



# Preparing for your Non-Operative Spine Appointment

**San Francisco:** UCSF Orthopaedic Institute | UCSF Spine Center | UCSF Mount Zion

**East Bay:** UCSF/John Muir Berkeley Outpatient Clinic

**Peninsula:** UCSF Redwood Shores Specialty Care Clinic

**Marin:** UCSF Specialty Clinics at Greenbrae and San Rafael

**Appointment and non-urgent questions:** 415-353-2739

For urgent medical issues, call 415-353-2808

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

**UCSF Health**  
Spine Center

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# Introduction: Non-Operative Spine Service at UCSF



## Physical Medicine and Rehabilitation (PM&R)

The field of Physical Medicine and Rehabilitation, also known as physiatry, aims to enhance and restore functional ability and quality of life to those with physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles, and tendons. – American Academy of Physical Medicine and Rehabilitation

PM&R physicians, or physiatrists, evaluate and treat injuries, illnesses, and disability, and design

comprehensive, patient-centered treatment plans for patients who range from young to old.

At UCSF, our specialists partner with patients to make joint decisions about treatment plans, based on both the best medical evidence and each patient's unique values and goals. Such treatment plans employ both proven treatments as well as novel technologies, commonly involving a multidisciplinary care team, to maximize a patient's independence in activities of daily living and quality of life.

## How the Non-Operative Spine Service fits into PM&R and Orthopaedic Surgery

Our outpatient multidisciplinary team of physiatrists and anesthesiologists in the Non-Operative Spine Service work alongside orthopedic surgeons and neurosurgeons to manage nonsurgical conditions including spine-related pain and dysfunction, orthopaedic injuries, overuse syndromes, and chronic pain.

With the goals of PM&R in mind, our team aims to provide each patient who has neck, back, musculoskeletal, and nerve-related pain the care and education that will help reduce their pain and enable a return to optimal health and function.

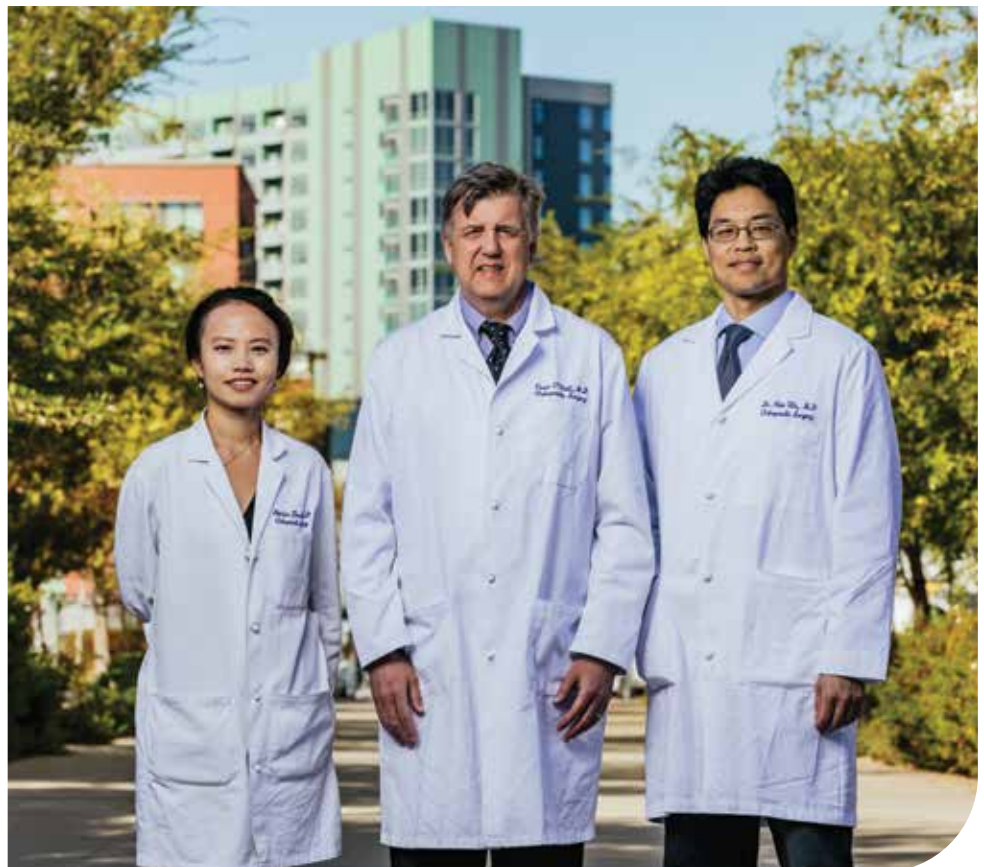
We work closely with surgeons in the Orthopaedic Surgery department to provide conservative management of spinal and musculoskeletal issues to help patients recover from painful disorders, avoid surgery, manage post-surgical pain or dysfunction, as well as identify more serious conditions that may require surgical care.

### Benefits to You

The Non-Operative Spine Service connects you to a team of spine and rehabilitation experts who listen and care and will provide:

- not only a thorough initial evaluation but also ongoing follow up care to address your painful spinal and musculoskeletal conditions
- recommendations for and access to appropriate tests and work up to diagnose your condition

- evidence-based medical **education** and recommendations to help you better understand and manage your pain
- a comprehensive care plan designed to meet your needs and goals that spans medications, injections, physical therapies, complementary therapies, and referrals to appropriate specialists
- further information and resources to help you rehabilitate and recover



# Spine Pain

## Causes of Spine Pain

### **Sprains and strains account for most acute back pain.**

Sprains are caused by overstretching or tearing ligaments, and strains are tears in tendon or muscle.

Both can occur from twisting or lifting something improperly, lifting something too heavy, or overstretching. Such movements may also trigger spasms in back muscles, which can also be painful.

### **Sprains and strains usually improve within 6-8 weeks.**

Muscles can become irritated because of repetitive use of movements and postures that strain the muscles and their associated tendons.

