

Cervical Spine Information

Education For Your Upcoming Surgery



Washington Hospital
Healthcare System

2000 Mowry Ave., Fremont, CA 94538-1716
(510) 797-1111 | www.whhs.com



This binder is to provide you with information about the process of preparing for your upcoming surgery, hospital stay, rehabilitation and recovery.

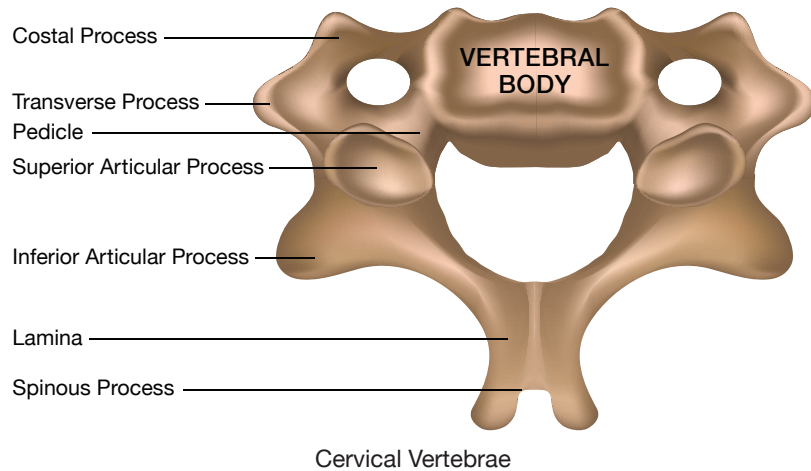
You will learn:

- Anatomy and posture
- Pre-surgery tasks
- Items for the surgeon
- Home preparation
- Exercises
- Surgical procedures
- Precautions
- Positioning
- Equipment
- Discharge from the hospital
- Activity and post-op exercise



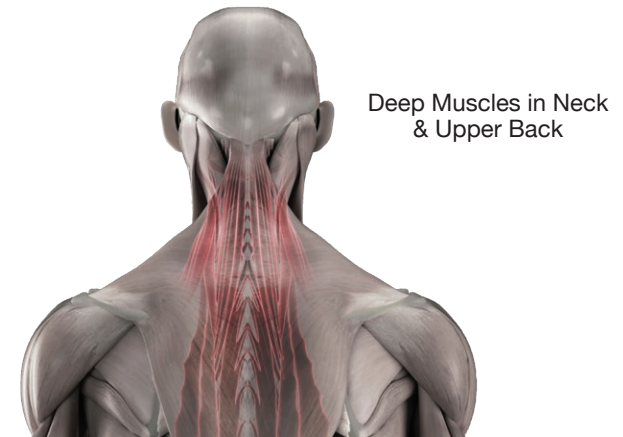
ANATOMY

You should understand the anatomy of your spine to know how to protect it after surgery. The spine is meant to provide an anchor for the muscles and stability for the rest of the body. Your spine is made up of individual vertebrae. Each vertebra interacts with the next one above or below to create an opening in which a nerve from the spinal cord will pass through. Nerves go out and insert into muscles and these carry the messages of movement and sensation to and from the brain.



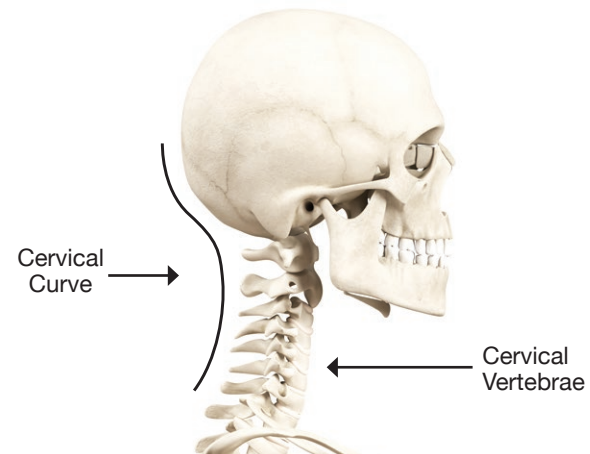
You have multiple layers of muscles in the neck to support and assist the spine:

1. Superficial – those you can see under the skin
2. Intermediate – these help to provide flexibility and strength
3. Deep – these provide stability and structure



Anytime you start to move your arms, these muscles tighten to keep the neck still. The deep muscles stabilize the rest of the spine. When you bend over, they stabilize the neck so you can move your trunk.

