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Section One:

Before Surgery

Welcome!

We are pleased you have chosen Orange Coast Medical Center's Spine Health Center to have spine surgery.

The goal of cervical spine surgery is to:

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

Some patients having lumbar spine surgery may be able to walk or even go home the day of surgery. Generally, patients can return to driving in one to two weeks; to sedentary jobs and activities in three to four weeks; and to vigorous physical activities in six to 12 weeks, once cleared by a surgeon. Patients undergoing more complicated operations, such as multi-level cervical spinal fusion may require three to six months to return to full activities.

Using the Guidebook

The Guidebook will assist you with:

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

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

Spine Health Center Overview

Program features include:

- Nurses and therapists trained to work with spine surgery patients
- Private rooms
- Emphasis on individual care
- Family and friends as "coaches"
- Spine Care/Program Coordinator who facilitates discharge planning
- Patient Guidebook

Your Spine Care Coordinator

The Spine Care Coordinator is available before your surgery, as well as post-discharge to answer questions about your surgery or the recovery process.

The Spine Care Coordinator will:

- Assess your needs at home and caregiver availability
- Coordinate your discharge plan to home or a sub-acute facility
- Act as your liaison throughout the course of treatment
- Answer questions and coordinate your hospital care with Spine Health Center team members
- Conduct a pre-operative class for patients undergoing cervical spine surgery

This class is ideally suited for patients who are undergoing anterior/posterior cervical fusion as these surgeries generally require a longer hospital stay. The Clinical Spine Director can be reached at (714) 378-7722 for any additional questions.

Medication List

Please fill out the Medication List with the requested information.

Name:		Primary Care Doctor:	
Medication Name/Dosage	**Instructions**	**Reason for Therapy**	**Duration**
What is the name of your medication? What is the dosage?	When and how do you take this medication?	Why are you taking this medication?	How long have you been taking this medication?

Get Started - Four to Six Weeks Before Surgery

Contact Your Insurance Company

Before surgery, you should contact your insurance company to find out if pre-authorization, pre-certification, a second opinion or a referral form is required. Failure to clarify these questions may result in a reduction of benefits or a delay of surgery. This is especially important if your spine problem is due to an injury at work.

If you are a member of a health maintenance organization (HMO), you will need to call your HMO once your procedure has been scheduled to arrange for pre-admission lab studies that must be completed.

Billing for Service

After your procedure, you will receive separate bills from the anesthesiologist, hospital and if applicable, surgical assistant, radiology and pathology departments. Please contact your insurance provider if you have any questions about coverage.

Pre-register

After your surgery has been scheduled, our pre-admission staff nurse and registration representative will call you to gather information. You will need to have the following information ready when you are contacted:

- Patient’s full legal name, address (including county) and phone number
- Religion
- Marital status
- Social Security number
- Name of insurance holder; his/her address and phone number; and his/her work address and work phone number
- Name of insurance company, mailing address, policy and group number
- Patient’s employer, address, phone number and occupation
- Name, address and phone number of nearest relative
- Name, address and phone number of someone to notify in case of emergency — this can be the same as the nearest relative
- Name of your Primary Care Physician (PCP) if applicable
- Whether or not you accept blood

Financial Responsibility

As a courtesy, we will be contacting your insurance company to verify insurance coverage and eligibility. Our financial counselor will call to notify you of any out-of-pocket expenses you are responsible for prior to services. Out-of-pocket expenses may consist of an annual deductible, co-insurance, and/or co-payment.

Medical Clearance

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

Laboratory Tests

You should also receive a laboratory-testing letter from your surgeon. Follow the instructions in this letter. The primary care doctor or physician's assistant may order additional testing.

Medications That Increase Bleeding

Your doctor should tell you when to stop any medications before surgery, such as anti-inflammatory medications like aspirin, Motrin®, Naproxen, Vitamin E, etc. These medications may increase bleeding. If you are taking a blood thinner, you will need instructions for continuing or stopping the medication.

Herbal Medicine

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

Examples of herbal medications include echinacea, ginkgo, ginseng, ginger, licorice, garlic, valerian, St. John's wort, ephedra, goldenseal, feverfew, saw palmetto and kava-kava.

Health Care Decisions

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

- **Living Wills** explain your wishes for healthcare if you have a terminal condition, irreversible coma and are unable to communicate.
- **Appointment of a Healthcare Agent** (sometimes called a Medical Power of Attorney) lets you name a person (your agent) to make medical decisions if you become unable to do so.
- **Healthcare Instructions** are your choices regarding use of life-sustaining equipment, hydration, nutrition and pain medications.
  If you have an Advance Medical Directive, bring copies of the documents with you to the hospital.

Stop Smoking[1]

If you smoke, stop using tobacco products. The tar, nicotine and carbon monoxide found in tobacco products have serious adverse effects on blood vessels and impair the healing of wounds and bone grafts. Continued tobacco use damages the other discs in your spine, leading to disease at other levels. And, smokers typically experience a greater degree of pain than non-smokers.

Smoking:

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

If you quit smoking before surgery, you will increase your ability to heal. If you need help quitting, ask about hospital resources.

When you are ready:

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

Smoking can impair oxygen circulation to your healing spine.

Oxygen circulation is vital to the healing process.

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

Pre-operative Exercises

You should always consult with your physician or physical therapist before embarking on an exercise program. All of these exercises should be pain-free. If any exercise causes pain, discontinue the exercise and consult with your physician or physical therapist before continuing the program.

Start Pre-operative Exercises

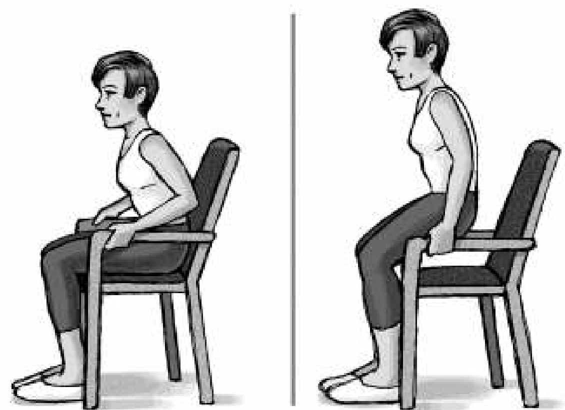
Exercise is important in the rehabilitation process following spine surgery, but it is imperative that you participate in a pre-operative exercise program as well. The exercises below help to strengthen and condition your muscles in preparation for surgery and the post-rehabilitation phase. To enhance your recovery from surgery, try to incorporate these exercises and aerobic exercises such as walking, water aerobics and recumbent bicycle into your daily routine. Past patients have mentioned how helpful it was to take time to strengthen muscles in their arms and legs prior to surgery.

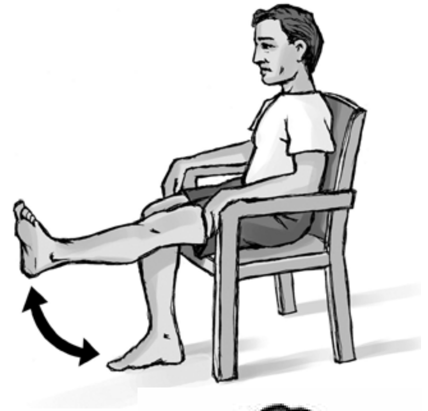
1. **Chair Push-up**
2. **Long Arc Quad**
3. **Shoulder Circles**
4. **Scapular Retraction**
5. **Abdominal Sets (Tummy Tucks)**
6. **Quad Sets**

1. Chair Push-up

Sit in chair. Use arms (not legs) to push body up from chair; try to hold for 5-10 seconds. Keep elbows slightly bent and feet on floor. Return to chair slowly.

Perform 10 chair push-ups, 2 x/ day

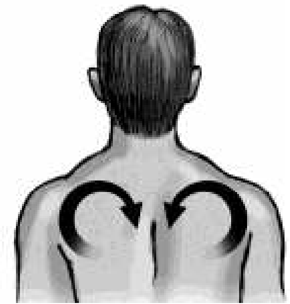




2. **Long Arc Quad**

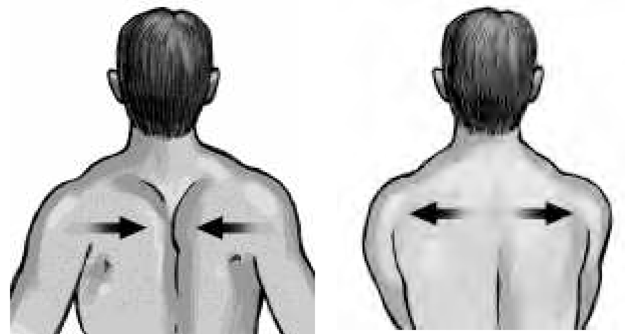
Sit in chair with knees bent to 90 degrees.
Straighten leg. Hold 5 – 10 seconds. Return to start position and repeat.

Perform 3 sets of 10 long arc quads every other day. Rest for 1 minute between sets.



3. **Shoulder Circles**

Raise and lower shoulders using circular motion.
Perform 10 forward and 10 backward shoulder circles, 2x/day.



4. **Scapular Retraction**

Pinch shoulder blades together. Do not shrug shoulders. Hold 5 – 10 seconds.
Perform 20 scapular retractions, 2x/ day.

