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About our Surgeons

Dr. Hartford received his M.D. degree from Dartmouth Medical School in 1989 after graduating from Princeton University. He completed a general surgery residency at Harvard-New England Deaconess Hospital in Boston and an orthopedic surgery residency at Dartmouth-Hitchcock Medical Center in New Hampshire. He also completed a fellowship in adult reconstructive surgery at Stanford University Medical Center.

Dr. Hartford served for six years as assistant professor in the Division of Orthopedic Surgery at the University of Kentucky College of Medicine and was residency director for orthopedic surgery at the University of Kentucky Chandler Medical Center in Lexington. He also was chief of orthopedic surgery at the Veterans Administration Medical Center in Lexington. In those roles, he gained substantial experience with hip and knee replacements, including many complicated cases. Dr. Hartford has also published and lectured extensively on joint replacement and other topics in orthopedic surgery. Dr. Hartford joined PAMF in 2002 and is board certified in orthopedic surgery. Recently, Dr. Hartford added resurfacing arthroplasty to his repertoire of clinical specialties.

Dr. Lannin received his M.D. degree from the University of Minnesota Medical School in 1978 after graduating from Stanford University. He completed an internship at the Hennepin County Medical Center in Minneapolis and a residency in orthopedic surgery at the Minneapolis Veterans Administration Hospital. Dr. Lannin completed fellowship training in total joint/adult reconstruction at the University of South Florida.

Dr. Lannin joined PAMF in 1996 after working in private practice in Menlo Park and Redwood City. He is board certified in orthopedic surgery and is a voluntary clinical faculty member at the Stanford University School of Medicine Department of Orthopedics, where he has participated in clinical practice and research. His clinical interests include advancement in total joint techniques, such as new approaches, new materials and computer-assisted surgery.
Introduction to Total Joint Replacement

Welcome to the Center for Total Joint Replacement at the Palo Alto Medical Foundation (PAMF). PAMF offers hip, knee, elbow and shoulder replacement, as well as “revision” operations to remove old artificial joints that no longer work well and install new ones.

Total knee and hip replacements are the most common procedures performed at PAMF’s Center for Total Joint Replacement. Our surgeons, James Hartford, M.D., and John Lannin, M.D., perform between 400 and 500 of these surgeries annually.

The Center for Total Joint Replacement is part of the Department of Orthopedics at PAMF, one of the first, largest and most respected multispecialty medical groups in California. PAMF offers state-of-the-art technology, including an electronic health record that our physicians can access from anywhere they provide care.

Getting Started

The first step in the total joint replacement process is to schedule a consultation with either Dr. Hartford or Dr. Lannin. Call the Center for Total Joint Replacement at (650) 853-2343 to make an appointment with one of the surgeons. At the consultation, the surgeon will discuss your individual medical needs, conduct an examination, make a recommendation if surgery is indicated and provide you with more information about surgery.

After your consultation, you should take time to evaluate whether having total joint replacement is right for you. When you are ready, our staff will work with you to schedule a time for surgery.

Scheduling Your Surgery

Once you have decided to have total joint replacement, you may contact the surgical scheduler at (650) 853-2343 to set a date for surgery. Once the date has been determined, the scheduler may begin coordinating laboratory testing, medical evaluations, blood donations and other necessary preoperative procedures.
Common Reasons to Have Total Knee Replacement

Drs. Hartford and Lannin may have already discussed with you the specific reasons why total knee replacement may be a good option for your specific health needs. Patients find knee replacement eases their pain and improves mobility, allowing them to lead more active and fulfilling lives.

Joint replacement procedures are generally performed to address persistent pain that is not alleviated by non-surgical methods, such as pain medications.

Below are some common reasons for having total knee replacement.

*Arthritis*

The most common cause of arthritis pain is osteoarthritis, which occurs when the cartilage between bones wears away. Cartilage is the white substance at the end of bones that helps the joints move without friction. Bone cartilage reaches peak amounts between ages 18 and 20, and your body does not produce more after this time. As people age, cartilage wears away, bones rub against each other and joints become stiff and painful. When pain from this condition becomes severe, some patients find they avoid using the joint, which weakens surrounding muscles and makes it even more difficult to have full mobility.

Arthritis can be accelerated by a family history of the condition and by injury to the joint, even if that injury occurred decades earlier. Injury may throw the joint slightly off balance, causing the joint to break down faster over the years.

*Rheumatoid Arthritis*

About 5 percent of patients seen at PAMF for total joint replacement have rheumatoid arthritis, a chronic disease in which the body’s immune system attacks and destroys cartilage.
Benefits of Total Knee Replacement

Below are some of the ways in which patients may benefit from having total knee replacement surgery.

- Increased comfort and reduced joint pain
- Improved activity allowing patients to live a more normal daily life
- Increased walking distance and speed
- Reduced stiffness

Risks Associated With Total Knee Replacement

Joint replacement operations are successful and long-lasting for more than 90 percent of patients. Nevertheless, joint replacement is major surgery, and like any such procedure, carries risks and potential complications. Your surgeon will discuss these factors with you at your initial consultation. Complications from total knee replacement include, but are not limited to, the following:

- Blood clots in the legs or lungs
- Infection
- Nerve injury or vascular injury
- Blood vessel injury
- Stiffness that may require manipulation
- Blood loss during surgery that may require transfusion
- Mechanical failure of the implant
- Risks associated with anesthesia during surgery
Drs. Hartford and Lannin perform minimally invasive knee replacement surgery. Minimally invasive surgery (MIS) involves a smaller incision than traditional joint replacement. For example, a traditional knee replacement requires a 6- to 12-inch-long incision, while MIS is performed with only a 4- to 5-inch incision.

Minimally invasive total knee replacement is a technique developed to minimize the negative effect of surgery on the quadriceps muscle (the muscle that runs across the front of your thigh). When you straighten out your knee while you are sitting, you feel this powerful muscle working. The center of the quadriceps muscle is the quadriceps tendon, which provides much of the power to the knee joint.

In traditional knee replacement surgery, this muscle and tendon group is usually split lengthwise to gain access to the knee. It is sewn and repaired at the end of the surgery. In minimally invasive knee replacement surgery, the knee joint is accessed without cutting through the quadriceps tendon. Some patients have found they experience less pain and a quicker recovery with this type of surgery.

MIS should not be confused with arthroscopic procedures that treat torn cartilage and require only very small incisions. In MIS procedures, surgeons still must make an incision large enough to insert the knee implant – usually 4- to 5-inches long.

**Potential Advantages of MIS**

Potential advantages of MIS include reduced blood loss, less damage to the surrounding tissues, shorter hospital stays and generally faster rehabilitation.

However, MIS is not suitable for everyone. Appropriate candidates for this type of surgery are generally at a healthy weight, in good health, younger than traditional joint replacement patients and must be highly motivated to work at their recovery.