Chronic injury can make muscles stiff and/or weak, can upset the balance between muscles, and can lead to loss of muscle control, all of which cause pain.

Identifying the movement or posture that is straining the muscles as well as stretching and strengthening the muscles are necessary to relieve pain.

### **As we age our spines age with us.**

Due to normal wear and tear, discs narrow and bulge (known as disc degeneration), facet joints develop arthritis, and the curves of the spine can change, sometimes resulting in scoliosis. These changes are all part of the normal aging process, and usually do not lead to pain.

For reasons we don't fully understand, in some people degenerated discs, facet arthritis, and scoliosis can become inflamed and painful.

In those cases it is important to strengthen the muscles of the spine, which will better support painful structures, relieving pressure and inflammation.

## Understanding Spine Pain

Irritation of the tissues of the spine (muscles, ligaments, tendons, joints, nerves) activate specialized receptors that create electrical signals. Nerves carry these signals to the brain, where the signals are interpreted and the pain sensation is produced. There are many things that can affect this process, including the sensitivity of the nervous system, thoughts, and emotions.

### **The pain response**

Pain is the alarm system of the body. Short term pain, called acute pain, is typically a protective response that alerts the body to real or potential damage. As the body heals, the acute pain usually resolves. However, sometimes pain lingers into persistent pain. This type of pain can continue even after the injury or illness that caused it has healed or gone away. Pain signals remain active in the nervous system for weeks, months, or years. Some people suffer persistent pain even when there is no past injury or apparent body damage.

Protective behaviors like limping, working the muscles differently, or avoiding movement altogether set in, affecting your endurance, strength and mobility.

### **Nervous system sensitivity**

Sometimes, the pain response can become the problem. For reasons that we often don't understand, the

nervous system can be so sensitive that even minor movements, which ordinarily would create minimal if any pain, can trigger severe pain. Pain becomes less about what is happening in the body and more about changes in the nervous system. It's like having a faulty alarm system. The alarm is meant to alert you of danger, but sometimes it goes off, even when there is no danger. Nerves have become overly sensitive—and like a faulty car alarm, may go off for no apparent reason. Pain becomes unpredictable, increasing or decreasing for many different reasons—some which can be identified, and others which cannot.

### **Thoughts and Emotions**

Thoughts and emotions have a powerful influence on pain. Many people have worrying thoughts about pain. Some common worries are that pain is never going to get better, movement is going to damage the spine, and that work and family life are going to be impacted. Emotions such as anxiety and depression are also common in patients with pain. These negative thoughts and emotions, with the stress that accompany them, make pain worse, no matter what is happening in the body and can also affect other aspects of your function like poor sleep and digestive problems.

## Treating Pain

Persistent pain can be treated successfully if all the different factors that contribute to it are addressed. Taking action to heal irritated tissues is important, but so is reducing the sensitivity of the nervous system, relieving stress, easing worrying

thoughts, and improving mood. While it is important to relieve pain as much as possible, it is also important to learn how to manage pain as best as possible so that its effect on work, family, and other relationships are minimized.

## Physical Therapy

While surgical approaches may be needed to address or “solve” more serious orthopedic disorders that do not improve with conservative management, physical therapy is the mainstay of conservative treatment to address and facilitate recovery from common causes of spine and musculoskeletal pain. Thus, physical therapy will play a major role in the comprehensive care plan for most patients.

Physical therapists help to further identify, diagnose, and treat problematic musculoskeletal conditions. They will design treatment plans and strategies specific to each person’s needs, challenges, and goals. The use of physical approaches under the supervision and guidance of a physical therapist helps to improve conditioning and strengthening, optimize movement and range of motion, stabilize the spine and improve tolerance of daily activities, manage pain, avoid the need for prescription drugs and surgery, manage chronic conditions, re-engage regular life, recover from injury, and prevent worsening or re-injury. In treating some cases, such as degenerative disc disease, research has shown that physical therapy is as effective as surgery.

The goal of physical therapy is to empower patients with a means to



their own rehabilitation and prevent reliance on passive therapies such as massage or chiropractic care. As patients are encouraged to take an active role in their own care, a course of physical therapy is intended to lead to the development of a robust set of safe exercises to create a “home exercise program” that you are intended to continue on your own after completing the course of PT so that you may continue your recovery.

## Diet

What we eat and how we live can contribute to a sensitized nervous system. Looking at smoking, nutrition, alcohol, and activity levels are a good beginning.

Digestion requires energy. When your nervous system and brain are busy exchanging pain messages, the energy needed for digestion is used toward keeping the body in a state of high alert. This can cause an imbalance in your digestive system. There is indication that some foods may fuel a pain experience by triggering the release of neurotransmitters that heighten the sensitivity of the nervous system and affect your digestion.

Studies have shown that making some thoughtful adjustments to what you eat may provide some added relief to pain and sensitive stomachs.

Educating yourself about pain is actually therapeutic. Understanding that it is complex, how you think

about and process pain and some of the underlying neuroscience can ease the fear and anxiety that are likely contributing to your pain--and begin to calm the brain. Studies have shown that increased awareness of underlying causes of your pain will lessen the agitation of your nerves.

## Lifestyle

Exercise is not only safe for people with persistent pain, it is crucial to overcoming pain. Weak muscles need to be strengthened, and stiff muscles need to be stretched. In addition to exercises to re-train muscles, general exercise such as walking, riding a stationary bicycle, or swimming, are important. Activity of any kind has a number of beneficial effects. Movement promotes blood flow, which furthers the healing process. It also stimulates the brain to produce its own powerful pain medicine (endorphins), lessens stress, and relieves anxiety. Finally, exercise is the most important way to decrease nervous system sensitivity.

Many people with persistent pain are afraid to move, either because they want to avoid pain or because they are concerned they might do damage to their spine. This sets up a vicious cycle, where lack of movement leads to more pain, which leads to less movement, and so on. Graded exposure is a method of gradually increasing activity levels to help you both overcome fear of pain and improve your physical function.

