

Spine Surgery *What to Expect*

RECOVERY



UCSF Spine Center
Departments of Orthopedics and Neurosurgery
400 Parnassus Avenue, 2nd Floor, Suite A 2300
San Francisco, CA 94143

(866) 817-7463

UCSF Health

Table of Contents

What to Expect

2

Your roadmap

During Your Hospital Stay

5

Ask your care team

What to expect when you wake up

Meet your care team

Monitor and communicate your pain

Get moving again safely

Length of stay

After Discharge

14

Ask your surgeon

Prevent infection

Protect your spine

Care for your surgical site

Move safely at home

Additional Resources

20

Medical glossary

Contact information

What to Expect

1

We'll do everything we can to make your surgery a success.

It may be a long journey to recovery, but our goal is to improve the quality of your life as much as possible. We know it can be overwhelming, but we'll be there to support you every step of the way.

2

Expect to have soreness and discomfort after surgery.

At times, you may have significant pain on and around your surgical site. Our goal is for your pain to be managed to a tolerable level so that you can participate in activities and maximize your recovery process.

3

You play the most important role in your own recovery.

Your care team will do everything they can to ensure that your procedure and recovery are successful, but there's also a lot you can do for yourself. This book includes instructions for keeping you safe and healthy after your surgery. Stay informed, ask questions, and try to maintain a positive attitude. If you're feeling overwhelmed, ask us for help!

What do you want to be able to do after surgery?

My goal is...

Your roadmap

During Your Hospital Stay

Work with your care team to get moving again and manage your pain.

After Discharge

Care for your surgical site, manage your pain at home, and restore your ability to do daily activities.



During Your Hospital Stay

When you arrive on the nursing unit:

- Your nurse will assess you and develop a plan of care with you
- Work with your care team to get up and moving again, as soon as the first evening after surgery

You'll be ready to leave the hospital when:

- Your pain is managed on oral pain pills (not through an IV)
- You are getting out of bed with assistance safely
- You are meeting your daily activity goals as discussed in collaboration with your physical therapist and occupational therapist
- Your team has determined that you are medically ready for discharge
- You can put on and take off your brace (with help, if needed)
- You have had your discharge X-ray (if needed)
- You have received education and information about after discharge care and follow up (appointments, medications, contact numbers for questions and wound care)



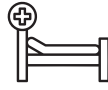
**Congratulations on this huge milestone.
You're ready for recovery.**

Ask your care team



What activities can I perform after my surgery?

Mobility is one of the most important parts of your recovery. Your care team will work together to help you get up and moving. You will be assisted to get up and walk several times a day and to get up to the chair for meals. After ordering your meal, let your care team know so that they can help you to get up to the chair to eat.



If I have visitors, can I get out of bed to visit with them?

We encourage you to invite visitors during your recovery at the hospital. However, they cannot assist you in moving around until they've received training from physical therapy or nursing staff. When your visitors arrive, call the unit staff to assist you to get out of bed. Ask your care team about our current visitor policy.



I'm feeling numbness or tingling. Is that normal?

Do not be alarmed if you experience mild numbness or tingling in certain areas after your procedure. Your nerves can be irritated and inflamed following your surgery and will heal over time. If you notice changes in your sensation, keep note of it and please inform us if the numbness or tingling is getting progressively worse. If you notice new weakness, please let your nurse know right away.



I have new symptoms I didn't have before surgery. Should I tell someone?

Yes! Be sure to let your care team know, and they will assess the situation.

More questions? Give us a call at 415-353-2739.

What to expect when you wake up

IV tube

An intravenous (IV) tube will be in place when you wake up after surgery. We use this IV to administer antibiotics, medications, and fluids to keep you hydrated. You may experience nausea and vomiting after your surgery related to anesthesia. Be sure to tell your nurse who can assist you in alleviating this.

Urinary catheter

You may have a urinary catheter placed during your operation to drain your bladder. This catheter will be removed promptly to reduce your risk of developing a urinary tract infection (UTI), on either the day of your surgery or the next morning.

