



TOTAL KNEE REPLACEMENT

A PATIENT
GUIDE

Contents

Preparing for your surgery	2
The day before your surgery	10
The day of your surgery	11
Getting the most out of your surgery	14
Exercise and physical therapy	15
Resuming your normal activities	17
Risk factors and complications	26
Notes	28

Special topics

About blood transfusions	3
Readying your home	4
Planning ahead for your discharge	5
Getting to the hospital	6
Anesthesia	7
What and what not to bring to the hospital	8
Surgery preparation checklist	9
Arthritis of the knee	12
Pain management	14
Your care team	15
Taking care of your surgical incision	17
Early postoperative exercises	18
Advanced exercises and activities	20
Getting around after your surgery	24

Preparing for your surgery

Preparation for your total knee replacement surgery begins several weeks before the date of the surgery itself. To begin with, you will be asked to keep the following appointments:

- **Pre-admission testing:** This is a physical examination and a series of tests (X-rays, blood work, etc.) that will be performed in preparation for your surgery. During pre-admission testing you will also meet with an anesthesiology staff member to discuss the type of anesthesia you will undergo.
- **Medical clearance for surgery:** Approval for you to undergo surgery is required from your primary doctor – or we can arrange for you to be examined by one of our doctors. This examination, in combination with pre-admission testing, is necessary to review your overall health and identify any medical conditions that could interfere with your surgery or recovery.
- **Knee replacement class:** You will be scheduled to take a two-hour class where our staff will review the most important information covered in this guide and answer any other questions you might have about your surgery. If scheduling permits, we will arrange for you to take this class the same day as pre-admission testing.

In the weeks before your surgery you may also be asked to:

- **Begin exercising under a physician's supervision:** It is important to be in the best possible physical condition for your surgery. Special exercises to increase your upper body strength will help you use a walker or crutches in the early days after surgery, and exercises that strengthen your legs can reduce recovery time.
- **Watch your weight:** If you are overweight, losing weight will help reduce stress on your new joint. (If your weight is normal, keep it that way.)
- **Consider pre-donating blood for transfusion:** If your surgeon determines that your operation may require a blood transfu-

About blood transfusions

Patients undergoing joint replacement surgery may require a blood transfusion. You should discuss this with your surgeon. If you are a candidate for transfusion, you have several options:

Autologous transfusion. An autologous transfusion is one in which you donate your own blood ahead of time. Your surgeon's office will instruct you how to make an appointment to pre-donate blood at Sacramento Blood Source, or other arrangements can be made. The process is extremely reliable, and your blood can be refrigerated safely for at least a month. The obvious advantage of this option is that when your own blood is used there is no risk of contracting a transmissible disease from someone else's.

(Please note that it is possible for your surgical team to contract a transmissible disease from you. If you have such a condition, please share this information with your caregivers.)

Homologous transfusion. A homologous transfusion is blood that comes from a donor. While this often is blood from an anonymous donor, a family member or friend who has your blood type can donate a directed donor unit reserved specifically for you. All homologous units of blood, whatever the source, are tested by the blood bank for transmissible diseases.

Erythropoietin. In some special circumstances, your surgeon may recommend that you receive erythropoietin, a hormone that is naturally produced by the kidney and also commercially produced in a laboratory for treating certain patients with a low red blood cell count (anemia). Erythropoietin given to a patient preoperatively may reduce the need for homologous transfusions (bank blood). Although costly, this medication is usually covered by insurance.

sion, you can choose to donate your own blood ahead of time.

- **Have a dental examination:** Although infections in joint replacements are not common, one can occur if bacteria enter the bloodstream somewhere else in your body. Therefore, you should arrange to have dental procedures such as extractions and periodontal work completed before your surgery.