Individuals who are obese or who have had previous knee surgery are generally not suitable candidates. The decision to have this type of surgery must be made after a careful evaluation by your surgeon, and a discussion of the risks and benefits of MIS compared to traditional total joint replacement.

This type of surgery is still relatively new and medical research has not determined how the long-term results compare to traditional surgery.
Unicondylar Knee Replacement

Drs. Hartford and Lannin perform unicondylar knee replacement, which replaces only half of the knee joint, in select cases. While most individuals who suffer from arthritis of the knee have arthritis in all three parts of the knee – the medial, lateral and patellofemoral compartments – many individuals have arthritis only in the medial or lateral compartments of the knee. These individuals whose damage is limited to one part of the knee joint may be candidates for unicondylar knee replacement.

Your surgeon will identify if you are an appropriate candidate for this type of surgery. Patients must weight less than 200 pounds, have a range of motion greater than 120 degrees and not have any severe knee deformities or knee disabilities.

**Potential Advantages of Unicondylar Knee Replacement**

Patients with unicondylar knee replacement generally have a more natural feel with their knee than patients with total knee replacement. In addition, minimally invasive surgery may be performed and hospital stay and recovery time is shorter.

**Disadvantages of Unicondylar Knee Replacement**

Unfortunately, unicondylar knee replacement may not last as long as total knee replacement, which may be required in the future. Patients may also develop arthritis in one or more of the other compartments of the knee, which may require total knee replacement at some future time.
Preoperative Care

Preoperative Examination
Prior to your total knee replacement, you will need to have a check-up from your primary care physician to determine if you are healthy enough for the surgery. The check-up will generally include a physical examination, heart tests, X-rays, blood tests and urine analysis. During the exam, you should inform the physician about any medical and surgical problems, as well as provide a list of medications you are currently taking and any allergies to medications. You may see either your own physician, or we can recommend a primary care physician at PAMF. If you choose to see a non-PAMF physician, a copy of the physical must be faxed to the Center for Total Joint Replacement at (650) 853-6088 one week prior to surgery.

Preoperative Laboratory Testing
One week prior to surgery, you must have blood tests, an electrocardiogram and a urine analysis either at the Palo Alto Clinic or through your non-PAMF primary care physician. The blood tests include a complete blood count, metabolic panel, a protime and a partial thrombin time. If you choose to have a non-PAMF physician perform these tests, please fax the test results to the Center for Total Joint Replacement at 650-853-6088.

Dental Care and Total Knee Replacement
Proper dental hygiene is essential for good health. We may ask you to see a dentist before surgery to check for tooth or gum problems, as germs in your mouth can travel through the bloodstream and infect the replacement joint. The dentist may identify any dental infections or tooth decay that may develop into a dental infection, which must be treated before total knee replacement surgery. (Tooth decay must be monitored.) After total knee replacement, you will need to take antibiotics before any dental work, including cleanings for individuals who bleed during regular dental cleanings. We suggest delaying any dental work for at least three months after total knee replacement.

Blood Donation
At least two to five weeks prior to surgery, you may donate one or two units of blood, in case it is needed during surgery. Donating blood provides patients with the opportunity to avoid the small risks of blood transfusions. The blood may be donated at the Stanford Blood Center on Welch Road or through the American Red Cross. (Please see the “Contacts” page at the back of this packet for more information.) There is a fee for preoperative donation for each unit of blood. In certain cases, blood cannot be donated. If you donate blood within 30 days of your surgery and your operation is delayed, the blood may be frozen for later use.

Blood Transfusion
A small number of patients who undergo total knee replacement require blood transfusion while in the hospital. Patients who have a low blood count, feel lightheaded or have low energy would benefit from a blood transfusion. During the surgery, some of your blood may be collected and prepared for later use, if necessary. For those who still require blood transfusion, blood may be obtained from a blood bank (thoroughly screened for correct blood type and blood-borne infections), autologous blood donation (the blood you donated prior to surgery) or directed blood donation (a blood donation from a family member or friend with the same blood type).
Preoperative Total Joint Replacement Seminar at PAMF

PAMF offers a total joint replacement education seminar at the Palo Alto Clinic in the Hearst Center for Health Education conference rooms A & E. The seminar provides information on the upcoming joint replacement procedure and an opportunity for patients to ask questions. The seminar is informal and patient interaction is encouraged. For more information including dates and times, call the Center for Total Joint Replacement at 650-853-2343. Please call before attending to ensure the seminar has not been canceled due to emergency surgery commitments.

Preoperative Gait Training Class

Prior to surgery, it is a good idea to attend PAMF's Preoperative Gait Training Class. The class is taught by staff and educators from PAMF's Physical Therapy Department and Center for Total Joint Replacement. The class is designed to prepare you for physical therapy after surgery and to get you acquainted and comfortable with the equipment you will be using. Call the Physical Therapy Department at 650-853-3355 for dates and times of the class and to sign up, or call the total joint educator at 650-853-6740.

Medication

You may take your regular prescription medication up to the day of surgery. However, you should stop taking aspirin and anti-inflammatories, such as ibuprofen or naproxen, nonsteroidal medication and COX II inhibitors one week prior to surgery. If you are taking an anticoagulant, such as coumadin, your surgeon will tell you when to stop taking the medication. Vitamins and herbal medications should be discontinued one week prior to surgery. This includes vitamin E, which acts as a blood thinner and should be discontinued one week prior to surgery. You may resume taking vitamins and herbal medications after surgery.

Diet

It is important to maintain a healthy, well-balanced diet prior to surgery. You may NOT eat or drink after midnight prior to surgery, but may have regular meals up to that time. You may take your medications with just a sip of water. Good nutrition before and after surgery is important. Because constipation is common following surgery, patients are advised to add extra fiber, such as bran, to their diet.
Preoperative Checklist

Three or More Weeks Prior to Surgery

- Prepare a list of all medications (prescription and over-the-counter), vitamins and other supplements you may be taking to review with your surgeon.
- Have a preoperative check-up with your primary care physician, including a physical exam, heart tests, X-rays, blood tests and urine analysis.
- Have a dental exam to check for tooth and gum problems, as germs in your mouth can migrate and infect the replacement joint.
- If you wish, donate one to two units of blood in case it is needed during surgery.

Two Weeks Prior to Surgery

- Refill any necessary prescription that your surgeon has approved.

One Week Prior to Surgery

- Stop all vitamin E supplements and other vitamins and supplements.
- Stop taking all anti-inflammatory drugs such as Ibuprofen®, Motrin® and Aleve®.
- Stop taking all aspirin and blood thinning medications.
- Make arrangements for transportation to and from surgery at Stanford University Medical Center.
- Begin eating a nutritious, high-fiber diet, as constipation is common after surgery.
- Pack a bag for your hospital stay, including loose-fitting, comfortable clothes that are easy to take on and off, elastic waist pants and slip-on shoes.

