resume taking other medications that you were taking prior to surgery when directed by your prescribing physician.

## Diet

You may resume your normal diet. A well-balanced diet will promote healing, especially a diet high in iron, protein and vitamin C. Once again, pain medications and restricted activity may cause constipation so you should drink plenty of fluids and eat foods high in fiber content such as fruits and vegetables.

## Incisional care and hygiene

Do not shower until you obtain permission from your surgeon. If you are allowed to shower and you still have a dressing on your incision, have someone cover the dressing with plastic wrap and securely tape it around all edges. If the dressing gets wet, remove it, allow the skin to air dry and then apply a new dressing.

A light bandage dressing may be worn over your incision(s). Keep the area dry and avoid using creams or ointments. Ask a family member to check your incision for signs of redness, swelling, drainage, increased tenderness or bleeding.

The incision was closed with either staples or sutures. They will be removed on your first return visit to your physician's office. Once they are removed, tape-like, steri-strips may be placed over the incision and you are not required to cover the site with a dressing. The steri-strips should not be removed; they will fall off by themselves. After showering, gently pat the area dry with a towel not used on your body.

## Sexual activity

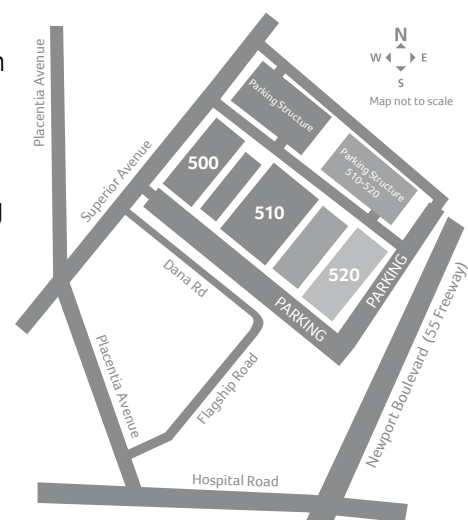
If you have questions or concerns about when to resume sexual activities, please ask your physician.

## Follow-up Rehabilitation

Your physician may also recommend out-patient physical therapy after your initial post-operative visit. Pending your insurance coverage, Hoag Hospital Outpatient Physical Therapy is an option.

## Hoag Hospital Outpatient Physical Therapy

Located in the Hoag Health Center (Newport Beach), Hoag Outpatient Rehabilitation is a state of the art facility opened in August of 2009. The facility hosts a wide range of healthcare services including Outpatient Physical Therapy. Our patient care includes one-on-one sessions with licensed Physical Therapists and Physical Therapy Assistants trained in working with all kinds of orthopedic and neurologic issues. We look to combine evidence based practice with a progressive outlook to provide the most appropriate and comprehensive evaluation and treatment. We accept most insurance including Medicare, HMO/PPO, and Worker's Compensation. To schedule an appointment call 949/764-5645.



# Home Safety Tips

## Flooring

- Remove rugs that can be easily tripped on, especially at top and bottom of stairways.
- Make sure rugs have non-skid backings.
- Make sure rugs and carpets are free of curled edges, worn spots and rips.
- Secure electrical cords out of the way; consider using a cordless phone.
- Eliminate uneven surfaces and obstacles from pathways both outside and inside the home.
- Have mats at doorways for people to dry their feet on to prevent slipping.

## Bathroom

- Make sure grab bars or safety rails are securely anchored over the tub, in the shower and near the toilet.
- Tubs and showers must have non-skid surfaces or safety mats inside and outside. Be cautious of wet floors.
- Use a non-skid rug on the bathroom floor.
- Use of a raised toilet seat or commode frame may be necessary.
- Keep toiletries in an easy to reach receptacle.

## Kitchen

- Prepare simple meals using stovetop or counter-level appliances to avoid bending. Make food ahead of time and store in small containers for heating later.
- Move frequently used items to shelves and counters that are easy to reach. This can minimize unnecessary and unsafe reaching.

## Lighting

- Maintain adequate lighting in all areas, eliminate shadowy areas.
- Use night-lights in bathrooms or in hallways.
- Check to make sure light switches are within easy reach and at proper height.

## Furniture

- Sit in chairs with arm rests to help you get in and out of the chair.
- Place firm cushion or pillow on seat of chair or couch.
- Use a sturdy step stool to reach items in high cupboards or closet shelves.
- If you are not confident using a step stool – DO NOT use them, get help.

## Stairs

- Make sure handrails are securely fastened.
- If you have a large flight of stairs separated by a landing, place a chair with arm rests there to allow you to rest one half the way up.