Oxygen tube

You will have an oxygen tube placed over your nose when you awake from surgery. It will be removed when you are awake and your oxygen levels are stable. Your nurse will show you breathing exercises using a device called an incentive spirometer to help prevent fluid build-up in your lungs and decrease your risk of a lung infection.

Drain

You may have a small drain coming from your incision. The purpose of this drain is to prevent fluid (blood or other) from building-up in a closed space. This could cause a delay of the incision's healing process. Your nurse will monitor the drainage and output. It is usually removed 48-72 hours after surgery.

Sequential compression devices

Sequential compression devices (SCDs) will be placed on your legs while you are lying in bed, to help to reduce risk of blood clots. The SCDs will massage your legs and ensure proper circulation.

Brace

If your surgeon orders a brace, the orthotist will deliver it to you. The physical therapist and occupational therapist will teach you how to put it on and remove it. A brace is not needed for everyone. Your surgeon will decide if you need one.

Meet your care team

While you're at the hospital, many people will be taking care of you. Each of them has unique responsibilities, but they'll work together as a team.

Attending Surgeon

Your surgeon will do your surgery and will oversee your care before, during and after your hospital stay. You may not see your surgeon every day in the hospital, but your surgeon is constantly in close communication with your entire care team.

Residents & Fellows

Residents and fellows are physicians who support surgeons and attending physicians. Residents will typically examine you quickly in the morning to ensure you are safe.

Nurse Practitioners & Physician Assistants (NPs, PAs)

NPs and PAs are licensed medical providers who work closely with physicians. They will typically see you and discuss your care plan in the late morning and/or early afternoon.

Nurse (RN)

Your nurse will take care of your everyday needs. They will be your main point of contact for questions during your hospital stay.

Patient Care Assistants (PCAs)

PCAs will support your nurse in taking care of your needs.

Physical & Occupational Therapists (PTs, OTs)

They are dedicated to improve your mobility and your ability to perform your daily activities.

Mobility Techs

Mobility techs will help you to get up to the chair for meals and practice walking.

Case Managers

Case Managers are dedicated to ensure your transition from hospital to Skilled Nursing Facility, Rehab facility, or home.

Pharmacists

Pharmacists will manage your medications during your hospital stay and provide your post-discharge medication schedule and instructions.

Orthotists

Orthotists measure and fit you for any brace that you might need.

Monitor and communicate your pain

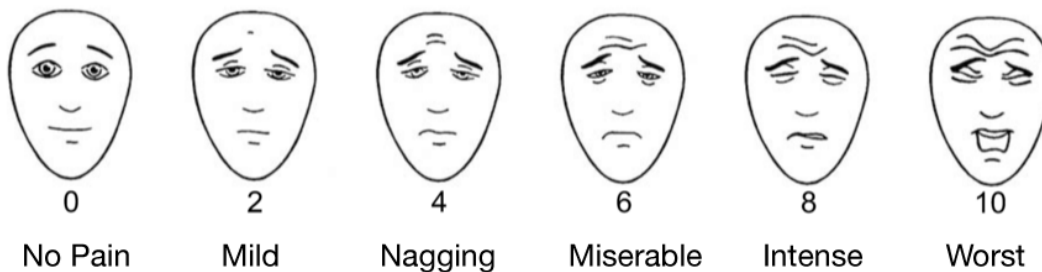
Your body has been through a lot. Expect to have soreness and discomfort after surgery. At times, you may have significant pain on and around your surgical site.

Your care team cares about your pain management experience in the hospital. We aim to give the right amount of medicine, at the right time, to promote comfort and healing. Pain medicine may be scheduled (given at specific timeframes) or “as needed” (also referred to as PRN). Our holistic pain assessments guide nurses toward providing the lowest effective dose of medicine to provide comfort and reduce unpleasant or dangerous side effects.

