ProOrtho
ORTHOPEDIC SURGERY
Personalized care. Optimal results.

PREPARING FOR SPINE SURGERY









PROLIANCE SURGEONS®

YOUR ROAD TO RECOVERY

CONTENTS

NOTE: Please bring this booklet to all appointments related to your upcoming spine surgery

CONTACT INFORMATION

Hours: Monday - Friday from 8am - 5pm

Kirkland Clinic
12911-120th Avenue NE
Suite H-210
Kirkland, WA 98034
Phone: (425) 823-4000
Fax: (425) 821-3550

Seattle Clinic
901 Boren Avenue
Suite 900
Seattle, WA 98104
Phone: (425) 823-4000
Fax: (206) 323-6868

Bellevue Clinic
1810 116th Ave NE
Suite D-4
Bellevue WA 98004
Phone: (425) 823-4000
Fax: (425) 821-3550

Swedish Redmond
18100 NE Union Hill Rd
Redmond, WA 98052
Phone: (425) 823-4000
Fax: (425) 821-3550

Swedish Issaquah
751 NE Blakely Drive,
Suite 4020
Issaquah, WA 98029
Phone: (425) 823-4000
Fax: (425) 821-3550

Monroe Clinic
14841 179th Avenue SE
Suite 330
Monroe, WA 98272
Phone: (425) 823-4000
Fax: (425) 821-3550

Proliance Eastside MRI
12911-120th Ave NE
Suite H-120
Kirkland, WA 98034
Phone: (425) 823-4226
Fax: (425) 823-4754

Proliance Eastside Surgery Center (PESC)
12911-120th Ave NE, Suite H-110
Kirkland, WA 98034
Phone: (425) 216-7000
Fax: (425) 216-7019

Business Office
12911-120th Ave NE
Suite G-10
Kirkland, WA 98034
Phone: (425) 481-6301
Fax: (425) 481-0516

If you have any questions or concerns, please call us at (425) 823-4000 or visit our website at www.proortho.com

ProOrtho
ORTHOPEDIC SURGERY
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PROLIANCE SURGEONS®

MAPS & DIRECTIONS

Proliance
EASTSIDE SURGERY CENTER

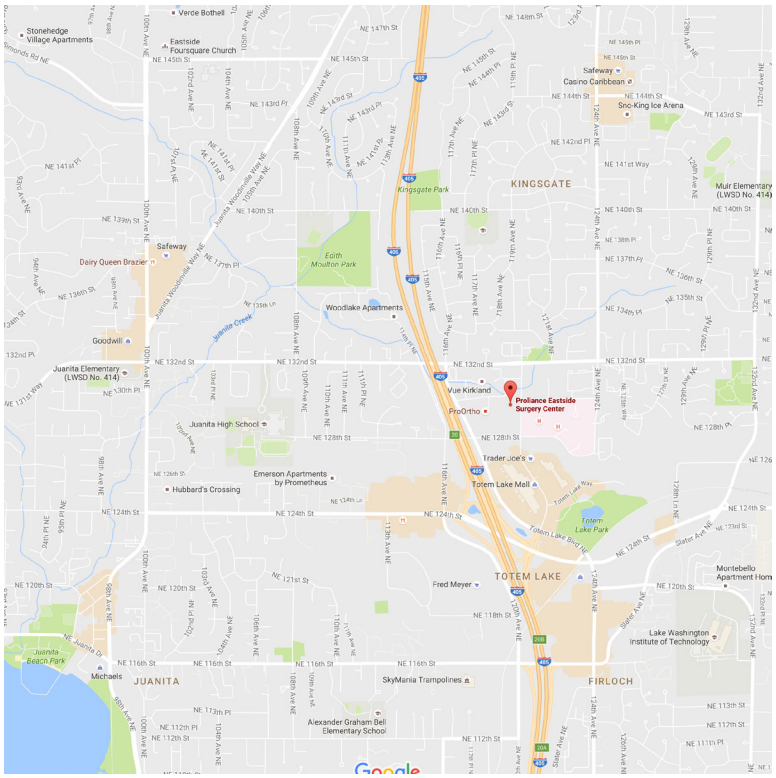
Driving Directions

Heading South on I-405

- Take the NE 124th Street exit (20)
- Turn right onto NE 124th Street
- Turn right onto 116th Avenue NE
- Turn right onto NE 128th Street
- Turn left onto 120th Avenue NE
- At the intersection of 130th Lane, take a left
- Continue driving straight down the hill. The surgery center is the last building on the left on the first floor.

Heading North on I-405

- Take the NE 124th Street/ Totem Lake Blvd. exit (20B)
- Stay to the right and follow the Totem Lake Blvd. exit
- Take a left onto Totem Lake Blvd.
- Turn right onto NE 128th Street
- Turn left onto 120th Avenue NE
- At the intersection of 130th Lane, take a left
- Continue driving straight down the hill. The surgery center is the last building on the left on the first floor.



Parking & Check-In

Free parking is available just north and east of the building. The surgery center is on the first floor.

Proliance Eastside Surgery

12911-120th Ave NE, Suite H-110
Kirkland, WA 98034
Phone: (425) 216-7000

On the day of surgery, if you are delayed for any reason, please call (425) 216-7000

SWEDISH
Issaquah

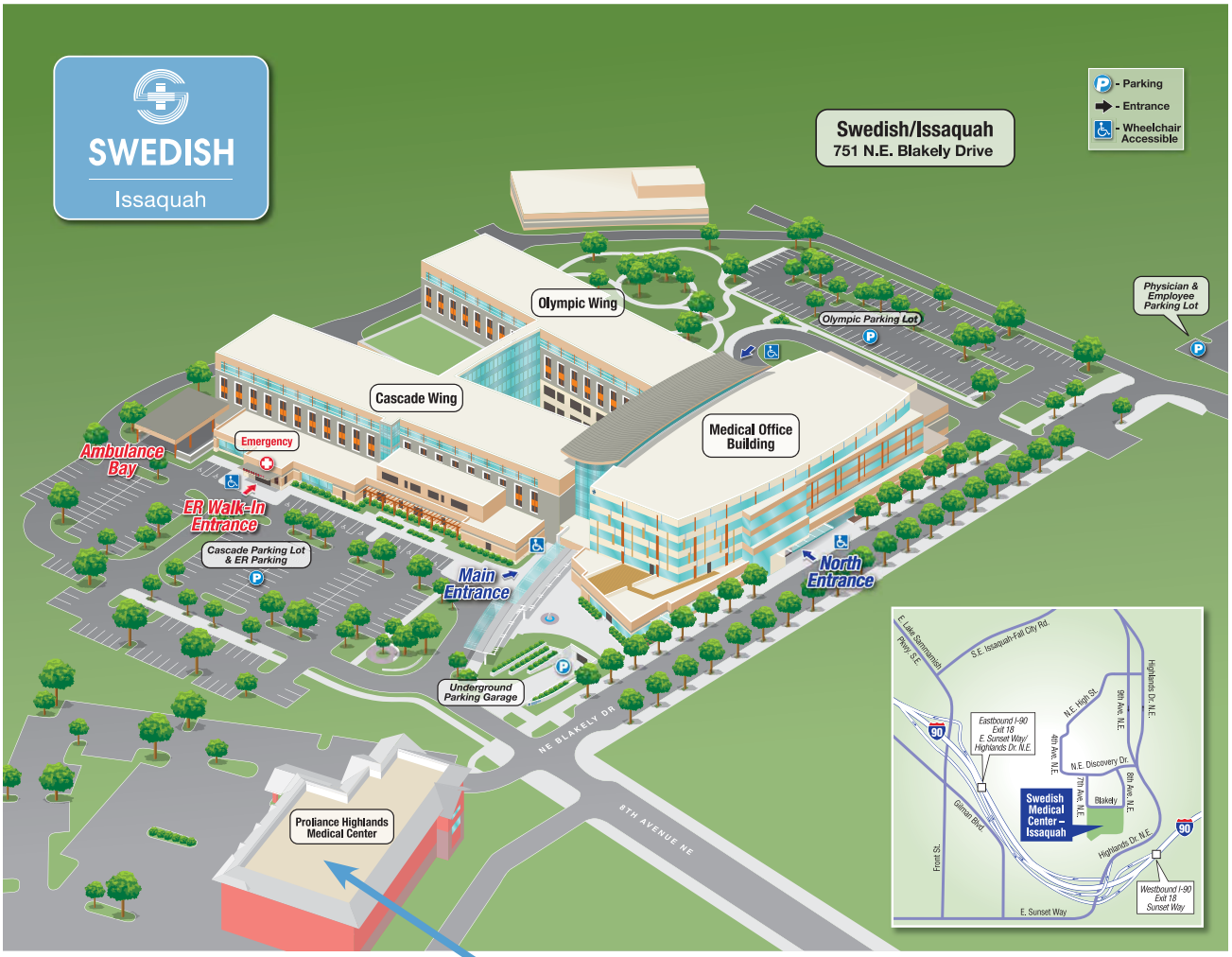
Driving Directions

Traveling East on I-90

- Take exit 18 for E Sunset Way/ Highlands Drive
- Keep left at the fork and merge onto Highlands Drive NE
- Turn left (west) at the first traffic light onto NE Discovery Drive
- Turn left (south) at the next light onto 8th Avenue NE
- Travel down 8th Avenue, until it turns into the Swedish/Issaquah main entrance
- Immediately turn right to enter the underground parking garage. Parking is also available on the surface lots.

Traveling West on I-90

- Take exit 18 for E Sunset Way/ Highlands Drive
- Turn right (north) onto Highlands Drive NE/E Sunset Way, Continue to follow Highlands Drive NE
- Turn left (west) at the first traffic light onto NE Discovery Drive
- Turn left (south) at the next light onto 8th Avenue NE
- Travel down 8th Avenue, until it turns into the Swedish/Issaquah main entrance
- Immediately turn right to enter the underground parking garage. Parking is also available on the surface lots.



This is NOT our office

NOTE:
We are NOT located in the Proliance Highlands Medical Center. Our office is located in the Medical Office Building within the Swedish Issaquah Medical Center.

Parking & Check-In
Free parking is available in the underground garage and in the Cascade & Olympic parking lots on the east & west sides of the campus. Parking is free campus wide. Check in for surgery is on the first floor.

Swedish Medical Center- Issaquah

751 NE Blakely Drive
Issaquah, WA 98029
Phone: (425) 313-7867

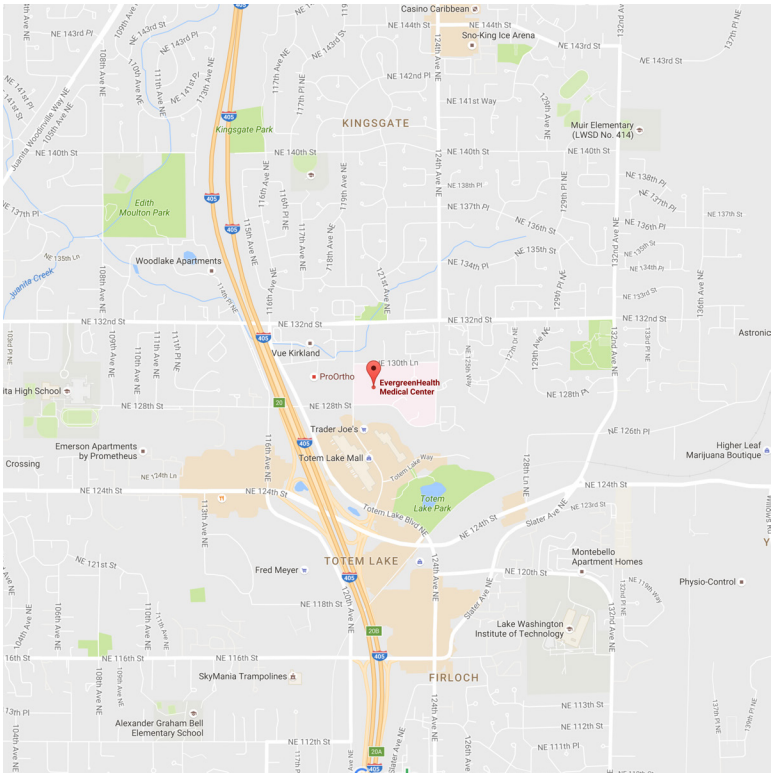
On the day of surgery, if you are delayed for any reason, please call (425) 313-7867

EvergreenHealth

Driving Directions

Heading South on I-405

- Take the NE 124th Street exit (20)
- Turn right onto NE 124th Street
- Turn right onto 116th Avenue NE
- Turn right onto NE 128th Street
- Continue on NE 128th Street
- Once you pass 120th Avenue NE, take your first left and follow signs for parking