Even surrounding muscles in the upper back and neck provide stability to the cervical spine and head.



POSTURE

Maintaining good posture is a product of good muscle balance. We want our bodies to have the right amount of muscle strength to support our limbs and our upright position – NEUTRAL SPINE. A normal cervical spine has a slight curvature.

When a patient has muscle imbalance, it contributes to poor posture and body mechanics. Weak upper back muscles can contribute to slouching and forward head posture. Regardless of surgery or not, it is always important to try to maintain good posture for overall health. Muscles in the neck and upper back can pull the spine into incorrect positions, causing increased back and nerve pain.

SURGERY

Patients will usually be candidates for surgery for the following conditions:

1. Instability
2. Arthritis
3. Degenerative disc disease
4. Nerve involvement, such as weakness or numbness
5. Spinal cord compression
6. Pain associated with the above conditions

SURGERY TYPES

There are different types of cervical spine surgeries our surgeons perform at Washington Hospital Healthcare System involving your neck. Your Surgeon will discuss *your* specific procedure with you.

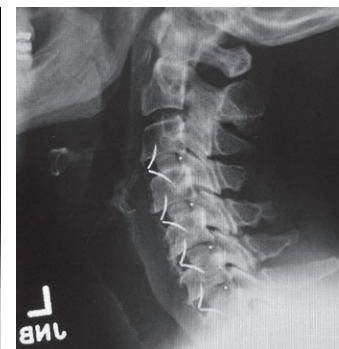
1. SPINAL DECOMPRESSION PROCEDURES

These surgeries involve creating space for the spinal cord and nerves, alleviating compression and correcting the final deformity. This is usually performed when a patient has degeneration of discs and/or vertebrae. Disc herniation and bone spur formation can lead to spinal cord nerve compression with spinal deformity.

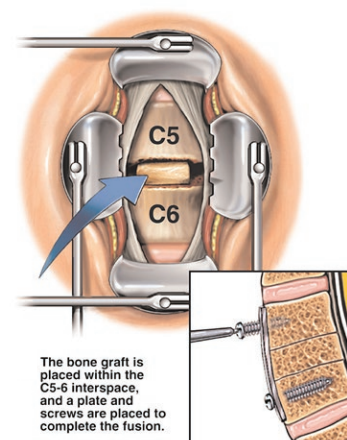
- a. Anterior discectomy with fusion – Removal of part of a disc that is compressing a nerve and/or spinal cord with stabilization of the vertebrae with bone grafts, cages and instrumentation.



Cage with anterior plate



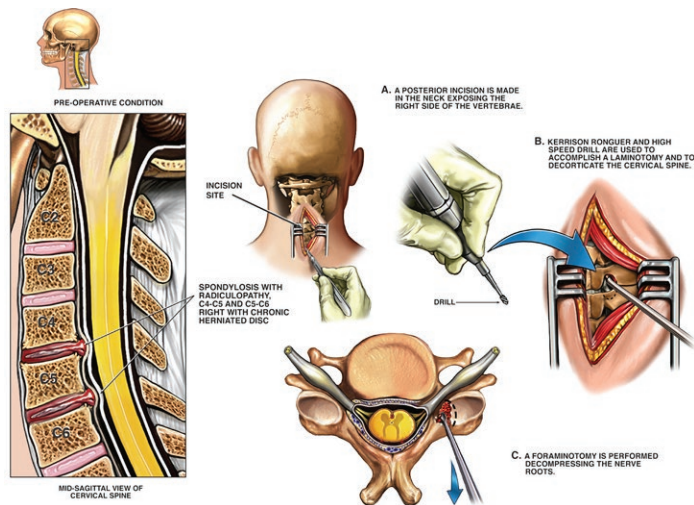
Cage with internal fixation



- b. Anterior discectomy with total disc replacement – Removal of a disc and replacement with artificial disc prosthesis



- c. Laminotomy/foraminotomy – Shaving off part of the lamina and/or joint posteriorly to create a larger opening to relieve the pinched nerve



- d. Laminectomy – Complete removal of the lamina

2. POSTERIOR SPINAL FUSION

This type of surgery involves correction of vertebral instability with the use of bone graft and instrumentation to stabilize spinal segments and then allowing bone around the area to eliminate motion. This helps to eliminate pain and reduce risk of injury to nerves.