Readying your home

There are several things that you (or a friend or family member) can do before entering the hospital to make your home safer and more comfortable upon your return:

- In the kitchen and elsewhere, place items that you use regularly at arm level so you do not have to reach up or bend down.
- To avoid using stairs, consider temporarily changing rooms – for example, by making the living room your bedroom.
- Rearrange furniture to give yourself enough room to maneuver with a walker or crutches.
- Remove loose carpets and rearrange electrical cords in the areas where you will be walking.
- A footstool will be useful for keeping your operated leg straight out in front of you when you sit.
- Plan to wear a big-pocket shirt or soft shoulder bag for carrying things around.
- Set up a “recovery center” in your home, with the phone, television remote control, radio, facial tissues, wastebasket, pitcher and glass, reading materials, and medications within reach.

- **Stop taking certain medications:** Your surgeon can tell you which medications to stop taking before your surgery. Be certain to tell your physician all the medications that you are taking, including over-the-counter medications, because some of these may increase your bleeding during surgery.
- **Be sure your postoperative medication will be available:** Ask your surgeon ahead of time whether you will require anticoagulation medication (to prevent blood clots) after your surgery. If you do, call your pharmacy to ensure that it has it in stock.

Planning ahead for your discharge

Whether or not you require “rehab” following your surgery depends on several factors, including your general state of health. Most patients can be safely discharged directly home. If your surgeon determines otherwise, a member of our Discharge Planning Department will visit you a day or two after your surgery to give advice and help prepare the necessary paperwork for entry into a rehabilitation facility.

Every patient is visited by a discharge planner who works with you, your surgeon, and your insurance provider to make your discharge from the hospital as smooth as possible. If you have any concerns about your ability to manage your personal care, mobility, medications, or other recovery needs once you return home, bring them up with your case manager and/or discharge planner: They are trained to help you in these matters.

Once you are home, we continue to provide care. Depending on your needs, a member of our Discharge Planning Department can arrange for a visiting nurse, a home therapist, or in some cases a home health aide to check on you several times during the week for the first few weeks after your surgery.

- **Stop smoking:** This is a good idea at any time, but particularly before major surgery in order to help reduce the risk of post-operative lung problems and improve healing.
- **Evaluate your needs for at-home care after discharge from the hospital:** Most knee replacement patients will need help at home for the first few weeks, including assistance with preparing meals and transportation.
- **Tell your surgeon about your current support services/devices:** If you are now using a home service, bring the name and phone number of the service to the hospital. If you have medical equipment such as a wheelchair, crutches, or walker at home, ask your surgeon if you should make arrangements to have the equipment brought to the hospital for the physical therapist to make adjustments.
- **Review your insurance:** A surgery coordinator will request authorization for your surgical procedure. It would be a good idea, however, to contact your insurance company well ahead of time to familiarize yourself with the benefits available to you. For example, different insurance providers have different rules for determining the medical necessity of rehabilitation, and most do not provide a benefit for your transportation home.

Getting to the hospital

See the inside back cover of this booklet for directions to the main hospital of UC Davis Medical Center.

Or, you can view directions and maps on the internet at:
www.ucdmc.ucdavis.edu/healthconsumers/maps

Anesthesia

Anesthesia is the process of inducing a pain-free, tranquil, sleeplike state for your surgery. Your anesthesiologist has several techniques to carry you through surgery comfortably and without pain. Some medical conditions may make one technique preferable. You should discuss this with both your surgeon and your anesthesiologist. Whichever technique is chosen, be assured that your operating room experience will be a painless and tranquil one.

General anesthesia. First you are given medication to induce a sleep-like state, followed by a gas anesthetic agent administered via a mask into your lungs. Throughout the operation you will be attached to monitors that display information on your heart rhythm and rate, oxygen level in your bloodstream, body temperature, and blood pressure. Your anesthesiologist continually checks these monitors.

Regional anesthesia. Some patients reject regional anesthesia because they think that they will be awake during the procedure. This is not true. In regional anesthesia, you also receive medications that allow you to sleep peacefully throughout the operation. Unlike general anesthesia, when regional anesthesia is discontinued you will awaken almost immediately and without pain (because the anesthesia is still working). Two types of regional anesthesia are commonly used: spinal and epidural. In addition, regional nerve blocks (femoral nerve, sciatic nerve) are increasingly being used as an adjunct to minimize post-operative pain. All of these may be used in combination. When this type of anesthesia is used, you are monitored as described above for general anesthesia.