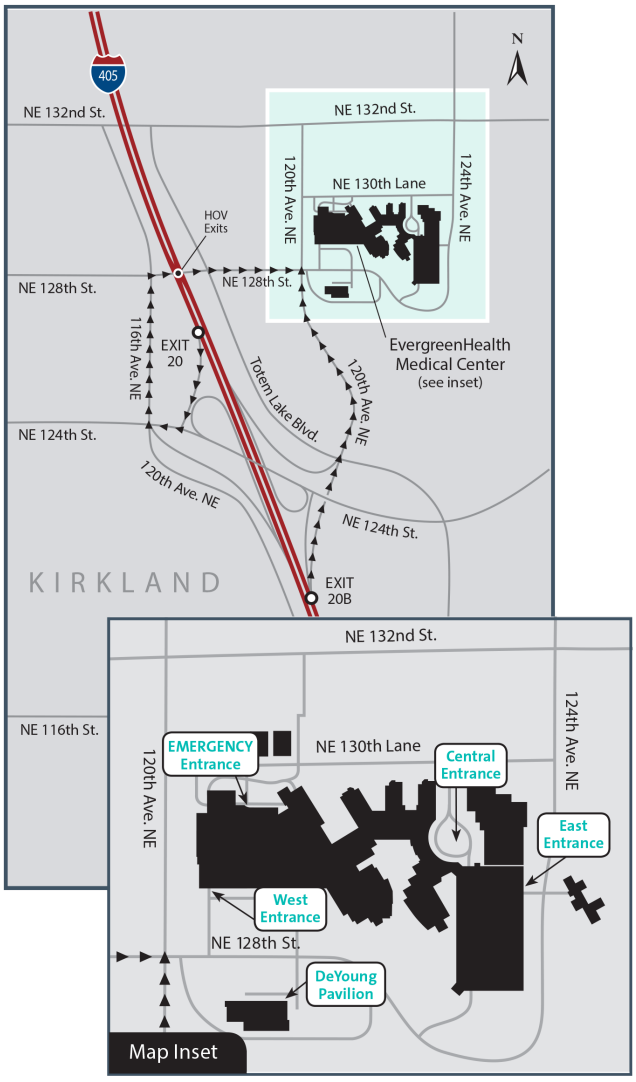


Heading North on I-405

- Take the NE 124th Street/ Totem Lake Blvd. exit (20B)
- Stay to the right and follow the Totem Lake Blvd. exit
- Take a left onto Totem Lake Blvd.
- Turn right onto NE 128th Street
- Continue on NE 128th Street
- Once you pass 120th Avenue NE, take your third left and follow signs for the Blue parking garage

Parking & Check-In

- We recommend parking in the Blue parking garage. Please enter the hospital and follow the signs to the Blue elevator. The surgery department is on the third floor in the Blue Zone.
- Please take the Blue elevator up to the third floor and follow the signs to the Surgical Services waiting room.



Leaving:

When leaving campus, access I-405 N by turning left on 120th Ave. NE and I-405 S by following NE 128th St. and turning left on 116th Ave. NE. Direct Access to HOV/Express Lanes for north and south bound traffic is available via NE 128th St.

EvergreenHealth Medical Center

12040 NE 128th Street
Kirkland, WA 98034
Phone: (425) 899-3451

On the day of surgery, if you are delayed for any reason, please call (425) 899-3451

OVERLAKE
Surgery Center

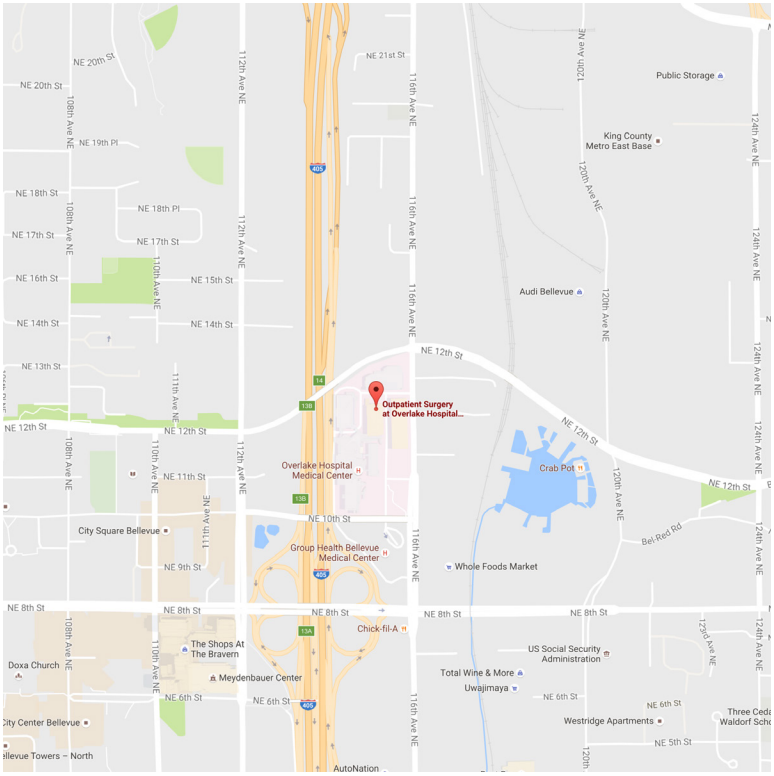
Driving Directions

Heading South on I-405

- Take exit 13B for NE 8th Street East
- Merge onto NE 8th Street
- Use left two lanes to stay on NE 8th Street
- Turn left onto 116th Avenue NE
- Turn left onto NE 10th Street
- Turn right onto Felix Terry Swistak Drive NE
- Continue straight through the Overlake Hospital campus and park in the North Parking Garage

Heading North on I-405

- Take exit 13A-B toward NE 4th Street
- Keep right at the fork and merge onto NE 4th Street
- Turn left onto 116th Avenue NE
- Turn left onto NE 10th Street
- Turn right onto Felix Terry Swistak Drive NE
- Continue straight through the Overlake Hospital campus and park in the North Parking Garage



Parking & Check-In

- Once parked, please bring your parking ticket with you for validation.
- Take the parking garage elevators down to the 1st floor.
- Exit the elevators and continue straight down the wood floored cooridor.
- Follow signs for the Overlake Medical Tower Elevators and take the elevator to the 3rd floor.

Overlake Surgery Center

1135 116th Avenue NE
Suite 300
Bellevue, WA 98004
Phone: (425) 709-2500

On the day of surgery, if you are delayed for any reason, please call (425) 709-2500

PREPARING FOR SURGERY

General Pre-Operative Information

Preparing for spine surgery is a physical, mental, and emotional process. Adequate preparation will enhance success and speed your recovery. We are here to support you in every way possible. You have a significant role in the healing process and can positively impact how soon you recover. Continuing to master and practice good body mechanics will be of utmost importance to maintain a healthy back and neck. It is helpful to understand and practice a neutral spine position (see pages 27-33) during your recovery and beyond.

If you have thoracic or lumbar (low back) surgery, use your abdominal muscles for bracing. For those undergoing cervical (neck) surgery, practice keeping your head and neck neutral, avoiding prolonged or excessive bending or twisting positions. Surgery can be painful, but you can minimize pain by using proper body mechanics. The more you perfect your body mechanics before surgery, the easier it will be for you to recover. It is often helpful to change positions every 30 minutes or so to avoid fatigue. Strength is another important component to recovery. You lose strength from being less active during the recovery process. Therefore, it is crucial to be as strong as possible before surgery. The stronger you are before surgery, the faster your rehabilitation will be following surgery.

There are many important matters to address before surgery. Allowing yourself ample time to accomplish these tasks will help reduce stress prior to surgery.

Please complete the Patient Checklist on the following pages before your scheduled surgery. Completion of EACH step will ensure your safety and properly address any pre-surgical concerns.

Patient Instruction Checklist

☐ Know Your Insurance Benefits:

Our Patient Accounts Representatives will contact your insurance to verify your coverage and benefits, and will request authorization for surgery, if required. After verifying your benefits, they will call you to discuss financial arrangements for your cost sharing expenses related to our services. Please be prepared to pay with cash, check or credit card prior to surgery. Our Patient Accounts Representatives can be reached at (425) 481-6301.

We also recommend you contact your insurance company. Your surgery will involve care from ProOrtho, the surgical facility, and a dedicated anesthesiologist. Your insurance company can explain your full benefits package and confirm the level of coverage you will receive for all of the participants in your surgical care.

☐ Primary Care Physician (PCP) Appointment:

If required, make an appointment with your primary care physician for a pre-operative history and physical exam. This is sometimes needed to ensure you are healthy enough for surgery. The *Pre-operative Medical Clearance Form* (found in the front folder) should be given to your primary care doctor (PCP) on the day of your visit. Your PCP will coordinate any required tests.

If you have any history of heart problems (i.e., previous heart attack, coronary artery disease, valve disease, etc…) you will also need clearance from your cardiologist. If this is required, it will be noted on the *Pre-operative Medical Clearance Form.*

If you have uncontrolled diabetes, you may have to see your endocrinologist. If this is required, it will be noted on the *Pre-operative Medical Clearance Form.*

If any of the above appointments are required, make sure the completed forms are submitted to our office at least ONE week before your surgery. If more than 30 days pass between your pre-operative appointment(s) and date of surgery, your surgery may be rescheduled or cancelled.

☐ Surgical Consent:

Enclosed in the front folder is your *Consent for Surgery*. Please read, sign, and send back to us in the self-addressed stamped envelope. **The consent needs to be in our office at least ONE week prior to your surgery.** It is imperative that all highlighted areas are signed. A family member or friend can sign as the witness. Contact our office if you have any questions or feel the risks versus benefits have not been well explained.

☐ Time Off from Work:

If you will require time off from work, make arrangements with your employer prior to surgery. Be aware of your employer's policy in this regard. Please fax any documents that need to be completed by our office to (425) 821-3550.

☐ Medications to Discontinue SEVEN DAYS Prior to Surgery:

Please discontinue the use of anti-inflammatories. This includes Aspirin, Ibuprofen (Advil), Meloxicam (Mobic), Celecoxib (Celebrex), Naproxen Sodium (Aleve), Alka-Seltzer, Bufferin, Anacin, Relafen, DayPro, among others. If in doubt, ask your doctor. These drugs may increase the risk of excess bleeding.

NOTE: If you are having a fusion (bones are being fused together), do not take these medications for 3 months after surgery or until cleared by your doctor. These medications inhibit bone healing.

The use of Acetaminophen (Tylenol) is okay as long as you have no liver dysfunction.

Please discontinue Clopidogrel (Plavix) & Triclopidine (Ticlid).

Please discontinue Coumadin (Warfarin).

Please consult your PCP and/or cardiologist prior to discontinuing Clopidogrel (Plavix), Triclopidine (Ticlid), or Coumadin (Warfarin).

☐ Social Habits

If you are undergoing a fusion, DO NOT use any **nicotine** products (e.g., cigarettes, cigars, chewing tobacco, patches, gum, nicorette, etc...) one month prior to surgery and for three months following surgery.

Smoking markedly increases your chances of having lung problems following surgery, especially bronchitis and pneumonia.

Nicotine inhibits bone healing. It is better to postpone your surgery than risk a major complication because you are still consuming nicotine (i.e., smoking, chewing, etc...).

If others in your immediate family smoke, you may be exposed to second-hand smoke at home. This is almost as bad as smoking yourself. If friends or family continue to smoke, be sure to have them smoke in another room or outside your home.

☐ Diagnostic Studies:

Make certain we have a copy of your x-rays and any other radiological exams such as an MRI or CT at least ONE WEEK prior to your surgery. If we do not have these prior to your surgery, it will be your responsibility to bring them with you on the day of surgery. If you fail to bring them, surgery will likely be cancelled.

☐ Medical Supplies:

If you will require crutches, a walker or other medical equipement after surgery, arrange to rent them prior to surgery. Most medical supply offices rent them by the week. Contact your insurance company to determine if they cover the cost of these supplies.

☐ Skin Cleansing:

Starting three days prior to surgery, cleanse the area where the skin incision will be made with soap and water for five minutes each day. Lightly scrub as to not cause any abrasions on the skin.

☐ Food and Drink:

Do NOT eat or drink anything after midnight the night before your surgery, this includes water! You may brush your teeth. If you take blood pressure medication, you may continue to take your medication with a SMALL sip of water the morning of your surgery. A pre-operative nurse will be contacting you to discuss this in more detail.

☐ Personal Matters (if applicable)

- Childcare (if applicable)
- Pet care (if applicable)
- Instructions to those watching your house (if applicable)
- Assistance at home after surgery
- Arrange your home (e.g., furniture, appliances, etc...) for maximum ease after surgery
- Meals at home after surgery (planned/prepared/frozen)
- Pay bills/correspondence
- Banking & Insurance responsibilities
- Transportation arranged to and from the surgery center or hospital

☐ Transportation Home:

Please arrange for transportation home after your surgery. If you will be discharged the day of your surgery, please make transportation arrangements to and from the surgery center. You will not be allowed to drive yourself! Your escort can transport you home, or you and your escort can take a taxi or bus. In addition, please have someone stay with you the first 24 hours after surgery.

☐ Personal Items to Bring on the Day of Surgery for OUTPATIENT Procedures

- A set of comfortable clothes to wear to and from the surgery center
- Comfortable walking shoes
- Books, music player with headphones, writing materials
- Reading glasses (if required)
- Toiletries (toothbrush, toothpaste, etc...)

☐ Personal Items to Bring to the Hospital for INPATIENT Procedures

Although the hospital will provide hospital gowns and slippers, some patients prefer their own comfortable clothing. Be aware, however, that doctors and nurses need you to be in hospital gowns for ease of care during the majority of your stay. Please do not bring jewelry, expensive watches, or credit cards with you to the hospital. You should wear glasses instead of contacts on the day of surgery. Below is a list of things to bring:

- A set of comfortable clothes to wear to and from the hospital
- Robe, pajamas, or sweats
- Comfortable walking shoes (preferably slip-ons with non-slip soles)
- Slippers (non-slip soles)

☐ Health Concerns:

If you develop ANY last minute health problems (e.g., cold, flu, fever), please contact our office as soon as possible at (425) 823-4000.