PREPARATION FOR SURGERY

CONTACT YOUR INSURANCE COMPANY

Before surgery, you should find out your portion of financial responsibility for surgery, if any, to clarify what is covered. The surgeon's office will be contacting your insurance company for preauthorization as well.

PRE-OPERATIVE TESTING

A pre-op testing appointment will be made by your surgeon's office, scheduling it for a week day between 8:30 a.m. and 4 p.m.

Your physician will order some testing to be done prior to your surgery. Tests may include lab, EKG, X-rays or other imaging procedures. To ensure that the results of your tests are available prior to your surgery, we recommend that your tests be done here in the pre-op testing office at Washington Hospital, 2500 Mowry Ave., call **(510) 745-6432**.

*If your tests are not done here, please arrange to have the results faxed to Pre-op Testing Department:
Fax # (510) 745-6410.*

You may spend 30 minutes to one hour in the pre-op testing area depending on the amount of testing your physician has ordered. You will also be asked to sign a surgical/procedure consent form agreed upon by you and your surgeon.

During your visit you will be weighed and have vital signs taken (blood pressure, pulse, temperature). Wear comfortable clothing as you will be asked to partially change if X-rays and/or EKG are requested by your doctor. You will be in contact

with an anesthesiologist the evening before your procedure. **You will be instructed on some activities to perform the night before your surgery during this visit.**

Stop any blood thinner medications 10 days prior to surgery (including vitamin E). You need to consult your physician for appropriate guidance and to see if additional medications will be needed.

You CANNOT eat or drink anything after midnight, including water and chewing gum. However, you may be instructed by your anesthesiologist or surgeon to take some morning medications with a small sip of water. You will be advised of this during the pre-op visit.

REVIEW "EXERCISE YOUR RIGHT"

It is the policy of Washington Hospital Healthcare System to place patients' wishes and individual considerations at the forefront of their care, and to respect and uphold those wishes.

ADVANCE MEDICAL DIRECTIVES

Advance directives are a means of communicating to all caregivers the patients' wishes regarding health care. If a patient has a living will or has appointed a health care agent, and is no longer able to express his or her wishes to the physician, family or hospital staff, Washington Hospital Healthcare System is committed to honoring the wishes of the patient as they are documented at the time the patient was able to make that determination.

HOUSEHOLD PREPARATION

Your family and friends should help with tasks around the home. The patient should focus on their recovery!

ALL AREAS

- Remove small, loose throw rugs. Cover slippery surfaces with carpets that are firmly anchored to the floor with no edges to trip over.
- Be aware of all floor hazards such as pets, small objects, furniture corners or uneven surfaces.
- Provide good lighting throughout your home. Leave a light on at night in the bathroom.
- Keep extension cords and telephone cords out of pathways.
- Avoid shoes without lips or backs. They tend to cause slips and falls.
- Sit in chairs with arms. It makes it easier to get up. Use dining room chairs or patio chairs if you do not have arm chairs.
- Rise slowly from either a sitting or lying position so you do not get lightheaded.
- Do not do any heavy lifting of more than 10 to 15 pounds for the first six weeks and then get permission from your surgeon regarding lifting limitations.
- Stop and think. Use good judgment.

KITCHEN

- Plan ahead! Gather all your cooking supplies at one time. This cuts down on excessive trips to the refrigerator, cupboards, etc. If needed, sit to prepare your meal.
- Place cooking supplies and utensils in a convenient position so they can be obtained without too much bending over or stretching.

- Raise the height of your chair by putting cushions on the seat or using a high stool when working at kitchen counters.
- Do NOT get down on your knees to scrub floors. Use a mop and long handled brushes.

BATHROOM

- ALWAYS use non-slip adhesive or rubber mats in the tub or shower.
- Attach soap on a rope so it is within easy reach and to avoid dropping. You can also place soap in a panty hose leg.