## Sleep

Sleep is important for immune function and for allowing the brain to recharge. Your body is actually in a repairing mode when it is in a deep sleep state. These necessary bodily functions are suppressed when your brain and nervous system are in a state of high alert. Many of the problems associated with chronic pain have a direct impact on the ability to sleep. Lack of normal physical activity because of pain causes a decrease in the amount of serotonin produced by the body, which is an important chemical that helps induce sleep. Daytime naps also interfere with normal sleep-wake cycles. The human body is a creature of habit and establishing good habits around bedtime to preserve your "sleep time" can be very helpful in obtaining restful sleep.

### Keep a regular bedtime

Going to bed at the same time every night trains the body to prepare itself for sleep. Getting up at the same time every morning also supports a good sleep cycle making it easier to achieve deep sleep. The body will establish a habit of entering light sleep when it is time to get up, if a standard time is set for waking.

### Create a calm and quiet environment

When you go to sleep with the TV or radio on your brain stays "tuned in" to variations in the volume coming from these devices and actively processing this noise instead of slowing down so that you can move into deep sleep. Light, especially the

blue light emitted from electronics, suppress melatonin, the hormone that induces sleep and can cause poor sleep quality.

### Avoid eating and drinking right before bed

A full bladder will wake you up to void. Also, remember that you need energy to digest food so large meals eaten later in the evening, makes it difficult for your heart rate to slow in order for you to enter a restful state

Make bed a "sleep only" zone

Reserve the bed for sleeping! Watching TV, reading, paying bills, etc., are activities associated with wakefulness and will keep your mind active when it should be relaxing.

## Cognitive Behavioral

### Addressing negative thoughts and emotions

Talk therapy can help you learn how to deal with negative thoughts and emotions. Cognitive behavioral therapy (CBT) is one type of talk therapy that is often used to help patients with persistent pain, as it can quickly help you identify and cope with specific challenges.

Focusing on the "what if" or the "worst possible outcome" is called catastrophic thinking and is also unhelpful thinking, since it is about things which have no basis in fact and over which you have no control. Learning to recognize when your brain goes down this path allows you to re-direct your thinking to what is actually happening, giving you more control over your thoughts.



### **Stress reduction**

Learning to control your responses to stressful situations will help you take more control over how your brain processes pain.

There are a number of ways to reduce stress, including breathing and muscle relaxation exercises, meditation, yoga, and tai chi.

Exploring the deeper meaning of pain and your surrounding personal story can also be very helpful. Many people make useful links between a stressful period of life and a worsening pain picture. For many, recognizing the deeper emotions associated with pain can be part of a healing process.

### **Medications**

Some people look to surgery as a solution for persistent pain. However, only 5% of spine problems can be

reliably fixed with surgery. There are a number of other medical treatments that can be helpful. Medications can help decrease inflammation in the tissues and decrease the sensitivity of the nervous system. One type of medication that should be avoided is opioids, not only because they can be dangerous but also because they actually can make the nervous system more sensitive. Non-medication treatments- such as injections, acupuncture, chiropractic manipulations, and massage- usually provide only temporary benefit, but can be helpful if pain is interfering with the ability to exercise.

### **Procedures**

Back and neck pain are common—three in four adults will experience neck or back pain or both during their lifetime. However, most back pain or neck pain gets better within

four to six weeks. When pain lasts longer than six weeks, it is considered chronic and may require more intensive treatments and even surgery. The causes of chronic spine pain, and the treatments for it, are as diverse as the individuals affected. If pain is accompanied by loss of neurologic function, such as severe weakness in an arm or leg, patients should be seen by surgery. If not, nonoperative treatment should be the course of action. Nonoperative procedures your provider may recommend include diagnostic and therapeutic spine injections, and more advanced interventional pain management. Please refer to FAQ: Elective Spinal Injections.



# Referral to Our Clinic



You can be referred to our clinic by your treating provider or may contact us directly for an appointment. Prior to making an appointment a member of our scheduling team will review your clinical information to determine if you are best served by an appointment with one of our surgeons or one of our non-operative physicians. 90% of spine problems can be treated without

surgery, so for most patients we recommend an evaluation with our non-operative team before seeing a surgeon. However, if you have severe pain or weakness in an arm or leg, we may recommend that you see a surgeon first. If your pain is mainly in the back or neck, rather than the arm or leg, we will almost always recommend that you see a non-operative physician first, as even

severe back or neck pain typically responds better to non-operative care than to surgery. All our clinic locations have both non-operative physicians as well as surgeons, so your appointment can be scheduled at the location that is most convenient for you.

# What to Expect at a Clinic Visit

## Initial evaluation

30min: please fill out Intake Form

### What can I expect at my first clinic visit?

Initial evaluation (30 min) please fill out Intake Form (online or printed) prior to appointment; during this appointment your physician will review your medical history and offer options on how to best manage your back pain.

Depending on your Primary Care doctor's assessment, you will either meet with a Back Pain Specialist, who will help you develop your treatment plan and discuss options, such as pain medication, clinical treatments and physical therapy. UCSF has clinics now throughout the Bay Area, which include San Francisco, Marin County, the East Bay and the Peninsula. We also provide video visits.

## Follow up

15min: please fill out Intake form

Follow-up visits will be with your Back Pain Specialist; this team of experts will also send follow-up reports to your Primary Care doctor

### Will I have regular follow up appointments?

Yes. We will schedule 15-minute follow-up appointments (either in person or via video call). For follow-ups, we also ask you to complete the Intake Form so that we can accurately track your progress.

## Canceling appointments

### What if I can't make an appointment?

**MyChart (online):** Patients can cancel appointments through their MyChart up to 24 hours before their appointment.

**Call:** Patients should call either the providers practice coordinator or the call center to cancel an appointment less than 24 hours before the scheduled appointment.