Don't Forget...

- **The consent and any pre-op workup including labs need to be in our office at least ONE week prior to your surgery.**
- **If you are undergoing a fusion, DO NOT use any nicotine products (e.g., cigarettes, cigars, chewing tobacco, patches, gum, nicorette, etc...) one month prior to surgey and for three months following surgery.**
- **Do NOT eat or drink anything after midnight the night before your surgery.**
- **If you develop ANY last minute health problems (e.g., cold, flu, fever), please contact our office as soon as possible at (425) 823-4000.**

Notes

DAY OF SURGERY

Day of Surgery: Prior to Surgery

Plan to arrive at least one hour prior to the time of your procedure on the day of your surgery. Leave your jewelry and other valuables at home (except for your insurance card and your payment for the copay/deductible). Bring with you any advance directives you may have. Maps & Directions to the location where you will be having surgery are included in this surgical packet (pages 5-11).

- If your surgery is at the **Proliance Eastside Surgery Center** and you are delayed for any reason, please call (425) 216-7000.
- If your surgery is at **Swedish Medical Center in Issaquah** and you are delayed for any reason, please call (425) 313-7867.
- If your surgery is at **EvergreenHealth Medical Center** and you are delayed for any reason, please call (425) 899-3451.
- If your surgery is at the **Overlake Surgery Center** and you are delayed for any reason, please call (425) 709-2500.

Day of Surgery: After Surgery

Outpatient Surgery

If your surgery is scheduled as an outpatient procedure (you go home the same day), you will be discharged after an adequate period of rest and observation in the recovery area. You will be given instructions on your home care and recovery. Do not drive, operate machinery, sign important documents, or drink alcoholic beverages the day of your surgery and/or while you are taking pain medications. We advise you to have someone with you the first 24 hours after surgery. In order to fill post-operative prescriptions, please bring a method of payment with you to the surgery center.

After surgery, you will be taken to the PACU (Post Anesthesia Care Unit). You will awaken there from anesthesia and be monitored. Your pain will be treated and any post-operative orders performed. This usually takes 30-60 minutes. Once the nurse has determined you are safe to go home, the person taking you home will be asked to bring their car into the patient pick-up spot. You will be escorted to the car by one of the (PACU) staff.

Most likely you will not feel "ready" to go home. However, the PACU is where you recover from anesthesia; home is where you recover from surgery. Many people feel rushed out of the PACU because they believe they should be able to stay until they feel more awake. Feeling sleepy and dizzy is normal after anesthesia. Some nausea is also not unusual and will be treated, but may not be completely resolved before discharge.

Pain medications and decreased activity can cause constipation. You may take an over-the-counter stool softener (e.g., Colace). In addition, eat foods high in fiber and drink 6-8 glasses of water per day. Your bowels should be working normally within 3-5 days after surgery. Once discharged from the surgery center, do not drive, operate machinery, sign important documents, or drink alcoholic beverages while you are taking pain medications. In order to fill post-operative prescriptions, please bring a method of payment with you to the surgery center.

Inpatient Surgery

If your surgery is scheduled as an inpatient procedure, you will be transferred to the inpatient hospital ward from the recovery area after an adequate period of observation in the PACU (Post Anesthesia Care Unit). Your length of stay will vary based on your procedure. Your physician will provide an estimate of the number of days you will be hospitalized. Patients admitted to the hospital following minimally invasive surgery typically stay fewer days than more traditional techniques. As an inpatient, you will work with physical therapy (PT) and occupational therapy (OT). Prior to going home, PT and OT will need to verify you are safe for discharge. Other requirements for disharge to home include tolerating a diet, ambulating independently, absence of fevers, urinating without difficulty, and pain control on pills (not IV medications). Not all patients have a bowel movement prior to discharge. Pain medications and decreased activity can cause constipation. You will likely be prescribed a stool softener to help prevent constipation. You may also take an over-the-counter stool softener (e.g., Colace). In addition, eat foods high in fiber and drink 6-8 glasses of water per day. Your bowels should be working normally within 3-5 days after surgery. Once discharged from the hospital, do not drive, operate machinery, sign important documents, or drink alcoholic beverages while you are taking pain medications. In order to fill post-operative prescriptions, please bring a method of payment with you to the hospital.

POSTOPERATIVE CARE

General Instructions

Almost everyone after spine surgery will experience flare-ups of pain during the healing process. This is a normal part of recovery. When you have increased pain, stop and think about what caused it and use the flare-up as an opportunity, although a painful one, to learn your limits. Some basic guidelines are listed below to help with your post-operative recovery. In general, the recovery from a decompression surgery alone is much faster than the recovery from a fusion. The recovery from a decompression surgery is usually 6-12 weeks. The recovery from a fusion is typically 3-6 months.

Call Your Doctor If...

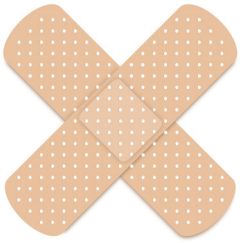
Rarely, there are problems that are serious and require the evaluation of a doctor. Please do not hesitate to call us if you experience any of the following:

WARNING

If you underwent a fusion, DO NOT smoke or use other nicotine products. Nicotine greatly inhibits wound and bone healing.

- If you experience any significant shortness of breath, inability to swallow, or chest pain, go to your nearest emergency department or call 911.
- Any loss of bladder or bowel control.
- Any signficant new weakness in your arms, hands, legs or feet.
- Any significant change in sensation in your arms, hands, legs or feet (e.g., increase in numbness, tingling, or pain).
- If you experience pain, swelling, and/or redness behind your knees or calves, call our office immediately or go to your nearest emergency department as these can be symptoms of a blood clot in your legs.
- Feelings of flu-like symptoms (e.g., nausea, general body aches, or a temperature over 100 degrees for longer than 24 hours).
- Bleeding, drainage, redness or swelling from your incision area.
- Severe headaches.
- Frequent need to urinate small amounts of urine or feeling of bladder distention.

Incision Care & Dressing



- Please change your dressing with sterile gauze and tape or a bandaid once a day for five days or until your incision is completely dry (i.e., when there is absolutely no drainage on the dressing).
- You may remove your dressing to shower 24 hours after surgery, however, do not submerge your incision in a bathtub or hot tub until the incision is completely healed (~3 weeks).
- Five days after surgery, if your dressing is dry, you may remove the dressing and leave the incision open to air.
- Do not aggresively scrub your incision for 3 weeks.
- If you have Steri-Strips on your incision, allow them to fall off on their own. This usually takes a couple of weeks.
- If you have sterile super glue (i.e., Dermabond) on your incision, it will likely begin to peel off by itself after 1-2 weeks.
- We typically use absorbable sutures so no sutures have to be removed. If your surgeon used non-absorbable sutures, they will let you know when they have to be removed.
- A bump under the skin incision may develop from a small amount of post-operative bleeding/swelling. This typically resorbs by 6-12 weeks following surgery.

Ice

- Ice is very helpful for pain control, and its value is often under-appreciated. Ice can relieve pain and decrease inflammation. Ordinary ice cubes in a freezer bag works well or even a bag containing frozen vegetables such as peas. Wrap a towel over the bag to prevent an ice burn. Place it directly over the painful area for about 15 minutes every 3 hours as needed.
- Another effective technique is ice massage. First freeze water in a styrofoam cup. To use it, peal back the edges of the cup, providing in essence, a large ice cube in a holder. Then rub the ice back and forth over the painful area until the ice is melted. This is messier than a bag of ice but it works better for some people.

Spine Resting Position

- This position unloads the muscles, discs, and joints of the spine and can help with post-operative pain. To use the spine resting position, lie on your back facing up on a firm surface such as a carpeted floor with your hips and knees bent and your feet on a chair. Let the muscles of your neck and back relax. Stay in the spine resting position as long as needed to help with pain. This may also be performed by laying on your back with a pillow under your neck as well as your knees.

Medications

- Prescribed medication(s) should be taken only as directed. Take all medication with food in your stomach unless otherwise directed. If you experience any itching, or other abnormal reaction to the medication, discontinue the medication and contact our office.
- If you had a **fusion**, do NOT take anti-inflammatory medications for **3 months** (e.g., aspirin, ibuprofen (Advil), naproxen (Aleve), etc…), as they are known to inhibit bone healing. However, you may resume the use of aspirin 24 hours after a fusion if you take it for your heart. Tylenol is okay to take since it does not inhibit bone healing.
- If you underwent a **decompression** (no fusion), anti-inflammatory medications may be resumed twenty-four hours after your surgery.

WARNING

If you had a fusion, DO NOT take anti-inflammatory medications (e.g., aspirin, advil, etc...) for 3 months following surgery since they inhibit bone healing. You may take Tylenol.

- As your pain lessens, you should decrease the amount of pain medication you are taking. We suggest you switch from narcotics to over-the-counter acetaminophen (Tylenol) as your pain decreases.
- Do not stop taking narcotics abruptly since this may cause withdrawal side effects.
- Symptoms from narcotic withdrawal include agitation, anxiety, muscle aches, insomnia, sweating, runny nose, yawning and increased tearing.
- Discuss weaning off of narcotics with your doctor.
- Narcotic pain medications will **NOT** be refilled after normal working hours (Monday - Friday, 8:00am-5:00pm) or on weekends.
- Do not drive while on narcotic pain medications.

Diet

- You may resume your normal, pre-operative diet once you are able to adequately tolerate soft-consistency foods.
- Foods high in protein and vitamins can aid the wound healing process. Please take 500mg of oral ascorbic acid (vitamin C) twice a day.
- If you had a fusion, your diet should contain 1000-1500 mg of calcium as well as 1000 units of cholecalciferol (vitamin D3) once a day for at least **3 months** after surgery to optimize conditions for adequate fusion. Please check with your physician prior to taking calcium if you have a history of kidney stones.
- Pain medications and decreased activity can cause constipation. To prevent this, eat foods high in fiber and drink 6-8 glasses of water per day. If needed, take an over-the-counter stool softener (e.g., Colace). Your bowels should be working normally within one week following surgery.

Activity

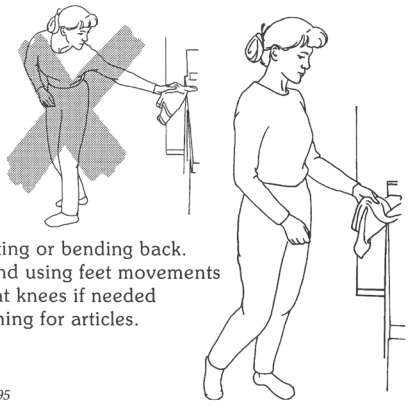
- Plan to rest for the first 24-48 hours following discharge.
- You may sit, stand, and walk as tolerated following surgery, however, try to avoid sitting for more than 30 minutes at a time for two weeks. As a rule of thumb, let pain be your guide.

NOTE

In general, let pain be your guide.

- Avoid excessive bending, twisting, pushing, pulling, or lifting anything more than 15 pounds for 6 weeks.
- You should refrain from running or jogging for 3 months. However, you may swim, or use a stationary bike and/or elliptical machine starting 6 weeks after surgery.
- If you were fitted with a brace, please wear it for most of the day when you are active for a total of 6 weeks. You may remove it when you sleep, eat, shower/bathe, and when you are relatively inactive around the house.
- If you were given TED hose stockings, they may be removed once you are able to walk on a regular basis. If you are spending a lot of time sitting or laying down, we recommend wearing them for a minimum of one week after surgery. They may help reduce the incidence of blood clots.
- Outpatient physical therapy will typically begin within the first six weeks after surgery. This will be discussed at your first postoperative appointment.
- The spine resting position (see page 22 & 29) can also help relieve neck and back pain.

Avoid Twisting



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

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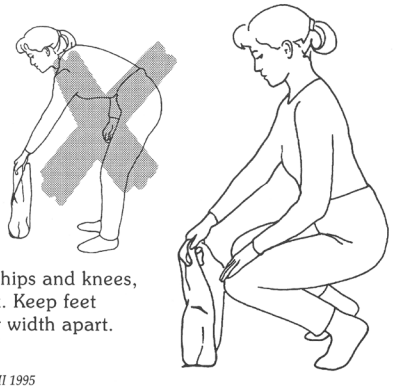
Bending



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

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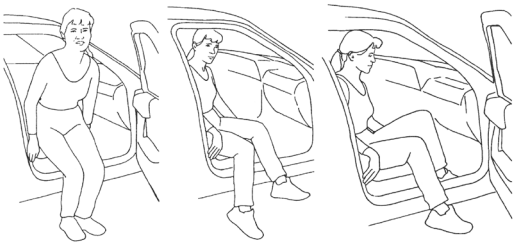
Getting Into / Out of Car



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

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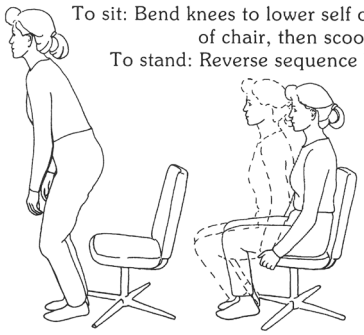
Stand to Sit / Sit to Stand



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

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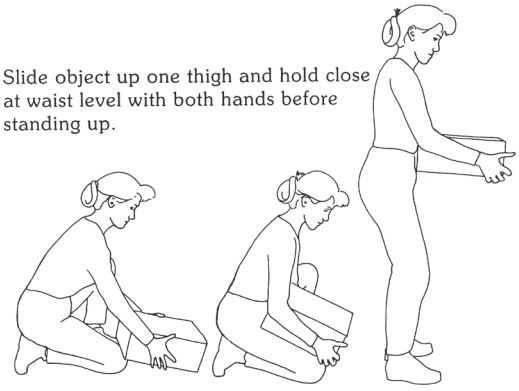
Lifting- Low Shelf

Squat down and bring item close to lift.