The Night Before Surgery

- Do NOT eat or drink after midnight prior to surgery. You may take blood pressure or thyroid medication the morning of surgery with a sip of water. You may have regular meals until this time.

The Day of Surgery

- You may shower in the morning and wash your hair and skin. Do not use hairspray, hair gel or mousse, makeup, deodorant, nail polish, hairpins or moisturizer.
- Do not wear contacts. Bring a case for your glasses.
- Do not wear jewelry or other valuables.
- You may brush your teeth and use mouthwash.
Hospitalization

*Preoperative Holding*

After you have checked into the Surgical Admission Unit, you will be escorted by the nurses to the preoperative waiting area. Your family may stay with you during this time. Your personal belongings, such as glasses or dentures, will be collected for safekeeping during surgery. At this time, you will be visited by your surgeon and the anesthesiologist. You may receive either a spinal (regional) block or general (total) anesthesia. This decision will be made after you consult with the anesthesiologist who will attend your surgery. During this preparation period with the anesthesiologist, you will have an I.V. inserted, and your surgical site will be marked for identification during surgery.

*During Surgery*

Because infection of the joint replacement site can cause serious complications, special precautions are taken to ensure the operating room is sterile. You will receive antibiotics to kill bacteria on your body, and surgeons will wear special suits to prevent the spread of bacteria from their bodies. An air current is also blown through the room to keep bacteria out of the surgical field. Following your surgery, you will be discharged either to your home or a skilled nursing facility, depending on your individual needs.
Anesthesia

About Anesthesia

PAMF board-certified anesthesiologists provide care for Center for Total Joint Replacement patients having surgery at Stanford University Medical Center. Prior to your surgery, your anesthesiologist will discuss your specific medical conditions and help determine the appropriate anesthetic care.

About Spinal Anesthesia

Prior to your total knee replacement, your anesthesiologist will discuss your options for anesthesia depending on your health needs and other concerns. Spinal anesthesia is one option during total knee replacement to decrease and stop pain and prevent leg movement during surgery. Spinal anesthesia can be used as an alternative to general anesthesia or in addition to general anesthesia.

Spinal anesthesia is administered in the operating room prior to surgery. You will be asked to either sit or lay in a position that best exposes the curve in your lower back. After preparing your skin with antiseptic and a small amount of local anesthetic, your anesthesiologist will insert the spinal needle through the numb skin until it reaches the column of fluid surrounding the spinal cord, where the anesthetic will be injected. The medication acts on the spinal cord nerves to decrease or stop pain and prevent leg movement during surgery.

After the injection of the anesthetic into the spinal cord, your legs may feel warm and heavy, and you may have difficulty with movement.

Advantages and Disadvantages of Spinal Anesthesia

There are several advantages in using spinal anesthesia for total knee replacement surgery, including postoperative pain relief, especially in the first 12 to 24 hours after surgery; decreased blood loss during surgery; and decreased risk of deep vein thrombosis (blood clots) following surgery. However, there are some circumstances in which your anesthesiologist may not use spinal anesthesia, including health concerns that may make spinal anesthesia unsafe. Talk to your surgeon and anesthesiologist about the best anesthesia option for you.
Postoperative Care

Postoperative Recovery
Immediately after your surgery, you will be in postoperative recovery for about one to two hours. During this time, your vital signs, such as pulse, respirations and heart rate, will be closely monitored. Your physician will work with you to provide the best pain medication. Once your vital signs have remained stable for one hour, you will be transported to your hospital room. Due to privacy concerns and to ensure your recovery is safe, we ask that family members not come into the postoperative recovery room.

Your Hospital Stay
As total knee replacement has become a routine surgical procedure with reliable and predictable results, the hospital stay after surgery has become well defined. While hospitalization varies from patient to patient depending on his or her individual circumstances, the basic process remains the same.

- Day of Surgery (Postoperative Day Zero): After your surgery, you will spend one to two hours in postoperative recovery before being transferred to your hospital room on the total joint replacement floor. You may be given a clear fluid diet. During this time, you may have a drain from your surgical incision. You will be receiving intravenous fluids for hydration, and a catheter will have been placed in your bladder at the time of surgery so that you will not have to get out of bed to use the restroom. Pain medication will most likely be intravenous narcotic medication either given by a nurse or via a patient controlled analgesia (PCA) pump.

- Postoperative Day One: Postoperative day one is the beginning of the rehabilitation process. In the morning, you will have a routine blood draw to check your blood count and electrolyte balance. If you are able to tolerate a clear liquid diet at this point, your physician may put you on a regular diet. You will also begin taking pain medications orally. The physical and occupational therapists will make their initial assessments of your condition and begin rehabilitation, including continuous passive motion (CPM). Most patients begin walking on this day. In addition, you will be able to resume taking your regular medications. Blood thinner will be given to prevent blood clots.

- Postoperative Day Two: On this day, you will have additional blood tests. Intravenous medications, fluid and the bladder catheter are discontinued. The drain from your surgical site may also be removed and your surgical dressings may be changed. Your physical and occupational therapy will become more aggressive and most patients, if they have not done so already, will begin walking. Leg exercises will be started. The occupational therapist will also help you move from bed to chair and discuss other activities of daily living, such as the use of adaptive equipment.

- Postoperative Day Three: Most patients do well with therapy and will be discharged home on this day. Equipment for your discharge will be arranged, such as walkers and adaptive equipment. However, some patients may require a more extended therapy session in a skilled nursing facility, usually lasting seven to 10 days. On this day, you will also have an ultrasound of your leg veins to identify any deep vein thrombosis prior to leaving the hospital. The physical and occupational therapists will work with you.
The tips listed below may help ensure a more comfortable hospital stay.

- Be aware that the nature of a hospital environment is to provide medical support, and may not be quiet or restful.
- Bring any items with you to the hospital, such as ear plugs or eye shades, which may make your stay more comfortable. You may also want to bring lip balm, hand lotion, a personal music player, a phone card if you plan to make calls outside of the 650 area code and other items.
- Leave any jewelry or watches at home.
- Wear any necessary prescription eyeglasses.
- Bring comfortable clothes with you to the hospital, including shorts, t-shirts, sweats, underwear, socks, pajamas, basic shoes and slippers, and basic toiletries.

**Discharge Home**

If you are sent home after your hospital stay, you will receive instruction on how to self administer blood thinning medication and will need to do so for 10 to 20 days following your surgery. The hospital discharge planner will coordinate home physical and occupational therapy, as well as home health visits. You will also be provided with any necessary medication prescriptions. You will need someone to drive you home.