## Communication with care team

### How do I communicate with my care team?

UCSF uses an online system called UCSF MyChart, which is a secure, HIPPA compliant platform.

Patients sign up for MyChart by creating an account at <https://www.ucsfhealth.org/mychart>.

# Work with Physician Assistants (PAs)



In the Non-Operative Spine Service, physicians work closely with physician assistants to provide you the best possible and most available care. For your visit with the Service, you may receive care from an MD/PA team. During this visit, you will often be roomed by a medical assistant to update any health information. Then you will be seen by a Physician Assistant (PA) to discuss your medical history, perform

an examination, and raise pressing issues. You will then finish the visit **with** the physician.

At some visits, you may be seen by only the physician or the PA. The team has open communication and decisions are made together to determine your best care. The PA is considered an extension of the physician. PA's can order imaging studies, prescribe medications, physical therapy, and can also

plan your care. PA visits are often available for routine follow up visits after procedures/injections.

Having an MD/PA team will increase availability and access in these busy practices. You may also choose to contact the Service via MyChart. These messages are often monitored by the PA team and relayed to the physician when necessary and when requested.

# Video Visit Instructions

Upon scheduling your telehealth visit on Zoom, you will receive confirmation of your appointment time, date, provider, and Zoom link with meeting ID number. This will be located on your After Visit Summary following an appointment or may be found under “Visits” in your UCSF MyChart Account. If for any reason you do not receive Zoom log on information prior to your appointment, please contact the provider’s clinic or practice coordinator for the Zoom instructions.

If you have a new patient appointment, scheduling staff will send you New Patient paperwork to

complete prior to your visit. If you did not receive this, please contact our clinic to request the paperwork to be completed. If you have other medical records or imaging to submit, please contact our clinic to submit this information.

If you have a follow-up appointment to review test results or new imaging, please provide this to your provider prior to your scheduled visit. Prior to your scheduled visit, you may contact the clinic to confirm that your information has been received or to get instructions on how to submit this information.

On the day of your appointment, clinic staff may call you to perform a brief intake regarding your chief complaint, medications, and history. You will be asked to log in for your telehealth visit about 15 minutes early. You will see your provider’s virtual waiting room. Your provider will “admit” you into the telehealth visit. Once you have joined the telehealth visit, if not already done, you will need to activate your video camera by clicking on Start Video at the bottom of your screen. If not already done, you will need to activate your sound by clicking on Unmute at the bottom of your screen.



# Referrals



## To Physical Therapy

Physical therapy referrals are commonly recommended as part of your care plan. You may choose your physical therapy facility.

To schedule an appointment at UCSF Physical therapy, please call 415-353-7598 or email [rehabPTfp@ucsf.edu](mailto:rehabPTfp@ucsf.edu).

To schedule an appointment for physical therapy outside of UCSF, please contact facility directly to verify insurance compatibility and make an appointment. You may bring the paper copy of your PT referral or request this referral to be faxed. Please contact clinic staff and provide PT facility name, phone number, and fax number.

The physical therapy facility typically obtains prior authorization from your insurance company.

## To Advanced Imaging

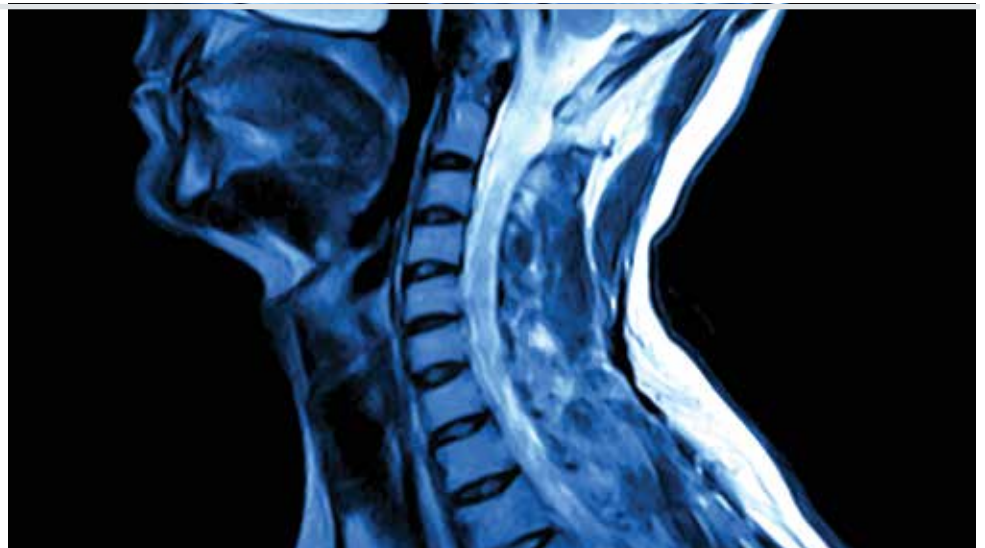
Advanced Imaging with MRI and/or CT is commonly recommended for diagnostics purposes and pre-procedure planning. You may choose your imaging facility.

To schedule an imaging exam at UCSF Radiology, please call Central Scheduling Telephone: (415) 353-2573. UCSF Radiology department

will obtain prior authorization with insurance. You will need to contact UCSF Radiology to initiate the authorizations and scheduling process.

To schedule an appointment at imaging facility outside of UCSF, please provide the imaging facility name, phone number, or fax number to your clinic staff. We request

that the external imaging facility obtains prior authorization from your insurance company. Once our clinic faxes over the imaging referral and documentations to the imaging facility, please contact the imaging facility directly regarding the scheduling of your appointment and the status your insurance authorization.



## After imaging is completed at an outside imaging facility:

Once you have completed your imaging study (MRI, CT, etc.), it is important that you obtain a CD of the study images (before leaving the facility) as well as the radiology report (once it becomes available) so that they can be downloaded into your electronic medical record and reviewed at your follow-up visit.

If your follow-up visit is an in-person appointment, you may bring the CD and radiology report to clinic the day of your appointment.