Lifting- One Knee

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

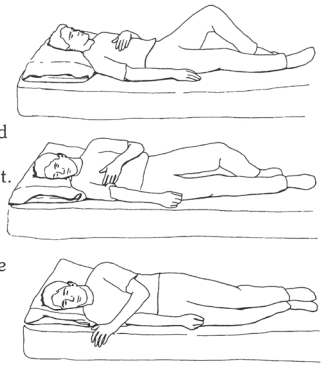


Lifting- Cart

When reaching into cart, lift opposite leg to keep back straight.

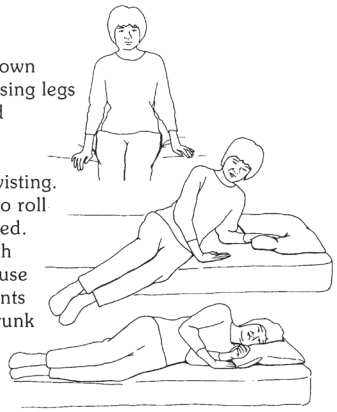
Log Roll

Lying on back, bend left knee and place left arm across chest. Roll all in one movement to right. Reverse for rolling to left. Always move as one unit.

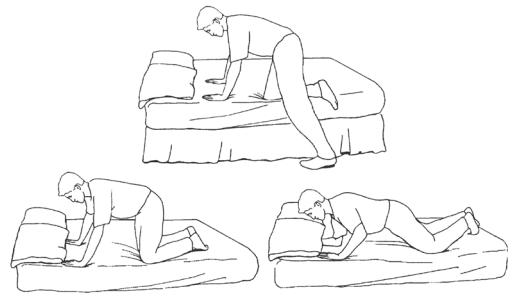


In / Out of Bed

Lower self to lie down on one side by raising legs and lowering head at the same time. Use arms to assist moving without twisting. Bend both knees to roll on to back if desired. To sit up, start with lying on side and use the same movements in reverse. Keep trunk aligned with legs.



Knees Into Bed



Get on hands and knees before lowering self. Reverse process to get up.

Bracing

- We do not routinely provide patients with a brace (i.e., soft collar or abdominal binder) after a *decompression* surgery (no fusion). However, after a *fusion*, many patients like the added support a brace provides. Therefore, patients who have undergone a fusion of their spine may be fitted for and given a brace following their surgery. You may discuss this with your surgeon.

Reminders for Patients Who Underwent a Fusion

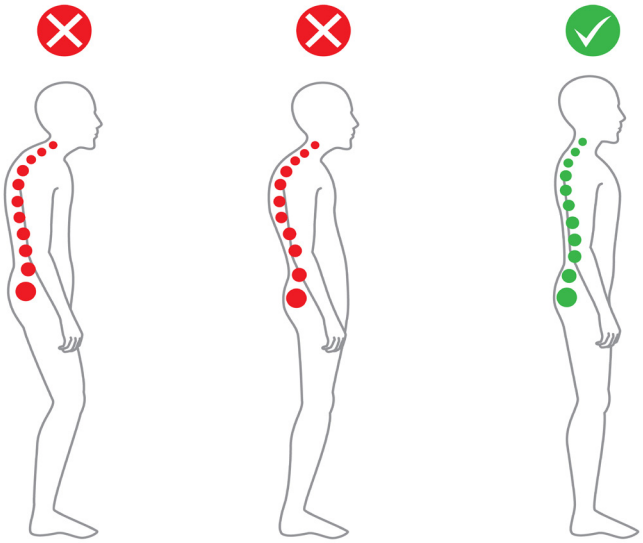
- **Do NOT take anti-inflammatory medications (ie, aspirin, ibuprofen (Advil), naproxen (Aleve), etc…) as they are known to inhibit bone healing.**
- **Do NOT smoke or use other products containing nicotine for at least 3 months (ideally quit altogether). Nicotine inhibits wound and bone healing. The use of products containing nicotine significantly increases your risk for wound and fusion complications.**

- **Your diet should contain 1000-1500 mg of calcium as well as 1000 units of cholecalciferol (vitamin D3) once a day for at least 3 months after surgery to optimize conditions for adequate fusion.**

BODY MECHANICS

Posture

The spine functions as an integrated unit. Therefore, poor posture in one part of the spine forces the other parts out of balance and alignment. The discs, joints, muscles, and ligaments of your neck are under the least amount of strain when the neck is balanced in a neutral position. In order for your head and neck to have good posture, you must have good low back posture since your low back (lumbar spine) provides the base of support for the rest of your spine. This is especially true when sitting, but is also important when standing or bending.



The optimal position of the lumbar spine is called, "lumbar lordosis." To picture proper lumbar lordosis, imagine your low back as having a curve in the shape of the letter C with the closed side of the C facing the belly button and the open side of the C facing backward. Good lumbar lordosis provides the ideal platform for the entire spine and minimizes stresses on the discs and facet joints of the low back.

Standing

For prolonged standing, alternate placing one foot in front of the other or on stool. Wear low heeled shoes and maintain good posture.

Good posture of the head and neck requires good posture of the chest and upper back, which in turn rest on the foundation provided by the lumbar spine. The position for your chest and upper back is simple-chest up, shoulders back slightly, shoulder blades gently retracted (pulled back) toward each other slightly, and your chin pulled back slightly. This posture, called "the neutral spine," should be used for sitting, standing, walking, and all activities of daily life. Although it may feel awkward at first, the more you use the neutral spine position, the more comfortable and balanced it will feel. Eventually it will become almost automatic. In this neutral spine position there is much less tension in your muscles because they do not have to work as hard to hold the balanced posture.

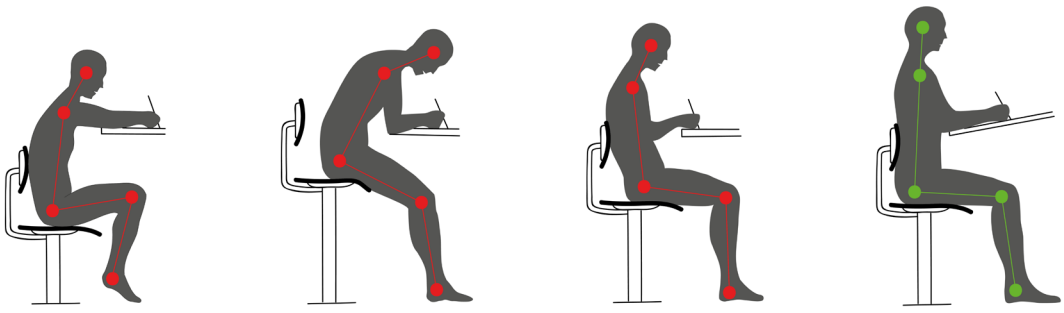
Working at a Desk or Table

Sitting at a desk properly is much more difficult than it might seem, and presents a major ergonomic challenge. Some of the factors that contribute to sitting posture include the desk chair, the desk itself, the computer keyboard and monitor, and the size of the person who is sitting. Most variables can be adjusted to minimize the negative impact of deskwork.

Poor sitting posture leads to low back pain, neck pain, and other repetitive strain injuries. When you add the tasks of working at a desk, the stresses on the spine are even greater. To feel the effects of good versus bad lumbar posture on your neck, sit in a good chair with good lumbar posture. Gently pull back your shoulders and shoulder blades, bringing your chest up, which will allow your neck to rise up to its correct position. Keep your chin parallel to the floor. This posture should feel natural and not strained. Then allow yourself to slump to lose your lumbar lordosis. Observe what happens to your upper back and your neck and head. The upper back will curve and your head and neck will stick out. This poor posture places strain on the discs, joints, ligaments, and muscles of your back.

There is no best chair for the back. The most important thing you can do is experiment. If it feels comfortable in the store, then try it out at home or in your office. If the company does not have a full return policy, do not buy that chair. Your chair must be the right height. When you sit in the chair, your feet should be flat on the floor and your knees should be slightly lower than your hips. The front edge of the cushion should be rounded and not sharp and firm. Most ergonomic chairs have lumbar support. Be sure you use it. If you don't, then you might as well use a stool. An alternative to a regular chair is a kneeling chair, which was designed to protect your back and still fit under a standard desk or table. Some people love these chairs, but others do not find them comfortable.

Depending on proper or improper use, the height and angle of your writing surface can either relieve or create neck pain. Adjust your work surface to allow you to sit up straight, keep your head and neck directly over your shoulders, look straight ahead, and bend at the base of the skull. If your work surface is too low, you may find yourself tending to slump in the low back, round your shoulders, bend your upper back forward, and stick your neck forward, which places excess strain on the neck and low back. One solution is to use an adjustable height drafting table or a fixed-height standing desk or raise a conventional desk to the desired height by putting it on blocks. The angle of the writing surface can be



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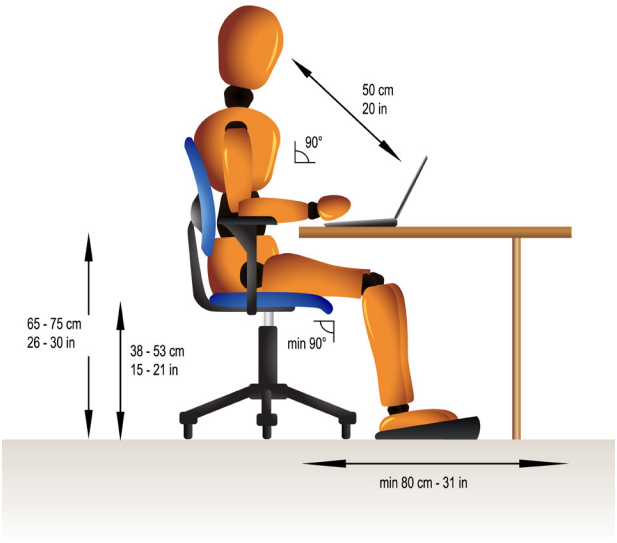
adjusted by raising the back of the desk more than the front. A slant board, which is a portable surface that you place on the desk, works well to provide the best working angle and will hold books, papers, and keyboard. The keyboard should be adjusted to allow you to work with both elbows at right angles while typing. If the desk is too high, a keyboard tray attached under the top surface of the desk will lower it.

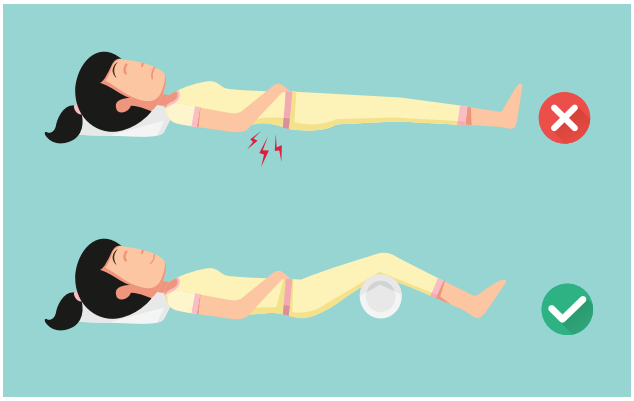


Your computer monitor should be placed directly in front of you. Do not place your monitor off to one side. This is a very awkward position that forces you to turn your upper body and neck. The height of the monitor should be adjusted so your eyes fall naturally on the middle of the screen.

When you are working from source material such as text or notes, take care to properly position them. The best positions are between the keyboard and the monitor, propped up on a slant board, or held at eye level next to the screen by an attachable paper holder. Avoid placing the source material on the desk off to either side, since this will cause you to rotate and flex your head and neck.

Spine Resting Position

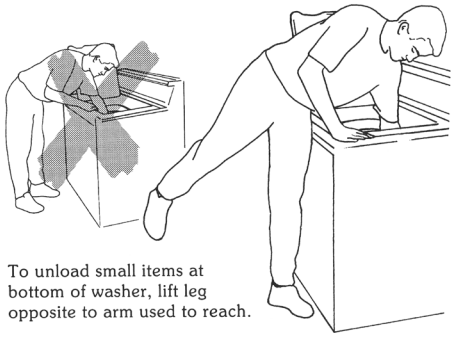
Resting your back means putting it in a position that unloads the muscles, discs, and joints. It is a very useful posture for flare-ups of pain, but is also useful as a preventive measure during periods of prolonged sitting or other sustained postures that may strain the neck and low back. To use the spine resting position, lie on your back facing up on a firm surface such as a carpeted floor with your hips and knees bent and your feet on a chair. Let the muscles of your lower back and neck relax. Stay in the spine resting position for fifteen minutes before returning to normal activities. This may also be performed by laying on your back with a pillow under your neck as well as your knees.



Housework

Limit housework initially after surgery. After a few weeks, you may perform household activities if you are strong and can maintain a neutral spine position. If you find that you are unable to maintain good body mechanics, get help from a family member or a friend until you feel comfortable doing things yourself.

