



University of California
San Francisco

UCSF Knee Replacement *Guide to preparing for surgery*

Department of Orthopaedic Surgery

Topics

Part 1: What is a knee replacement (3-7)

- Anatomy of knee: Natural knee, arthritic knee
- Understanding total knee replacement: implant design, surgical process
- Understanding partial knee replacement: implant design, surgical process

Part 2: Preparing for your surgery (8-12)

- Attending UCSF Prepare Clinic (Anesthesia): routine medical screening, reviewing current medications
- Preparing for surgery: 2-day at-home checklist
- What to bring to the hospital; what not to bring
- Planning to return home

Part 3: What to expect during your hospital stay (13-23)

- Timeline from admission to discharge
- Anesthesia: what to expect
- Pain management medications
- Importance of early mobility
- In-hospital physical therapy, occupational therapy
- Durable Medical Equipment to assist in early recovery
- Goals for discharge to going home

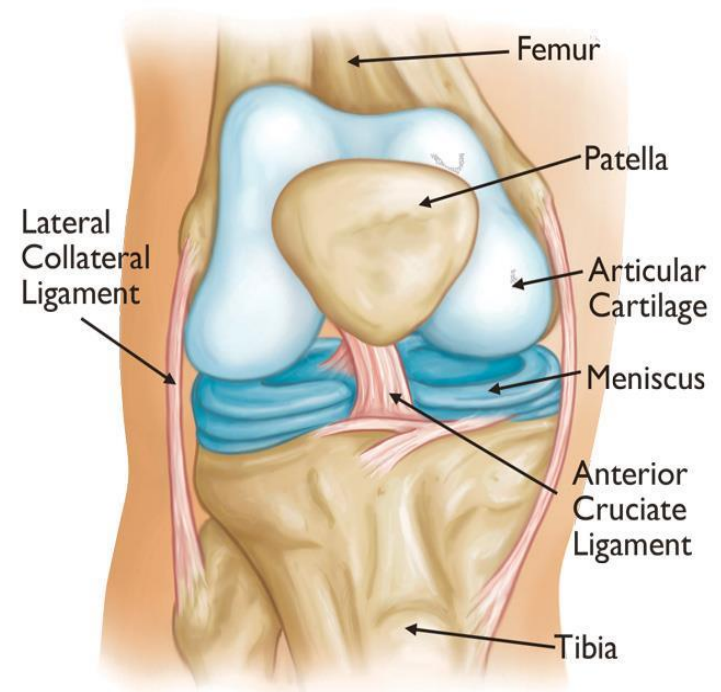
Part 4: What to expect after you leave the hospital (24-30)

- Post-surgery precautions: bruising and swelling, blood clot prevention, incision care, preventing infection, preventing dislocation
- Knee Replacement FAQ
- Communicating with our office: Telephone, MyChart (UCSF patient portal), HealthLoop (App for communicating with your team)

Anatomy of knee: Natural knee, arthritic knee

▪ Natural knee anatomy:

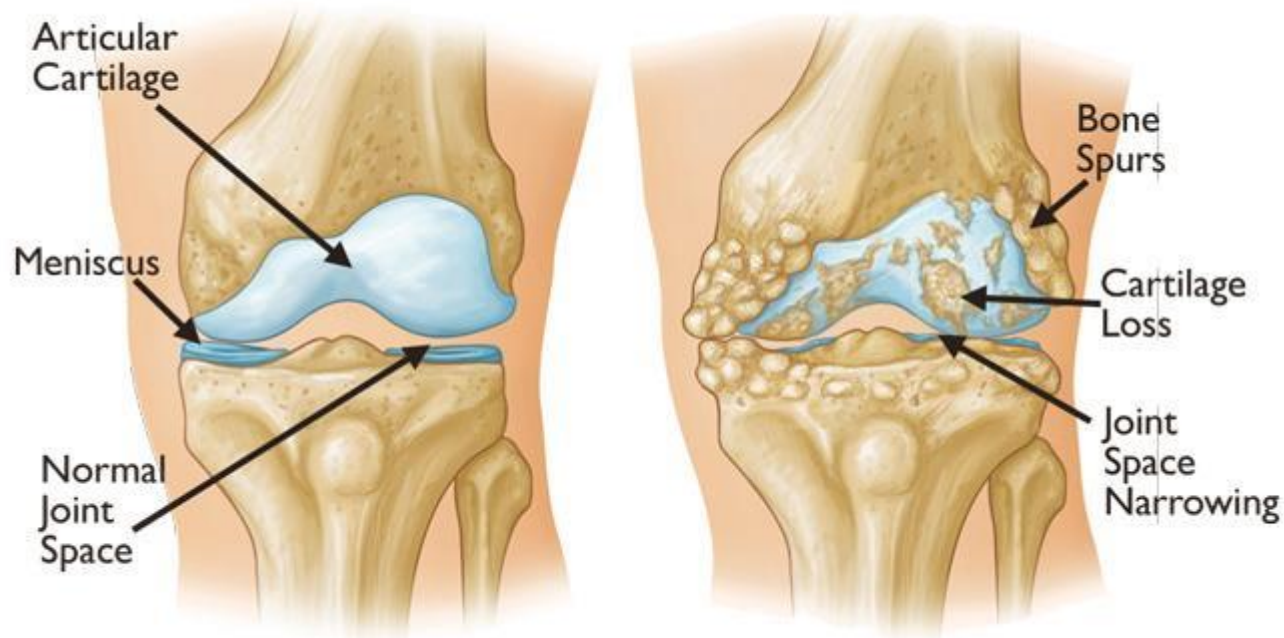
- lower end of the thighbone (femur)
- the upper end of the shinbone (tibia)
- kneecap (patella).
- Ends of these three bones where they touch are covered with cartilage that protects the bones and enables them to move easily.
- These C-shaped menisci wedges act as "shock absorbers" that cushion the joint.
- Large ligaments hold the femur and tibia together and provide stability. The long thigh muscles give the knee strength.



Anatomy of knee: Natural knee, arthritic knee

Arthritic knee:

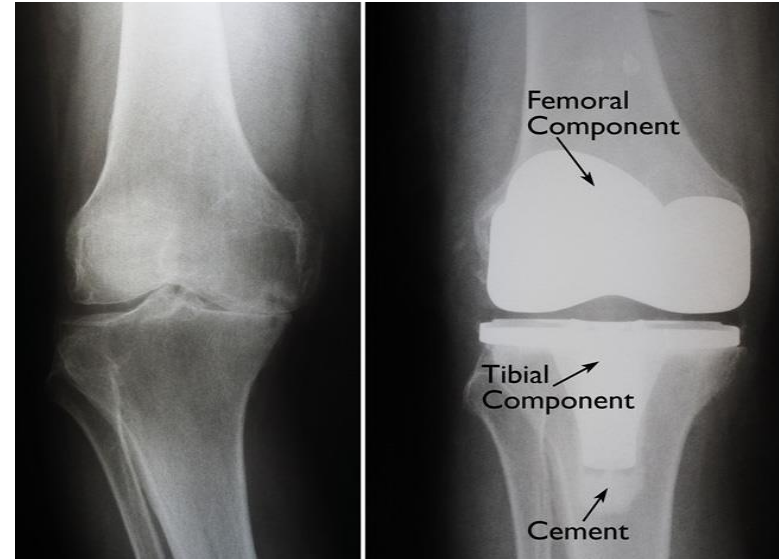
The cartilage that cushions the bones of the knee softens and wears away. The bones then rub against one another, causing knee pain and stiffness.



Understanding total knee replacement: Surgical process

There are four basic steps to a knee replacement procedure.

- Prepare the bone: damaged cartilage surfaces at the ends of the femur and tibia are removed along with a small amount of underlying bone.
- Position the metal implants: cartilage and bone is replaced with metal components that recreate the surface of the joint. These metal parts may be cemented or "press-fit" into the bone.
- Resurface the patella: patella is resurfaced with a plastic button. Some surgeons do not resurface the patella, depending upon the case.
- Insert a spacer: medical-grade plastic spacer is inserted between the metal components to create a smooth gliding surface.



Above: knee before and after surgery.

Understanding total knee replacement: Implant design

Components of your new knee implant:

Note: not all implants are the same. Implants come in many different sizes/styles; your surgeon will determine the size/style appropriate for your knee.



Understanding partial knee replacement: Implant design



In unicompartmental knee replacement (also called "partial" knee replacement) only a portion of the knee is resurfaced. This procedure is an alternative to total knee replacement for patients whose disease is limited to just one area of the knee.

Preparing for surgery: Attending UCSF Prepare Clinic



The UCSF Prepare Clinic is located at 505 Parnassus Ave., San Francisco, CA 94143 (415) 353-1480. The clinic is located on the first floor of the hospital in suite L-171.