If your follow-up visit is a Telehealth video appointment, you will need to EITHER bring the CD and radiology report to our clinic prior to your appointment to be downloaded, OR you may upload the images

from your computer into your chart following the instructions at this link: <https://radiology.ucsf.edu/send-images-ucsf-radiology>, and you may ask the imaging facility to fax the radiology report to our clinic prior to your appointment so that they can be readily available by the time of your appointment.

# My Chart

MyChart is an easy, confidential way to access your care team and medical information online. If you need help getting started, contact MyChart Customer Service at (415) 514-6000. MyChart is available 24 hours a day, seven days a week.

MyChart allows you to:

- Send messages to your health care provider
- Refill prescriptions
- Request an appointment or a referral

- Check lab results and graph your trends
- View electronic health information
- Access your child's medical records if your child is 11 years old or younger
- Access some of your adolescent's medical records if your child is 12 to 17 years old
- View information about past visits and upcoming appointments
- Pay your bill and access your billing statements

How to sign up: Visit <https://www.ucsfhealth.org/mychart>



## What is the normal response time from my care team?

For non-urgent matters, the normal response time is two business days. Note: messages may be answered by either a provider or a PA. For emergencies, please call our main clinic number (415-353-2808) to be routed to our on-call providers.

## Your message may be handled by our PAs.

**Note:** When you exchange messages with your health care provider through MyChart, your insurance may be billed if the response requires medical expertise and more than a few minutes of your provider's time.



# FAQ: Elective Spinal Injections

Spinal injections are outpatient procedures performed in a surgical, clean setting using X-ray imaging to visualize exactly where the needle is placed. Both local anesthetic administered at the injection site along with light conscious sedation are used to minimize discomfort during the procedure. If you would like to have your injections performed using only local anesthetic at the injection site (without conscious sedation), this is also an available option. Please inform your provider or the practice coordinator of your

preference when they contact you to schedule your appointment.

Depending on your medical history, the procedure will occur at either at the UCSF Mission Bay or Mount Zion campus. Your chart will be reviewed after we the injection referral is received the injection referral. If you take any type of anti-coagulation or anti-platelet medication (i.e., blood thinner) we will need to obtain clearance from the prescribing physician before we can begin the scheduling process.

Completion of the referral may sometimes take up to a week or more depending on variables that include: your personal insurance authorization, current injections scheduled, and if we need to obtain any clearances for you prior to the procedure. We will do our very best to complete the referral in a timely manner.

## Why have I been referred for an outpatient fluoroscopy (X-ray) guided injection?

UCSF Non-Operative Spine physicians specialize in using injections to diagnose and treat spine pain. We can help diagnose the source of your pain by injecting a part of the spine and observing the effect on your symptoms. The response you have from the injection can help to confirm the source of pain and inform other treatment approaches. If your pain subsides after treating a certain structure, this structure is probably contributing to your pain. If we know where your pain is coming from, this pain can often be treated by the injection itself, or by medications and other approaches, such as physical therapy, that your provider may

have also recommended to work in combination with the injection to help with your pain and recovery.

## What type of medication is used for injections?

For most injections a mixture of steroid and local anesthetic is used. The local anesthetic is used to provide immediate pain relief. Steroid provides longer term relief by relieving inflammation, which is the cause of most spine pain problems. The dose of cortisone is small and primarily affects only the structure injected.

## How do I schedule an appointment?

Our scheduling practice coordinator will call you after they have received the necessary information from your referring physician. It can take up

to 5-7 business days to process this information. There can be delays if your insurance does not approve the procedure. We also need to obtain clearance prior to scheduling if you take a daily anti-coagulant or anti-platelet medication (i.e., blood thinner) such as Eliquis, Warfarin, Aspirin, or Plavix.

## How quickly can my injection be scheduled?

Each of our physicians performs fluoroscopy guided injections into the spine and occasionally joints on only certain days during the week. The other days of the week they are in clinic. As injections are not performed every day at UCSF, only so many patients can be scheduled each week. This leads to scheduling occasionally taking 1 to 3 weeks to occur after your recent referral has

been received. Your medical history, which is reviewed individually to ensure safety, will also determine the timing and particular UCSF facility where you will receive the injection – either Mission Bay or Mount Zion.

**In particular:**

- In order to minimize risks of infection associated with the procedure, we recommend to not have had fever, chills, sweats, rashes over the injection site, symptoms/ signs of infection, or use of antibiotics to treat infection for the 2 weeks preceding the scheduled injection date, but if you do, please call us to reschedule the procedure to when there have been no symptoms/ signs of infection or use of antibiotics for 2 weeks.
- For patients with diabetes mellitus, please inform our office if you have had any recent (especially 1-2 days preceding the scheduled injection date) abnormal or uncontrolled blood glucose levels.
- Please inform our office if you have had adverse or allergic reactions to steroid, iodinated contrast agents, or to sedative agents (include lack of response).
- Please inform our office if you have had or plan to have a vaccination within 2 weeks of an anticipated injection. We recommend to avoid an injection of steroid within 2 weeks of the COVID vaccination, either before or after, to allow an appropriate immune response to the vaccination to take place given the immunosuppressive effects of steroid.

## What are the risks associated with spinal injections?

Injection procedures are typically very safe. As with any medical procedure, there are potential risks and side effects. Common side effects from steroid include flushing, palpitations, insomnia, mood changes, headache, upset stomach, and slight fever with flu-like symptoms for a couple of days after the injection. Your spine provider will review these with you prior to the procedure

## Will the procedure(s) be painful?

UCSF offers light conscious sedation through intravenous (IV) administration for most procedures and the majority of patients experience only minor discomfort. Since you are not completely sedated (i.e., not unconscious) we cannot guarantee you will not feel any discomfort. Certain injections or procedures may be more painful than others. For certain diagnostic injections, sedation is not used as the information you provide related to your pain during and after the injection will help your spine provider determine your medical condition. The discomfort from diagnostic injections usually lasts only a few minutes if it occurs at all, and the information we get will help your provider provide better treatment.