Laundry- Unloading Wash



To unload small items at bottom of washer, lift leg opposite to arm used to reach.

Laundry- Unloading Dryer

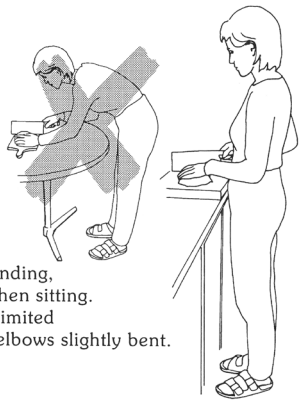
Squat down to reach into clothes dryer.

Small items can be placed in a large zippered mesh bag and pulled out using a reacher.

Kitchen Work

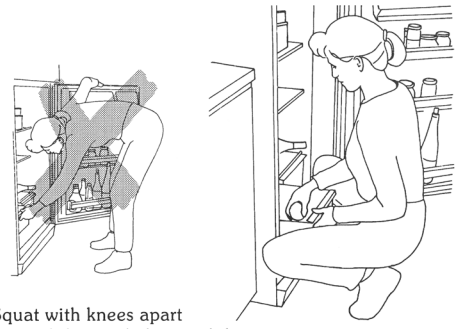
Keep lightweight items in the refrigerator at chest height and stand close to reach them or you may bend at your knees and shift your weight forward to do this. If items are below your reach, squat or kneel with a straight back. Keep pots, pans, dishes and utensils at counter level where you can easily reach them. At first, you may find that preparing lightweight microwave meals is easier. When carrying any pans and/or food items, hold them close to your body. Kneel or sit with a straight back to access utensils below your reach. Keep your back stabilized in a neutral position. If you must bend, make sure you use your knees and hips and brace yourself by placing your hand on the counter. If you must load or unload the dishwasher or oven, make sure to keep your stomach muscles braced, your knees bent, and your back straight.

Work Height and Reach



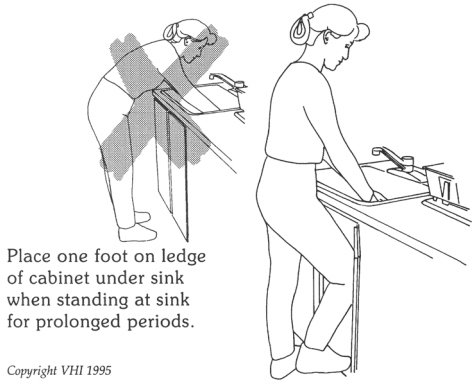
Ideal work height is no more than 2 to 4 inches below elbow level when standing, and at elbow level when sitting. Reaching should be limited to arm's length with elbows slightly bent.

Refrigerator



Squat with knees apart to reach lower shelves and drawers.

Housework- Sink



Place one foot on ledge of cabinet under sink when standing at sink for prolonged periods.

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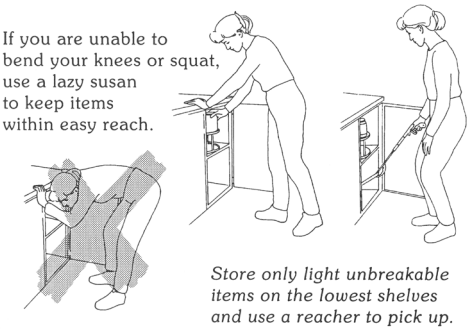
Housework- Reaching Down

If you are unable to bend your knees or squat, use a lazy susan to keep items within easy reach.



Store only light unbreakable items on the lowest shelves and use a reacher to pick up.

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Bathroom Sink Activities

Find your neutral position and brace with your abdominal muscles. Bend your knees. You may use a straight-back bend (bend at the hips and knees) so you don't bend your back. For support, you may place your hands on the sink to brace yourself or lean on your elbows, if necessary. You may also prop one foot up on the ledge under the sink or on a stool. It may be useful to spit into a cup when brushing your teeth in order to avoid bending your back. See diagram below.

Showering

Maintain a neutral spine position. Use a long-handled scrub brush or sponge to reach your feet and back. Stand directly under the water to wash or rinse your hair. Don't bend into the spray. You might find soap on a rope to be helpful or you may tie soap in an old nylon stocking to keep it from dropping. Keep the shampoo and soap within easy reach. A shower caddy eliminates the need to bend. See diagram below.

Toileting

Bend at your hips and knees to get up and down. Keep your back straight. A raised toilet seat may be helpful until you are strong enough to get up and down unassisted. See diagram below.

Bathroom Sink Activities

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

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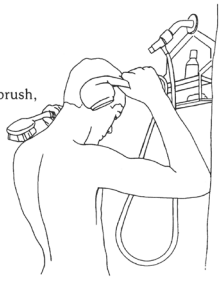
Showering

Standing to shower is preferable to sitting in a tub. A long-handled bath brush, hand-held shower, and rack to hold toiletries prevent stooping and twisting movements. Use a rubber mat to prevent slipping.



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Toileting

Lower self onto toilet by bending knees and using hand support. An elevated toilet seat can make it more comfortable if you are tall.

Avoid reaching around and twisting.

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Getting Dressed

Getting dressed after surgery can be a real challenge, especially if you have had a large surgery. One goal is to always to keep your back straight and avoid bending at the waist. To make it easier, try the following:

- Wear loose-fitting clothes that are easy to put on and take off.
- To get dressed, support your back by leaning against a wall. Some people find it easier to put on underwear and pants while laying on their back.
- If you get dressed seated, make sure you are able to maintain a neutral spine position. Remember, keep your back straight.
- Put shirts or blouses on while standing.
- Women may find it helpful to fasten bras in front and then slide around to the back.
- Slip-on shoes or sandals may be easier than tie shoes.
- If necessary, use reachers (can be provided at hospital discharge) to pull your pants over your feet.

Dressing

Lie on back to place socks or slacks over feet, or bend leg up while keeping back straight.

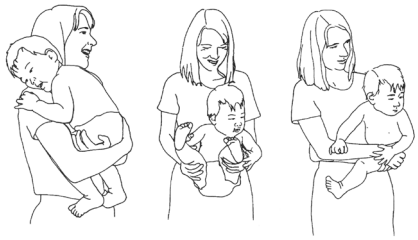
Childcare

- Limit the amount of lifting, twisting, and bending when taking care of your child. This can be a challenge with small children but the tips below should help.

Childcare- Picking Up from Floor

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

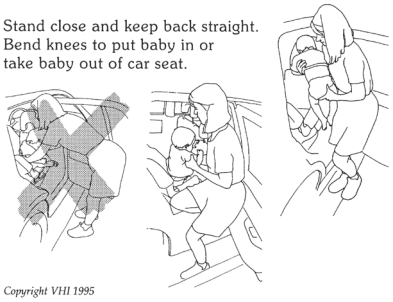
Childcare- Carrying



Keep baby close and as upright as possible.

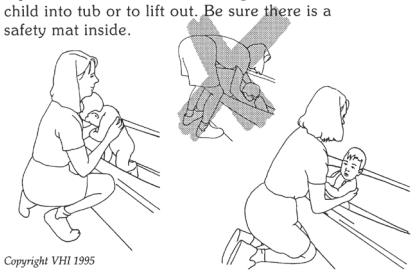
Childcare- In / Out of Car

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

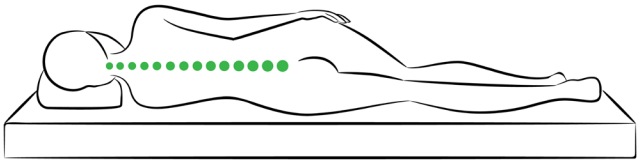


Childcare- In / Out of Tub

Squat or kneel down close to edge of tub to lower child into tub or to lift out. Be sure there is a safety mat inside.



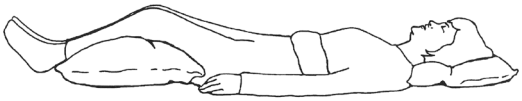
Sleeping



Good Spine Alignment In Sleeping

Sleep posture is a difficult problem because even when the bed is prepared for maximum support, the normal twisting and turning during the night causes pillows and neck supports to move. Sleep specialists have learned that most people have a preferred position in which they spend most of the night. Therefore, it can be useful to set up your bed to provide maximum support for this position. If you sleep primarily on your back, place a cylinder roll or pillow under your neck and a flat pillow under your head so the overall alignment of the neck and spine is neutral. If your pillow is too high, it will place your neck into too much flexion. If you sleep on your side, place a larger diameter pillow under your neck and a smaller diameter pillow under your head so the overall neck alignment is straight rather than curved.

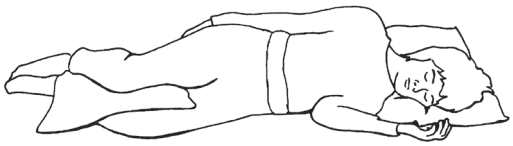
Sleeping on Back



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

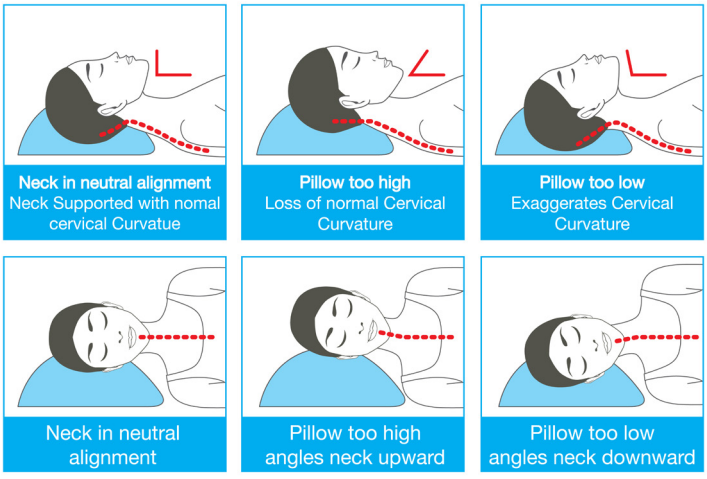
Sleeping on Side

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



Mattresses/ Pillows

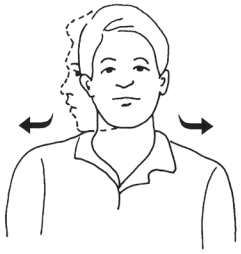
Your mattress should have the correct amount of firmness to keep your spine in a neutral position when you are lying on your side. There is no best mattress for every bad back. However, many patients with back pain tend to like a mattress that is firm. If the mattress is too soft, there will be excess sagging. Your best bet is to purchase a mattress that can be returned if it is not satisfactory. Choose a pillow that allows your neck to be in a neutral position when sleeping



EXERCISES

Stretching

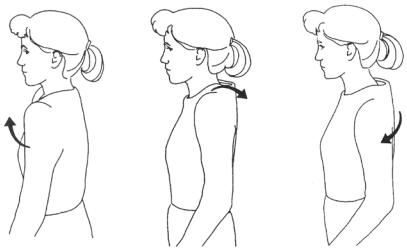
Stretch Break- Neck Rotation



Turn head slowly to look over left shoulder. Return to starting position. Then turn to look over right shoulder.

Repeat _____ times every _____ hours.

Stretch Break- Shoulder Roll

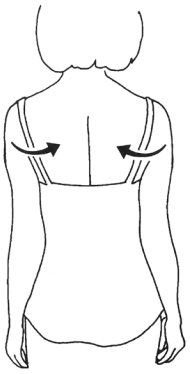


Roll shoulder forward, up and back, then down to complete a circle _____ times. Reverse direction _____ times. Repeat every _____ hours.

Stretch Break- Chest & Shoulder Stretch

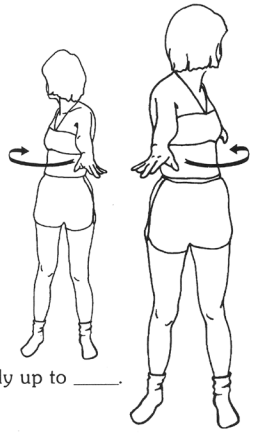
Maintaining erect posture, draw shoulders back while bringing elbows back and inward. Return to starting position.

Repeat ____ times every _____ hours.



Healthy Back Stretch- Standing

Keep arms straight out from sides and feet apart. Twist at waist as far as possible to the right then to the left in one continuous sweeping movement. Do not move hips and legs.



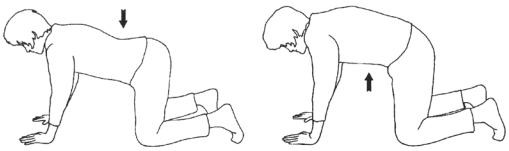
Do ____ times.
Increase repetitions gradually up to ____.

Stretch Break- Low Back Stretch

Place hands or thumbs on back of hips and lean backwards while lifting chest.

Hold _____ seconds.
Relax and return to starting position.
Repeat _____ times every _____ hours.

Healthy Back Cat Stretch



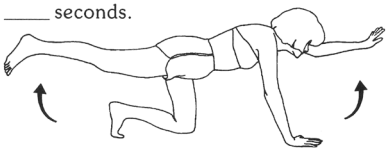
With hands and knees apart and head looking down at floor, arch your back down as much as possible, then pull stomach in to make back rounded. Use smooth continuous movements with no jerking or straining.

Do ____ times.
Increase repetitions gradually up to ____.