**Transfer to Skilled Nursing Facility**

If your physical and occupational therapists feel you would benefit from extended inpatient therapy, you may be transferred to a skilled nursing facility. The hospital case manager will arrange the transfer papers, including medication prescriptions and therapy instructions.

**Diet**

After surgery, many patients find they are not quite ready to eat a full meal. Your physician may put you on a clear liquid diet to prevent nausea. Once you are able to tolerate a clear liquid diet without difficulty, your physician put you on a regular diet. Patients fill out a menu card before each meal, and diabetic patients will be provided a meal approved by the American Diabetic Association with a specific calorie count.

**Medication**

You may begin taking your regular medications following surgery unless otherwise directed by your surgeon. Your surgeon may choose to delay certain medications that are not essential in the postoperative period, such as blood pressure medications if your blood pressure is low. You will also be prescribed an anticoagulant.

**Pain**

Following surgery, you may experience some discomfort and pain. You may be administered a spinal (epidural); a patient-controlled analgesia (PCA), such as morphine or fentanyl; or oral pain medications, such as Vicodin®, Percocet® or Darvocet®. Intravenous narcotic medication (either given by a nurse or through a PCA pump) will be used for the first 24 to 48 hours following surgery. Once you are able to eat, pain pills will provide longer-lasting pain relief than intravenous medications. It is important to tell your nurse and physician how much discomfort you have in order to determine the appropriate pain treatment.

**Deep Vein Thrombosis and Pulmonary Embolus**

The risk of complications from total knee replacement is very low. However, deep vein thrombosis — a blood clot that begins in the veins of your legs or pelvis during or after surgery — remains an infrequent complication encountered by approximately 3 to 5 percent of individuals who have had total knee replacement surgery.
When the blood clot remains in the veins, the condition is called deep vein thrombosis. When the blood clot in the leg travels to the lungs, the condition is called pulmonary embolus. Blood clots may occur because the veins in the legs are twisted from the moving of the leg during surgery, and this interference of the blood flow can lead to the clotting of blood. In addition, the period of inactivity that follows the surgery may put patients at risk for developing a blood clot.

Symptoms of a blood clot in the leg include calf pain, leg swelling, tenderness, warmth and fever. The symptoms of a pulmonary embolus include chest discomfort or pain, rib discomfort or shortness of breath. However, many patients who develop these conditions may not experience any symptoms.

Because of these conditions, all patients are given either an oral or injectable anticoagulant medication after surgery. Your physician may keep you on the anticoagulant for seven to 30 days following surgery. Before you leave the hospital, you will have an ultrasound taken of your legs to identify any potential blood clot in the legs. Other preventive measures will also be taken, including early mobilization of the legs, elastic stockings and sequential compression stockings to help reduce the risk of deep vein thrombosis.

If you develop deep vein thrombosis, or you have a blood clot identified during the ultrasound before leaving the hospital, you will be given a blood thinner called coumadin for approximately three months so that the body can dissolve the blood clot. You will need to have a blood test called a prothrombin time at least once a week to ensure adequate levels of medication.

Some individuals are more likely to get blood clots than others, including those with cancer, congestive heart failure, obesity, previous deep vein thrombosis, or individuals taking oral contraceptives or hormone replacement therapy. Patients who have had a previous stroke, prolonged inactivity, a history of trauma or previous pelvic surgery are also at greater risk of developing deep vein thrombosis. In addition, patients with a family history of blood clots or women who remain on hormone replacement therapy have a greater chance of developing deep vein thrombosis in the postoperative period.

After surgery, patients should avoid long periods of inactivity, including long car rides or airplane flights. If long travel is unavoidable, patients should get out of their seat every hour to walk around and move their legs. Ankle pump exercises are also helpful while sitting for extended periods. Patients should drink plenty of water and avoid alcohol. If you develop symptoms, please seek immediate medical attention.

**Nausea**

You may experience nausea from the anesthesia or pain medication you take following surgery. Notify your care provider immediately if you experience nausea, as a clear liquid diet or anti-nausea medication may provide relief.
Pain Medication Information for After Surgery

Most patients will be discharging from the hospital with pain medications. These include narcotic medications Percocet and Oxycontin. These pain medications cannot be called into a pharmacy. In order to get a refill, you need a doctor’s signed prescription. We can mail you this script, or you can come to Palo Alto Medical Foundation and pick it up. **Very Important:** Please call with enough time that we can mail this to you if need be. **Please call at least a week in advance so we can get your pain medication prescription to you in a timely manner.**

Constipation After Surgery

Taking narcotic pain medication can lead to constipation. You will be discharged with a stool softener called Colace that you will be taking twice daily, but you might still become constipated. Please make sure to be drinking enough water and ambulating frequently. We also recommend Miralax, Milk of Magnesia and Dulcolax Suppositories, which can all be bought over the counter at any drug store. Please call us if you are still constipated after trying these medications.

Swelling After Surgery

Some swelling in the surgical extremity is normal after surgery. Most patients notice leg swelling when they arrive home from the hospital. Please remember to elevate your knee and place ice on your knee when swelling is present. We also recommend TED hose. These are compression stockings that can be given to you at the hospital or you can buy them at the drug store. If you notice warmth or increasing pain along with the swollen extremity please call the office.

Leg Lengths After Surgery

Many patients notice that their hip feels longer after surgery. This is normal. This feeling is because of the lengthening of the operative leg that has been shorter than your other leg, and you and your surgeon decide to even out your leg lengths during your surgery. Therefore, this may take your body a couple of months to get used to. This is normal in the preoperative period. Not all patients experience this feeling.

Immediate Help

Ring your call button for the nurse immediately if you experience any of the following symptoms during your hospital stay or while recovering at a skilled nursing facility: difficulty breathing, chest pain, irregular heart beat, sudden numbness or lightheadedness. If you experience these symptoms while recovering at home, immediately dial 911.
Physical Therapy

Physical therapy is vital for a successful recovery from joint replacement surgery. Your physical therapy will begin in the hospital on the day after surgery and will continue intensively for several more weeks. If necessary, the hospital or SNF staff can help you find a physical therapy provider close to where you live. Recovery time depends on the complexity of the surgery, with most patients attaining some recovery within eight to 12 weeks.

The initial therapy session will begin with an assessment of your condition. Pain management is very important to maximize the productivity of each physical therapy session. If you are still on a PCA, you may want to activate the pump before each session. If you are on oral pain medications, you may want to request one or two pills a half hour to an hour before the therapy sessions.

Below are knee exercises that may be used during your physical therapy sessions.

- **Ankle Pumps**: Keep the knee straight and move the foot up and down, and in circles, clockwise and counter-clockwise. Repeat 10 times.

- **Gluteal Sets**: Squeeze the buttocks together, count to 10 and repeat.