## What happens before the procedure?

Our UCSF physicians will go over your medical history, perform a brief physical examination, and review your MRI and/or CT scan to evaluate your medical condition. They will review the procedure(s) with you and answer any questions you may have. Please do not take any medications that may increase the risk of bleeding, such as anti-inflammatory medications like Motrin/ Advil (ibuprofen), Aleve (naproxen), Mobic (meloxicam), Celebrex (celecoxib), diclofenac, etc. for 3-7 days (depending on the specific medication taken) preceding the scheduled injection date in order to reduce the risk of bleeding associated with the procedure. For those having conscious sedation for the procedure, you will get an IV placed, and you will need to fast for 8 hours prior to your procedure, but you may have clear liquids up to 4 hours before. Sips of water with medications are okay at any time. If you had your MRI taken outside of UCSF and have not already uploaded your images to the UCSF system at a prior clinic visit with your provider, please obtain the CD of your MRI images from the imaging facility and hand carry it to your injection appointment to upload to the UCSF system. If you are traveling from far away (e.g., from an outside county) for your injection that is scheduled early in the morning, we recommend arriving the night before and staying overnight at a nearby hotel or Airbnb so you do not risk missing your appointment.

## What happens during the procedure?

The procedure is done in a sterile procedure room in a surgery center at UCSF. Surgery center providers give you sedation intravenously. The injection is performed using an x-ray machine and contrast dye to guide needle placement. The procedure usually takes 10 or 20 minutes. Most patients receive local anesthetic with the injection. If you do, you will have some immediate pain relief. Afterwards, you proceed to a recovery area for approximately 30-60 minutes. You are monitored by a nurse and given something to eat and drink.

If you received a diagnostic injection with local anesthetic only to determine the response you have from injecting a particular structure, while you are in the recovery area your physician will question you about how much relief you have had, and they may ask you to perform certain maneuvers that were painful prior to the injection. Please be as specific as you can in answering these questions, as the amount of immediate relief you get from local anesthetic can be very important in understanding your problem.

## What happens after the procedure?

a. You will need a ride home with a family member or friend as you may have some fatigue from the conscious sedation and/ or weakness or numbness from the local anesthetic injected for a few hours. Do not drive or use public transportation by yourself until the morning after the procedure

b. As the intravenous sedation and/ or local anesthetic wears off, you may have an increase in your pain, including discomfort from the procedure and feeling your original pain. You may apply a cold pack (without direct skin contact at the injection site) and take Tylenol as needed for this pain the day of the procedure. You may take NSAIDs as needed for pain starting the day after the procedure.

c. Resume a normal diet and other medications immediately.

d. Rest the day of the procedure and take activities in moderation.

e. The following day, resume all activities, including work and physical therapy, that were tolerated before, and slowly progress in activities that were not tolerated before without pushing through pain.

f. Avoid soaking your injection site under water (e.g., bath, hot tub, swimming pool, etc.) for 48 hours to allow your skin to heal and avoid infection. Showering is OK.

g. The timeframe for onset of response to a successful injection (i.e., experiencing any noticeable improvement in pain if your procedure was successful) varies by the procedure:

- immediately for a procedure involving local anesthetic only
- within 2-3 days, although it may take up to 10-14 days after the procedure for a steroid injection
- up to 4 weeks after the procedure for a rhizotomy

## What is my follow-up?

Please follow-up with your referring provider no sooner than 2 weeks after the procedure, 4 weeks if the procedure was a rhizotomy.

Please pay careful attention to any changes in your pain following the procedure and how long they last after the injection and report this to the provider. In some cases injections provide long-lasting relief, while in others injections do not provide significant relief. Don't be alarmed if yours doesn't. Whether your injection provides relief or not, the information we get from your response to the injection will help us to treat you better.

## Can you provide spinal injections to patients under the age of 18 years (i.e., minors)?

Under special circumstances, we do provide spinal injections to patients who are under the age of 18 years. Such cases are reviewed by a Non-Operative Spine provider to determine appropriateness and safety for the patient.

# FAQ: Ultrasound Guided Injections

Ultrasound-guided injections are outpatient, office-based procedures performed in the clinic setting using ultrasound imaging to visualize exactly where the needle is placed. Because of the lower accuracy rate of palpation-guided injections reported in the literature, ultrasound guidance is used to ensure accurate needle placement and administration

of medication to specific tissues while reducing the risk of injecting or damaging nearby tissues, such as nerves, ligaments, tendons, cartilage, or organs. This process provides greater accuracy and safety for the injection and results in less procedural pain compared to palpation-guided, or conventional, injections.

## Why have I been referred for an outpatient ultrasound guided injection?

UCSF Non-Operative Spine physicians specialize in using injections to diagnose and treat musculoskeletal pain. We can help diagnose the source of your pain by injecting a part of the body and observing the effect on your symptoms. The response you have from the injection can help to confirm the source of pain and inform other treatment approaches. If your pain subsides after treating a certain structure, this structure is probably contributing to your pain. If we know where your pain is coming from, this pain can often be treated by the injection itself. Ultrasound guided injections are a safe approach to treating pain, inflammation, and impaired mobility, often recommended for musculoskeletal conditions or pain complaints to complement other conservative measures such as oral medications and/or physical therapy that your provider may have also recommended

to work in combination with the injection to help with your pain and recovery. Procedures will often be recommended to relieve pain from structures that are considered too deep or too small to inject accurately using traditional palpation-guidance in order to help patients better engage in physical therapy for their rehabilitation.

## What type of medication is used for injections?

For most injections a mixture of steroid and local anesthetic is used. The local anesthetic is used to provide immediate pain relief. Steroid provides longer term relief by relieving inflammation, which is the cause of most musculoskeletal pain problems. The dose of cortisone is small and primarily affects only the structure injected. Sometimes only local anesthetic is injected for diagnostic purposes in order to determine whether the injected structure is a source of pain. Other medications used include hyaluronic acid (i.e., viscosupplementation), and platelet-rich plasma, among others.