Strengthening

Back Extensions on Fours

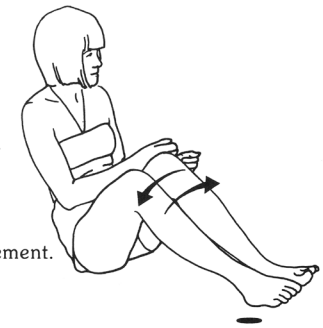
Start on hands and knees, keeping them apart.
Straighten right leg and left arm at the same time.
Hold _____ seconds.



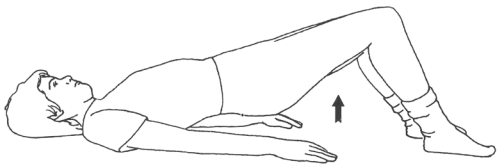
Then switch immediately to left leg and right arm up and out. Hold _____ seconds. Do _____ times.
Increase repetitions gradually up to _____.
Increase each hold gradually up to _____ seconds.

Abdominals (Obliques)

Sit on floor with knees bent.
Tip knees to right, bring arms to left, keeping feet off floor.
Hold _____ seconds.
Then knees to left and arms to right in one continuous movement.
Hold _____ seconds.
Do _____ times.
Increase gradually up to _____.

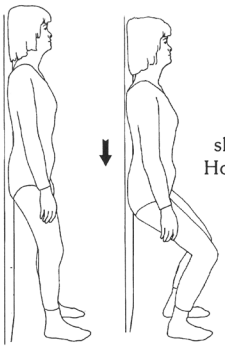


Bridging



Lift buttock, keeping back straight and arms on floor.
Hold _____ seconds.
Repeat _____ times.

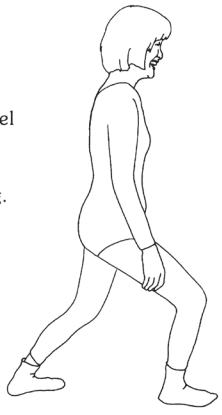
Strengthening Knees- Wall Slide



Back pressed against wall, slide down until knees are bent.
Hold position for _____ seconds.
Repeat _____ times.

Forward Lunge

Bring one leg forward with both knees bent, shifting weight onto heel of foot in front.
Repeat _____ times.
Do same with other leg.



Low Back Strengthening- Prone

Lie on stomach, pillow under hips.
Looking down, lift chest and legs in air.
Hold _____ seconds.
Repeat _____ times.

FREQUENTLY ASKED QUESTIONS

How much pain will I have after surgery?

You may experience some discomfort following surgery, however, pain medications, ice, and good body mechanics should keep you reasonably comfortable. Although pain medications take the edge off, most patients still experience some discomfort. Pain can be upsetting and cause anxiety, but it does not always mean there is something wrong. Our providers proactively treat pain, however, medications sometimes require adjusting following discharge from the surgery center or hospital. The first few days following surgery are usually the most painful. However, as you become more physically active, your pain may increase. Pain control is a balance between healing, activity, and medications. We recommend you follow the 5% rule. If you increase your activities 5% during the day, expect to feel more pain at the end of the day. You should recover overnight and hopefully feel well in the morning. If you recover as expected, you can increase your next day's activities by 5%. If you do not recover overnight (pain remains higher than expected), we suggest you rest one day and decrease your total day's activities by 5% until you feel good the next morning. Continue the process as tolerated. If you experience severe pain after surgery, please contact us at (425) 823-4000.

If my pain is not controlled, can my medications be changed or increased?

Yes. Your doctor will give you some guidelines on how to do this. However, you should call your doctor for advice before increasing your pain medications beyond the instructions on the prescription.

How do I know if I have an infection?

Infections following spine surgery are rare but may occur even with good sterile technique and antibiotics. The most common symptoms of an infection include a dramatic increase in pain, swelling, fever, redness or drainage from you incision(s). It is not unusual for some patients to develop a bump underneath their incision. This is from soft tissue swelling and/or a small fluid collection beneath the skin. This is not from an infection and will typically resorb by 6-12 weeks following surgery. If you are concerned about an infection, please contact us at (425) 823-4000.

Can my incision get wet?

You may remove your dressing to shower immediately after surgery, however, do not submerge your incision in a bathtub until the incision is completely healed (~3 weeks). Do not aggresively scrub your incision for 3 weeks. Place a new dressing after showering. Five days after surgery, if your dressing is dry, you may remove the dressing and leave the incision open to air.

When will I have my sutures taken out?

Visible skin sutures are rarely used. The skin is usually held together by absorbable sutures. Therefore, there is rarely a need to remove sutures. Your doctor will let you know if you have sutures that need to be removed. Sutures requiring removal are usually removed 10-14 days following surgery. If you have Steri-Strips on your incision, allow them to fall off on their own. This usually takes a couple of weeks. If you have sterile super glue (i.e., Dermabond) on your incision, it will likely begin to peel off by itself after 1-2 weeks.

What if I have difficulties or problems once I get home?

If you have increasing pain following surgery, review your activities to determine if you have been too active or not following good mechanics. Ask yourself, "was I maintaining a neutral spine position at all times and was I practicing good body mechanics?" Call our clinic if you develop a fever, drainage from your incision, or swelling and/or redness around the incision. If you have any questions, please contact us at (425) 823-4000.

How long after I go home from the surgery center will I see my physician?

We typically see patients in clinic 1-2 weeks following surgery. If you were not given a date for your first post-operative visit, please contact our office at (425) 823-4000 to make an appointment.

How long will it take to heal from surgery for a herniated disc?

You may experience some discomfort over your incision following surgery. Most incisional pain resolves by 2 weeks following surgery. The incision is typically closed by 2 weeks and healed by 4 weeks. The disc herniation (and microdiscectomy surgery) leaves a small opening in the annulus fibrosus (outer layer of the disc) through which a portion of the nucleus pulposus (inner layer) was removed. This opening will heal with scar tissue within a few months following surgery. You should avoid repetitive twisting and lifting more than 15 lbs for 6 weeks after surgery. Avoid running and other impact sports for 3 months following surgery.

How long will it take for my fusion to heal?

Lumbar (low back) fusions take an average of 6-12 months to become solid. Cervical (neck) fusions are usually healed by 3-6 months. Not surprisingly, different patients heal at different rates. Younger, healthier people might heal their fusions more quickly than older individuals with medical conditions. Activity, especially walking, seems to help fusions heal more rapidly and with better strength. Unless specifically directed by your surgeon, bed rest after surgery is not advised. Be sure to walk, sit, and stand as tolerated letting pain be your guide. You should avoid repetitive twisting and lifting more than 15 lbs for 6 weeks after surgery. Avoid running and other impact sports for 3 months following surgery.

How do we know the fusion is complete?

Your physician determines the status of your fusion by assessing your x-rays, but occasionally we may perform a CT scan. Please remember, we are most concerned with how you feel, not the status of your fusion. Some patients never obtain a solid fusion, but they do very well. Occasionally, a fusion appears solid, but the patient still has pain.

What if I have to use the bathroom?

Constipation early on after surgery is very common and quite frustrating for patients and their caregivers. Bowels are sluggish due to general anesthesia and pain medications. Usually, by the time you are ready to have a bowel movement you are up and able to get to the bathroom on your own or with assistance. Keep your abdominal muscles tight and use your leg muscles to get up and down from

the toilet. This will help protect your spine. After you get home, treat constipation aggressively. Use stool softeners, fiber supplements, fruit juices and any medications your providers have prescribed. Narcotic pain medications are the leading cause of constipation after surgery so try to reduce your use of these medications as quickly as possible.

I've heard that I have to stay flat in bed after surgery. Is this true?

The only time your surgeon may recommend lying flat in bed is if there is a leak of cerebospinal fluid (CSF) at the time of surgery and a repair has been performed. Loss of cerebrospinal fluid can cause spinal headaches. Laying flat helps prevent headaches as one's body produces more cerebrospinal fluid. Luckily this is rare and typically only a short term (24-48 hour) requirement. In general, you can have your head up immediately following surgery. However, remember to keep a neutral spine posture. When the bed is flat, you can lie on your side with your knees drawn up and a pillow between your knees as well as under your head, or on your back with a pillow under your head/neck and knees.

How do I turn in bed and get out of bed?

You will find log rolling to be the most helpful technique to turn in bed (page 25). Contract your stomach muscles and move your shoulders and hips at the same time as you roll over from your back to your side, or side to your back. The goal is to avoid twisting the spine. Move your body as one unit. When you get out of bed use the log rolling technique as well. Log roll to your side. Slightly bend your knees and hips and push up with your elbow and opposite hand, keeping your stomach muscles tight and simultaneously letting your legs slide over the edge of the bed. Gently move your buttocks to the edge of the bed. Push off of the bed with your hands and raise straight up with your legs to stand. Avoid bending your back. If you are admitted to the hospital, a physical therapist will teach you this technique.

When can I have sex?

Let pain be your guide and limit spinal motion. While there is no exact timeframe, we find most patients do not feel comfortable attempting sexual activity for a few weeks after neck or back surgery and some take longer. If you can walk a mile without an increase in pain, chances are you have enough strength and ability to control pelvic motion during sexual intercourse. Be willing to try positions that limit pelvic motion if this is painful. It may also be helpful if your partner assumes the more active role. Generally, however, side-lying positions are easier to control pelvic motion.

How long can I sit?

You may sit in a recliner in a reclined position as long as you would like unless it causes pain. Most patients find 20-30 minutes to be a common limit before they feel the need to change positions. Begin sitting in a straight chair four to six times per day for short periods of time (5-15 minutes). Do not slump or slouch. Gradually increase your sitting tolerance. Maintain your neutral position during sitting. You may wish to use a lumbar roll (pillow) for comfort. Simply rolling up a towel and placing it behind your lower back may provide comfort. Learning to bend from the hips and use your elbows on the table to support yourself will usually allow you to eat a meal comfortably at a dining room table. When getting up from a chair, contract your stomach muscles and use your legs to raise yourself.

When can I resume my exercises?

Unless you have been given approval by your provider, please do not resume exercises other than walking until given further instructions at your first follow-up visit.

How much can I walk?

Once home, taking short walks for ten minutes or so in your house every few hours is advised. When you tolerate these short walks, you can take longer walks outside. Use the 5% rule to increase the duration of your walking. If you increase your walking 5% during the day, we would expect that you feel more pain at the end of the day. You should recover overnight and hopefully feel well in the morning. If you recover as expected, you can increase your next day's walk by 5%. If you do not recover overnight (pain remains higher than expected), we suggest you rest one day and decrease your total day's activities by 5% until you feel good the next morning. Continue this process as tolerated. It is better to do frequent short walks than one long walk that increases your pain or tires you out excessively. Flat surfaces are better than hills.

Will I wear a brace or corset?

We do not routinely provide patients with a brace (i.e., soft collar or abdominal binder) after a lumbar decompression surgery (no fusion). We will occasionally prescribe a soft collar after a cervical decompression (no fusion). However, after a fusion, many patients like the added support a brace provides. Therefore, patients who have undergone a fusion of their spine may be fitted for and given a brace following their surgery. You may discuss this with your surgeon.

What about driving?

Driving is not as easy as simple sitting. Try and limit driving for 2-4 weeks after surgery unless it is essential, such as travel from the hospital, to a doctor's appointment, or to work. When you do drive yourself for the first time, go with someone else in case your pain gets worse. **If you are taking narcotic pain medication, you should NOT be driving.**

When can I return to work?

This varies signficantly depending on the procedure performed as well as your job requirements. In general, patients can return to work sooner for a decompression surgery compared to a fusion. Patients with sedentary jobs may be able to return to work in 1-2 weeks. However, if your job requires a lot of bending and twisting, you may need to be off work for at least 6 weeks. Discuss this with your surgeon before surgery to determine an estimated time when you can return to work.

GLOSSARY

Abdominal Bracing
Technique of tensing the stomach muscles to support the spine. Patients are instructed to practice this during all movements in bed, when walking and even when wearing a brace or corset. Eventually this becomes automatic and patients develop a natural support for their spine.

Acupuncture
A method of producing pain relief by inserting fine, wire-thin needles into the skin at specific sites on the body along a series of channels, called meridians. Some studies suggest this may be helpful for patients suffering from neck and back issues.

Aerobic Exercise
Any physical exercise demanding additional effort from the heart and lungs to deliver a continuous amount of oxygen to the skeletal muscles. This exercise generally requires heavier breathing than passive muscular activity and results in increased heart and lung efficiency with minimum wasted energy. Examples of aerobic exercises include running, jogging, swimming, vigorous dancing, and cycling.

Anesthesiologist
A physician trained in the administration of anesthesia to allow a patient to go asleep during surgery. They carefully monitor the patient in the operating room and administer medication to minimize pain. Some anesthesiologists also specialize in spinal injections.

Annular Tear
A tear in the outer layer of the disc (annulus fibrosus). As the tear approaches the surface of the annulus, pain may occur due to an inflammatory response as well as stimulation of nerve fibers.

Annulus Fibrosus
The tough, outer portion of the disc composed of multiple fibrocartilaginous rings. These rings firmly attach to the vertebra above and below the disc and help to hold these segments together. Approximately 70% of the total disc is composed of the annulus fibrosus. Although this structure is typically torn with a disc herniation, it is not removed during the procedure of a microdiscectomy.

Anterior
The front of a structure.