Pain Assessments

- Your healthcare team will ask where your pain is, how it feels, if it comes and goes, and how it limits your activity.
- If you are unable to report your pain experience, the healthcare team has several non-verbal pain assessment scales to use.
- You will be asked to choose one pain intensity scale to rate your pain:
 - Verbal Pain Scale: Options range from, “mild,” “moderate,” “severe”
 - Number Pain Scale: 0 means “no pain” and 10 means the “worst possible pain”
 - Faces Pain Scale: Patients choose an expression showing their physical pain

Faces Pain Scale



Pain Management Options

There are many ways to treat pain. We will recommend using both medicine and non-medicine methods to improve your comfort.

Together the healthcare team will assist you with your pain, minimize side effects, and improve your level of activity, such as sitting on a chair or walking in the hallway.

Tell us about your pain

- Your healthcare team will ask where your pain is, how it feels, if it comes and goes, and how it limits your activity.
- If you are unable to report your pain experience, the healthcare team has several non-verbal pain assessment scales to use.
- You will be asked to choose one pain intensity scale to rate your pain:

Non-Medicine Methods

• There are a number of non-medicine methods of pain management available including, positioning, mobilizing, heat, ice, music and meditation. Your care team will work with you to identify what has helped you before and what you would like to try.

Medicines

- Combinations of medicines may be used to help you feel more comfortable. Taking a variety of pain medicines usually works better than using one drug alone.
- Pain medicines can be given in a variety of ways: through skin (topical), oral (by mouth), or in a vein (IV).
- Examples of pain medicines may include:
 - Non-opioids: Acetaminophen (Tylenol) or Non-Steroidal Anti-Inflammatory (NSAIDs) like Ibuprofen (Advil), Naproxen (Aleve), or Ketorolac (Toradol)
 - Adjuvants (or 'co-analgesics'): Lidocaine (Lidoderm patch) or Gabapentin (Neurontin)
 - Opioids: Morphine, hydromorphone, or oxycodone
- Short-acting (IV) opioids have rapid onset and shorter duration of pain relief.
- Long-acting (oral) opioids have longer onset and duration of pain relief

Safety

- All medicines have possible side effects. Tell your healthcare team how the pain medicine makes you feel.
- Opioid medicines may cause breathing problems. A medicine called Naloxone (Narcan) is available to reverse this known side effect.
- Talk with your healthcare team if you have concerns about opioid tolerance, dependence, or addiction.

Key Points

- We all feel pain differently. The healthcare team will ask you to describe your pain.
- Pain, stress, and anxiety can impact mood, sleep, appetite, and activity. Ask the healthcare team if you are concerned about how this impacts your overall well-being.
- It may not be possible, or safe, to have total pain relief. We will work to help you identify, and reach, a realistic pain goal.
- Your healthcare team will work with you to adjust your pain management plan so you can feel better and gradually increase daily activities.
- It is important that you follow the pain management plan that you and your healthcare team agreed upon.

Patients' Rights and Responsibilities. You have the right to:

- Be treated with dignity and respect and have your pain checked on regularly.
- Receive information about pain, pain relief, and treatment options.
- Understand what medicines you are taking, and any potential side effects.

Get moving again safely

Early mobilization is the single most influential thing you can do to help your recovery. Usually, you will be out of bed within 8 hours of your surgery.

The first time you get out of bed, you may feel dizzy or light headed. It's important to stay safe so ALWAYS call for help before getting out of bed. Try your best! Don't get discouraged if you can't stand up right away. We'll be there to help.

Your care team will make sure you maintain proper spine precautions while getting up, and will talk with you every day about ways to prevent falls. We may need to use special equipment to help you get up and walk, and devices such as a bed alarm for safety.

Once you tolerate getting out of bed, plan on being out of bed for all your meals.

Your nurse and mobility tech may be the first ones to get you up. You will also be seen by the physical therapist for detailed assessments and education about your mobility.

Your care team will teach you how to:

1. Move from the bed to sitting or standing.
2. March in place near the bed.
3. Sit out of bed for 15-30 minutes.
4. Walk 15-30 feet, if you are able to do so within your pain limit.