5. **Abdominal Sets (Tummy Tucks)**

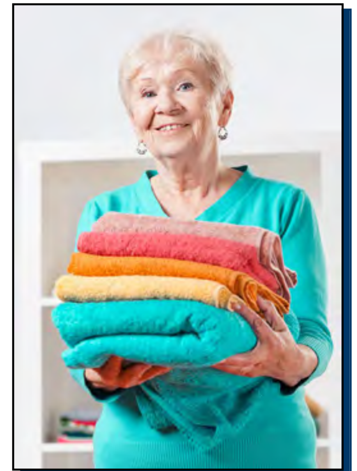
Lie flat on back with knees bent. Tighten stomach (abdominal) muscles by drawing belly button toward spine. Feel abdominal muscles tighten across front. Hold position and continue to breathe comfortably for 10-15 seconds. If you can't breathe comfortably, then you are tightening the muscles too much.
Perform 20 tummy tucks, 2x/day.

NOTE: This exercise is the beginning of a lifelong challenge of being able to keep abdominal muscles tightened all day long. Strengthened muscles provide continuous support for spine.

6. **Quad Sets**

Lie flat on back with one leg straight. Tighten quadriceps muscles (muscles on front of thigh), pressing back of knee into the bed and hold as indicated for 10-15 seconds. Do not hold breath. Repeat with other leg.
Perform 20 quad sets, 2x/day.

Prepare Your Home



- De-clutter your home. Put away area rugs that may be a tripping hazard.
- Shop ahead! Have frozen dinners available to pop into the microwave and paper plates to limit washing. Have plenty of liquids available. Pain medications can give you dry mouth.
- Make arrangements for yard work to be done while you are recovering.
- Arrange for neighbors/family to collect mail and newspapers.
- Change your bed with fresh linens.
- Place nightlights in bedrooms, hallways and bathrooms.
- Temporarily place essential and frequently used items at counter level in the kitchen or bathroom.
- Pay current bills so you do not have to worry later.
- Line up support, especially if you live alone. Arrange for friends to call on certain days or stop by to make sure you don't need any assistance.
- A chair that offers you support and comfort is best. A chair with an armrest is recommended.

Pets

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

Breathing Exercises

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

Deep Breathing

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

Coughing

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

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

Surgery Timeline

Four Weeks Before Surgery

Start Vitamins with Iron

You may be instructed to take multivitamins, as well as iron. Iron helps build your blood count which may help prevent the need for a blood transfusion.

Ten Days Before Surgery

Pre-operative Visit to Surgeon

Your physician may ask you to come in for a visit before surgery. Make an appointment with your surgeon seven to 10 days before surgery. This is a final check-up and time to ask any questions. Some patients with acute disc herniation may have a shorter time between the visit and surgery. You should schedule your 10-day and six-week post-operative visits at this time.

Three Days Before Surgery

Chlorhexidine Shower

You might be provided Chlorhexidine (Hibiclens) or special cleansing soap; follow the instructions. If you have not received this soap, take a good scrubbing shower the evening before surgery with regular bar soap. Pay special attention to skin folds.

Day Before Surgery

Determine Your Arrival Time at the Hospital

The pre-op nurse will call you the day before surgery with the details on where to check-in and what time to come to the hospital.

Night Before Surgery
Do Not Eat or Drink
Do not eat or drink anything, EVEN WATER, after midnight unless otherwise instructed to do so. If you have been instructed to take medication the morning of surgery, do so with a small sip of water.

Day of Surgery
Come to the hospital two hours before surgery to give staff time to start IVs, prep and answer any questions. It is important you arrive on time as occasionally the surgical time is moved up.

Items to Take to the Hospital

- Patient Guidebook
- Personal hygiene items (toothbrush, deodorant, razor, etc.)
- Loose fitting clothes (shorts, tops)
- Slippers with non-slip soles, flat shoes or tennis shoes
- Loose-fitting warm-up suit for the ride home
- Battery-operated items (NO electrical items)
- Any braces for your back or for walking
- Insurance card and co-payment (if applicable)
- Cane or walker, if you already have one

Special Instructions

- You will be instructed by your surgeon or pre-screening nurse which of your daily medications to take or omit the morning of surgery.
- Leave jewelry, valuables and large amounts of money at home.
- Remove makeup before procedure.
- You can leave on nail polish.

Frequently Asked Questions (FAQs)

Questions about Cervical Laminectomy

What is wrong with my neck?
You might have a “pinched nerve.” This may be produced by a ruptured disc or by bone spurs. Discs are rubbery shock absorbers between the vertebrae, and are close to the nerves which travel down to the arms. If the disc is damaged, part of it may bulge or push into the spinal canal, putting pressure on the nerve and causing arm pain, numbness, or weakness. Bone spurs, usually the result of arthritis, can also put pressure on nerves. Occasionally, pressure from bone spurs or a ruptured disc may affect the spinal cord and cause tingling or pain.

What is required to fix the problem?
In most cases, a small (three to four inch) incision is made in the front part of the neck. Muscles supporting the spine are pushed aside temporarily, and a small “window” is made, the spinal cord is protected and the bone spurs or ruptured disc is removed. Your surgeon will explain what will be done for your procedure.

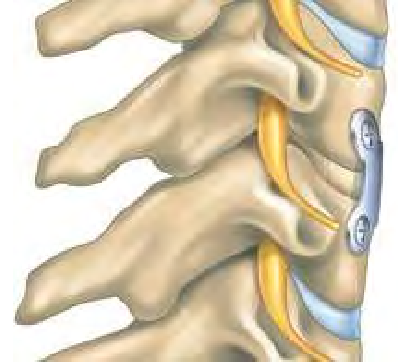
Who is a candidate for cervical laminectomy and when is it necessary?
In almost all cases, the major reason for spine surgery is pain which is intolerable to the patient. Often non-surgical measures can control the pain. However, if the pain persists at an unacceptable level, if you cannot function because of pain, or if weakness or other neurologic problems develop, then surgery may be necessary to relieve the problem.

Questions About Cervical Fusion

What is wrong with my neck?
You might have one or more damaged discs in your neck. Discs are rubbery shock absorbers between the vertebrae, and are close to the nerves which travel out to the arms. If the disc is damaged, part of it may bulge or push into the spinal canal, putting pressure on the nerves and causing arm pain, numbness, weakness, and/or pain in the neck or shoulder area. Bone spurs, usually the result of arthritis, can also put pressure on nerves or the spinal cord. Loss of the normal “shock absorber” function, or arthritis around the damaged disc, can also produce mechanical pain around the neck or shoulders with neck movement or awkward positions.

What is required to fix the problem?
Generally, the best approach to your problem is to remove the damaged disc and bone spurs from the front of the neck and to perform a fusion between the adjacent vertebral bodies. Certain conditions, however, may require the surgeon to perform the surgery from the back part of the neck.

What is spinal fusion?



A fusion is a bony bridge between at least two other bones, in this case two vertebrae in your spine. The vertebrae are the blocks of bone which make up the bony part of the spine, much like a child's building blocks stacked on top of each other to make a tower. Normally each vertebrae moves within certain limits in relationship to its neighbors. In spinal disease, the movement may become excessive and painful, or the vertebrae may become unstable and misaligned, putting pressure on the spinal nerves. In cases like this, surgeons try to build bony bridges between the vertebrae using pieces of bone, which we call a bone graft. The bone graft may be obtained either from the patient or from a bone bank. Your surgeon will inform you if you will have a bone graft. The bone graft has to heal and fuse to the adjacent bones before the fusion becomes solid. Spine surgeons often use special metal plates and screws to protect the bone graft and stabilize the spine while the fusion heals. Your surgeon will inform you what materials will be used for your procedure.

Section Two:

At the Hospital

Understanding Anesthesia

Anesthesiologists

The Operating Room, Post Anesthesia Care Unit (PACU) and Intensive Care Unit at the hospital are staffed by qualified anesthesia providers. Each practitioner has privileges to practice at Orange Coast Medical Center.

Type of Anesthesia

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

Side Effects

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

Requests for a specific anesthesia provider should be submitted in advance through your surgeon's office.

Understanding Pain

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

Types of Pain

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

Treatment of Pain

Your surgeon and healthcare team will work closely together to manage your pain and provide comfort so you are able to eat, sleep and walk after surgery.

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

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

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

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

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

Pain Scale

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

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

Your Role in Pain Management

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

Hospital Care - What to Expect

Before Surgery

- Your anesthesia provider will review your information to evaluate your general health. This includes your medical history, laboratory test results, allergies and current medications.
- Intravenous (IV) fluids will be started and pre-operative medications may be given.
- You will be fitted with compression stockings.

Before you receive anesthesia, monitoring devices will be attached (blood pressure cuff, EKG and others).

During Surgery

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

After Surgery

- You will be taken to the Post Anesthesia Care Unit (PACU). Pain control is established and vital signs will be monitored.
- You will then be taken to the Surgical Unit.
- Your pain will be assessed and medications provided.
- Only one or two very close family members or friends should visit on surgery day.
- There will be a dressing over your neck incision.
- You might be allowed and encouraged to sit up or even to take a few steps with assistance the day of surgery. You will be encouraged to use your breathing exercises, do foot pumps, and move around in the bed.

Post-operative Day

- Home Health may be ordered by your physician upon discharge.
- Be certain that you clearly understand how much activity you are allowed to perform either by yourself or with assistance only.
- Never try to get out of bed by yourself the first time.

Discharge Options

Going Directly Home

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

Patients are:

- Walking independently
- Eating and drinking well
- Taking oral medication to control discomfort

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

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

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

Going to a Sub-acute Rehab Facility

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

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

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

Frequently Asked Questions (FAQs)

Questions About Cervical Laminectomy

Who performs this surgery?
Both orthopedic surgeons and neurosurgeons are trained in spinal surgery and both specialists may perform this surgery.

How long will I be in the hospital?
Your surgeon will inform you of the anticipated plan for your hospital stay and if you will stay overnight or longer.