What **TO** bring and what **NOT** to bring

BRING to the hospital

- Your cane or crutches, if needed
- Eyeglasses – not contact lenses
- Dentures/hearing aid. A container will be provided for these, which you should keep on your bedside table or in a drawer – not on the bed or a food tray.
- A list of your medications, including the ones you have recently stopped taking at your surgeon's request
- Important telephone numbers
- Small amount of cash – for newspapers, etc.
- A book, magazine, or hobby item for relaxation
- This booklet
- Completed Advance Health Care Directive (optional)

DO NOT BRING to the hospital

- Medications – unless asked by your surgeon
- Valuables – jewelry, large amounts of cash, credit cards

All hospital staff members respect your property rights, but we cannot guarantee security for your personal property.

Keeping track of all this information can be overwhelming. Please feel free to ask questions or share concerns with any of your caregivers at any time. Your Knee Replacement Class (see page 2) is one good place to get answers. And remember that you can contact your surgeon or your surgeon's case manager at any time.

Surgery preparation checklist

The night before your surgery:

- Shower (may be done day of surgery if time permits).
- Do not eat or drink after midnight.
- Review this guide.
- Get a good night's rest.

The day of your surgery:

- Take routine medications with only a sip of water – as instructed by your doctor.
- Brush your teeth and rinse – without swallowing.
- Wear comfortable clothing.
- Leave valuables at home or with a family member.

The day before your surgery

You will receive a telephone call from the hospital after 1 p.m. on the weekday before your surgery telling you when to come to the hospital and exactly where to go. For example, if your surgery is on Tuesday, the hospital will call you on Monday night; if your surgery is on Monday, the call will be on Friday night. Your arrival may be scheduled for as early as 5:30 a.m., so be sure to get a good night's sleep. It is important that you arrive on time because if you are late, your surgery will have to be rescheduled.

Diet: You may eat normally on the day before your surgery, but do not drink alcohol. **DO NOT EAT OR DRINK ANYTHING AFTER MIDNIGHT.** This is important so that it will not interfere with your anesthesia. The only exception is if your doctor gives specific instructions to take medication with a sip of water. Shower and shampoo either the night before or the morning of your surgery.

The day of your surgery

On the day of surgery:

- You may brush your teeth and rinse your mouth – without swallowing any water.
- Wear comfortable, loose-fitting clothing and flat, non-slip, walking or athletic shoes.
- Leave valuable possessions at home or give them to a family member for safekeeping. (See “What and what not to bring to the hospital,” below.)

Once you arrive at the hospital:

- You will be provided with a gown. Your own clothing and personal belongings will be safely stored.
- You will be asked to fill out an operative consent form, to review it, and to sign it along with your surgeon and a third-party witness. (If this was done previously, your surgeon will review the form with you again.) Your surgeon will also place his/her initials over the operative site as an extra precaution.
- Your anesthesiologist will go over with you the type of anesthesia to be used for your surgery. After that explanation, you will be asked to complete, review and sign a consent form specifically for the anesthesia. When the operating room is ready, you will be escorted there by a nurse.

During your surgery, your family and friends may wait in any of several comfortable hospital locations. They should check in at the information desk so your surgeon can be made aware that they are waiting. With your permission, your surgeon will visit with them or call and speak with them after your surgery is completed.

Arthritis of the knee

Arthritis of the knee is a condition in which the smooth gliding surfaces of your knee joint (articular cartilage) have become damaged. This usually results in pain, stiffness, and reduced flexibility. The most common type of arthritis, osteoarthritis, typically develops in older patients due to a lifetime of wear and tear. It can also occur in someone whose knee did not develop normally.

Less common forms of arthritis include traumatic arthritis, which develops as a result of an injury, such as a fracture in the knee joint that does not heal properly, and rheumatoid or inflammatory arthritis, which results from an inflammatory condition or autoimmune disease.