EXERCISE BEFORE SURGERY

START PRE-OPERATIVE EXERCISES

Many patients with neck pain and pressure on the spinal nerves become very weak. This interferes with their recovery. It is helpful to be as fit as possible before undergoing surgery. This will make your recovery much faster. Walking is the most important type of exercise that you can do to increase your endurance. There are two exercises are shown below that you should start doing now and continue until your surgery. You should be able to do them in 10 to 15 minutes, and it is recommended that you do all of them twice a day. It is not harmful for you to do more. Consider this as a minimum amount of exercise prior to your surgery.

If anything of these exercises increase your pain, do not do them. We will work with you after surgery to slowly improve your strength.

ABDOMINAL ISOMETRICS

Strengthening your abdominal muscles

- Lie on couch or bed on your back.
- Squeeze in your stomach and count out loud to five.
- Push stomach out and count out loud to five.
- Repeat 10 to 20 times.

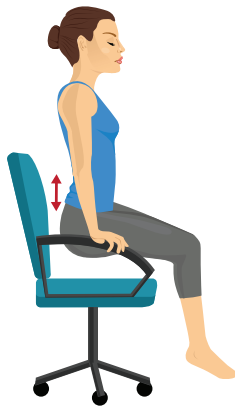


CHAIR PUSHUPS

Strengthening your arms

This exercise will help strengthen your arms for getting in and out of bed, and walking with a walker.

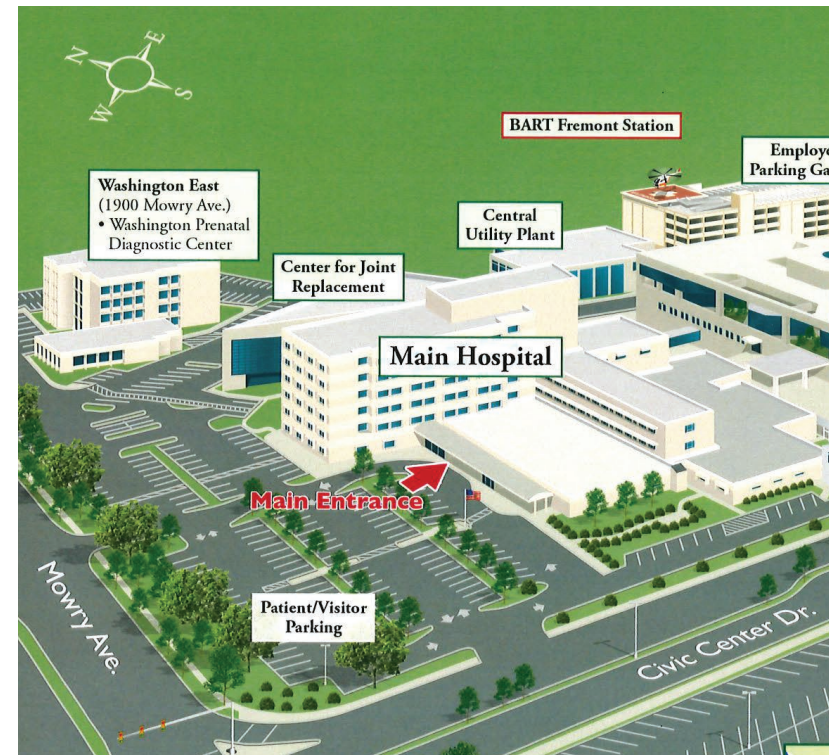
- Sit in an armchair. Place hands on armrests.
- Straighten arms, raising bottom up if possible.
- Repeat 10 to 20 times.



WHAT TO EXPECT

ARRIVAL

When arriving at the Hospital, complementary valet services are available Monday to Friday, 8 a.m. to 8 p.m., in front of the main Hospital entrance, located at 2000 Mowry Ave. Self-service patient and visitor parking is available in front of the Hospital and also across Civic Center Drive at 2500 Mowry Ave., in front of Washington West.



TOBACCO-FREE, SMOKE-FREE CAMPUS

The entire Washington Hospital campus (including parking lots) is tobacco- and smoke/vape-free zones. The use of any tobacco products -- smoking, vaping or chewing of tobacco, or any other substance such as marijuana cigarettes, e-cigarettes, pipes, and cigars -- by patients, family or visitors while on the Hospital's campus is strictly prohibited.