Will I need a blood transfusion?
Transfusions are generally not required for this kind of surgery, nor is pre-operative blood donation.

What can I do after surgery?
Once the surgeon allows, you should try to get up and move around as much as your symptoms allow. You may walk as much as you like, depending on the instructions given for fall prevention.

What shouldn't I do following surgery?
For at least six weeks, avoid lifting (no more than 10 pounds), overhead lifting, frequent or repetitive neck movements and vigorous sports until instructed otherwise by your surgeon.

When can I go back to work?
This depends on the kind of work you do, and how long you have to drive to get there. Surgical patients can return to sedentary (desk) jobs that they can reach with a drive of 15 minutes or less whenever they feel comfortable - usually two or three weeks. You should not drive long distances (30 minutes or more) for about one month after surgery. Consult with your surgeon for guidance on resuming work, physical labor or activities following surgery.

What are my chances of being relieved of my pain?
The goal of cervical spine surgery is relief from nerve symptoms or arm pain. Neck and shoulder pain are less predictably relieved by disc surgery. Some patients may experience neck and shoulder aching after surgery, especially those who have a substantial amount of neck and shoulder pain before surgery.[1] Other conditions such as fibromyalgia may also produce continued pain even after successful disc surgery. Discuss surgery options and goals with your surgeon. [1]AANS.org, http://aans.org/en/Patient%20Information/Conditions%20and%20Treatments/Cervical%20Spine.aspxaccessed August 2013

Will my neck be normal after surgery?

Though you may have excellent relief of pain, a disc is never completely normal after it has herniated. However, most people can resume almost all of their normal activities after disc surgery. People who do heavy work generally take longer to recover and may not be able to do everything they could do before their injury. Your surgeon will provide guidance on resuming work or activities following surgery.

Could I be paralyzed?

Your surgeon will provide information about risks and benefits of the planned surgical procedure before you go into the hospital. Neurologic injury with spine surgery is possible, but not likely. The possibility of catastrophic injury such as paralysis, impotence or loss of bowel or bladder control is also unlikely, but not impossible. Injury to a nerve root with isolated numbness and/or weakness in the arm is possible.

Is my entire disc removed?

No, only the ruptured part and any other obviously abnormal disc material is removed. This generally amounts to no more than 10-15 percent of the whole disc.

Could this ever happen to me again?

Unfortunately, yes. As mentioned above, only part of the disc is removed and there is no way of making the remaining disc normal again which means recurrent herniations do occasionally occur. Also, adjacent discs may be abnormal and could rupture in the future.

Should I avoid vigorous physical activity?

No. Exercise is good for you! Consult with your surgeon to determine what exercise plan is best for you.

Questions About Cervical Fusion Surgery

Who performs this surgery?

Both orthopedic surgeons and neurosurgeons are trained to do spinal surgery. It is important that your surgeon specialize in this type of procedure.

How long will I be in the hospital?

Our goal for most patients is to leave in 24 hours; however, anterior/posterior cervical fusion patients may be in the hospital for two to three days.

Will I need a blood transfusion?
Transfusions are generally not needed for cervical spine surgery. A transfusion may be needed in tumor or unusual reconstruction cases.

What can I do after surgery?
Please refer to the Cervical Fusion Discharge Instructions for details. You should try to walk and take care of yourself as much possible. You should try to exercise each day. You may perform other low-impact activities not requiring lifting or neck movement as allowed by your brace. If a brace is not required, you may drive when allowed by your surgeon. Your surgeon will provide guidance on resuming work or activities following surgery.

What shouldn't I do after surgery?
You should not lift heavy objects or lift overhead. You should not perform and twisting, repetitive bending and tilting your head back to look overhead as these movements are stressful to the neck. If you are a smoker, you definitely should not smoke until your fusion is completely solid. Smoking interferes with bone healing.

Will I need to wear a neck brace?
Generally, most patients will wear some type of neck brace after this surgery. The type of brace and length of time you need to wear the brace will be determined by your surgeon.

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

What are the chances of being relieved of the pain?
The goal of surgery is to relieve pain, especially relief from arm pain. Relief of neck pain is also possible, although may be less predictable.

Will my neck be normal after surgery?
No. While most patients have excellent relief of arm pain after surgery, your neck will not be completely normal. While most patients with a one- or two-level fusion will not notice significant loss of motion, the stiffened segment of your spine does put additional stresses on adjacent discs, which may already be abnormal to some extent. These other discs may cause symptoms. Although most patients can resume most of their normal activities after healing, you should take care of your neck.

Could I be paralyzed?

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

What other risks are there?

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

Could I have difficulty swallowing?

Most patients report mild discomfort with swallowing for a few days after surgery. Occasionally, swallowing difficulties may be more significant and last for longer periods of time. Rarely, it may be necessary to place a feeding tube until swallowing returns to normal. If swallowing difficulty persists longer than expected, notify your physician.

Will my voice be affected?

Some patients may be hoarse after anterior cervical spine surgery. Usually this goes away within a few days or weeks. Rarely, the hoarseness may be persistent for a longer period of time or may even be permanent.

Is the entire disk removed?

Yes.

Could this happen to me again?

Unfortunately, yes. Similar conditions which led to the disc damage being treated now may have already started in one or more of the other discs in your neck. Some fusions may not heal normally, which may require additional surgery. The chance of this happening increases if fusion is attempted at more than one level, which is why spine plates are sometimes used for multi-level fusions. The goal for the majority of patients is to find pain relief and return to activities, although some patients may have recurring problems.

Should I avoid physical activity?

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

Section Three:

At Home After Surgery

Caring for Yourself at Home

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

Be Comfortable

- Take pain medicine at least 30 minutes before physical therapy.
- For three months after surgery, do not take over-the-counter, anti-inflammatory medication such as Ibuprofen (Motrin®, Advil®) and Aleve® unless specifically prescribed by your surgeon. If you have prescription anti-inflammatory medication, consult your physician before taking it.
- Use ice for pain control. Applying ice to the wound will decrease discomfort. Do not use ice for more than 20 minutes each hour.
- Your doctor may prescribe a muscle relaxer to help with muscle spasms. Gentle stretching may also ease muscle spasm.
- Muscle spasms can often be reduced by elevating your arms with pillows. Using this positioning technique, along with pain medication, will help you be more comfortable.
- Do not use heat around your incision; this will cause swelling.
- Change position frequently (every 45 minutes – 1 hour) to prevent stiffness.
- Avoid bending, lifting and twisting (B.L.T's).
- Take slow, controlled, deep breaths. Cough deeply and use your incentive spirometer several times each hour. This helps to expand your lungs and prevent pneumonia or respiratory complications.
- Regular and deep breathing can help relax your muscles and body. This will help improve function and mobility.

If you are having trouble sleeping at night, try not to nap during the day.

Body Changes

- Appetite may be poor; desire for solid food will return.
- Drink plenty of fluids.
- You may have difficulty sleeping in the first few days after surgery.
- Energy level will be decreased for the first month.
- Pain medication that contains narcotics promotes constipation. Use stool softeners or laxatives, if necessary. Do not let constipation continue. If softeners or laxatives do not relieve discomfort, contact your primary care doctor or surgeon.

Compression Stockings

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

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

Incision Care

- You may shower (not tub bathe) after 48 hours, cover dressing with Aqua-guard.
- Notify your surgeon if there is increased drainage, redness, pain, odor or heat around the incision.
- If you feel warm or sick, take your temperature. Call your surgeon if temperature exceeds 100.5 degrees. Leave dressing in place until you are seen by your surgeon.

Recognizing and Preventing Potential Complications

Infection

Signs	• Increased swelling and redness at incision site. • Change in color, amount and odor of drainage. • Increased pain around incision. • Fever greater than 100.5 degrees.

Prevention	• Take sponge baths for first two days. • After that, shower as long as wound is covered with Aqua-guard • AVOID tub bathing for at least three weeks after surgery. Keep wound clean and dry as much as possible to avoid potential infection until it fully heals.

Blood Clots

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

Signs	• Swelling in thigh, calf or ankle that does not go down with elevation. • Pain or tenderness in calf.

Prevention	• Perform ankle pumps. • Walk several times a day. • Wear compression stockings. • Elevate your feet/legs.

Pulmonary Embolism

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

Signs	• Sudden chest pain. • Difficult and/or rapid breathing. • Shortness of breath. • Sweating. • Confusion.

Prevention	• Follow guidelines to prevent blood clots.

Discharge Instructions

Your surgeon will discuss discharge instructions with you. Generally, the following guidelines will apply.

Cervical Laminectomy

Immediate Post-op to Discharge From Hospital

- Get out of bed as soon as you are comfortable.
- Walk, as desired.
- Keep the wound clean and dry.
- Wear your brace or collar, as instructed.

Discharge to First Office Visit

- If you were given a brace or rigid collar, wear it when you are out of bed.
- Wear the soft collar when resting.
- Continue to walk. Gradually increase your distance.
- You may shower, but cover the dressing with Aqua-guard. No need to cover if dermabond (medical glue) was used; or if covered with the clear tape (Tegaderm)
- If you are not wearing a brace, you may drive short distances as soon as you are comfortable. Driving is not advisable while wearing the neck brace.
- Take it easy and rest for the next week at home; gradually increase activity, as tolerated.

First Visit (Approximately 10 Days Post-operative) to Six Weeks

- Gradually increase your activities.
- Remain on your feet for longer periods and increase walking distances.
- Return to a sedentary job in two weeks if commute is less than 20 minutes and pain free.
- Bathe in tub and swim, as per physician.
- No bending, twisting, or lifting more than 10 pounds.