Safety considerations:

5. Be careful of various tubing such as IV lines, drains and oxygen cannula.
6. Use the bathroom before it becomes an emergency.
7. Sit up as much as possible when in bed so the change from lying to sitting to standing is less likely to make you dizzy.



Length of stay

The length of your hospital stay will depend on your medical history and the type of spine surgery that was done. Length of stay can vary, but preparing for discharge prior to surgery is very important. Our goal is to get you home as soon as possible to promote a successful and speedy recovery.

Type of procedure

Average length of hospital stay

1 - 2 level cervical fusion	1 day	If surgery is on Monday, expect to go home on Tuesday
3 - 5 level cervical fusion	3 days	If surgery is on Monday, expect to go home on Thursday
1-2 level thoracic fusion	2 days	If surgery is on Monday, expect to go home on Wednesday
1-2 level lumbar fusion	1 day	If surgery is on Monday, expect to go home on Tuesday
6 - 11 level fusion	4 days	If surgery is on Monday, expect to go home as early as Friday
12+ level fusion	5 days	If surgery is on Monday, expect to go home as early as Saturday
Disc replacement	1 day	If surgery is on Monday, expect to go home on Tuesday
Cervical laminoplasty	2 days	If surgery is on Monday, expect to go home on Wednesday

Your care team will determine where you'll go after discharge, based on what's best for your recovery.



Home recovery

Most patients are able to recover at home, with help from family or friends.



Home health services

Home health services can assist with wound care, medications, and mobility.



Skilled nursing facility

If your recovery is potentially complex, a skilled nursing facility may be best.



Acute rehab facility

Acute rehab may be required for additional physical and occupational therapy.

After Discharge

Day of discharge:

- Your expected discharge time will be 11am
- Have your caregiver present for discharge instructions. They should be at the hospital by 10am
- Please make sure you have all your belongings with you when you leave, including all necessary equipment
- If your ride home is more than an hour long, take frequent breaks to stand up and walk around

In your first weeks at home:

- Get moving to promote circulation and prevent blood clots. You will regain strength and mobility by following your exercise program
- Follow your discharge instructions to reduce your pain medication. Stop taking opioids as quickly as possible
- Refer to your discharge instructions for wound care
- Watch for wound changes, fever, chills, and worsening pain at the surgical site
- You will receive a survey asking about your hospital experience. We value your feedback and so that we can continue to improve the care we provide.

2-3 weeks after surgery:

- If you have sutures or staples, schedule a visit with your primary care physician, home health nurse, or our office to have them removed

In the following months:

- Generally, plan for a follow-up appointment in 2-6 weeks
- Reposition from sitting to standing to walking every 30-40 minutes
- Gradually increase your mobility, working towards your longer term activity goals
- Follow precautions for protecting your spine



Your recovery process may feel gradual, but try to stay focused on your initial goals.

Ask your care team



I'm still experiencing pain. Is that normal?

It is normal to have some discomfort or pain at the surgical site for a few weeks after your surgery. Using an ice pack for 10-15 minutes may relieve pain at the surgical site. Hot packs are helpful for muscle tightness – just be sure not to put the hot pack too near your incision site.



Which medication should I take to treat my pain?

It is important to identify the type of pain you are having in order to know which pain medication will help:

Muscle spasms

Muscle relaxants such as baclofen will help with abnormal muscle tightness, soreness, or stiffness.

Neuropathic pain (tingling, burning)

Gabapentin (Neurontin) will help with burning, tingling, or nerve pain.

Generalized pain

Can be treated with opioid pain medications (oxycodone) or acetaminophen (Tylenol).

Opioids can be habit forming. You should only take these medications when pain is severe. Always take the lowest dose that works for you.

For FUSION patients, it may be as long as 3-6 months before you can take non-steroidal anti-inflammatory medications such as ibuprofen. They can impair bone healing.



I'm experiencing constipation. What should I do?