Anterior Cervical Discectomy and Fusion (ACDF)
A surgical procedure on the cervical spine (neck) where one or more discs are removed from the front (anterior) and replaced with bone graft. A plate and screws are often placed as well to stabilize the level while a fusion takes place.

Anterior Lumbar Interbody Fusion (ALIF)
A surgical procedure where the lumbar spine is fused from the front of the patient's body.

Anticoagulants
Medications which prevent or delay the clotting of blood.

Anti-inflammatory
A substance that reduces irritation, inflammation, and/or injury to tissues of the body.

Arachnoiditis
Inflammation resulting in adherence of nerve rootlets within the dura (a sheath containing the spinal cord and/or nerve roots).

Autologous
Pertaining to the patient's own body.

Autologous Blood
Blood donated by a patient prior to surgery and given back to them at the time of their surgery.

Autologous Bone Graft
Bone tissue taken from the patient at the time of surgery. This is usually used for fusing vertebrae together during spinal surgery. The bone is often taken from the ilium of the pelvis.

Bone Scan
A procedure in which a concentration of a radioactive substance that has an affinity for a specific tissue is injected into the blood stream to enhance the images of bone activity. This exam may be ordered when there is concern for a possible infection, recent fracture, or tumor. A few hours prior to the exam, a tracing substance will be injected into a vein in the arm. The patient will then go to the Nuclear Medicine Department where he/she will lie flat on a table. A scanner will move slowly over their body taking pictures. The exam takes approximately 1-2 hours to complete and subjects the patient to very little radiation.

Bulging Disc
A condition in which the nucleus pulposus of the disc pushes out against the annulus fibrosus causing it to bulge. These are often associated with normal aging of the discs, but may occasionally place pressure on nerves.

Cage
A structure (usually plastic or metal) that is filled with bone graft and inserted into the disc space once the disc has been removed. This helps re-establish the normal height of the disc space and facilitates a fusion since it is usually filled with bone graft.

Computed Tomography (CT Scan)
A highly sophisticated x-ray exam which produces 3-dimensional images of the body, joints, nerves, discs, bones, and tissues. The scans are taken at regular intervals through the body part of interest as the patient lies on a table which moves slowly through the CT Scan machine. The imaging data are collected by the x-ray tube moving opposite a series of detectors. The detectors transmit the data signals to a computer where they are mathematically processed and reconstructed into images. These

images are then processed by a computer and printed. It is important that the patient lie absolutely still throughout the procedure. The exam takes less than an hour. The patient is subjected to radiation for this procedure.

Cervical
Of, or pertaining to, the neck or region of the neck.

Chiropractic
A system of treatments in which there is manipulation or mobilization of parts of the musculoskeletal system to provide pain relief. Chiropractic treatments of the spine can often provide short-term relief.

Compression Boots
Stocking-like boots placed on the calves in the lower extremity and connected to a pneumatic pump. They provide stimulation to the vasculature of the lower extremity, when immobile, to reduce the risk of blood clots.

Cyst (Synovial)
These are benign fluid filled cysts in the spine that develop from degeneration of the facet joints. They can cause nerve compression and occasionally have to be removed surgically.

Decompression
A procedure involving surgical excision of structures causing pressure on nerves most commonly from bone spurs (osteophytes), ligaments, cysts, and/or disc herniations.

Degenerative Disc Disease (Misnomer- not a disease)
A NORMAL wear-and-tear process of the spine which occurs with aging. This affects all of us if you live long enough. Degenerative changes can be noted as early as the teenage years. Genetics as well as environmental factors (i.e., trauma and normal wear & tear) can result in the discs losing water. Tears in the annulus fibrosus may also occur. This, in turn, causes the vertebrae to come closer together producing increased stress on bones, joints, and ligaments. Pain may or may not occur with this condition. Even though the condition may persist or progress, it can sometimes be controlled with proper mechanics and strong muscles.

Disc (Intervertebral Disc)
The oval-shaped wedges of fibrocartilage found between adjacent vertebrae. The tough, fibrous outer portion is called the annulus fibrosus. It is composed of multiple fibrocartilaginous rings. These rings firmly attach to the vertebrae above and below the disc and help hold the segments together. The inner portion is called the nucleus pulposus and is composed of approximately 80% water. The inner nucleus pulposus actually looks and feels like crab meat. The primary functions of the discs are to act as shock absorbers and to transfer mechanical stresses to allow for smooth movement. The discs also add stability to the spine by virtue of the fact they operate on a pressure gradient system.

Discectomy
A procedure involving surgical excision of the nucleus pulposus which has pushed or broken through the outer rings of the disc. Healthy disc is actually adhered to bone. During surgery, we only remove loose disc material. The remaining portion of the disc is left intact.

Dual-Energy X-ray Absorptiometry Study (DXA)
A radiographic test that measures bone mineral density (BMD) in order to identify osteoporosis, risk for fractures (broken bones), and response to osteoporosis treatment.

Dural Sac
A sheath containing the spinal cord and/or nerve roots.

EKG
Abbreviation for electrocardiogram. A test in which a graphic record is produced to record the electrical activity of the heart to detect abnormal transmissions of heart impulses through the conductive tissues of the heart muscles. An EKG allows diagnosis of specific cardiac abnormalities. Leads are affixed to certain points on the patient's chest, usually with an adhesive gel that promotes transmission of the electric impulses to the recording device. The patient is positioned lying down on his or her back on an examining table and asked to lie still during the test. It takes approximately 30 minutes to complete.

EMG
Abbreviation for an *electromyography*. A diagnostic procedure to assess the health of muscles and nerves. Small needles are placed in various muscles and the response of the muscles to electrical current is interpreted by a specialist.

Extraforaminal Decompression
A procedure where bone spurs (osteophytes), cysts, and/or disc herniations are removed from the foramen (bony hole where a nerve exits) to take pressure off of the exiting spinal nerve. The incision is often made more lateral (away from the midline) in order to decompress the nerve from "outside to in" versus a laminotomy where you are decompressing the nerves from "inside to out."

Extrusion (of Disc)
A specific type of herniated disc in which a large amount of disc material breaks through the outer rings of the annulus, usually causing extreme pressure on the nerve(s). In this type of herniation, the base of the herniation is smaller than the tip.

Facet Block
A diagnostic and therapeutic procedure done to determine how much pain is coming from the facet joint. Patients with pain from their facets may obtain pain relief with this procedure.

Facet Joints
The small joints in the back of the spine where two vertebrae overlap one another. They function to guide and restrict movement of the spine. These joints are lined by cartilage, lubricated by synovial fluid, and surrounded by a capsule. They are a common cause of neck/back pain as they become arthritic (loss of articular cartilage in the joint).

Flexion-Extension X-rays
Done to determine the quality of motion and alignment of the spine. They can also help diagnose a spondylolisthesis (slippage of one vertebra over another). While standing, the patient is asked to bend forward, with a rounded back, as far as possible. As the patient holds this position, an x-ray is taken. This is then repeated with the patient bending their back backwards. Patients are asked to go to the limit of motion in bending both forward and backward in order to obtain accurate information. The exam takes approximately 10 minutes.

Foley Catheter
A tube placed thru the urethra and into the bladder to drain urine.

Foramen (Intervertebral foramen)
The hole created when two vertebrae are placed together. As a spinal nerve branches from the spinal cord it travels in the spinal canal and exits through this hole.

Fusion
A surgical procedure joining two or more spinal vertebrae. This is usually performed in order to stabilize the spine and/or take pressure off of nerves. Most often one or more discs are removed and replaced with bone graft (either from a bone bank or the patient's iliac crest). Metal screws and rods or a plate may also be used to help stabilize the spine while the fusion becomes solid.

Herniated Disc
A term used to describe a condition in which the nucleus pulposus protrudes out of the normal boundaries of the annulus fibrosus. The severity of the symptoms vary according to the size, location, and chronicity of the herniation. There are three types of herniations: protrusions, extrusions, and sequestered or free fragments.

Incentive Spirometer
A device that measures the volume of inhaled air. It is usually used after surgery to provide adequate lung expansion and oxygenation to all sections of the lungs.

Inflammation
The protective response of body tissue to irritation or injury.

Informed Consent
Permission obtained from a patient to perform a specific test or procedure. Informed consent is required before performing most invasive procedures and before admitting a patient to a research study. This document describes the procedure or test and associated risks.

Inpatient Surgery
When a patient stays overnight in a hospital after their surgery.

Instability (Hypermobility)
A condition in the spine which results in excessive motion occurring between two or more vertebrae. It is usually the result of degenerative changes in the spine. This most often occurs when one vertebrae slips forward with respect to another vertebrae (spondylolisthesis). Flexion-extension x-rays are often helpful in making this diagnosis. A fusion is sometimes required to stabilize this section of the spine.

Lamina
A bony structure that is part of the vertebral arch that forms the roof of the spinal canal. It protects the nerves. A small portion of this often needs to be removed in order to perform a microdiscectomy. Removal of a small portion of this bone does not cause instability and often grows back.

Laminotomy/ Laminectomy

A laminotomy is a procedure involving surgical removal of a portion of the bony arch of the vertebrae, called the lamina, which covers the spinal canal. A laminectomy is when the whole lamina is removed on one or both sides of the vertebra. A laminotomy and laminectomy are typically performed to remove pressure from nerves. A laminotomy is performed much more frequently than a laminectomy with modern techniques.

Lateral

Of, at, toward, or from the side or sides. Away from the midline of the body.

Ligamentum Flavum

This ligament attaches the laminae together between adjacent vertebrae. It means "yellow ligament" in latin. It can enlarge with age and pinch nerves. The ligament is residual from development. It's removal has no negative consequence since it has no role in the stability of the spine.

Log Rolling

A technique used to turn in bed. Patients are instructed to brace their stomach muscles and move their shoulders and hips at the same time to prevent twisting their spine. This is especially helpful for patients following spine surgery since twisting is often painful and stressful to the surgical site.

Lumbar

Pertaining to the lower back.

Magnetic Resonance Imaging (MRI)

A special study often used to diagnose spinal conditions. Images are obtained by using a high-strength magnetic field and radiowaves which allow for high resolution images of the spine without the ionizing radiation effects associated with x-rays. A patient enters a large room, lies on a narrow sliding bed, and is placed inside a very large metal, tunnel-shaped tube (magnet). Nothing touches the body and no sensations are felt during the test. The patient will hear a repetitive tapping noise which occurs while the machine is taking pictures from various angles. The entire examination should take less than one hour. It is important the patient remain motionless and relaxed while scans are obtained.

Microdiscectomy

A surgical procedure usually performed as an outpatient, to remove a herniated disc (nucleus pulposus) which has been determined to be the source of a patient's nerve pain.

Mobilization

A form of manual therapy in which a physical therapist, chiropractor, or physician of osteopathy performs deep soft tissue therapy for possible pain relief and/or increased joint mobility.

Motion Segment

The basic building component of the spinal column. It is composed of two vertebrae, a disc, muscles, ligaments, nerves, intervertebral foramina and facet joints. Vertebral motion segments, along with the sacrum and coccyx, link together to form the spinal column.

Muscle Relaxants
Medications that reduce contractibility of muscle fibers, which in turn may relieve some types of muscle spasms.

Muscle
Specialized fibers composed of bundles which can shorten and lengthen. Muscles attach to bone via tendons and function to provide movement. Specialized muscles also act to hold the body erect against the pull of gravity.

NPO
Nothing by mouth. No food or liquids. Patients are often made NPO at midnight the night before their surgery.

Nerves
A set of impulse-carrying fibers that connect the brain and the spinal cord to other parts of the body. Nerves transmit impulses to and from the brain to organs and extremities.

Nerve Compression
A pathologic condition that causes pressure on nerves with possible nerve damage resulting in pain, numbness, and/or weakness. Most common causes of nerve compression include disc herniations, facet cyts, and bone spurs (osteophytes).

Nucleus Pulposus
The inner portion of the disc made of cartilage that looks and feels like crab meat. It is surrounded by the annulus fibrosus.

Nurse Practitioner (NP)
An allied health care professional who provides medical care and treatment under the guidance of the attending physician.

Occupational Therapist (OT)
A person who practices occupational therapy and is licensed, registered, certified or otherwise regulated by law to do so.

Orthopedic Spine Surgeon
An orthopedic physician who specializes in the evaluation and surgical treatment of spinal conditions. Based on the history, physical examination and test results, the surgeon will make recommendations as to whether or not a patient's condition can be helped with surgery. Orthopedic spine surgeons have undergone additional training in a spine fellowship in addition to their orthopedic residency.

Osteoporosis
A disorder characterized by abnormal loss of bone, occurring most frequently in postmenopausal women, sedentary or immobilized individuals, and patients on long-term steroid therapy. The disorder may cause pain, especially in the low back, pathologic fractures, loss of stature, and various deformities.

Outpatient Surgery
A surgery that does not require an overnight stay in a medical facility following surgery. Patients are able to be discharged to home the same day of surgery. Also called *same-day surgery* or *day surgery*.

PACU (Post Anesthesia Care Unit)
An area in a surgery center where patients recover from general, regional, and/or local anesthesia.

Pain Medication
A drug that relieves pain. Narcotic analgesics act on the central nervous system and may alter a patient's pain perception. Non-narcotic analgesics, used for mild to moderate pain, do not alter a patient's pain perception (e.g., aspirin, Tylenol).

Pars Interarticularis
The part of a vertebra between the lamina and pedicle. Stress fractures can occur in this location creating a "pars facture" (spondylolysis). If the bones separate, it can lead to a spondylolisthesis.