## Footwear

- Select footwear that stays securely on feet, with soles, which are not slippery.

## Assistive devices

- Make sure the equipment is in proper working condition.
- Make sure the rubber tips of the crutches, canes and walkers are in good condition.
- Do not try to carry anything in your hands while you are using a walker. Consider the use of a walker bag.

## Energy conservation tips

- Store frequently used items at waist level or within arm's reach.
- Store commonly used items on upper shelves of refrigerator.
- Use a Lazy Susan, or adaptive equipment (reachers) for easier reach.
- Allow yourself extra time to get ready.
- Take several rest breaks – sit when necessary.

## Personal precautions

- Be alert for unexpected hazards like out of place furniture, pets, children and toys.
- Avoid rushing to answer the phone or doorbell.
- When carrying bulky objects, make sure your vision is not obstructed.
- Do not carry items that are too heavy; check the weight of the item first.
- Do not turn or twist your back to reach or lift object. It is much easier to move closer or turn your whole body and feet toward a wanted object, rather than risk losing your balance.
- Take time to regain your balance when you change positions, i.e., going from lying down to sitting and sitting to standing.
- Keep your eyeglass prescription up to date.
- If you live alone, have daily contact with family, friends or neighbors.
- Provide a place for your pets to be kept while you are walking around the house.

## When to Call Your Physician

- Temperature of 101° (Fahrenheit) or more
- Redness, swelling, drainage or an opening in your incision
- Change in sensation in your arms/legs
- Increased arm/leg or back pain
- Calf tenderness
- For cervical spine patients – hoarseness or problems with swallowing
- Changes in bowel or bladder function
- Chest pain or shortness of breath, **call 911**
- Rapid heart rate with feeling of dizziness
- If you have a significant problem and cannot reach your physician, have someone take you to the Hoag Hospital Emergency Care Unit

## Follow-up appointment

- Call your physician's office for a return appointment
- Do not hesitate to call your physician if any problems or questions arise before your appointment

## Patient Discharge Checklist

- I have my prescriptions.
- I understand what my medications are and how to use them safely.
- I understand when I should notify my doctor.
- I know when to see the doctor for a follow-up appointment.
- I know when I can shower.
- I know the arrangements for my home equipment and physical therapy.
- I know how to care for my incision and dressing.
- I know my home exercises and activities.
- I know my spine precautions.

## Glossary of Terms

**Disc** – Soft cushions located between each vertebrae. The disc acts as a shock absorber for the vertebrae. Each disc contains a jelly-like center called the nucleus and an outer lining called the annulus.

**Annulus** – Tough outer lining of the vertebral disc. The annulus contains nerve fibers that can cause pain when injured or irritated.

**Nucleus** – Fluid (jelly-like) center of the vertebral disc.

**Facet** – A joint located between the vertebrae.

**Foramen** – An opening between vertebrae. The spinal nerves exit through the foramina and branch out to other parts of your body.

**Fusion** – Stabilization of two or more vertebrae to correct instability, fusion can be performed with bone grafts and metal components.

**Lamina** – Part of the vertebrae that covers the spinal cord and nerves in the back of your spine.

**Herniated disc** – (Also referred to as “ruptured disc” or “slipped disc.”) As a disc bulges, the nucleus moves closer to the edge of the annulus. Sudden movement or injury can rupture the annulus causing the nucleus to squeeze out, irritating a nerve and causing pain.

**Decompression** – A surgical procedure which relieves pressure on the spinal cord or nerve roots. The pressure may result from fracture fragments, disc fragments, tumors, or infections.

**Discectomy** – Removal of all or a portion of the intervertebral disc.

**Laminectomy** – Removal of the lamina. This procedure allows the surgeon to approach the spinal cord and nerves for removal of tumors and herniated discs.

**Laminotomy** – Formation of a hole in the lamina to allow for removal of a disc or tumor.

**Scoliosis** – Abnormal lateral curvature of the vertebral column, depending on etiology, there may be one curve or a primary, secondary compensatory curve.

**Spinal stenosis** – Narrowing of the vertebral canal, nerve root canals or intervertebral foramina, causing irritation of the nearby nerves, congenital or due to spinal degeneration.

*The staff of Hoag Hospital is pleased to have assisted you through your hospital stay.*

*We hope, with the use of this patient guide, we have helped you achieve a speedy recovery.*

*Take care of your spine! Remember to continue using proper body mechanics and good posture at all times.*