What is the UCSF Prepare Clinic

The Prepare Clinic (Anesthesia team) will review:

- Your overall medical health to determine that you are fit for surgery
- Necessary pre-op blood work for routine screening
- All current medications/supplements and plan to adjust if needed before surgery

Preparing for surgery: UCSF Prepare Clinic and medication review

Adjust medications that could increase bleeding, interfere with anesthesia

At your Prepare Clinic visit, you will be instructed to **stop taking any medications prior to surgery** that may increase bleeding or have potential to interfere with anesthesia:

- Motrin, Advil, Naproxen
- Vitamin E, Fish Oil, Turmeric, Garlic, Ginkgo biloba

Adjust medications for patients at high cardiac risk, other medical risk

Your care team (i.e. cardiologist, hematologist, PCP, surgeon) will determine a plan to safely stop and resume **blood thinning medication (including aspirin)**.

- Eliquis, Plavix, Xarelto, Warfain, etc.

Preparing for surgery: 2-day checklist

No eating or drinking after midnight the night before surgery

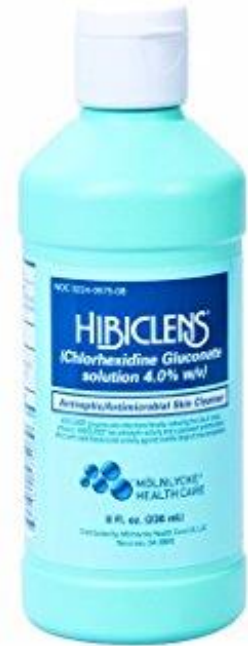
NOTE: For routine medications, you may take a sip of water (as instructed by the UCSF Prepare Clinic).

Showering with Hibiclens (No bathing!)

- 2 nights before surgery
- 1 night before surgery
- Morning of surgery

Delay routine dental work after surgery

- Dental cleaning ok after 6-12 weeks



Hibiclens will be given at your UCSF Prepare Clinic or at your surgeon's appointment. Hibiclens is also available over the counter and through online retailers.

Preparing for surgery: Packing for your hospital stay

BRING:

Identification: Photo ID and health insurance card

Essential items: Eye glasses, dentures, hearing aides, personal toiletries

Entertainment: Books, magazines, small electronic devices

Note: the hospital provides both complimentary Internet (WiFi) and cable.

Clothing: Comfortable, loose-fitting clothes, non-slip slippers, robe

Note: During your stay, the hospital will provide hospital gowns and socks with traction.

DO NOT BRING:

Medications: The hospital will provide you with the medications you normally take

Money: If possible, please limit any cash or credit cards

Jewelry: Please leave all jewelry at home; this includes wedding bands and earrings

Preparing for surgery: Planning for your return home



Transportation: Someone to accompany you home from hospital after surgery. This is required by the hospital.

Safe floors: Rugs, furniture, books/boxes, extension cords

Safe sleeping area: Elevate bed with risers/taller frame/mattress pad if your bed is at knee level and below. Make room on first floor if you live in multi-level home.

Safe bathroom: Elevated toilet seats, shower chairs, non-slip surface coverings for wet areas.

Advised: Firm chair with handles to provide comfort and support for at-home physical therapy exercises. (Avoid chairs with wheels!)



Food: Easy, comfort foods; microwavable foods.

Assessing your home: Physical therapist at hospital will ask about home environment including steps into/inside home, height of bed, types of chairs/seating you have, and average distance between rooms.

Your hospital stay: Admission to discharge timeline



- 1. Admission:** Arrive three hours before scheduled surgery. Your practice coordinator will confirm your arrival time one business day before surgery.
- 2. Anesthesia:** On the morning of your procedure, you will meet with your anesthesiologist to prepare you for the surgery.
- 3. Surgery:** The procedure takes approximately one-to-two hours.
- 4. Recovery:** You will be in the recovery room for three-to-four hours while your anesthesia wears off.
- 5. Hospital stay:** On average, stay is one night.
- 6. Discharge:** On average, patients are discharged at noon the day after surgery.

Anesthesia: What to expect

Meeting your anesthesiologist

Morning of surgery, you and anesthesiologist will discuss your anesthesia plan.

Anesthesiologist and surgeon will recommend the best anesthesia option for you based on: type of surgery, overall health, and preferences.

What is regional anesthesia?