CHECKING-IN

Upon arrival, you and your guests will be greeted at the door by a security officer, who will conduct an inspection of all personal items (backpacks, purses, totes, etc.). Following this, proceed to the welcome desk in the Hospital main lobby where you and your guests will be asked to present a valid form of identification. The concierge or security officer will then take a photo of you and your guest(s), which will be printed onto identification badges. ID badges should be visible and worn by guests at all times while in the Hospital, and should be returned upon leaving.

After checking in, you will be escorted to admitting, where you will receive a packet with your admitting paperwork.

HOSPITAL STAY

The goals during your hospital stay are to manage your pain with medications, teach you to be mobile and to prepare you for discharge home to continue your recovery.

INCENTIVE SPIROMETER

You will receive this in the hospital to use after surgery. You need to use this device to breathe deeply to open your lungs. This improves oxygenation and decreases low-grade temperatures.

1. Hold device in your hand.
2. You should adjust the yellow slider to between 1500 and 2500.
3. Place mouthpiece in mouth after you exhale.
4. You are supposed to INHALE on the mouthpiece, SLOWLY and DEEPLY.
5. Inhale as long as you can until the lungs are full. Remove mouthpiece and exhale.

Repeat 5 to 10 times EACH hour when you are in the hospital.



PAIN MANAGEMENT

Pain after surgery is different than before surgery. You may experience “muscle spasms” when trying to move. This grabbing sensation causes pain and sudden jolts of pain can make it difficult to move. It may feel more comfortable to hold the spine in a less than upright posture to have less pain. The goal is always to achieve upright posture and better trunk stabilization.

ICE

Ice is helpful to decrease spasms and swelling. Flat ice packs are more comfortable for patients to lie on or apply to the neck and shoulders.

Use ice 20 to 30 minutes, three times per day and wait 60 minutes between icing sessions.

- Ice in a resealable bag
- Gel packs
- Frozen peas

POSITIONING

Learning positions of comfort are important. Changing positions frequently is helpful and also helps the muscles to relax. The staff will work with you to teach you how to roll and move safely in bed, to get to/from the bathroom and to use pillows for support.

PAIN MEDICINE

We will be managing your pain with a combination of medications during and after your surgery, given either through your IV or by mouth. Medications in combination with movement help decrease pain and spasms. The goal is to figure out which ones work the best.

SWALLOWING

It is common to have pain with swallowing and difficulty swallowing after a cervical approach. Typically, you will start with soft food and gradually transition to solids as tolerated. Expect this for several days, up to a couple of weeks.

PHYSICAL THERAPY (PT)

This will be a large portion of your recovery. In the hospital, you will learn techniques to move safely, to get comfortable and to increase your endurance for home. The PTs will evaluate and treat you for physical function and pain post-operatively, giving you guidance on maximizing ability and following your recovery safely. You will need to heal from the surgery (about 6 to 12 weeks) before starting outpatient PT.

They will focus on:

- Bed mobility
- Transfers
- Gait
- Assistive devices
- Indoor environment
- Outdoor environment
- Safety
- Up/down stairs
- Exercise program

They will work with you on:

- Patient education/precautions
- Brace application (if applicable)
- Symptom management/modalities
- Body awareness and positioning
- Stabilization

- Functional movement training
- Exercise program for neuromuscular activation

STAIRS

The PTs will take you on stairs once you can safely walk for distance. This is important to your safety, regardless of whether you have stairs at home.

ASSISTIVE DEVICES

The rehab team and the case manager will determine if you need an assistive device for home after your surgery and how to obtain it. The device may or may not be covered by your insurance. If it is not covered, you may need to pay for the device(s) yourself. You may also choose to get equipment on your own from community resources.

- Walkers with two wheels or four wheels provide support
- Adjustable canes and crutches are helpful on stairs, provide light support for balance and are a visual cue to others that you are not steady
- Raised toilet seat devices make using the toilet easier



OCCUPATIONAL THERAPY (OT)

The OTs will expand on the basics of mobility and function. It is important to remember that safety and body mechanics will take a while to relearn. Muscles are weak and you need to protect them by using equipment. OT makes sure you can apply these to:

- Brace application (if applicable)
- Activities of daily living (bathing, dressing, etc.) for promoting independence
- Body awareness and positioning
- Functional transfers and bed mobility
- Safe return to community level activities (driving, work, etc.)