Six to 12 Weeks

- You may return to light duty or physical labor if you are pain free.
- You may lift up to 25 pounds, but avoid bending and twisting of neck.
- At your six-week visit, you will be shown exercises to strengthen your neck muscles.

12 to 24 Weeks

- Avoid heavy lifting or repetitive bending and twisting of neck, until advised otherwise.
- Refrain from any pool activity that causes repetitive twisting of head and neck, like swimming. Walking in water can be therapeutic during this time.

Cervical Fusion

Immediate Post-op to Discharge From Hospital
• Get up as desired wearing rigid collar/brace. Use soft collar in bed.

Discharge to First Office Visit
• Be up as much as possible; using hard brace when up and soft collar when in bed. • Shower, but do not tub bathe or swim. • Remove any dressings from surgical sites before showering and replace after shower. • Avoid driving, although you may be passenger. • Avoid strenuous activity. Walk as much as you feel comfortable with.

First Visit (Approximately 10 Days to Six Weeks Post-operative)
• Increase activities using brace/collar as before. • Shower, bathe, and participate in low impact aerobic activity, such as walking, biking, or pool exercises. • Return to work as instructed by physician. • Do not drive if you are still wearing brace. • Avoid lifting anything over 10 pounds.

Six to 12 Weeks
• May be weaned from brace/collar depending upon x-rays. If out of brace, may drive, otherwise continue as before. • No running, contact sports, or lifting weights over 25 pounds. Use soft collar for comfort.

12 to 24 Weeks
• Avoid heavy lifting (over 25 pounds), repetitive bending, and twisting of neck. Continue restrictions until x-rays indicate you are completely healed and physician releases you to full activity. • Refrain from activities that cause repetitive twisting of the head and neck. Walking in the water can be therapeutic during this time. While swimming is an excellent form of exercise, certain strokes may still be prohibited at this time.

Post-operative Goals

Weeks One to Two
• Continue to walk using a walker as needed. Walker typically reduces stress placed on the spine and can help with balance. As pain and discomfort lessen, increase walking distance and wean yourself from walker as you feel comfortable or as physical therapist indicates. • Walk frequently, slowly increasing your distance by 500-1000 ft. as tolerated. • Gradually resume daily activities and household tasks. • Always adhere to spinal precautions (no bending, lifting, twisting) when moving. • Complete 10-20 minutes of home exercises at least twice a day. • Progress to doing exercises three times per day.

Weeks Three to 12
• Walk daily, steadily increasing your distance and endurance. Increasing distance to one to three miles as tolerated. • Wean yourself from the walker as indicated by your surgeon or therapist. • Gradually resume community tasks. Give yourself frequent rest breaks. Do not perform ongoing activity for more than 30 minutes without resting. • Adhere to spinal precautions (no bending, lifting, twisting). • Complete home exercises at least three times a day.

Post-operative Exercises

A post-operative exercise program is an important component of successful spine surgery. The ultimate goal is to restore strength, flexibility and mobility through a progressive and safe exercise program. Consult with your surgeon or physical therapist before starting any exercise program.

- Exercises help to stabilize spine and improve strength and flexibility in arms and legs; thus improving your surgical outcome and mobility.
- Start with low-impact exercises such as recumbent bike or walking on a treadmill. At three weeks, once incision heals and surgeon approves, start water aerobics and swimming (certain strokes). These are good low-impact exercises for your entire body.
- Exercises are best done on a firm surface, such as floor or firm bed. Protect your back. Keep good posture when exercising. Move slowly. Stop if you have excessive pain or discomfort.
- Listen to your body. If you notice increased discomfort or fatigue, recall what you did earlier that day or the day before. Chances are you overdid things and need to scale back until tolerated. Continue to slowly advance as you tolerate the activity.
- When performing an exercise, keep abdominal muscles tight by "pulling your belly button in toward your spine". Breathe continuously when performing exercises. Count aloud to keep from holding breath.

Principles of Exercises

When Standing

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

When Sitting

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

When Lying

1. Use firm mattress.
2. Lie on side with hips and knees slightly bent and with pillow between legs.
3. Lie on back with pillow under head and one under knees to take strain off lower back.
4. Avoid lying on stomach.

When Lifting

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

When Walking

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

Exercises

The models in this guidebook are shown not wearing a neck brace. Your surgeon will instruct you as to if, which type and when you will be required to wear a brace.

Ankle Pumps

Move ankles up and down as far as possible in each direction. To prevent back strain, perform this exercise while lying flat.
Perform 20 ankle pumps, 2 times/day.

Quad Sets

Lie on your back and press the back of one knee into the mat or bed by tightening muscles on the front of the thigh (quadriceps).

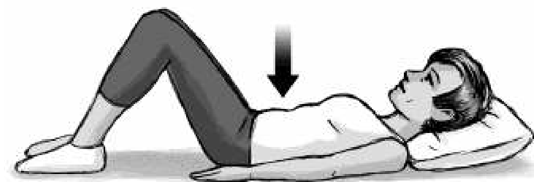
Hold for 10-15 seconds.
Perform 20 quad sets, 2 times/day.

Gluteal Sets (Bottom Squeezes)

While sitting, lying or standing, squeeze bottom together. Do not hold breath.
Hold for 10 – 15 seconds.
Perform 20 gluteal sets, 2 times/day.

Abdominal Sets (Tummy Tucks)

Lie on your back with knees bent. Tighten stomach (abdominal) muscles by drawing belly button toward spine. Feel abdominal muscles tighten. Hold for 10- 15 seconds, continuing to breathe comfortably. If you can't breathe comfortably, then you are trying to tighten muscles too much. Hold for 10 – 15 seconds.
Perform 20 abdominal sets, 2 times/ day.



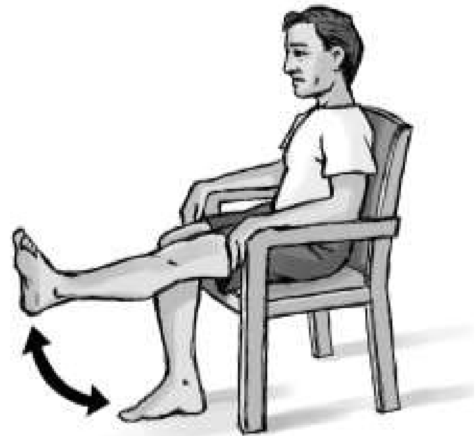
NOTE: This exercise is beginning of a lifelong challenge of being able to keep abdominal muscles tightened. Strengthened muscles provide continuous support for spine.

Hamstring Sets

Lie flat on back. With one leg bent at knee, dig heel into bed and tighten hamstrings (muscle behind thigh). This is an isometric exercise, so there will be no actual movement of leg. Repeat with other leg.
Hold 10 – 15 seconds.
Perform 20 hamstrings sets, 2 times/day.

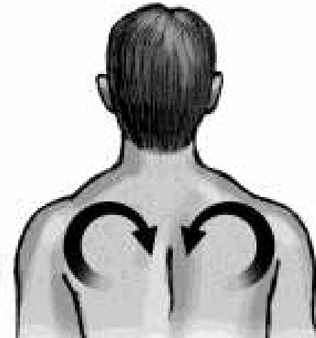
Long Arc Quads (knee extensions)

Sit in a chair with knees bent (place buttocks at back of chair). Slowly extend one leg until knee is straight; hold 10-15 seconds. Return to starting position. Repeat exercise with the other leg.
Perform 2 sets of 10 knee extensions, 2 times/day.



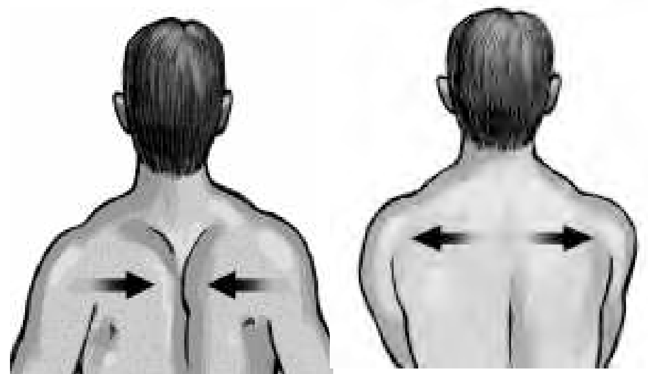
Shoulder Circles

Raise and lower shoulders using circular motion.
Perform 10 forward and 10 backward shoulder circles, 2x/day.



Scapular Retraction

Pinch shoulder blades together. Do not shrug shoulders.
Hold 5 – 10 seconds.
Perform 20 scapular retractions.



Horizontal Shoulder Stretch

Place one arm across your chest with opposite hand on elbow; pull arm across chest. Stretch is felt in back of arm, shoulder, and neck.
Hold 10 – 15 seconds.
Perform 20 shoulder stretches, 2x/day

Exercises – After Six Weeks

Seated Rows

Start with elbows positioned at shoulder level. Pull arms back while squeezing shoulder blades together as if rowing boat.
Hold 10 – 15 seconds.

Perform 20 seated rows, 2x/day.

Active Shoulder Flexion

Standing or sitting alternately raise one arm forward over head with thumb up and elbow straight. Lower arm slowly.
Hold 5 – 10 seconds.

Perform 20 shoulder flexions, 2x/ day.

Note: Before progressing with hand weights, consult physician or therapist.