## How are ultrasound-guided injections performed?

Ultrasound-guided injections are performed in the clinic setting using sterile technique. Sterile ultrasound gel will be placed on the skin overlying the targeted structure. Then, ultrasound scanning of the targeted area will be performed instead of relying on palpation to determine the optimal injection placement and trajectory to reach the targeted tissue structure. The provider uses the imaging probe to see a live image of the tissues and may ask you to move the related extremity through a certain range of motion to better visualize and identify the appropriate structure. The provider then uses a clear, detailed, real-time image of the appropriately identified tissue landmarks to guide needle insertion and advancement and the administration of the medicine.

## What are the risks associated with spinal injections?

A: Injection procedures are typically very safe. As with any medical procedure, there are potential risks and side effects. Common side effects from steroid include flushing, palpitations, insomnia, mood changes, headache, upset stomach, and slight fever with flu-like symptoms for a couple of days after the injection. Your spine provider will review these with you prior to the procedure. Ultrasound guidance presents even less risk compared to X-ray guidance as ultrasound does not use, and therefore does not expose you to, ionizing radiation.

## Are there any contraindications to getting an injection?

- In order to minimize risks of infection associated with the procedure, we recommend to not have had fever, chills, sweats, rashes over the injection site, symptoms/ signs of infection, or use of antibiotics to treat infection for the 2 weeks preceding the scheduled injection date, but if you do, please call us to reschedule the procedure to when there have been no symptoms/ signs of infection or use of antibiotics for 2 weeks.

- For patients with diabetes mellitus, please inform our office if you have had any recent (especially 1-2 days preceding the scheduled injection date) abnormal or uncontrolled blood glucose levels.

- Please inform our office if you have had adverse or allergic reactions to steroid

- Please inform our office if you have had or plan to have a vaccination within 2 weeks of an anticipated injection. We recommend to avoid an injection of steroid within 2 weeks of the COVID vaccination, either before or after, to allow an appropriate immune response to the vaccination to take place given the immunosuppressive effects of steroid

## What happens before the procedure?

Our UCSF physicians will go over your medical history, perform a brief physical examination, and review your imaging to evaluate your medical condition. They will review the procedure(s) with you and answer any questions you may have. Please do not take any medications that may increase the risk of bleeding, such as anti-inflammatory medications like Motrin/

Advil (ibuprofen), Aleve (naproxen), Mobic (meloxicam), Celebrex (celecoxib), diclofenac, etc. for 3-7 days (depending on the specific medication taken) preceding the scheduled injection date in order to reduce the risk of bleeding associated with the procedure.

## Will the procedure(s) be painful?

A: Local anesthetic will be administered to the skin and soft tissues at all targeted areas to minimize pain. Given the benefit of ultrasound-guided injections is the ability to visualize the affected area and provide precise placement for an injection, procedural pain is minimized and the majority of patients experience only minor discomfort.



## What happens after the procedure?

- a. You may have some numbness from the local anesthetic injected for a few hours. Do not drive if the local anesthetic affects your arms or legs, or if it causes lightheadedness or dizziness.
- b. As the local anesthetic wears off, you may have an increase in your pain, including discomfort from the procedure and feeling your original pain. You may apply a cold pack (without direct skin contact at the injection site) and take Tylenol as needed for this pain the day of the procedure. You may take NSAIDs as needed for pain starting the day after the procedure.
- c. Rest the day of the procedure and take activities in moderation.
- d. The following day, resume all activities, including work and physical therapy, that were tolerated

before, and slowly progress in activities that were not tolerated before without pushing through pain.

- e. Avoid soaking your injection site under water (e.g., bath, hot tub, swimming pool, etc.) for 48 hours to allow your skin to heal and avoid infection. Showering is OK.
- f. The timeframe for onset of response to a successful injection (i.e., experiencing any noticeable improvement in pain if your procedure was successful) varies by the procedure:

- immediately for a procedure involving local anesthetic only
- within 2-3 days, although it may take up to 10-14 days after the procedure for a steroid injection

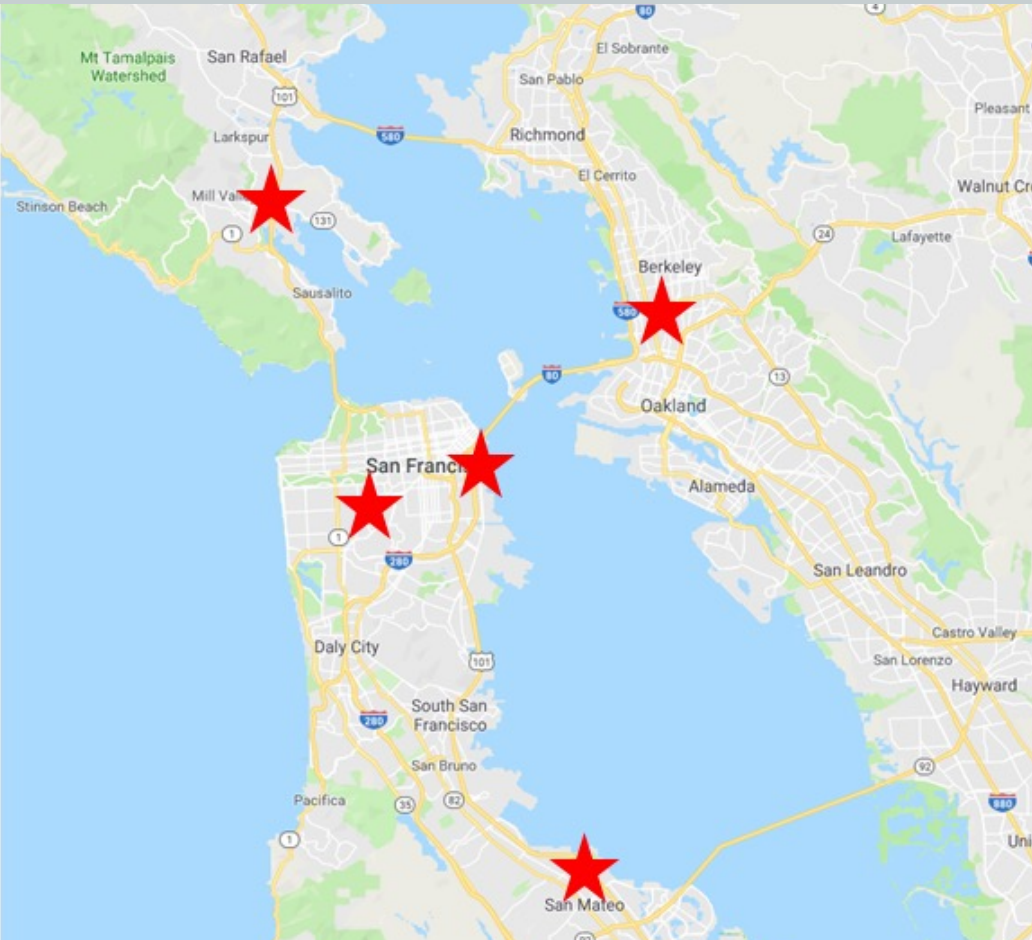
## What is my follow-up?