ACTIVITIES OF DAILY LIVING KIT

- These are optional items you can purchase to allow you to pick up items, get yourself dressed and bathe independently without violating your spine precautions.
- The OT will work with your case manager to see if these items are covered by insurance. If they are not, you may purchase these items at a local medical supply store.

PRECAUTIONS

No "BLT"!

- **NO BENDING** your neck. Your range of motion will be restricted initially. You may need to put items on higher surfaces to get to them easily. The OT can show you devices that will help you to be independent.
- **NO LIFTING** more than 10 pounds. Nothing heavier than a gallon of milk!

- **NO TWISTING** the spine when performing any tasks. When turning the body, the shoulders and knees should always point the same direction.



BRACING CERVICAL COLLAR

These may or may not be used with all patients post-operatively and will be determined by your surgeon. All braces are designed to give stability and restrict incorrect movements. These should all be worn most of the time when upright.

If you have a cervical collar, you should wear it whenever you are upright, doing any activities and even in bed (soft collars). This protects the neck and serves as a reminder to limit movement.



DISCHARGE FROM HOSPITAL

Our primary goal is to prepare you to go home and continue your recovery. You tend to be the most comfortable, eat better and sleep better in a familiar setting. You can also move around comfortably with frequent position changes. Your family and friends should plan to help you for the first five to seven days after surgery with physical activities around the house – walking with you, meals, positioning, laundry, etc. You should focus on your comfort, safety and changing position frequently.

If you are not able to safely function at home or have post-op restrictions that you cannot follow, you may need to go to an acute rehab facility or a skilled nursing facility for further rehabilitation. These facilities have more focused rehab to ensure you can progress to your home safely. If this is necessary, the hospital case manager will help to set up a location for you.

DRIVING

This is one of the primary questions after back surgery. You will be evaluated at your first follow-up visit with the surgeon.

You cannot drive under the following situations:

1. First two weeks after surgery: NO
2. Still taking narcotics: Not recommended
3. It is unsafe to drive with a cervical collar on since it limits mobility
4. Fusion: 4-6 weeks

AFTER HOSPITAL DISCHARGE: PAIN MANAGEMENT

Pain after surgery is different than before surgery. The patient can experience “muscle spasms” when trying to move. This grabbing sensation causes pain and sudden jolts of pain can make it difficult to move. It may feel more comfortable to hold the spine in a less than upright posture to have less pain. The goal is always to achieve upright posture and better trunk stabilization.

PAIN MEDICINE

Every four to six hours, take something for pain to keep medicine in your system. Taking your medication at regularly timed intervals helps to keep pain controlled the best. The strength of medication you take can vary, but regular times are important.

No anti-inflammatory drugs (NSAIDs – Aleve, aspirin, Advil, Naproxen) for four months. These medications interfere with the initial fusion surgery.

ICE

Ice is helpful to decrease spasms and swelling. Flat ice packs are more comfortable for patients to lie on or apply to the neck and shoulders.

Use ice 20 to 30 minutes, three times per day and wait 60 minutes between icing sessions.

- Ice in a resealable bag
- Gel packs
- Frozen peas

MASSAGE AND RELAXATION

Massage, deep breathing and relaxation practice can also help with pain management. Find a position of comfort and practice these techniques.

ELECTRICAL STIMULATION

Transcutaneous electrical nerve stimulation (TENS) units are also helpful at this stage of your recovery. These devices have small pads that are applied on the muscles around your incision and electrical stimulation is delivered to decrease pain and spasm.

HOME HEALTH

If this is ordered by your surgeon, the case manager will arrange for your home therapy to begin after hospital discharge. The name of the home care agency and their phone number is on that form, in the top right-hand corner. You may possibly also have a nurse coming to see you as well. On an as-needed basis, home health occupational therapy may also be arranged for you.

CONSTIPATION

Pain medication can cause constipation. Use a combination of laxative and stool softener Senakot-S and Colace (or the combination Peri-Colace), twice a day for as long as it takes to help you stay regular (for about two weeks). Drinking plenty of fluids, water, juices and especially prune juice, can help. Eating four to six prunes a day can also help you.