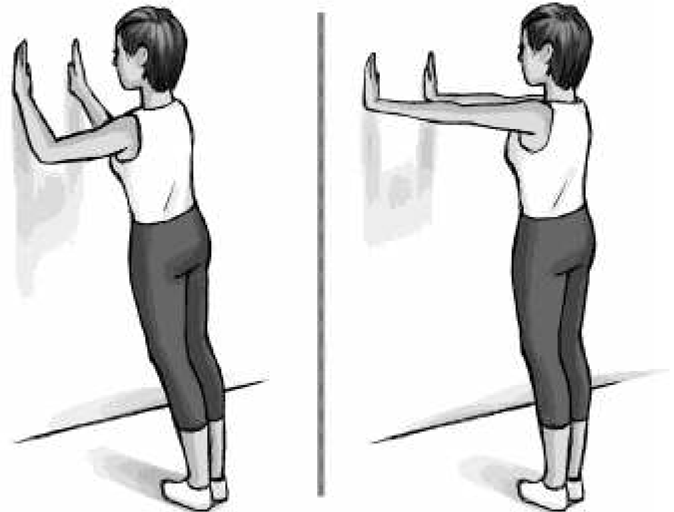
NOTE: Depending on your surgery, you may be limited to 90 degrees of shoulder flexion. In this case, do not lift your arms above shoulder level for any exercise or activity.

Active Shoulder Abduction

Place arm directly to side. Leading with thumb raised, straighten arm overhead. Lower arm slowly. Repeat with other arm.
Perform 20 shoulder abductions, 2x/day.

Note: Before progressing with hand weights, consult physician or therapist.

NOTE: Depending on your surgery, you may be limited to 90 degrees of shoulder flexion. In this case, do not lift your arms above shoulder level for any exercise or activity.



Wall Push-up

With arms shoulder width apart and feet about three feet from wall, gently lean body in toward wall allowing elbows to bend. Then straighten elbows while still leaning into wall. To repeat, bend elbows to starting position.
Perform 20 wall push-ups, 2x/day.

Corner Stretch

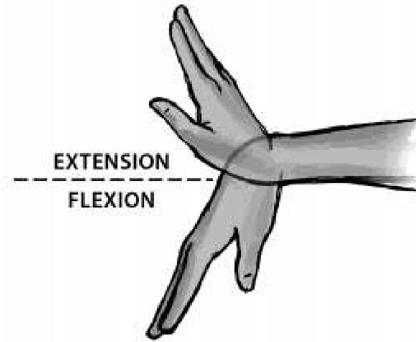
Standing in corner of room with both arms out to side and one leg forward, gently shift weight forward toward corner. Stretch is felt across front of chest.
Hold 10 seconds.

Perform 5 corner stretches, 2x/day.

Wrist Flexion/Extension

Bend your wrist up and then down.

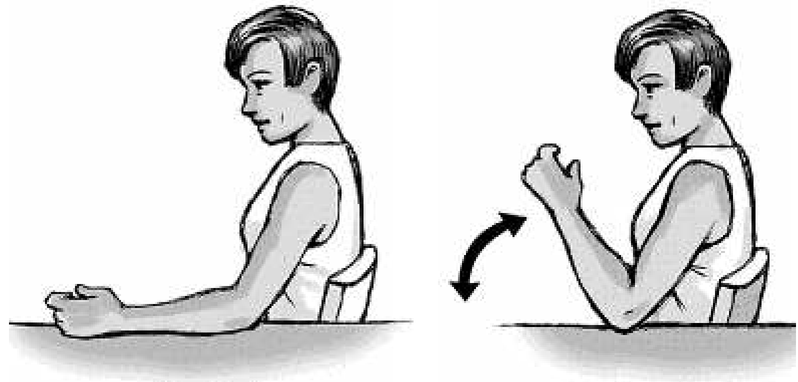
Perform 15 wrist flexion and extensions, 2x/day.



Elbow Flexion/Extension

While seated with elbow supported, bend straighten your elbow (thumbs up). Or lie on your back and place pillow under your arm. Bend and straighten your elbow.

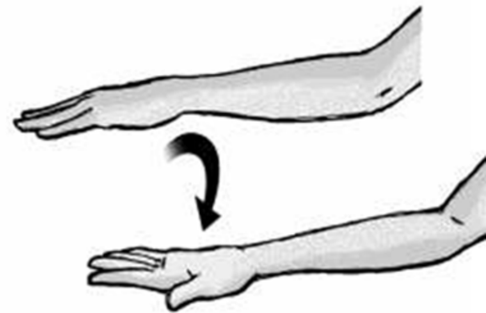
Perform 15 elbow flexion and extensions, 2x/day.



Elbow Supination and Pronation

Rest your arm on a table with a slight bend in your arm. Then rotate your
hand to face palm up. Return your palm to face down.

Perform 15 elbow supination and pronations, 2x/day.



Elbow Extension with Wrist Flexion Stretch

While seated, extend affected arm. With opposite hand, gently push hand down to flex the wrist. Hold 5 seconds

Perform 15 elbow stretches, 2x/day.

Elbow Extension with Wrist Extension Stretch

While seated, extend affected arm.
With opposite hand, gently pull fingers towards you as you flex your wrist.
Hold 5 seconds
Perform 15 elbow stretches, 2x/day.

Activities of Daily Living

Cervical Spine Precautions: No "B.L.T."

Check with surgeon or physical therapist for specific pre-operative precautions.

General guidelines include:

No Bending

Keep head straight and facing forward. Do not tilt head side-to-side, forward, or backward.

- Practice optimal body mechanics by keeping chest up, shoulders back, and abdominal muscles tight. This helps maintain neutral spine position and reduces stress on spine.

No Lifting

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

No Twisting

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

Neck Braces

Soft Collar

Least restrictive and least supportive of all cervical braces is the soft collar. Patients may be instructed to wear the soft collar at all times or only when out of bed. Soft collar is simple to put on and only requires fastening Velcro strap at back of the neck. Chin should rest at a small divot in front of collar.
Careful not to turn head side-to-side in this brace as it will not prevent you from performing this motion.

Philadelphia Cervical Collar®

A slightly more supportive brace is the Philadelphia® collar also referred to as the "Philly® collar." This brace is made out of foam and has a rigid plastic support at the neck. The chin trough prevents you from turning head side-to-side. Some people call this your 'shower brace' because it is made of non-absorbing foam and can get wet (the straps will become wet, but can air dry). Collar is designed to give support and prevent motion that may be detrimental to healing or surgery. If you are told to wear this collar out of bed, please do so.
The Philly® collar fastens on side with back portion sliding inside of front portion so Velcro straps can be fastened securely.

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Miami J Collar®

The Miami J Collar® is another firm brace that is sometimes used after surgery or after neck trauma to prevent motion and provide support. It is made of plastic with soft foam pads that Velcro to the plastic. The foam pads can be removed to launder and air dry. Chin should rest on chin trough at front and center of collar. Back portion should slide inside front and then the straps should be fastened securely. An orthotist, surgeon or therapist should make sure this brace is adjusted correctly to your size.

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Bed Positioning

Lying on Your Back

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

Note: To place pillow behind head, make sure it is supporting shoulders and head. Avoid large pillows — they can push head and neck forward. Goal is to choose pillow that will keep neck straight, not bent forward, back- ward, or to side. Wear cervical brace at all times as directed by your surgeon.

Lying on Your Side

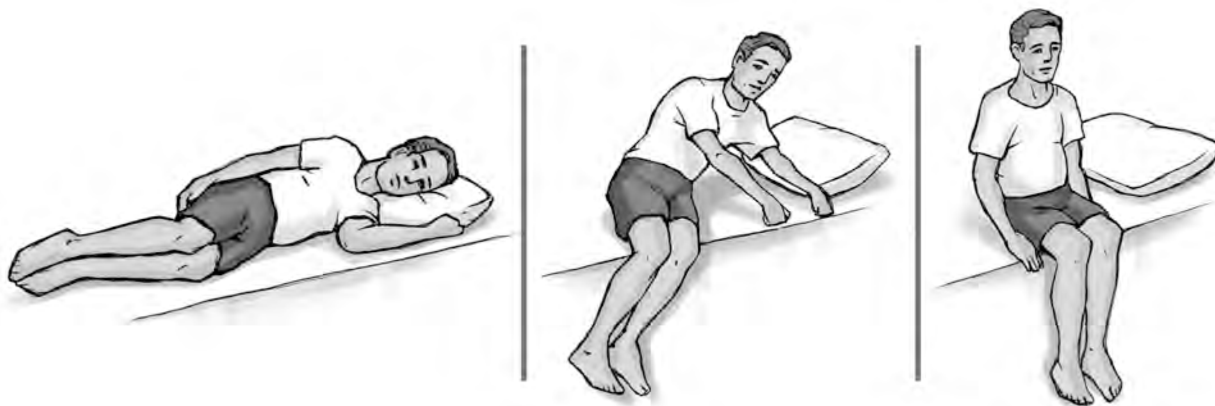
- With knees slightly bent up toward chest, place one pillow between knees and one under neck. This helps to keep optimal alignment of spine.
- Tighten abdominal muscles and log roll when changing positions.
- Adding pillow under arm will increase comfort and further reduce stress on spine.