- **Quad Sets**: Keep the operated knee straight, press the back of the knee, count to 10 and repeat.

- **Straight Leg Raises**: Keep the non-operated leg bent and your foot flat, straighten the operated knee tightening the quad muscles, lift the operated leg six inches above the bed and lower it down slowly.
• Hamstring Sets: Bend the operated knee 15 degrees, tighten the muscles on the back of the thigh and count to 10.

• Heel Slides: Straighten the operated knee, point the kneecap toward the ceiling, slide your foot toward your buttocks while keeping your heel on the bed and return to the starting position with your knee straight.

• Knee Extension Exercises: Place the operated knee over a firm rolled bath towel. Next, straighten your knee by tightening your quad muscle; do not raise your knee off the rolled bath towel when lifting your leg.

• Knee Extension Stretch: Let your heel rest on the rim of a rolled bath towel. Next, relax and allow your knee to straighten as much as possible. Increase the stretch by 30 to 60 seconds per day for up to 10 minutes per day. The goal is to fully straighten the knee.

• Knee Flexion: Lying on your stomach with a folded bath towel under your knee and bend your knee as far as possible, aiming the heel toward the buttocks. Hold for 10 seconds.
• Knee Flexion Stretch: While lying on your stomach, bring your feet over the edge of the bed while keeping your knee on the bed. Relax and allow the knee to straighten. Add two to five pound weights on each ankle, increasing the stretch by 30 to 60 seconds per day for up to 10 minutes per day. The goal is to fully straighten the knee.

• Sitting Knee Extension: Sitting in a chair with your back against the chair, straighten your knee and hold for five seconds.

• Sitting Knee Flexion: Sitting in a chair, bend your operated knee back as far as possible and aim your heel under the chair. Use your other leg to assist this motion and hold for 10 seconds.

Movement

When you return home after surgery, you are encouraged to return to your normal activities, such as bathing, using the bathroom and preparing meals. At first, you should limit your activities and slowly progress as you feel comfortable. In the beginning, you may find you need to schedule a rest period during the day. If you have stairs in your house, do not use them until the physical therapist has approved this activity. You should begin to slowly and gradually stop using adaptive equipment when appropriate.

Consult with your physical therapist on the types of movement in which you can engage. You should not drive or have sexual intercourse for the first four to six weeks following surgery.
You may discontinue using the antiembolism stockings at six weeks. You may experience some swelling afterwards. If your legs well, try to keep them elevated during the day. Excessive swelling may be an indication of a deep vein thrombosis.

**Exercise**

Exercise is important for your general physical and mental health. The purpose of the total knee replacement is to return you to an active and healthy lifestyle. Since the knee replacement is mechanical, it is subject to wear and deterioration over time. In this regard, exercise should be vigorous, but not strenuous. In addition, you should permanently avoid high-impact sports, such as basketball, running or downhill skiing. Walking, hiking, doubles tennis, cross-country skiing and golf are safe activities. You should not travel for at least a month following surgery.

**Occupational Therapy**

The role of the occupational therapist is to educate and evaluate your daily activities, such as getting in and out of a chair or bed, getting out of a bathtub, taking a shower, and putting your socks and shoes on and off. Like physical therapy, occupational therapy begins the first postoperative day. The occupational therapist will visit you daily in the hospital and make an initial evaluation of your condition during the first visit.

The goal of an occupational therapist is to help you move as independently as possible before you leave the hospital. The therapist will also help assess the best environment for you to recover from surgery, whether at home or at a skilled nursing facility. They will also help arrange the delivery of assistance devices, such as a long-handled shoe horn, a dressing stick and a reacher, and demonstrate how to use these devices.

Your occupational therapist will discuss the movements listed below, as well as other movements in daily life, that you will need to be able to perform.

- **Standing up from a chair:** Always try to sit in a chair with arm rests, if possible. When getting up, scoot to the front edge of the chair and push up with both hands on the arm rests. If you are sitting in a chair without arm rests, place one hand on your walker and push off the chair with the other hand. Hold on to the walker while balancing yourself.
Using a walker: When using a walker, move the walker forward and with all four walker legs firmly on the ground, step forward with the operated leg in the middle of the walker area; do not move it past the front feet of the walker. Take small steps, and do not take a step until all four walker legs are flat on the floor.
Home Safety Tips

- Lying in bed: When lying in bed, keep a pillow between your legs when lying on your back. Keep the operated leg positioned in the bed so that the kneecap and toes are pointed to the ceiling. Try not to let your toes roll inward or outward; placing a rolled bath towel or blanket on the outside of your leg may help you maintain this position.

- Toilet transfer: When sitting down on the toilet, take small steps and turn until your back is to the toilet – never pivot. Back up to the toilet until you feel it touch the back of your legs. If using a toilet with arm rests, reach back for both arm rests and lower yourself down gently. If using a raised toilet seat without arm rests, keep one hand on the walker while reaching back for the toilet seat with the other hand. Slide your operated leg out in front of you when sitting down. When getting up from the toilet, use the arm rests to push up, if available. If you are using a raised toilet without arm rests, place one hand on the walker and push off the toilet seat with the other hand. Balance yourself before grabbing the walker.

- Getting into bed: Back up to the bed until you feel it on the back of your legs. Reach back with both hands and sit down on the edge of the bed. Once you are firmly seated, scoot back toward the middle of the mattress. Next, move your walker out of the way and scoot your hips around so that you are facing the foot of the bed. Lift your leg into the bed while scooting around. Keep moving your body and lift your other leg into the bed. Move your hips toward the middle of the bed.

- Getting out of bed: Inch your hips toward the edge of the bed and then sit while lowering the non-operated leg to the floor. You may need a leg-lifter to help you. Once both legs are on the floor, push your buttocks to the edge of the bed. If the bed is low, place one hand in the middle of the walker while pushing off the bed with the other hand. Hold onto the walker while balancing yourself.

- Shower transfer: Keep your incision dry until your surgeon says it is OK to get it wet. The occupational therapist may decide that you need a shower bench to ensure your safety while showering and will need to teach you the correct way to take a shower.

  - To get into the shower, place the shower seat in the shower facing the faucets. You should back into the shower seat until you feel the bench against your knees. Once you feel the bench, reach back and place one hand on the shower seat. While keeping the other hand on the walker, slowly lower yourself on the bench. Keep the operated leg straight. Once you are firmly balanced on the seat, move the walker out of the way. If the shower is in a bathtub, lift your legs over the edge of the bathtub. You may require the leg lifter for help.

  - To get out of a shower that is in a bathtub, raise your legs over the outside of the tub. Push one hand on the back of the bathtub while holding the middle of the walker with the other hand. Make sure you are properly balanced before holding onto the walker. **TIP:** Keep soap, scrubbers and washcloths within easy reach, and have a rubber mat on the floor to prevent slipping.
• Bathtub transfer: Like transferring to and from the shower, transferring to and from the bathtub difficult the first time. It is best to practice this first with your occupational therapist before attempting the movement yourself.