Pain medicine and anesthesia cause constipation. We will provide you with medicine to help you stay regular while you are in the hospital. We recommend you purchase some over-the-counter medications to have at home after you are discharged:

- Docusate/Colace (stool softener)
- Senokot (laxative)
- Miralax (laxative)
- Eat plenty of fruits and vegetables
- Drink plenty of fluids

Don't wait too many days before taking action!



How do I refill my medication? How long will it last?

Take your pain medications as instructed. The opioid pain medications should be weaned over time. We recommend using a pill box to help you manage doses and frequency.

For neurosurgical patients

Typically one to two weeks of opioid pain medication will be provided to you at the time of your discharge from the hospital. For refills, contact the Spine Center at least 3 business days before you run out of your current medication supply. You can refill your medications through the Spine Center for up to four weeks after discharge from the hospital. We may provide a larger supply of medications with more frequent refills for more extensive surgeries.

For orthopedic surgical patients

Your pain medications can be managed by the Spine Center for up to 3 months post-operatively. For refills, contact the Spine Center at least 3 business days before you run out of your current medication supply. After 3 months, if you require pain medications, your pain care must be transferred to your primary care physician or a pain management specialist.

More questions? Give us a call at 415-353-2739.

Prevent infection

With every surgery there is always a risk of infection.

We will do everything we can to prevent an infection; this is why we ask you to shower with Hibiclens before your surgery and why we will give you IV antibiotics in the hospital. Infection prevention will continue when you go home, and there are a few simple steps you can take to help keep yourself safe.

We prefer that you NOT have any elective dental procedures for 3 months after surgery.

FUSION patients only: If dental work is needed in the 2 years after your surgery, we recommend you take prophylactic antibiotics prior to any dental procedures.

Please consult with your surgeon prior to having any invasive procedures.

Do NOT take baths or soak in water



Do not soak in a bath, Jacuzzi, or hot tub for at least 4 to 6 weeks after surgery.

Monitor your incision daily for signs of infection and call our clinic with any concerns. Signs of infection include:

- Redness
- Drainage
- Swelling and warmth at the incision site
- Fever or chills

If you have pets:

- Do not allow pets to sleep with you until your wound is completely healed and the sutures/staples are removed.
- Do not allow pets to lick you or your wounds.
- Cover sofas and chairs with a clean sheet before sitting or lying on them.
- Wash your hands with soap immediately after touching your pet.

Do NOT apply any creams, lotions, or ointments on your incision



Do not apply these for 4 weeks after surgery. Do not clean the incision with anything unless your doctor instructed you to do so.

Care for your surgical site

If you have staples or sutures in your incision:

1. Staples or sutures may be removed between 10-21 days after surgery depending on your physician's recommendation.

They can be removed at the Spine Clinic, rehab center, your local primary care provider, or a home health nurse.

2. Keep the incision DRY while the staples/sutures are in place and 24 hours after they are taken out.

Use plastic wrap and tape to cover your dressing when you take a shower to ensure the dressing does not get wet. If you notice the dressing is slightly wet following your shower, remove the dressing, pat your incision dry with gauze, and apply a new dressing.

3. You may shower as usual 24 hours after the staples/sutures are removed. However, do NOT take baths or soak the incision or apply ointments to the incision for 4 weeks.

If you have dissolvable sutures and/or surgical glue:

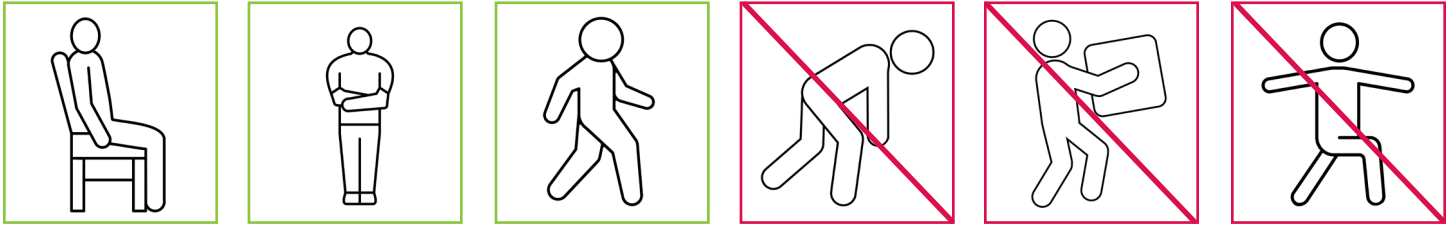
1. Keep the incision DRY for 7-10 days after surgery.