- Most commonly used
- Nerve block in spine
- IV sedation to keep you comfortable and asleep

What is general anesthesia?

- Completely unconscious
- IV medications and inhaled anesthetic gasses
- Breathing tube required

Pain management medications: Hospital stay and beyond

Multimodal pain management

The combination commonly includes:

- **Tylenol/acetaminophen**: mild pain reliever; maximum Tylenol/acetaminophen per 24 hours is 3,000 mg
- **Celebrex or Mobic**: anti-inflammatory medication
- **Neurontin/gabapentin**: nerve pain medicine

Note: For patients who can not tolerate any of these medications, our pharmacy staff will tailor your individual pain management plan.

Narcotic pain medication

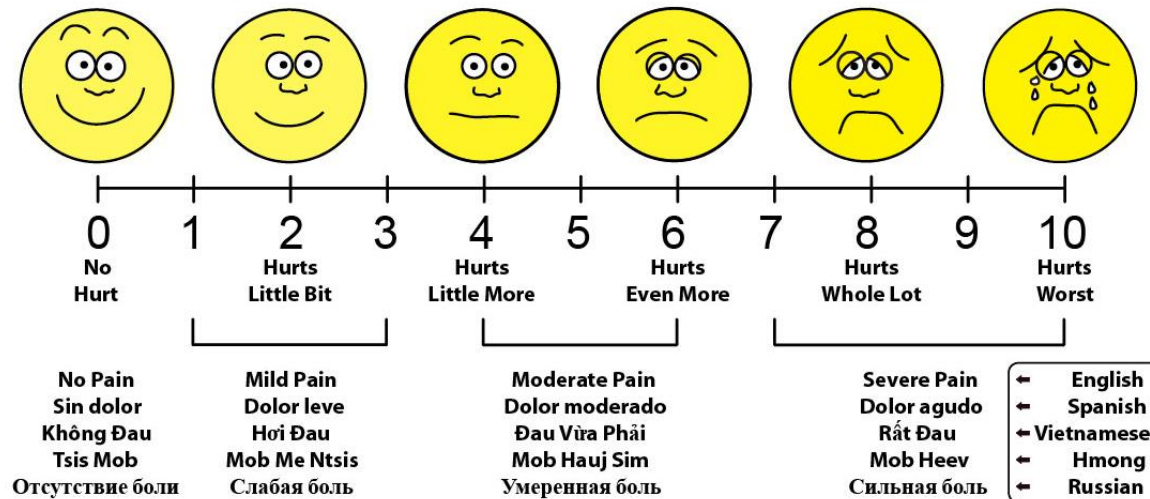
- Tailored to patient's needs and determined by pharmacist and team

Pain management medication: Knowing and when to take

- ▶ Your nurse will review all medications with you before you leave the hospital.
- ▶ Side effects or questions about any medications? Contact our office anytime.

Measuring your pain

- ▶ Before you get home, you will receive sufficient pain medication.
- ▶ Goal is to help you maintain function while minimizing post-operative pain.
- ▶ First few days after surgery: Don't wait to ask for pain medicine, ask before you become too uncomfortable so you don't "chase" your pain.



Pain management medication: Constipation

Pain medicine causes constipation

We will provide you with medicine to help keep you regular while in the hospital and at home:

- Docusate/Colace (stool softener)
- Senna (vegetable-based laxative)
- Miralax (gentle laxative)

While on narcotic pain medication, increase your water and fiber intake.

Importance of Early Mobility

Important: Always call for assistance when getting up following your surgery to ensure safety.

Why? You may have pain, nausea, dizziness or temporary loss of balance following your surgery.

Moving or walking two-to-six hours of your surgery is beneficial:

- decrease the risk of **blood clots**.
- increase **quality of life** by decreasing pain and stiffness.
- shorten **length of stay** in the hospital.

Tips to prevent falls: Be careful of tubing and attached devices; use the bathroom before it becomes an emergency; and sit up as much as possible when in bed.

What counts as early mobility?

- Elevate hospital bed from a flat to a seated position; safely move your legs off the bed
- Take a few steps (Ask for assistance!)
- Sit in a chair out of bed for 15-to-30 minutes at a time

Go ahead, try out your new joint!

In-hospital physical therapy, occupational therapy

Physical Therapy and Occupational Therapy will be working with you during your stay in the hospital to get you up on your feet as soon as possible.

What is the role of physical therapy?