• To get into the bathtub, begin by having a chair or bath bench inside the bathtub. First, place your hand on the bench keeping one hand on the walker. Slowly lower yourself onto the bench, bringing your other hand down to balance yourself. Sit on the edge of the chair inside the bathtub. Slowly bring the non-operated leg inside the tub while keeping your operated leg straight. You may need help with a leg lifter.

• To get out of the bathtub, use the left lifter to lift the operated leg over the edge of the bathtub. Keep your operated leg as straight as possible. Slowly scoot yourself toward the edge of the bench and bring the non-operated leg outside of the tub. Grab the center of the walker, balance yourself and bring yourself upright. Once you are balanced, place both hands on the walker. Again, you may require help the first few times. Do not attempt this by yourself unless the occupational therapist feels you are ready to do so.

• Car transfer: Getting in and out of the car is similar to getting in and out of a chair, except that you do not have arm rests to rely on. This movement is easiest if the car seat is pushed all the way back. First, begin by backing up to the car seat with the walker. Stop when you feel the car door jam against your legs. Place one hand on the seat and slowly lower yourself onto the seat. Be careful to clear your head in the door. When bringing the operated leg into the car, keep the leg straight, and lean as far back in the seat as you can. Turn the one leg into the car and slowly bring in the other leg. Lean as far back in the seat as you can when bringing the operated leg into the car.

• Dressing with pants:

• To put on pants, begin by being in a seated position. Put the pants on the operated leg first and then on the non-operated leg. Take a reacher, or dressing stick, and guide the waist of the pants over your foot. Next, pull your pants up over your knees. Hold onto the walker and stand up, pulling your pants up all the way to your waist.

• To remove your pants, begin from a standing position with your legs backed up to a chair. Unbuckle your pants and let them drop below your knees. Lower yourself down to the chair keeping the operated leg straight. Remove your pants from the non-operated leg first. Take the dressing stick and remove the pants from the rest of the operated leg.
Home and Personal Safety

Below are some guidelines for general safety and avoiding falls.

- Remove throw rugs to prevent tripping.
- Remove or tape down long telephone, electrical or extension cords to prevent tripping.
- Clear all walkways to allow for easy access for your walker, cane or crutches.
- Exercise caution around bedspreads to prevent tripping.
- Exercise caution around water, clothing, or objects spilled or dropped on the floor.
- Make sure all walkways, especially the pathway to the bathroom at night, are well lit.
- Place commonly used items within easy reach to prevent over-reaching or bending.
- Do not use a stool or step ladder.
- Be cautious when walking on uneven terrain, such as sidewalks, asphalt, grass or dirt areas.
- Place an end table next to an arm chair to store your glasses, medications, books, etc.
- Keep a pitcher of water and a glass at your bedside table.
- Sit in a sturdy chair with armrests. Avoid low couches, chairs or chairs on wheels.
- Place the telephone within close reach for easy access. Cordless phones are useful.
- Exercise caution around animals.

Below are some guidelines for kitchen safety.

- Use a cart on wheels to transport items in the kitchen and around the house.
- Sit in a high stool at the counter when cooking.
- Reorganize your kitchen so you have easy access to items you use regularly.
- Attach a bag or basket to your walker to carry items. You may also use a knapsack, an apron with pockets or a housecoat with pockets to carry lightweight items.
- Place frequently used items within easy reach, such as on low shelves or countertops.
- When shopping, purchase smaller items that will be easy to carry.
- Carry plates of food or drinks in closed containers such as Tupperware or a small thermos. Place these containers in a bag or basket on your walker.
- Move your table close to the counter, sit at the counter or use a pull-out cutting board when eating meals.
- Put bowls and pots and pans on a dish towel and slide them across the counter instead of carrying them.
- Do not get down on your knees to scrub the floors.

Below are some guidelines for bathroom safety.

- Place non-slip strips or a rubber mat on the floor of your bathtub or shower to prevent slipping.
- Place shampoo, washcloths or other items within easy reach. A shower caddy may be helpful to organize these items.
- Use a hand-held shower hose, shower seat or tub transfer bench, if recommended. Have grab bars installed in your shower or by the toilet to increase safety, if recommended.
- Use liquid soap or soap on a rope. Have two bars of soap available in case one is dropped.
- Use a raised toilet seat with grab bars to increase your safety and independence.
- Do not get down on your knees to scrub the bathtub. Use a long-handled brush or mop.
Below are some guidelines for clothing and footwear.

- Bathrobes and gowns should not be longer than ankle length.
- Do not wear pants that are too long.
- Shoes and slippers should go around the heel and have non-slip soles.
- Slip-on shoes are easier than shoes with ties.
- Do not walk around the house in stocking feet; wear shoes or slippers to prevent falls.

During postoperative daily life, **DO:**

- Use a reacher.
- Scoot to the edge of a chair and use the arms of a chair to get up.

During postoperative daily life, **DO NOT:**

- Place a pillow under your operated knee for comfort because it may prompt your knee to become stuck.
- Drive until your surgeon tells you it is OK to do so.
- Take more than the prescribed amount of pain medication. Please call your surgeon’s office if your pain is not being adequately managed.
- Bathe, swim or use a hot tub until your surgeon tells you it is OK to do so.
Follow-Up Visits

Your surgeon will visit you regularly while you are in the hospital or skilled nursing facility to check your postoperative progress. Within a week of discharge from the hospital, your wound needs to be inspected and any staples or stitches removed. Follow-up visits within the first year following surgery should be at six weeks, three months, six months and one year. Annual or biannual visits, along with X-rays, are important to monitor the wear of the artificial knee joint. Early intervention will prevent serious damage to the knee replacement. If you start to develop pain at any point, please call the Center for Total Joint Replacement at (650) 853-2343 to see your surgeon immediately.

Wound Care

Keep your surgical incision clean and dry until 72 hours after the sutures or staples are removed, about seven to 14 days after surgery. (NOTE: If you have subcuticular stitches, they do not require removal.) Contact us immediately if you have any of the following symptoms: abscess, bleeding, drainage, redness or foul smells from the wound site, or a fever of 101.5 or greater.

Make sure to keep the wound clean and dry. Change the dressings at least once a day with dry, sterile bandages until the wound is healed. The bandages may begin to peel at seven to 14 days after surgery. Once they begin to curl up, you may want to remove them. Expect occasional spotting or blood on the wound for at least two weeks.

It is essential that the wound is healed and kept dry before showering. For the first two weeks, cover the wound with plastic wrap to keep the wound dry, and do not take a bath until you have your physician’s approval.