Please follow-up with your referring provider no sooner than 2 weeks after the procedure

Please pay careful attention to any changes in your pain following the procedure and how long they last after the injection and report this to the provider. In some cases injections provide long-lasting relief, while in others injections do not provide significant relief. Don't be alarmed if yours doesn't. Whether your injection provides relief or not, the information we get from your response to the injection will help us to treat you better.



# Where You Can Receive Care



## San Francisco

### **UCSF Orthopaedic Institute at Mission Bay**

1500 Owens St., San Francisco, CA

**Appointments:** 415-353-2739

### **UCSF Spine Center Clinic at Parnassus**

400 Parnassus Ave Third Floor,  
San Francisco, CA 94143

**Appointments:** 415-353-2739

## East Bay

### **Berkeley Outpatient Center**

3100 San Pablo Ave.,  
Berkeley, CA 94702

**Appointments:** 415-353-2739

## Peninsula

### **Redwood Shores Specialty Care Clinic**

290 Redwood Shores Parkway  
Redwood City, CA 94065

**Appointments:** 415-353-2739

### **Greenbrae Clinic**

1240 S. Eliseo Dr., Suite 101  
Greenbrae, CA 94904

**Appointments:** 415-353-2739

## San Rafael (Marin County)

### **MarinHealth Orthopedic Surgery | A UCSF Health clinic**

4000 Civic Center Dr Ste 209  
San Rafael, CA 94903

**Appointments:** 415-925-8963

# Our Team

## Physicians



**Conor O'Neill, MD**

**Clinical Professor | Orthopaedic Surgery (Program Director, Non-Op Spine)**

Dr. O'Neill leads the non-operative spine team in the Department of Orthopaedics. He is a Clinical Professor and is board-certified in Internal Medicine, Anesthesiology, and Pain Management. He joined UCSF after a long career in private practice, where he specialized in diagnosis and non-surgical treatment for patients with chronic back and neck pain.



**Sibel Deviren, MD**

**Professor | Orthopaedic Surgery**

Dr. Sibel Demir-Deviren is currently a Clinical Professor specialized in non-surgical treatments of spinal disorders in the Departments of Orthopaedic Surgery and Neurological Surgery at the University of California, San Francisco and a Physiatrist at the UCSF Spine Center. Dr. Demir-Deviren has particular clinical interest in non-operative spine care for patients with spinal disorders including disc herniation, spinal canal stenosis, neural foraminal stenosis, degenerative disc disease, scoliosis, and spondylolisthesis.



**LYNDLY TAMURA, MD**

**Assistant Professor of Clinical Orthopaedic Surgery | Orthopaedic Surgery**

Dr. Lyndly Tamura is a board-certified specialist in Physical Medicine and Rehabilitation (PM & R) focused on providing non-operative care for patients with acute and chronic spine pain, musculoskeletal disorders, and pain conditions. Dr. Tamura is fellowship-trained in Interventional Pain, and she is board-eligible in Pain Medicine.





**Peter I-Kung Wu, MD**

**Assistant Professor | Orthopaedic Surgery**

Dr. Peter I-Kung Wu, a board-certified specialist in Physical Medicine and Rehabilitation (PM&R) and Pain Medicine who employ an evidence-based, multidisciplinary approach to managing spinal disorders.



**Ninad Karandikar, MD**

**Professor | Orthopaedic Surgery**

Dr. Ninad Karandikar is a physical medicine and rehabilitation specialist who cares for patients with neck and back pain. He specializes in diagnosing and treating spine pain, including with nerve conduction studies and spinal injections for pain relief.



**Patricia Zheng, MD**

**Assistant Professor | Orthopaedic Surgery**

Dr. Patricia Zheng is a physical medicine and rehabilitation specialist who cares for patients with neck and back pain. She specializes in using minimally invasive techniques to improve function and decrease pain in patients with spinal disorders.

## Physician Assistants

Chris Dambroso

Shawn Lies

Jennifer King, PA

# Resources

## Information about low back pain



<https://iss.ucsf.edu/spine-anatomy-basics>



<https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Low-Back-Pain-Fact-Sheet>



<https://orthoinfo.aaos.org/globalassets/pdfs/about-your-back.pdf>



<https://www.choosingwisely.org/societies/american-academy-of-physical-medicine-and-rehabilitation/>



## **UCSF Spine Center**

400 Parnassus Avenue 2nd Floor San Francisco, CA 94143

**Appointment and non-urgent questions: 415-353-2739**

For urgent medical issues, call 415-353-2808

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

**UCSF Health**  
Spine Center