Use plastic wrap and tape to cover your dressing when you take a shower to ensure the dressing does not get wet. If you notice the dressing is slightly wet following your shower, remove the dressing, pat your incision dry with gauze, and apply a new dressing.

2. Do NOT take baths or soak the incision or apply ointments to the incision for 4 weeks depending on your physician's recommendation.

Move safely at home

These precautions apply to all patients for 6 weeks after surgery and will be evaluated at each follow-up appointment.



Reposition every 30-40 mins; sitting to standing to walking throughout the day.

Walk as much as possible, increasing distance and time slowly but surely.

Be careful of potential tripping hazards such as throw rugs, furniture, or pets.

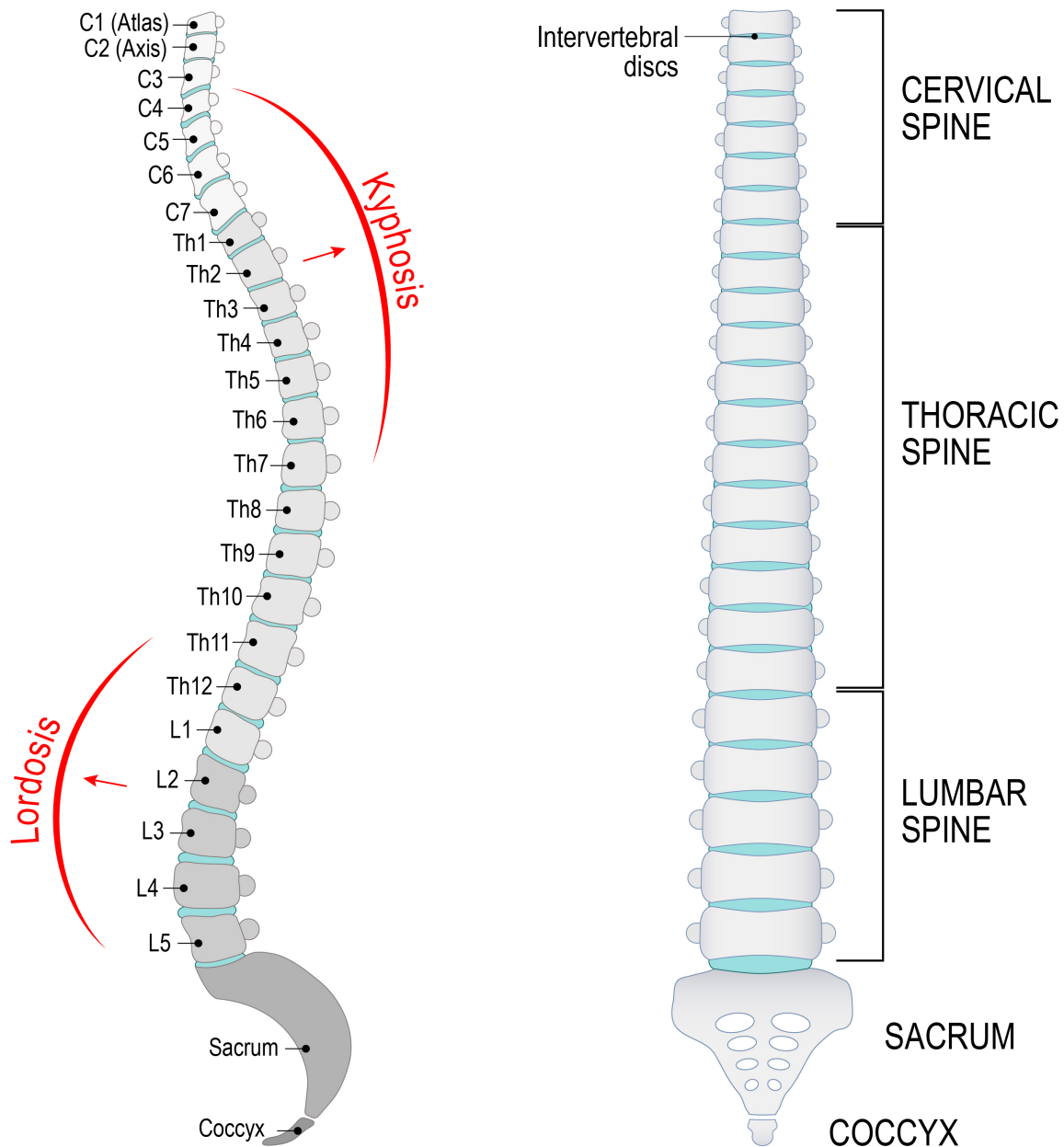
No BLT! Bending / Lifting / Twisting.