What to Expect

In the days following your surgery, expect the unexpected. It may be normal to experience pain, spotting of the incision, pustule (a pus-filled blister) in the incision and/or a stitch appearing from the incision.

Returning to Work

Patients’ ability to return to work depends primarily on two factors: the job to which they are returning and their physical rehabilitation. Patients with sedentary jobs may return to work after two to three months following surgery. For those with a more physically demanding job, patients may require three to four months of rehabilitation before they are ready to return to work.
About our Facility

The Palo Alto Medical Foundation (PAMF)

The Center for Total Joint Replacement is part of the Department of Orthopedics at PAMF. Our offices are located at PAMF’s Palo Alto Center in Palo Alto, Calif. The 305,000-square-foot campus also houses physicians in many other primary care and specialty areas; laboratory and radiology departments; a pharmacy; an urgent care center; an outpatient surgery center; and a Community Health Resource Center, where patients can get educational materials about different medical conditions. With all of these services in one place, we can easily provide patients with other medical care they may require as part of the joint replacement process.

The Palo Alto Clinic was built in 1999 and boasts state-of-the-art technology and equipment. Also of paramount importance for PAMF is creating a healing environment for our patients and their families. With sunny gardens, artwork on the walls and comfortable waiting areas, we strive to generate a sense of warmth and personal welcome for our visitors.

Contact Information

Contact the Department of Orthopedics’ Center for Total Joint Replacement at 650-853-2343. Office hours are 8 a.m. to 5:30 p.m., Monday through Friday.
Stanford University Medical Center

About Stanford University Medical Center

PAMF surgeons perform most joint replacement operations at Stanford University Medical Center. The medical center is located on the Stanford campus, close to the Palo Alto Center. It includes Stanford Hospital and Clinics, one of the world’s top hospitals; the internationally renowned Lucile Packard Children’s Hospital; and the Stanford University School of Medicine. Known for its highly advanced patient care, Stanford attracts patients from around the world.

Directions and Parking

Stanford University Medical Center is located at 300 Pasteur Drive in Stanford, Calif., near PAMF’s Palo Alto Center. It joins the south wing of the Lucile Packard Children’s Hospital and is about 20 miles north of San Jose and 40 miles south of San Francisco.

Parking Structure 3 on Blake Wilbur Drive is available to patients and visitors. Parking is available for a fee.

Parking Structure 4 on Pasteur Drive is for employee parking only. “A” permits are required on the first two levels; badge access is required for the third and fourth levels.

From 101 North or South

- Take the Embarcadero Road/West exit
- Follow Embarcadero Road for about two miles
- Cross El Camino Real, after which the road becomes Galvez Street
- Turn right at Arboretum Road
- Turn left on Sand Hill Road
- Turn left on Pasteur Drive
- Stanford Hospital & Clinics is directly in front of you
- Parking is to your left on Blake Wilbur Drive

From 280 North or South

- Take the Sand Hill Road exit, head east
- Turn right on Pasteur Drive
- Stanford Hospital & Clinics is directly in front of you
- Parking is to your left on Blake Wilbur Drive

El Camino Real North or South

- Turn on Sand Hill Road
- Turn left on Pasteur Drive
- Stanford Hospital & Clinics is directly in front of you
- Parking is to your left on Blake Wilbur Drive
Frequently Asked Questions

What is an artificial joint?
An artificial knee replaces a deteriorated knee. In a knee component, the deteriorated portion of the femur (thigh bone) and tibia are removed, and the two ends of the knee are capped with metal replacements. Polyethylene is placed between those two caps, which moves similarly to a natural knee. Joint replacement procedures are generally performed to address persistent pain that is not alleviated by non-surgical methods, such as pain medication.

How do I know if it’s the right time to have total knee replacement surgery?
It is a personal decision to have total knee replacement. However, if you are unable to perform daily activities due to pain or decreased mobility, it may be a good time to consider total knee replacement surgery. Most patients decide on joint replacement when they are unable to perform normal activities of daily life without pain.

Can I wait to have total knee replacement? If I wait, will I be unable to have the surgery at a later date?
You can wait to have total knee replacement until a later date, and waiting typically will not impact your ability to have the surgery in the future. However, you do not want to wait so long that you become cardiovascularly unfit for surgery, or if you have a knee deformity that worsens over time because this can lead to a more challenging surgery with a less predictable outcome.

Am I too old to have replacement surgery?
Age is not a factor in knee replacement surgery, although being in good health is important. The purpose of the surgery is to relieve pain and return you to an active, normal life. If you are suffering from pain that decreases your quality of life and it is determined that the joint replacement can be safely performed, then you are a candidate for the surgery.

Should I have physical therapy before surgery?
Physical therapy is not necessary before joint replacement surgery, but many people find it helpful. You may begin standard knee exercises or consult a local physical therapist.

What are the risks of total knee replacement surgery?
The primary risks of joint replacement surgery are blood clots and infection. Blood thinners are used after surgery to reduce the risk of blood clots and antibiotics are given to prevent infection.

What type of prosthesis is right for me?
The best person to make this decision is your surgeon. Most orthopedic surgeons prefer a titanium or cobalt chrome cemented knee replacement with an ultra-high molecular weight plastic spacer between the two metal components.

Do I have to modify my movement? Can I perform daily activities, such as dressing myself?
You should avoid squatting and follow general movement precautions advised by your surgeon and physical therapist.
How long will my joint replacement last?
Your knee replacement is expected to last between 15 and 20 years. For younger patients, this time may be reduced. We are unable to guarantee the longevity of the replacement, but are hopeful that today’s components will last up to 20 years.

Why do knee replacements fail?
The primary reason for loosening of the knee replacement is a process called osteolysis. Wear on the bearing surfaces, primarily the plastic, creates particles. In an attempt to remove the particles, the body tries to digest them. In doing so, it loosens the bond between the implant and the bone. A knee replacement may also fail from wearing out the plastic spacer between the metal components. This is a gradual process that may occur over decades.

Do I need to give blood?
You may donate your own blood if you do not want to use blood from another donor.

How long will the operation take?
The actual knee replacement operation will last from 60 to 90 minutes. The length of the surgery will depend on the complexity of the individual case, as well as the size of the patient. Larger patients with more complex deformities require longer surgical time. The actual time in the operating room is usually two to three hours, including time for anesthesia, positioning, draping, surgery, placing bandages, waking the patient up and transporting the patient to the recovery room.

How long will I be in the hospital?
Your stay in the hospital may be from two to four days; the average stay is close to three days. Your discharge from the hospital depends on your ability to eat, control your pain and your progress with physical and occupational therapy.