Lying on Your Stomach

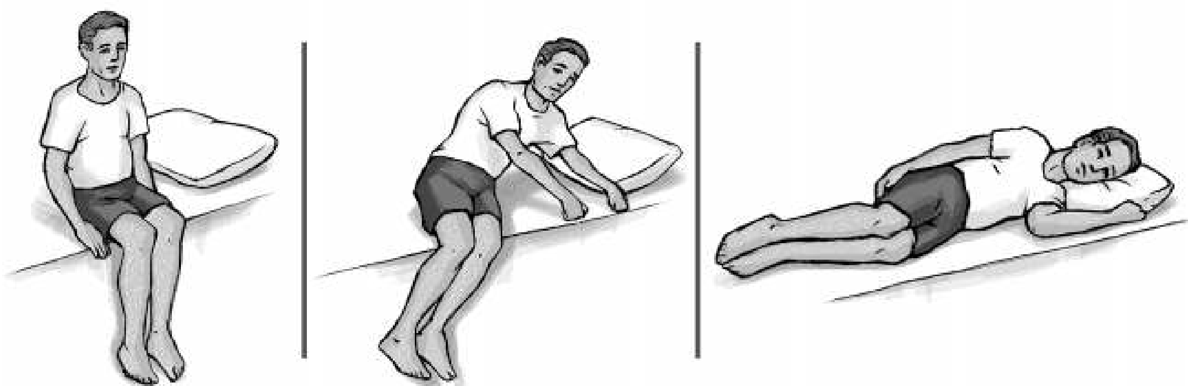
- Avoid this position. It places too much strain on lower back.
- If you cannot avoid this position, place pillow under stomach to provide support for back.

Bed Mobility

Getting Out of Bed
To move in and out of bed, "log roll" to prevent bending or twisting of spine. Start by bending knees up while lying on back. Now roll onto side keeping hips, shoulders and ears moving together to avoid twisting (i.e. roll like a log).). As you move your legs off of the bed, simultaneously push yourself up to sitting, keeping hips and shoulders aligned, as illustrated.



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



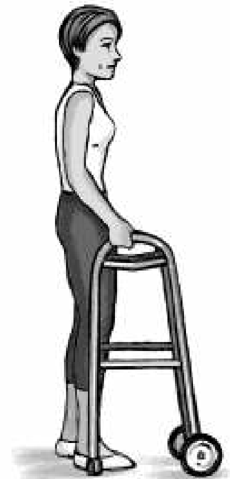
Sitting Posture

Many patients choose to sleep in recliner chair for few days after neck surgery. The adjustable back position of a recliner offers comfortable upright positioning for head and neck, as well as armrests that support arms. Also, it may be easier to stand up from a chair than a bed.

Position of Comfort

Immediately after surgery, patients complain of neck and shoulder pain and have trouble finding a comfortable resting position. Placing pillows under forearms and elbows may help to reduce pull on neck and shoulder muscles while sitting in recliner or lying in bed. Therapist may suggest gel ice-packs over shoulder muscles to reduce soreness.

Using a Walker



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

- Push up from surface you are sitting on (e.g., bed or chair). Avoid pulling on walker to stand. Walker could easily tip backward and will not offer optimal support to stand.
- Easiest to stand up from chairs with armrests and from bedside commode with armrests. Armrests give better leverage and control to stand up and sit down safely.
- Walker takes pressure off your back. Push down through walker with arms as needed without raising shoulders or leaning too far forward.
- Keep feet near back of walker frame or rear legs. Don’t be too close or too far from walker. Stay inside walker.

- Stand up straight when walking. Keep shoulders back, head up, chest up and stomach muscles tight.
- If wheels on walker, no need to lift walker - just push walker forward as you walk.
- Each day increase frequency and distance. Go at own pace. Frequent walks are very important to keep you moving and decrease stiffness and pain. By six weeks, goal is to walk three miles unless otherwise instructed by physician or therapist.
- Taking smaller steps and walking slower does not necessarily make it easier to walk. May end up expending more energy than necessary. Move at own pace and comfort level.
- Take six to eight walks per day at home. During at least one of the walks, you want to increase the distance as tolerated.

Transfers

Getting Into a Chair

Back up to chair until it touches back of legs. With hands, reach behind to grasp armrests of chair. Using arms and legs, squat and lower yourself into chair.
Special Instructions:

- Tighten stomach muscles to provide support for lower spine.
- After sitting, your feet should firmly rest on the floor or a foot stool. Do not let feet dangle, as this places additional stress on the spine. While sitting, protect your back using a pillow or rolled towel as lumbar support.

Getting Out of a Chair

Scoot forward until you are sitting near edge of chair. With hands on armrests, push yourself up into standing position. Straighten legs and shift weight forward over feet. Bring hands to walker as you are moving into standing position.

Helpful Tips with Sitting:

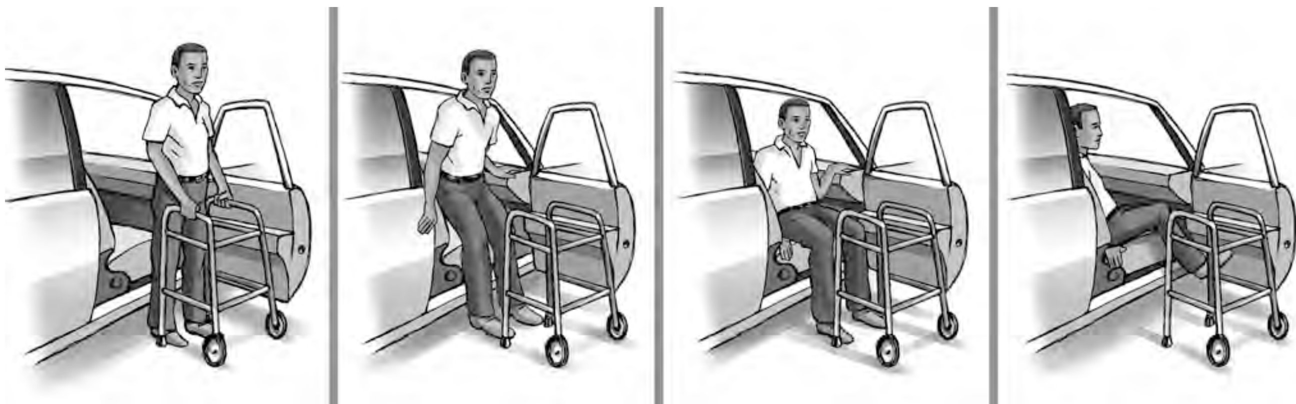
- Do not let feet dangle when sitting. Have feet firmly supported to prevent pulling at back.

From Bed

It is important to stand by pushing on the bed with arms and NOT by pulling on the walker. Place hands on bed and push up to stand. Focus on straightening legs and shifting weight forward over feet. As you start to straighten, bring one hand forward to the walker and then other hand. When sitting back down, be sure to reach for bed one hand at a time to control body.

Getting Into the Car

Back up to car seat until you feel it at back of legs. Reach hand behind you for back of seat and the other hand to secure spot either on frame or dashboard. (Door and walker are not secure options. If you need to use them, have someone hold the “unsteady” objects.) Lower slowly to sitting. Scoot hips back until you are securely on seat.
Leading with hips, bring one foot into car at a time until you are facing forward. Prevent twisting by keeping shoulders, hips and ears pointing in same direction. You may want to recline seat to increase ease of lifting legs. Keep seat slightly reclined while riding to support back from “bumps” in road.



Getting Out of the Car

Bring your legs out one at a time. Lead with your hips and shoulders and do not twist your back. Place your hand on back of the seat and the left hand on the frame or dashboard. Push up to standing. Reach for walker when you are stable.

Helpful tips with car transfers:

- An empty plastic bag on the seat to help slide in/out.
- Positioned your seat all way back so you have maximum leg clearance.
- If you have to have one hand on walker for leverage, have someone hold walker down on front bar for stability.

Your surgeon will determine when you can return to driving. You need to have full neurologic function and minimal pain or discomfort before driving. You also need to discontinue taking medications that may affect your driving skills and safety.

Unload Car Trunk

- Bring objects close to you
- Bend at the hips and lift object out of trunk
- Keep abdominal muscles tight during entire process

Getting Onto the Commode

Back up to commode like you would a chair. Without twisting to look, reach back for the handles of the commode chair (if needed) or toilet seat and squat using arms to help slowly lower to a sitting position. While sitting, feet should be flat on the floor for support.

Getting Off of the Commode

Holding on to toilet seat handles, use your arms to lift your body and scoot hips forward to edge of commode seat. With knees bent and feet underneath you, push up through your legs into standing position. As you stand, maintain support by reaching for your walker one hand at time.

Bathing

Stepping in/out of tub:

- If shower is part of tub, hold onto front wall of shower and step in or out sideways. Do not step in or out facing forward. This side-step places less stress and motion on lower spine.
- If a walk-in shower stall, step in as usual making sure not to twist as you turn shower handles.
- You may want to have a bath or shower seat available for first few days you shower. You can borrow, rent or buy them inexpensively. A small patio resin/plastic chair also works. Small tub/shower benches can be purchased at most drug stores or medical supply stores.
- Your surgeon will provide clearance on taking a tub bath or swimming. Generally, you may not bathe in a tub or swim for at least three weeks after surgery.

Using Stairs

Negotiating Consecutive Steps

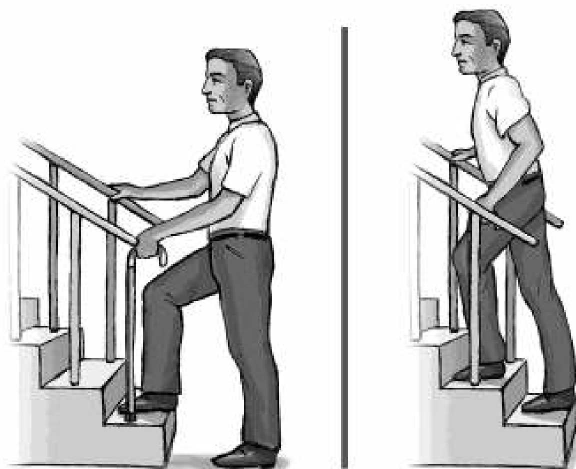
- Use handrail and/or cane for assistance.
- If one leg feels weaker than other, go up steps with stronger leg first and down steps with weaker leg first. Remember, "up with the good and down with the bad."
- If unsteady, take one step at time. Concentrate on what you are doing. Do not hurry.
- Since you cannot bend neck to look down, feel step with feet.
- Have someone assist or spot you as you feel necessary or indicated by therapist. Person should stand behind and slightly to side when going up steps. When going down steps, person should be in front.