Do not bend more than 90 degrees for surgery that extends to the low back and pelvis.

Avoid sitting upright longer than 40 minutes without standing and moving in place for 1-2 minutes.

Refer to your discharge instructions for other precautions and lifting limits.

Additional Resources



Medical glossary

Spinal Fusions

Interbody Lumbar Fusion

In this procedure, your surgeon will remove an intervertebral disc and pack bone graft, or a fusion cage and bone graft, into the space between the two vertebral bodies immediately above and below the disc. As your spine heals, the bone graft stimulates your body to make new bone and, with time, joins (or fuses) the bones together. This surgical procedure is used to treat recurrent herniated discs, instabilities of the spine, chronic back problems related to disc rupture, or other disc related pain.

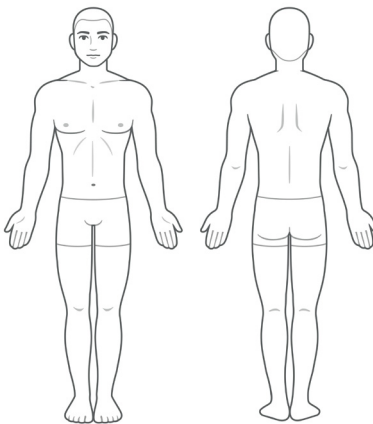
Depending on your specific needs, your surgeon will choose to access your spine in one of the following ways. These are different surgical approaches for the same procedure.

PLIF

(posterior lumbar interbody fusion)
Posteriorly or from the back

TLIF

(transforaminal lumbar interbody fusion)
In a TLIF, your incision will be in your back and the spine will be approached in a lateral (or transverse) angle.



OLIF

(oblique lateral interbody fusion)
From the obliques/side

XLIF

(extreme lateral interbody fusion)
Your surgeon may also choose to do an XLIF and approach your spine from the side, making an incision in the side of your abdomen.

ALIF

(anterior lumbar interbody fusion)
Anteriorly or from the front

Posterior Spinal Fusion (PSF) – Cervical, Thoracic, Lumbar

PSF is a spinal fusion where bone graft is used to stimulate bone to heal together and fuse solid. Metal screws and rods are placed to lock everything in place.

Anterior Cervical Discectomy and Fusion (ACDF)

In this surgery, your doctor will remove a herniated or degenerative disc in the neck (cervical spine). The incision is made in the front of the neck – an anterior approach. After the disc is removed, a bone graft is inserted to fuse together the bones above and below the disc space.

Medical glossary, cont.

Other spinal procedures

Osteotomy

An osteotomy is a controlled breaking or cutting of a bone and is typically done as part of a surgery to correct spinal deformity. When a significant rigid deformity is present, the bone may need to be cut, the spine realigned, and then instrumentation placed to maintain the corrected position of the spine.