PCA (Patient Controlled Analgesia)
A system connected to an IV which allows the patient to administer pain medication that is within the parameters prescribed by the physician. By pushing a button, medication can be released into the bloodstream for immediate pain relief.

Pedicle
A portion of bone in a vertebra that connects the body of the vertebra to the facet joints, transverse processes, laminae, and spinous process. The pedicle makes up a portion of the spinal canal. When placing screws in the spine for a fusion, screws are often placed thru the pedicle for strong fixation.

Peripheral
Of, or pertaining to, the outside, surface or surrounding area of an organ or other structure.

Physical Therapist (PT)
An allied health care professional licensed to assist in the examination, testing, and treatment of patients with orthopedic and spinal conditions. He or she can evaluate the patient's spine, teach body mechanics and exercise, and make recommendations to the physician regarding future treatment needs.

Physical Therapy
A specialty that treats impairments and promotes mobility, function, and quality of life through examination, diagnosis, prognosis, and physical intervention.

Physician Assistant (PA)
An allied health care professional who helps care for patients in clinic and assists in surgery.

PLIF (Posterior Lumbar Interbody Fusion)
A surgical procedure in which graft material is inserted into the disc space from the back of the lumbar spine (posterior). This is done in order to fuse two vertebrae together.

Posterior
The rear or back part of a structure.

Protrusion (of Disc)

A specific type of herniated disc in which a large amount of disc material breaks through the outer rings of the annulus into the spinal canal, usually causing extreme pressure on nerve(s). In this type of herniation, the base of the herniation is larger than the tip. However, the herniated fragment is still in contact with the intact portion of the nucleus pulposus.

Pseudarthrosis

An incomplete fusion with lack of bone growth consolidation. X-rays may show motion and poor bone graft consolidation where a fusion was attempted. Broken hardware such as screws may also be seen. Patients may experience pain from this condition. This is also commonly called a *nonunion* or *false joint*. Some pateints have no symptoms from this condition.

Pulse Oximeter

A device used to measure a patient's blood oxygen level while he/she are in the hospital.

Radicular Pain

Pain which travels along the course of a nerve, usually due to compression of that nerve.

Radiologist

A physician who specializes in radiographic medicine. He or she performs and interprets studies such as CT scans, x-rays, MRI's, etc. They will contact your physician if there are any concerning findings.

Retrograde Ejaculation

This occurs only in men. During sex, sperm and semen go backwards into the bladder rather than out through the penis. This usually resolves several months after surgery. When permanent, sperm can be retrieved by a urologist to allow for child bearing. This condition does not interfere with erections or sexual enjoyment. This is a rare complication from spinal surgery where an anterior lumbar interbody fusion (ALIF) is peformed at L5-S1.

Sacral

Pertaining to the sacrum.

Sacrum

The large triangular bone at the bottom of the pelvis, inserted like a wedge between the two hip bones. It moves with the last lumbar vertebra and coccyx (tailbone).

Scar tissue

Fibrotic tissue that is vascular, pale, contracted and occurs with healing.

Sciatic Nerve

The largest nerve in the body arising from the sacral plexus on both sides of the spine, passing from the pelvis through the sciatic foramen, down the back of the thigh where it divides into the lower leg, ankle, and foot.

Sequestration (of Disc)
A specific type of herniated disc in which a large amount of disc material breaks through the outer rings of the annulus into the spinal canal, usually causing extreme pressure on nerve(s). In this type of herniation, the herniated fragment is completely separated from the intact portion of the nucleus pulposus.

Spinal Cord Stimulator
An electrical device surgically implanted to apply low voltage stimulation to the spinal cord to block the feeling of pain.

Spinal Stenosis
The word "stenosis" means *narrowing* in Ancient Greek. Spinal stenosis is any condition that causes narrowing of the spinal canal or foramen. This term is usually used to refer to narrowing from bone spurs, a thickened ligamentum flavum, and cysts. However, disc herniations technically can cause spinal stenosis since they can narrow the spinal canal and/or foramen.

Spondylolisthesis
Slippage of one vertebra over another. The word "spondy" means *vertebra* and the word "olisthesis" means *slippage* in Ancient Greek. When a vertebra slips forward in relation to the vertebra below, it is called an anterolisthesis. If a vertebra slips backwards compared to the vertebra below, it is called a retrolisthesis. A spondylolisthesis is usually caused by degenerative conditions. A spondylolysis (pars fracture) can also cause a spondylolisthesis

Spondylolysis
Defined as a defect or stress fracture in the pars interarticularis of the vertebral arch.

Thoracic
Referring to, or relating to, the thorax (chest) area.

Transverse Process
A projection of bone from the vertebrae connected by muscles and ligaments to other vertebral segments. Contraction of muscles attached to the transverse processes allow for motion of our spines.

Vascular
Of, or pertaining, to a blood vessel.

Vertebrae
The individual bones of the spine. They vary in shape and mass based on the size of the person as well as functional needs and location. In all, there are seven cervical, twelve thoracic, and five lumbar vertebrae. The sacrum consists of five vertebrae which are typically fused into one bone, and the number of coccygeal bones is variable.

X-ray
Electromagnetic radiation of shorter wavelength than visible light. They are produced when electrons, traveling at high speed, strike certain materials. X-rays can penetrate most substances and are used to make photographic images for diagnostic purposes, such as to diagnose degenerative discs.

NOTES

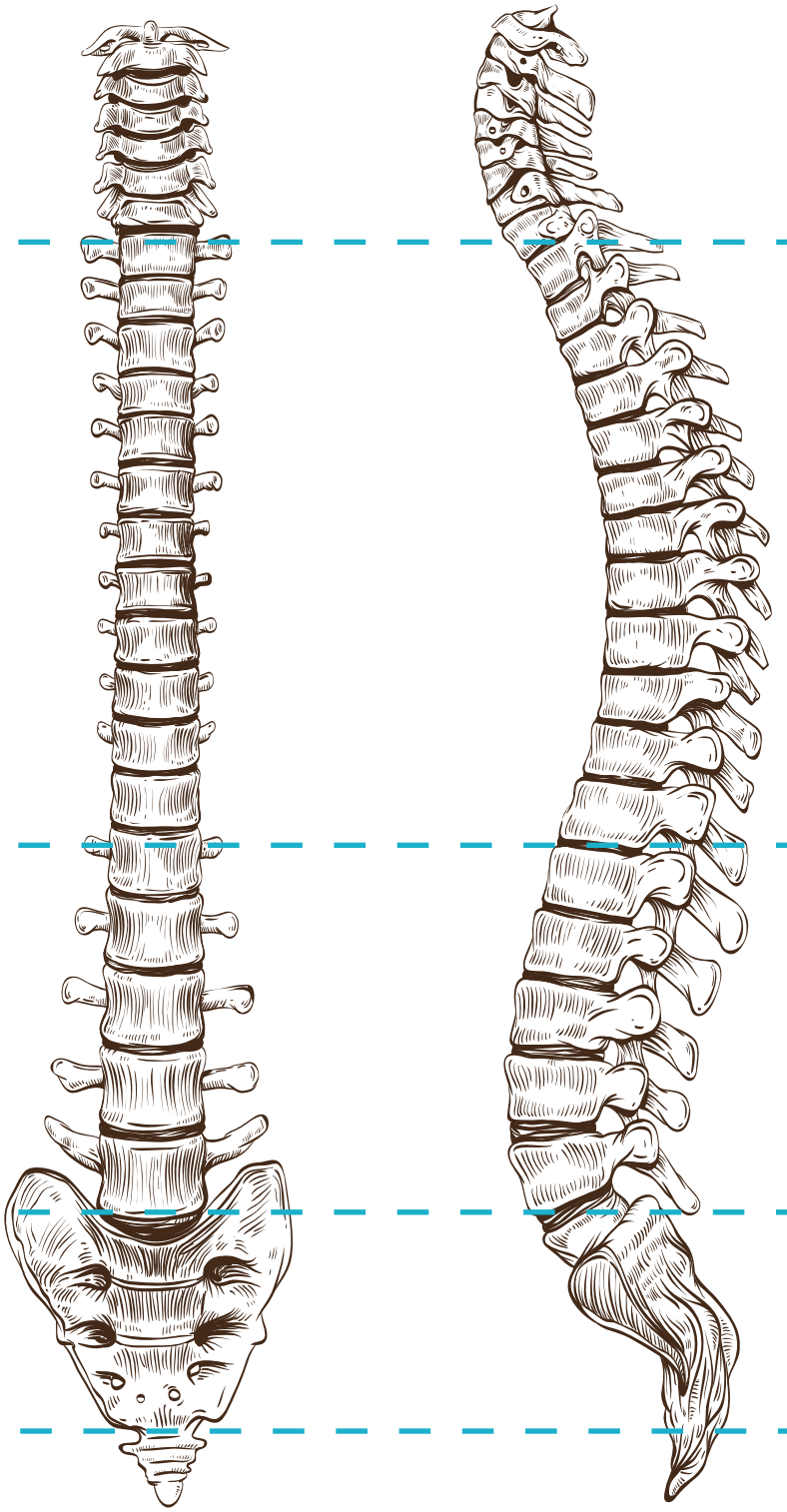
Cervical
C1-C7

Thoracic
T1-T12

Lumbar
L1-L5

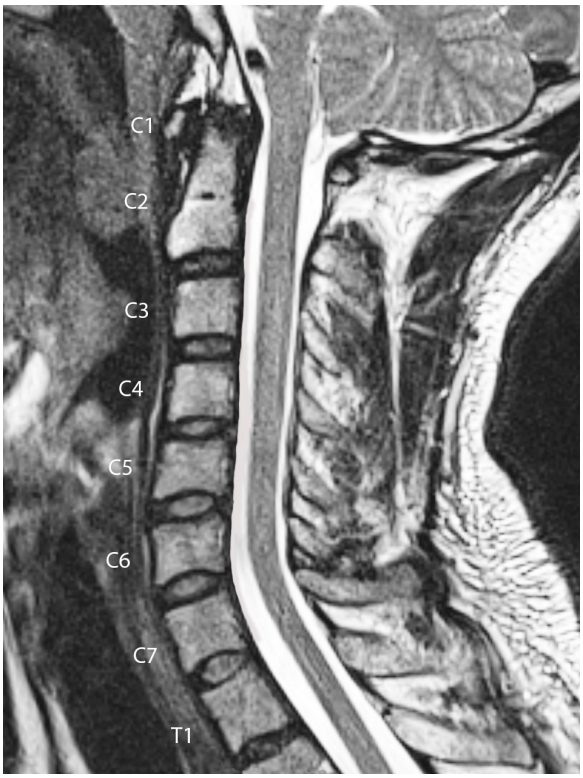
Sacrum
S1-S5

Coccyx

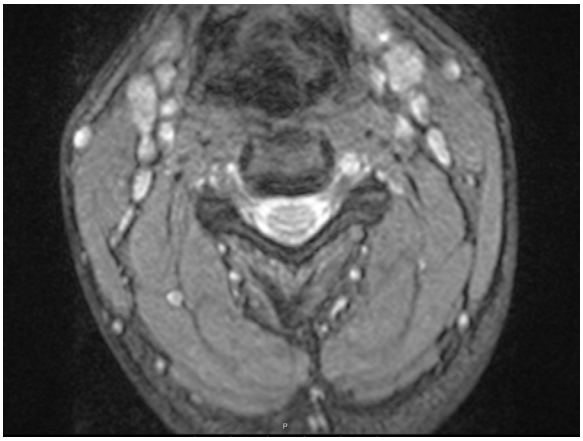


NOTES

Cervical Spine
(side view of the neck)



Cervical Spine
(cross section of the neck)



Diagnosis:

Plan:

NOTES

Thoracic Spine
(side view of the chest)

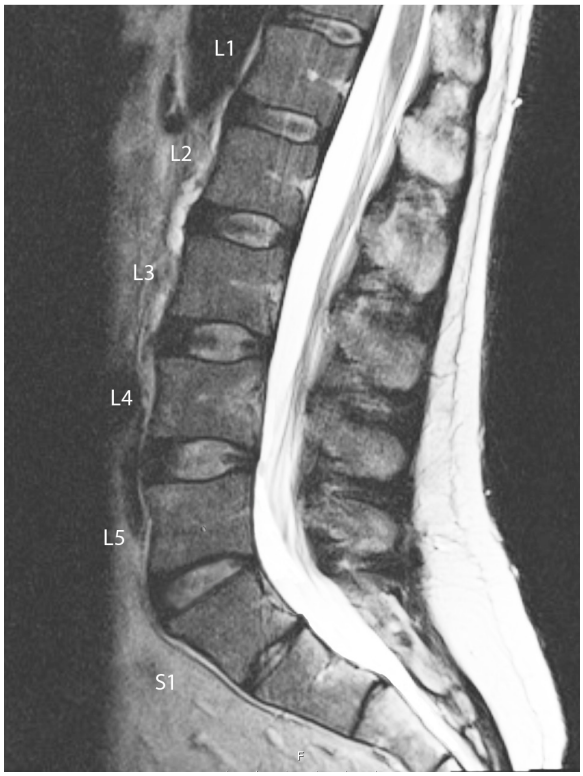
Thoracic Spine
(cross section of the chest)

Diagnosis:

Plan:

NOTES

Lumbar Spine
(side view of the low back)



Lumbar Spine
(cross section of the low back)

Diagnosis:

Plan:

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