Helpful Stair Tips

- Keep steps clear of objects or loose items.
- Plan ahead. Right after surgery keep items in areas where you can limit stair use.
- Install one or two handrails. Two handrails will increase ease and safety with steps.

Negotiating Curb or One Single Platform Step

- If possible, use rolling walker.
- Stand close to step.
- Place entire walker over curb onto sidewalk. Make sure all four prongs/wheels are on curb.
- Push down through walker toward ground.
- Pushing down through the walker toward the ground, step up with your stronger leg first, then follow with other leg.
- Reverse process for going down stairs. Place walker below step, then step down leading with weak leg first.



Personal Care

Using a Reacher

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

Using a Reacher to Pick Up Items

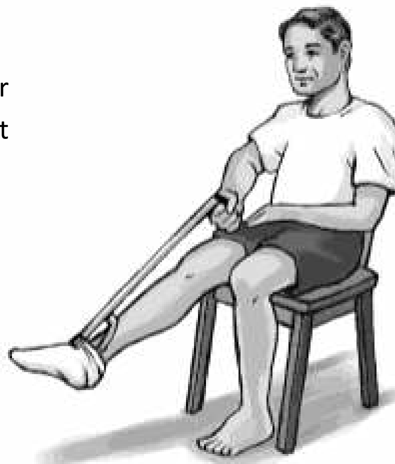
A reacher helps you obtain those items that fall while you are under "no bending" restrictions. Use it as an arm extension to reach to floor.

Using a Sock Aid

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

Removing a Sock with the Reacher

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



Body Mechanics

This section provides general tips on how to practice and adapt safe body mechanics to everyday work activities. There may be more than one way to correctly perform a task. It depends on your abilities. You may need to alter your ways of moving based on your strength, flexibility, pain level, and/or other medical conditions. Check with surgeon or physical therapist for details.

Standing

- Do not lock knees. Bent knee takes stress off lower back.
- Wear shoes that support feet to help align the spine.

  If you stand for long periods of time, raise one foot up slightly on a step or inside frame of cabinet. Resting foot on low shelf or stool can help reduce pressure and constant forces placed on spine. Shift feet often.
- While standing, keep shoulders back so they do not roll forward.
- Keep back as upright as possible; keep head and shoulders aligned with hips.

Bending

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

Turning

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

Lifting

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

Kneeling Lift

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

Lifting Object from Floor

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

Reaching

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

Twisting

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

Pushing vs. Pulling

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

Moving Objects

- Keep your elbows close to your at side and use your total body weight and legs to push. Do not pull.

Around the House

Household Chores
Making Bed • Do not bend over too far when making bed. • Try to move the sheet to corners and kneel or squat to pull them around mattress.
Dusting • Use dusting implements that reach distances so you don't have to reach far or lean head backward.
Cleaning • To clean overhead or tall objects, use a step stool so you don't have to overreach.
Wiping Lower Surfaces • When wiping or dusting low objects, do not bend lower back. • Try to kneel or squat next to object.
Vacuuming • Use your legs, not your back, when vacuuming. • Do not vacuum by reaching too far away from body. • Try to work for small intervals of time with frequent breaks. • Keep vacuum close to your body. • Use a lightweight vacuum.
Sweeping/Mopping • Use the full length of the broom to sweep. • Do not hold broom handle close to floor. • Try to keep your spine as straight as possible. • Sweep with motion coming from hips instead of shoulders. • Do not get down on knees to scrub floors, instead use a mop.
Laundry - Loading Washer • Place laundry basket so bending and twisting can be avoided. • Place basket on top of washer or dryer instead of bending down.

Household Chores

Laundry - Unloading Washer

- To unload small items at bottom of washer, lift up one leg when reaching down into washer.
- Do not bend at waist to reach into washer when loading/unloading.

Laundry - Unloading Dryer

- Do not bend at lower back when removing laundry from dryer.
- Set the basket on the floor and squat/kneel next to basket when unloading dryer or front-load washer.
- Try "golfer's bend" to unload washer/dryer by supporting with one hand on unit and holding opposite leg straight out as you bend forward. This allows you to keep back straight and take some pressure off back with arm supporting you.

Lifting Laundry

- Pick up laundry basket by squatting near it. Do not bend over to lift.

Ironing

- While ironing, keep the ironing board at waist level to avoid leaning forward at back.

Kitchen

- Do NOT get on knees to scrub floors. Use mop and long-handled brushes.
- Plan ahead! Gather all cooking supplies at one time. Sit to prepare meal.
- Place frequently-used cooking supplies and utensils where they can be reached without much bending or stretching.
- To provide better working height, use high stool or put cushions on chair when preparing meals.
- Bend at knees and hips to get things out of lower portion of refrigerator. It is better to squat or kneel instead of bending.
- To get objects out of dishwasher, squat or kneel down by door.
- Try sitting on swiveling office chair to unload dishwasher. Place items up onto counter by pivoting around with feet. Then stand and put items into cupboard.

Bathroom

- Do NOT get on knees to scrub bathtub. Use mop or other long-handled brushes.
- ALWAYS use non-slip adhesive or rubber mats in tub or "aqua/water shoes."
- Attach soap-on-a-rope so it is within easy reach.
- Keep one foot propped on lip of sink cabinet to reduce stress on back.
- When reaching under sink, try to move lower by squatting and brace yourself with a fixed object.

Outdoors

Mowing

- When pushing or pulling a mower, do not bend forward.
- Keep your back straight. Bend at knees and hips. Push or pull with legs.

Raking

- When raking, keep back straight by bending at hip.
- Rake close to body using arms and shifting legs to perform rake motion.
- Take frequent breaks.

Shoveling

- Grab shovel close to end.
- Shovel by leaning forward and shifting weight.
- Use your legs, not your back.

Digging

- When digging, place blade end into soil with handle straight up and down.
- Step on top of blade then step off and angle shovel upward.

Planting

- When weeding or planting, do not bend over from standing position.
- Kneel or squat in area you are working. It is recommended you maintain squat position for only short period of time since this places stress on knees.
- You can also sit on chair or stool to reduce stress on knees instead of kneeling.

Other Tips…

Personal
Shaving • Stay upright with one foot on the bottom ledge of the cabinet under sink.
Showering • When showering, try not to let head bend forward or backward (i.e., when washing hair). Squat down with knees or use tub bench and/or hand-held shower spout so neck remains straight.
Brushing Teeth • Stay upright with one foot on the bottom ledge of the cabinet under sink. To avoid bending forward, spit into a cup and use cup for rinsing your mouth. Support you back by leaning with one arm on the sink/counter as you spit into the sink. Bend at the knees, not the back.
Carrying Luggage • Carry bags on both sides of body instead of one. Try to keep the weight equal.

Children

Lift from Floor

- Do not bend over at back to pick up child. Instead, squat down, bring child close to chest and lift with legs.

In/Out of Car

- When placing infant or child in car seat, always support yourself. Place knee on seat of car to unload the stress placed on back.
- Never bend at waist.

Children

Holding Child

- To maintain good posture and decrease stress on back, hold baby/child to center of body, not propped on hip Hold baby by cradling in arms.
- Keep baby close to body.
- Hold baby by cradling in both arms.

Work

Sitting

- Sit in chairs that support your spine. Keep your ears in line with your hips. If needed, support your lumbar curve with a rolled-up towel or lumbar roll.
- Your knees should be level with your hips or slightly lower. Feet should be flat on flor to support spine. If needed, place feet up on footrest.
- Do not slouch. This puts your spine out of alignment and adds extra stress to lumbar curve. Don't sit too far away from the steering wheel when driving.
- Keep your shoulders back and head centered over hips.
- Do not let shoulders roll forward.

Work

Computer Ergonomics

- Keep computer screen at eye level.
- Have lumbar support for chair.
- Armrests should be placed at a level that supports forearms and keeps them at waist level. Forearms should not push up into shoulders.
- Adjust height of chair so keyboard is level with forearms.
- Maintain good upright sitting posture.
- Take frequent standing/rest breaks while working (every 20-30 minutes).

Lower Shelf

- When placing an object on low shelf, always bend down on one knee.
- Use other leg to support.
- Never bend over from waist to place item on shelf.

Work

Overhead Cabinets

- Do not overreach to high positions.

Step up on stool so overhead objects are lower.

Safety Tips and Avoiding Falls

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

Do’s and Don'ts for Rest of Your Life

Even after you have reached all recommended goals, all patients who have undergone a spine surgery need to participate in a regular exercise program to maintain fitness and strength of muscles around the spine. With both your surgeon and primary care doctor’s permission, you should be on a regular exercise program three to four times per week lasting 20-30 minutes each session. The aim of spine surgery is to return the patient to a full activity level, but conditions leading to spine surgery cannot be completely corrected by even the most successful operation, so certain precautions should be taken.

What to Do in General

- Avoid bending, lifting and twisting as much as possible. It may be possible to return to strenuous physical activity, including heavy lifting, but discuss this with your surgeon.
- Maintain ideal body weight.
- DO NOT SMOKE!
- Maintain proper posture.
- When traveling, change positions everyone to two hours to keep neck and back from tightening up.