Where will I go after I am discharged from the hospital? What if I live alone?
Some patients are discharged home and some go to rehabilitation facilities, called skilled nursing facilities, after being discharged from the hospital. Where you will go for recuperation depends on your age and physical and medical condition. If you live alone, it is important to prepare your home for your return before you leave for the hospital and make transportation arrangements. Many individuals who live alone refer to recuperate at a skilled nursing facility for a week following the surgery.

Will I need help at home?
If you are discharged home after surgery, you may require some help preparing meals and with daily activity assistance, such as getting in and out of a chair for the first few days. You should prepare your home for your return before you leave for the hospital, including cleaning the house, doing any necessary chores, washing laundry, etc. You may seek the help of a home health agency, and your physical and occupational therapists will come to your home up to three times per week for the first couple of weeks following surgery.

When will I walk again, and do I have to use assistance devices such as a walker or cane?
You will begin walking again immediately following your surgery according to your physical therapy plan, and may use a walker or cane for assistance.
When can I drive?
You may begin driving again four to six weeks after your surgery.

When can I play golf?
You may play golf four to six weeks after your surgery.

When can I have sexual intercourse?
You may have sexual intercourse four to six weeks after your surgery.

Do I need to purchase any special equipment for my home, such as handrails, an elevated toilet seat or shower seat?
Your physical therapist will order the elevated toilet seat and any other adaptive equipment you may need prior to your discharge from the hospital. Your surgeon may order a continuous passive motion (CPM) machine.

Are there any exercises I can perform on my own to gain strength and mobility?
In general, walking helps build strength, as do abduction and forward flexion exercises. Your physical therapist will prescribe exercises you can perform at home to gain strength and mobility.

How do I know if my knee component is loosening or there is a problem?
If you experience persistent pain or weakening, your knee replacement may be loose. Please contact us immediately.

Why does my knee make a clicking sound when I bend it?
Your knee is a mechanical device and may make a clicking sound or other noises.

Do I need to continue taking my pain medications?
Your physician may begin reducing your pain medications two to 12 weeks following surgery. You may still require pain medication during physical therapy. It is important to have good pain control during therapy to make sure you get the most out of the rehabilitative exercises.

What should I do if my knee gets stiff?
We can manipulate (bend your knee) under anesthetic in an outpatient setting to break up any scar tissue that may be contributing to your stiff knee.
PAMF Contact Information

795 El Camino Real
Palo Alto, CA 94301
Main Phone: 650-321-4121

PAMF Center for Total Joint Replacement
Phone: 650-853-2343
Fax: 650-853-6088
Hours: Monday to Friday, 8 a.m. to 5:30 p.m.

Dr. Hartford’s Nurse: 650-853-4848
Dr. Lannin’s Nurse: 650-853-4968
Total Joint Nurse Educator: 650-853-6740

Department of Orthopedics
Phone: 650-853-2951
Hours: Monday to Friday, 8 a.m. to 5:30 p.m.

Laboratory
Palo Alto Center
Phone: 650-853-2948
Hours: Monday to Friday, 7:15 a.m. to 5:30 p.m.
Saturdays, 8 a.m. to noon

Fremont Center
Phone: 510-498-2813
Hours: Monday to Friday, 7 a.m. to 7 p.m.;
Saturdays, 8 a.m. to 1 p.m.

Los Altos Center
Phone: 650-254-5255
Hours: Monday to Friday, 7:30 a.m. to 5:30 p.m.

Redwood City Center
Phone: 650-853-6600
Hours: Monday to Friday, 7 a.m. to 5:30 p.m.

Radiology
Palo Alto Center
Main Phone: 650-853-2955
MRI Phone: 650-853-2956
Hours: Monday to Friday, 7:30 a.m. to 6 p.m.

Fremont Center
Phone: 510-490-1222
Hours: Monday to Friday, 8:30 a.m. to 5 p.m.
Saturdays, 8:30 a.m. to 5 p.m.
Saturday, 8:30 a.m. to noon (diagnostic radiology and ultrasound)

Los Altos Center
Phone: 650-254-5200
Hours: Monday through Friday, 8:30 a.m. to
5:30 p.m. (diagnostic radiology)

Redwood City Center
Phone: 650-853-6600
Phone: Monday through Friday, 8 a.m. to
12:15 p.m., and 1:30 to 4:45 p.m.
(diagnostic radiology)

Pharmacy (at the Palo Alto Center)
Phone: 650-853-6066
Hours: Monday to Friday, 9 a.m. to 6:30 p.m.
Saturday, 9 a.m. to 1 p.m.

Community Health Resource Center
Palo Alto Center
Phone: 650-853-3200
Hours: Monday to Friday, 9 a.m. to 4:30 p.m.
Individual appointments are available

Fremont Center
Phone: 510-623-2231
Hours: Monday to Friday, 9 a.m. to 4:30 p.m.
Individual appointments are available

Patient Services
Phone: 650-853-5735

Billing Information
Phone: 650-812-3838

Medical Records
Phone: 650-853-2963
Stanford University Medical Center
Contact Information

300 Pasteur Drive
Stanford, CA 94305

Hospital Operator
Phone: 650-723-4000

Admitting
Phone: 650-723-6221

Stanford Blood Center
Appointment Phone: 650-723-6667

Locations:
780 Welch Road
Palo Alto, CA 94304

515 South Drive, Suite 20
Mountain View, CA 94040

3373 Hillview Avenue
Palo Alto, CA 94304

Other Contact Information

Blood Centers of the Pacific
570 Price Avenue, #100
Redwood City, CA 94063

Skilled Nursing Facility Information

Classic Residence by Hyatt
600 Sand Hill Road
Palo Alto, CA 94304
650-853-5001
www.hyattclassic.com
*For our Medicare Patients*

The Sequoias
501 Portola Road
Portola Valley, CA 94028
650-851-1501
www.ncphs.org
*For our Medicare and Health Net Seniority Patients*

Manor Care
1150 Tilton Drive
Sunnyvale, CA 94087
408-735-7200
www.hcr-manorcare.com
*For our Blue HMO and PPO patients*

Grant Cuesta Rehabilitation Center
1949 Grant Road
Mountain View, CA 94040
650-968-2990
www.grantcuesta.com
*For our Blue Cross and Blue Shield HMO/PPO patients*
Sequoia Hospital

170 Alameda de las Pulgas
Redwood City, CA 94062
650-369-5811

About Sequoia Hospital

Since 1950, Sequoia Hospital has served generations of Bay Area families with a tradition of innovation and excellence. Patient satisfaction and clinical excellence are our top priorities. Please visit the links below to learn what we can do for you and your family while you or a loved one is a patient at Sequoia Hospital. Dr. Hartford performs most of his surgeries at Sequoia Hospital.

Directions and Parking

Valet parking is available and free at Sequoia Hospital.

Directions are available on the Sequoia Hospital Web site: www.sequoiahospital.org