You should not go longer than three days without a bowel

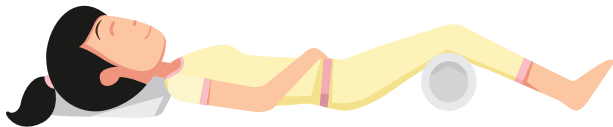
movement. Your MD recommends medications like Ducolax, Fleet enemas or magnesium citrate, available at your pharmacy and that do not require a doctor's prescription.

Your local pharmacist is also an available resource for you to also contact and help you manage your pain medications and constipation issues.

POSITIONING

Key to working with pain is to help patients find positions of comfort. Patients may need assistance to get into the most comfortable positions. We recommend having multiple pillows available to place in various areas around the patient. As patients begin to move better, they are increasingly able to position themselves.

- **Supine:** Lying on your back. This can sometimes increase back pain, because it increases the natural curve of the low back.



Recommendations:

- Pillows under the knees are helpful in putting the low back into NEUTRAL SPINE.
- Use a bed or couch; do not use the floor.
- **Supine after neck surgery:** a rolled or folded towel may be more comfortable after surgery to support the curve of the neck. You can use tape or plastic wrap to hold it

together once you find the best thickness for comfort.



- You may elevate the head of your bed 30-45 degrees with a wedge pillow, items under your mattress or under the legs of the bed.
- **Side lying:** Patients should get into this position by LOGROLLING their body as one unit to decrease pain. Pillow thickness should be thick or thin to not lift the head too high and support the neck.

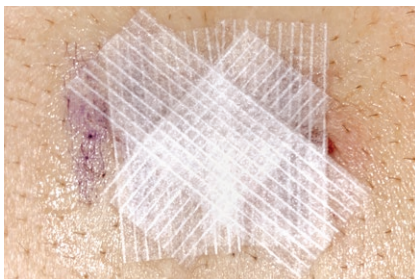
INCISION CARE

You will have either staples or sutures under the skin after surgery. You may need to cover the incision with some type of occlusive dressing to shower.

- **Staples or external sutures** – You will be scheduled for a staple removal appointment 10 to 14 days after the procedure by the surgeon. Keep dry until removal by the surgeon.



- Steri-Strips – Keep them dry after surgery, usually covered with steri-strip tapes and these will fall off on their own. These may be removed after 14 days if they are still in place then. The skin may be pink to light red and swollen. Ice works well to decrease pain and swelling.



DRAINAGE

Drainage from the wound can be normal after surgery, however contact the surgeon if:

- Drainage is continuous (through dressing onto clothing)
- Drainage is bloody or clear
- Drainage has an odor
- Skin is red and hot, even after icing for 20 minutes.

SHOWERING

Follow your physician's orders when showering. If you are required to cover your incision for showering, there is a sticky film dressing called Opsite or Tegaderm that can be used.

ACTIVITY

Everything you do is exercise after surgery. Change position as needed for comfort, use pillows for support and remember to take breaks to avoid doing too much.

WALKING

Walking is your primary activity! Your surgeon wants you walk as much as possible, building up to a mile a day. Getting upright can be challenging, however walking is easier. Add distance slowly doing the same or more each time.

- Begin by walking for 10-minute bouts, six times/day around your home or outside with someone beside you.
- If you use a walker, you may have to raise the height to a height that does not make you bend forward.
- Increase the time as tolerated. Monitor how the pain and stiffness increase or subside.
- Build distance up to one mile per day over the first two to four weeks after surgery (**if pain is well controlled**).
- Take someone with you for safety.
- **AVOID** excessive bilateral arm elevations to prevent excessive activation of extensor muscles.



- Patients with discectomy should avoid increased pressure for long periods of time. Frequent position changes are recommended.

OUTPATIENT PHYSICAL THERAPY

Outpatient physical therapy will begin six weeks after surgery. The office will give you a referral for PT and you can find a clinic in your local area to treat you.

QUESTIONS / CONCERNS

You can contact the Care Team with any questions or concerns at **(510) 818-1160**.

- Monday – Friday, the office is open from 8:30 a.m. to 5 p.m.
- Evenings, weekends and holidays – there is always an on-call physician. The answering service will take a message and give it to them. If you ask, they can call you back.