Exercise – Do

- Choose low impact activity, such as golf, bowling, gardening, dancing, swimming, etc.
- Follow the exercises outlined in this Guidebook.
- Take regular one- to three-mile walks.
- Use a treadmill and/or stationary bike at home or at a local fitness center.
- Consult your surgeon or physical therapist about specific sport activities.

Exercise – Don’t

- Do not run or participate in high-impact activities or activities that require a lot of starts, stops, turns and twisting motions.
- Do not participate in high-risk activities, such as contact sports.
- Do not take up new sports requiring strength and agility until you discuss it with surgeon or physical therapist.

Thank you for choosing Orange Coast Medical Center’s Spine Health Center. It is a pleasure caring for you.

Section Four:

Appendix

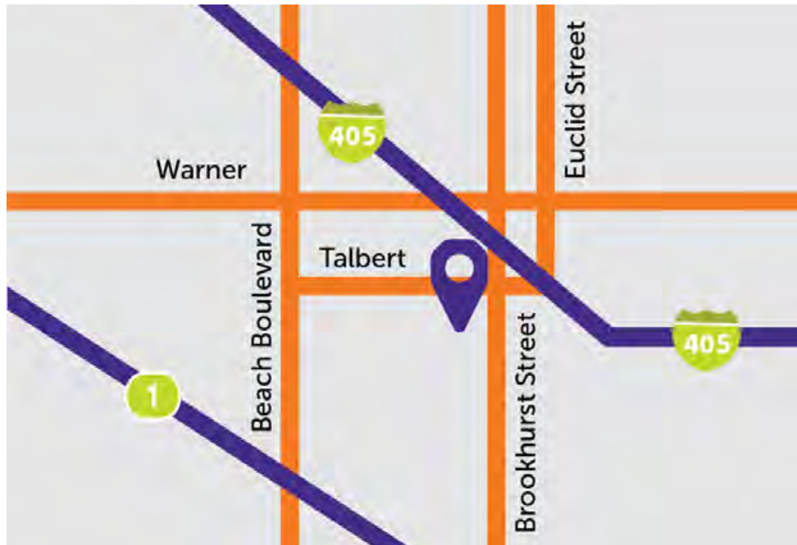
Glossary

- **Annulus** – Outer rings of rigid fibrous tissue surrounding nucleus in the disc.
- **Anterior** – Relative term indicating front of body.
- **Bone Spur** – Abnormal growth of bone, usually present in degenerative arthritis or degenerative disk disease.
- **Cartilage** – Smooth material that covers bone ends of a joint to cushion bone and allow joint to move easily without pain.
- **Computed Tomography Scan (also called a CT or CAT scan)** – Diagnostic imaging procedure that uses combination of x-rays and computer technology to produce cross- sectional images, both horizontally and vertically, of the body. CT scan shows detailed images of any part of body, including bones, muscles, fat and organs. CT scans are more detailed than general x-rays.
- **Congenital** – Present at birth.
- **Contusion** – A bruise.
- **Cervical Spine** – Part of spine that is made up of seven vertebrae and forms flexible part of spinal column. Cervical spine is often referred to as the neck.
- **Corticosteriods** – Potent anti-inflammatory hormones that are made naturally in the body or synthetically for use as drugs; most commonly prescribed drug of this type is prednisone.
- **Degenerative Arthritis** – Inflammatory process that causes gradual impairment and loss of use of a joint.
- **Degenerative Disc Disease** – Loss of water from discs that reduces elasticity and causes flattening of disks.
- **Disc** – Complex of fibrous and gelatinous connective tissues that separate vertebrae in spine. Discs act as shock absorbers to limit trauma to bony vertebrae.
- **Discectomy** – Complete or partial removal of ruptured disc.
- **Dura** – Outer covering of spinal cord.
- **Dural Tear** – Laceration or tear of dura that can occur during surgery. Leakage of spinal fluid occurs at this site. Often treated with bed rest for 24-48 hours thus allowing tear to heal.
- **Facet** – Small plane of bone located on vertebra.
- **Foramina** – Plural form of foramen (a natural opening or passage through a bone).

- **Foraminotomy** – Surgical procedure that removes part or all of foramen. Performed for relief of nerve root compression.
- **Fracture** – Break in a bone.
- **Fusion** – Surgical procedure that joins or "fuses" two or more vertebrae together to reduce movement at this joint space. As a result, pain is lessened.
- **Herniated Disc** – Abnormal protrusion of soft disc material that may impinge on nerve roots. Also referred to as a ruptured or protruding disc.
- **Inflammation** – Normal reaction to injury/disease which results in swelling, pain and stiffness.
- **Joint** – Where the ends of two or more bones meet.
- **Lamina** – Bone that lies posterior to the vertebrae.
- **Laminotomy** – Removal of a small portion of lamina.
- **Laminectomy** – Removal of entire lamina.
- **Ligaments** – Flexible band of fibrous tissue that binds joints together and connects various bones.
- **Lumbar Spine** – Portion of spine lying below thoracic spine and above the pelvis. This part of the spine is made up of five vertebrae. Also called the lower back.
- **Magnetic Resonance Imaging (MRI)** – Diagnostic procedure that uses combination of large magnets, radiofrequencies and a computer to produce detailed images of organs and structures within the body.
- **Myelopathy** – Condition characterized by functional disturbances due to any process affecting the spinal cord.
- **NSAID** – Abbreviation for nosteroidal anti-inflammatory drugs, which do not contain corticosteroids and are used to reduce pain and inflammation; aspirin and ibuprofen are two types of NSAIDs.
- **Nerve Root** – Portion of spinal nerve that lies closest to its origin from the spinal cord.
- **Neuropathy** – Functional disturbance of peripheral nerve.
- **Nucleus Pulposis or Nucleus** – Relatively soft center of disc that is protected by rigid fibrous outer rings.
- **Osteoporosis** – Condition that develops when bone is no longer replaced as quickly as it is removed.
- **Osteophyte** – Bony outgrowth.
- **Pain** – Unpleasant sensory or emotional experience primarily associated with tissue damage.
- **Pain Threshold** – Least experience of pain that a person can recognize.
- **Pain Tolerance Level** – Greatest level of pain that a person is prepared to tolerate.
- **Paresthesia** – Abnormal touch sensation, such as burning or tingling.
- **Posterior** – Relative term indicating that an object is to the rear of or behind the body.
- **Radiculopathy** – Condition involving the nerve root that can be described as numbness, tingling, or pain that travels along the course of a nerve.

- **Sacral Spine** – Last section of spinal column located below the lumbar spine. It is made up of several semi-fused pieces of bone.
- **Sciatica (also called lumbar radiculopathy)** – Pain that originates along the sciatic nerve.
- **Scoliosis** – Lateral, or sideways, curvature and rotation of the back bones (vertebrae), giving the appearance that the person is leaning to one side.
- **Soft Tissues** – Ligaments, tendons and muscles in the musculoskeletal system.
- **Spinal Stenosis** – Narrowing of vertebral canal, nerve root canals, or intervertebral formina of the spine caused by encroachment of bone upon the space. Symptoms are caused by compression of the nerves and include pain, numbness, and/or tingling.
- **Spine (also called spinal column or backbone) -** Series of stacked bones (vertebrae), discs and ligaments extending from the base of the skull to the small of the back that surround and protect the spinal cord and provide support to the upper body, chest, stomach and back. The cervical, thoracic and lumbar regions of the spine are composed of 24 articulating/flexible vertebrae.
- **Spinous Process** – Part of the vertebrae that you can feel through your skin.
- **Spondylosis (spinal osteoarthritis)** – Degenerative disorder that may cause loss of normal spinal structure and function. Although aging is the primary cause, location and rate of degeneration is individual. Degenerative process of spondylosis may impact the entire spine creating over growth of bone and affecting intervertebral discs and facet joints.
- **Spondylolisthesis** – Forward displacement of one vertebra over another.
- **Sprain** – Partial or complete tear of a ligament.
- **Strain** – Partial or complete tear of a muscle of tendon.
- **Stress Fracture** – Bone injury caused by overuse.
- **Tendon – T**ough cords of tissue that connect muscles to bones.
- **Thoracic Spine** – Portion of spine lying below the cervical spine and above the lumbar spine. This part of the spine is made up of 12 vertebrae.
- **Torticollis (or wryneck)** – Twisting of neck that causes head to rotate and tilt on an angle.
- **Transverse Process** – Wing of bone on either side of each vertebra.
- **Trigger Point** – Hypersensitive area of muscle or connective tissue, usually associated with myofascial pain syndromes.
- **Ultrasound** – Diagnostic technique which uses high-frequency sound waves to create an image of internal organs.
- **Vertebra(e)** – Bone or bones that form the spine.
- **X-rays** – Diagnostic test which uses invisible electromagnetic energy beams to produce images of internal tissues, bones, and organs onto film.

Directions and Map



Directions

From the 405 S (to San Diego):

1. Take exit 14 for Brookhurst St toward Fountain Valley.
2. Keep right at the fork, follow signs for Brookhurst St S and merge onto Brookhurst St.
3. Continue on Brookhurst St.
4. Turn right at 18111 Brookhurst St. for parking structure access, or for complimentary valet parking.

From the 405 N (to Los Angeles):

1. Take exit 14 for Brookhurst St toward Fountain Valley.
2. Keep right at the fork, follow signs for Brookhurst St S and merge onto Brookhurst St.
3. Continue on Brookhurst St.
4. Turn right at 18111 Brookhurst St. for parking structure access, or for complimentary valet parking.