Kyphoplasty

This surgical technique involves reinforcing a vertebra with bone surgical cement. It can be applied in the setting of bone collapse (i.e., fracture) due to osteoporosis or other bone destructive process, such as a tumor or tissue death.

Laminectomy

A laminectomy creates space in the spinal canal by removing all or a portion of the lamina, thereby enlarging the space available for the spinal cord and nerves. A laminectomy is typically performed to prevent worsening neurologic deficit from spinal stenosis, the narrowing of the spinal canal that can cause the spinal cord to be compressed.

Cervical Laminoplasty

A laminoplasty involves creating a hinge on one side of the vertebra's lamina and a notch on the other side allowing the lamina to swing open like a door. This provides more space within the spinal canal for the spinal cord and nerves. After cutting the hinge and notch, the surgeon will place small metal plates between the edge of the lamina and the side of the vertebra to keep the door open. This treatment option does not involve a fusion.

Foraminotomy

The foramen is a nerve root's natural passageway or exit from the spine to another part of your body. When the foramen becomes narrowed, the nerve can become irritated or dysfunctional. In a foraminotomy, your surgeon removes bone and soft tissue around the foramen to enlarge the passage for the nerve. A foraminotomy is often performed in addition to decompression of the spinal canal itself, such as a laminectomy.

Discectomy

A discectomy involves removing all or part of an intervertebral disc. Most commonly this is done when a disc is herniated (slipped disc) and is causing symptoms of pain and nerve irritation or injury.

Disc replacement

Disc replacement involves removing a damaged, degenerated disc and replacing it with a prosthetic disc. Disc replacement surgery is an alternative to a spinal fusion for a very select group of patients.

Corpectomy

A corpectomy involves removing all or part of the vertebral body, usually as a way to decompress the spinal cord and nerves. A corpectomy is often performed in association with some form of discectomy.

Contact information

How to reach your surgeon:

DEPARTMENT OF NEUROSURGERY

Dr. Praveen Mummaneni 415-353-2547

Dr. Christopher Ames 415-353-9360

Dr. Lee Tan 415-353-4915

Dr. Aaron Clark 415-353-3191

Dr. Nima Alan

DEPARTMENT OF ORTHOPEDICS

Dr. Bobby Tay 415-353-2840

Dr. Sigurd Berven 415-353-2218

Dr. Shane Burch 415-353-4487

Dr. Vedat Deviren 415-353-2949

Dr. Alekos Theologis 415-353-8203

Dr. Lionel Metz 415-353-4482

Contact the clinic immediately if any of the following happens:

- Increased redness, swelling, pain, drainage or warmth around the incision
- Incision dehiscence (opening in the incision)
- Temperature higher than 101° F (38.3° C)
- Shaking, chills
- Severe or increasing pain that is not getting better with rest
- New or increased numbness or weakness in arms, legs, or torso
- Difficulty emptying your bladder, or urine or bowel incontinence
- Burning or pain with urination
- Pain, redness or swelling of the calf
- Increasing uncontrolled pain

For urgent medical issues after business hours, call 415-353-2739.

(After hours you will be routed to the hospital operator, who will then page the on-call physician.)

For appointments or non-urgent calls, use MyChart, or call 415-353-2739.

(e.g. test results, medication renewals)

- Phone calls typically have a 24-hour turnaround time. MyChart messages typically have a 72-hour turnaround time.

Call 911 if you are experiencing:

Signs and symptoms of a heart attack (chest pain or shortness of breath)

Acute neurologic changes

- New and sudden onset of limb weakness and or numbness
- Total loss of bowel/bladder function

Signs and symptoms of a stroke (BE FAST):

Balance: Sudden loss of balance.

Eyes: Sudden loss of vision in one or both eyes.

Face: Noticeable unevenness or droopiness in the face.

Arm: Weakness or numbness in one arm. One arm may drift downwards.

Speech: Slurred speech.

Time: Every second counts.





UCSF Spine Center
Departments of Orthopedics and Neurosurgery
400 Parnassus Avenue, 2nd Floor, Suite A 2300
San Francisco, CA 94143

(866) 817-7463