- ▶ Practice walking
- ▶ Correctly use walking or crutches
- ▶ Stair training
- ▶ Gentle home exercise program
- ▶ Review precautions (if applicable)

What is the role of occupational therapy?

- ▶ Activities of daily living: dressing, putting on socks and shoes, reviewing bathroom safety, equipment use

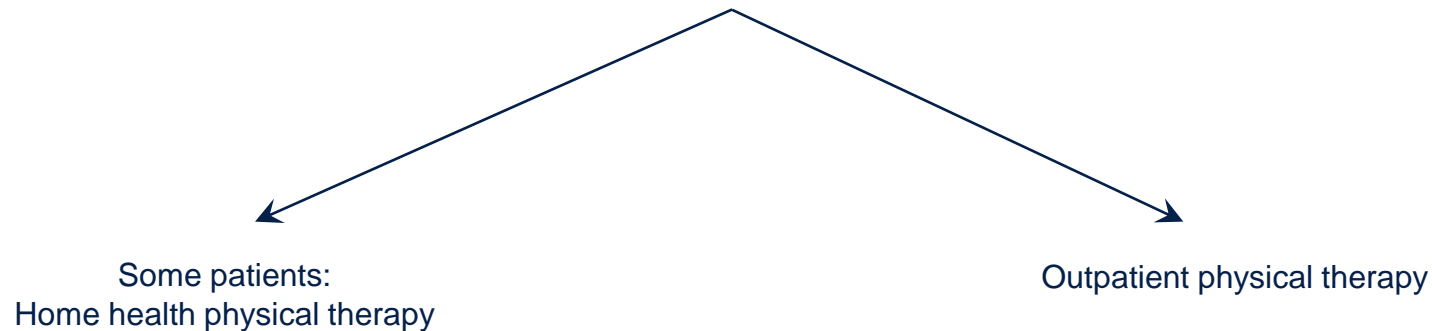
Planning for outpatient physical therapy

When you leave the hospital you will be provided with instructions on gentle home exercise program to increase your mobility and your recovery.

Stretching exercises are important after knee replacement to overcome stiffness

You may start working with a physical therapist in the outpatient setting when you feel ready (1-3 weeks after surgery).

All patients: Inpatient physical therapy + at home gentle exercises



Physical therapy needs assessed in the hospital and determined by your care team.

Note: some patients may require placement in rehabilitation facility prior to going home. This is on an individual basis.

Durable Medical Equipment to assist in early recovery

Following surgery, the muscles around your knee will feel tight.

You will feel limited with certain motions, such as reaching to low positions, bending, and moving from sitting to standing.

We recommend patients to get tools to aid in early recovery. The kits are available for purchase in the hospital, or readily available online.



The kit includes:

- A sock aid
- A tall shoe horn
- A bathing sponge on a handle
- A reacher/ grabber to help grasp things on the ground
- A dressing stick with C-hook

Durable Medical Equipment to assist in early recovery

A front-wheeled walker OR crutches will be provided by the hospital.

Other durable medical equipment is available for purchase (Note: it is not typically covered by insurance).

- If you have your own walker or crutches, please have your support person bring it to hospital on discharge day.
- You may want to prepare your bathroom prior to surgery. Items, such as a raised toilet seat with handles and a shower chair, may increase your comfort at home during your early recovery.

There are DME recycling programs, such as <http://www.homecares.org/>, in many communities which offer new or gently used equipment.



Goals for discharge

Before you leave the hospital, our team wants you to be able to demonstrate:

- I understand any surgical precautions I may have after my surgery.
- I know how to manage my post-operative symptoms (pain, nausea, dizziness).
- I can get into and out of bed with minimal assistance.
- I am walking the minimum distance for my home setting (with walker/crutches if needed).
- I can safely maneuver with either my walker or crutches.
- I can safely manage going both up and down stairs.
- I understand the use of blood thinner medication prescribed to me.
- I have arranged for support upon arrival home.
- I know how to manage many of my regular daily activities, such as bathing, grooming and dressing.

What to expect after you leave the hospital: Incision care

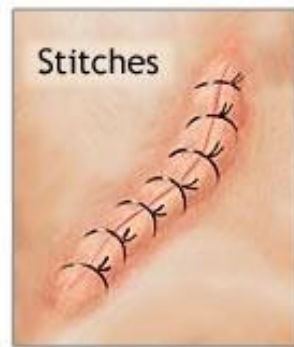
First five days:

- Tegaderm dressing (clear plastic waterproof dressing) over incision
- Shower with tegaderm dressing
- Remove after 5-7 days

No tub baths, swimming pools, hot tubs, etc. until incision is completely closed and healed (3-4 weeks)



- If you have dissolvable stitches, when you remove your tegaderm, you will see a row of white surgical tape, called steri-strips. You can continue to shower as normal, and the strips will gradually fall off on their own.