EMERGENCIES

- Do not wait until something is an emergency to contact the office. We are available to answer your questions!
- If there is an emergency, call 911 or go to your local emergency room.

FOLLOW-UP APPOINTMENTS

OFFICE VISIT

Refer to your “surgery letter” for your first follow-up appointment.

If you have staples, you should schedule an appointment for staple removal for 10 to 14 days after hospital discharge.

NON-FUSION PATIENTS:

TWO WEEKS AFTER SURGERY

If you did NOT have a fusion, you can begin the following exercises after your first post-operative visit with the surgeon. He will give you instructions for any precautions you must follow.

FUSION PATIENTS:

FOUR TO SIX WEEKS AFTER SURGERY

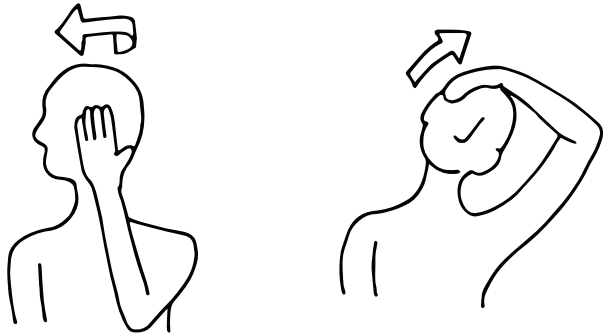
If you have a cervical fusion, you must wait for clearance and precautions from the surgeon. He will give you instructions for any precautions you must follow. The fusion must heal completely before you are allowed to begin an exercise program.

STRETCHES

You will begin these at least two weeks after your surgery
IF YOU DID NOT HAVE A FUSION.

TURNING NECK STRETCH

1. Gently turn your head so you are looking up to the right.
2. Place your right hand on your left cheek and jaw. Apply mild pressure to give yourself a deeper stretch.
3. Turn your head back to look down and to your left.
4. Place your left hand on top of your head and gently apply pressure.
5. Repeat this 10 times. Then repeat this movement in the other direction 10 times.



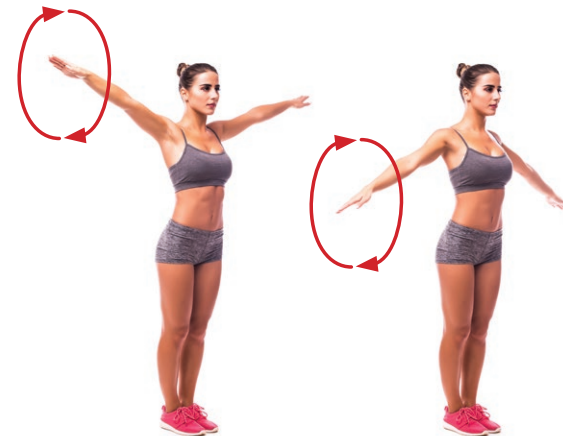
SHOULDER SHRUGS

1. Shrug your shoulders up toward your ears.
2. Drop them down.
3. Repeat 10 times.



ARM CIRCLES

1. Sit or stand with your arms at your side, with your palms facing forward and your thumbs pointing to the ceiling.
2. Lift your arms up and circle them backwards.
3. Return to starting position.
4. Repeat 10 times.



ARM AND SHOULDER RETRACTION

1. Sit or stand with your arms in front of you and your thumbs up.
2. Move your arms out to the sides, while squeezing your shoulder blades together.
3. Return to starting position.
4. Repeat 10 times.



JAW LOWERING

1. Sit or stand by a mirror so that you can see your face.
2. Place the tip of your tongue behind your top teeth.
3. Slowly lower your bottom jaw to open your mouth, while keeping your tongue in contact with the roof of your mouth. Use the mirror to make sure that you are opening your mouth evenly, and not moving your jaw from side to side.
4. Close your mouth.
5. Repeat 10 times.



PECTORAL STRETCH USING DOORWAY

1. Stand in a doorway.
2. Place your hands and forearms at shoulder level on the sides of the doorway.
3. Gently step forward until you feel a gentle stretch across your chest and in front of your shoulders. Keep your back straight and your neck and shoulders relaxed.
4. Hold for 30 seconds.
5. Return to starting position.
6. Repeat five times.