- If you have nylon stitches, please keep incision clean and dry until stitches are removed 10-14 days after surgery. Stitches will be removed by a member of your care team. Note: Until your stitches are removed, you will need to protect your incision from water in the shower; a layer of plastic wrap covering area works well.

Please call our clinic with any concerns about redness, drainage, warmth, fever or chills. If you are calling outside business hours, our on-call physician will return your call promptly.

What to expect after you leave the hospital: Bruising and swelling

▪ Bruising is normal after surgery.

- Varies per individual; occurs around the incision area and in lower extremities.
- Be patient, bruising will resolve on its own.
- **Please let us know if you have bruising larger than a piece of paper.**

▪ Post-operative swelling is normal.

- All patients will experience some level of swelling following surgery.
- You may have swelling from your thigh to your toes; up to 6 weeks (or longer) after surgery.



▪ To decrease swelling and inflammation: elevate your legs above your heart level and use ice.

- Reusable gel packs recommended. Ice for 20 minutes at a time. You may ice anywhere on your leg that is sore or swollen.
- Place towel between ice and skin surface to make sure incision does not become wet.

What to expect after you leave the hospital: Preventing a blood clot

Report any signs of a blood clot

- Blood clots are not common – you will be taking a blood thinner.
- Please notify your care team immediately if you are experiencing the following: **Pain in the calf that doesn't go away; swollen calf/ankle that does not improve with elevation; redness in calf; shortness of breath.**

Preventative measures

- ▶ **Aspirin** commonly prescribed after surgery; 81 mg tablets taken twice daily for 30 days.
- ▶ **Enoxaparin/Lovenox** via injection for a total of 10 days after discharge from hospital - for patients with specific medical conditions. Nurse will teach you in the hospital how to use your Lovenox “kit.”

Other measures to prevent blood clotting

- Sequential compression devices – only used while in hospital.
- Increasing movement following surgery (ankle pumps, frequent short walks in your home)
- Avoiding unnecessary flying for six weeks following surgery. Note: If you need to fly, please consult your surgeon before you leave.

Knee replacement FAQ

Do I have to adjust my lifestyle?

- 90% of Implants may last as long as 30 years.
- High impact activities, like basketball or running, may decrease the life of the implant.
- Find alternative non-impact and low-impact activities: cycling or swimming

Is it normal to hear clicking after knee replacement?

- It is not uncommon to hear clicking after knee replacement. This will gradually improve as swelling goes down and you regain muscle strength and tone.

Why does the skin around my incision feel numb?

- After surgery the skin surrounding the incision will likely feel numb. This is most noticeable out the outer aspect of the knee.
- Early on in the recovery period we typically prescribe medication to help with nerve pain.
- The area that feels numb will gradually reduce in size over time.

Knee replacement FAQ

When can I drive?

- You must be off narcotic pain medicine, and be able to react quickly with your leg(s) to use the brakes. (Right leg vs Left leg)

When will I be able to return to work?

- Depending on your job, and recovery, in a matter of weeks.

Will I set off metal detectors?

- Yes, give yourself extra time at the airport. Choose the body scanner line if possible.

When can I see my dentist for a routine appointment? Will I need antibiotics?

- We follow guidelines made by the American Academy of Orthopedic Surgeons.
- Antibiotics are no longer recommended before dental work unless you have a history of a compromised immune system or susceptibility to infection, you may discuss this with the surgeon's office and dentist.
- We do ask that you wait six-to-12 weeks to schedule dental work based on your surgeon's preference.

Communicating with our office

Call (415) 353-2808



- Telephone: Please feel free to contact our office anytime at (415) 353-2808. If you are calling after business hours and require immediate assistance, our on-call physician will return your call promptly.
- UCSF MyChart (Online patient portal): You can access important information, such as appointments, test results, as well as requesting prescription refills and send messages directly to your providers.
- GetWell Loop (Online app for communicating with your care team): HealthLoop is active six weeks before and after surgery; this app allows two-way communications with your care team as you prepare and recover from surgery.

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