In total knee replacement surgery, the portions of the knee joint that contain the damaged surfaces are replaced with biocompatible devices that provide a smooth and painless range of motion. Your surgeon will make every effort to restore your knee to a condition that resembles its healthy preoperative status and to correct any deformity that may have existed. You should discuss what realistic outcome to expect with your surgeon.



Normal knee

In an X-ray of a normal knee, the articular cartilage (the area labeled “normal joint space”) is clearly visible.



Arthritic knee

On this X-ray, the joint space has been greatly reduced. Wherever there is complete loss of cartilage, the condition is known as “bone-on-bone.”



Total knee replacement

Implants anchored inside the femur (thigh bone) and tibia form a new joint that is held in place by muscles and soft tissues. Implants may be secured to your bone by cement or they may have textured surfaces to encourage bone ingrowth.

Getting the most out of your surgery

When your surgery is complete you will be taken to a recovery room, where you will spend two to three hours before being moved to your regular hospital room. Family and friends will be reunited with you once you are settled in. Depending on your anesthesia, your medical history and other factors, you may first be taken to a monitored bed environment (either the Intensive Care Unit or the Post-Op Unit). Your surgeon or anesthesiologist will discuss this with you before your surgery.

Your care team will monitor your progress throughout your hospital stay to ensure your safe and efficient recovery. Among other things, they will periodically check your vital signs – temperature, blood pressure, etc. – and change the dressings that cover your incision. Your surgeon may also decide that you can benefit from a blood transfusion, a blood-thinning medication or automatic foot pump device to prevent clot formation, an incentive spirometer that helps keep your lungs clear, and/or a continuous passive motion machine that automatically exercises your knee: All these things will be attended to by your care team.

Pain management

Many patients are understandably concerned about post-operative pain. Pain control has become very sophisticated. Usually the level of discomfort is easily manageable with oral or injected pain medication.

Some patients receive IV-PCA – intravenous patient-controlled analgesia – for a day or two following surgery: This allows the patient to self-administer a safe and effective amount of pain medication through an IV tube by pressing a button. Similarly, in some cases an epidural catheter that automatically delivers pain medication may be left in place for 24 hours following surgery.

Your care team

- Your surgeon
- Nurses
- Nurse practitioners
- Physical therapist or occupational therapist
- Fellows and residents: licensed physicians undergoing specialized postgraduate training in orthopaedic surgery
- Internist: a specialized physician selected by your surgeon to assist in the medical management of your postoperative care
- Pain specialists: a physician and a nurse practitioner who specialize in pain management
- Rehabilitation specialist: a physician trained to determine the level of care you will require once you leave the hospital

One or more of the above care team physicians, depending on your needs, will visit you “on rounds” every day that you are in the hospital.

Exercise and physical therapy

The day after your operation, your nurses, physical therapists and other caregivers will start you on a course of treatment that will prepare you for life with your new knee. Some patients are provided with a continuous passive motion machine (CPM machine) on the day following surgery. This device begins gentle movement of your new knee, without any effort on your part, and is used while you are in bed. If the knee becomes stiff during the first month or so after surgery, your surgeon may recommend a knee manipulation. (A small percentage of knee replacement patients need this. You would be

brought back to the operating room where under anesthesia your knee is bent and straightened in order to break up scar tissue.) Your active participation is needed to avoid this, so if you are bothered by discomfort during exercising, ask your surgeon or pain specialist for additional pain-management strategies.

On the morning following your surgery, a physical therapist will assist you to a standing position, and using a walker, you will begin to walk on your new knee. In most cases you will be allowed to put all your weight on your new knee; this is called weightbearing as tolerated. Sometimes, because of the nature of your surgery, your surgeon may decide that at first you should place only part of your weight on your operated leg: This is called partial weightbearing. As time passes, you will be able to increase the amount of weight that you place on the operated side to weightbearing as tolerated. Your surgeon will leave specific instructions with your physical therapist.

By about the third day after your surgery, you will be walking with greater confidence, and be ready for discharge. Your occupational therapist will teach you special techniques for dressing, bathing and climbing stairs. Most patients are surprised at how independent they become, and how quickly.

For the first four to six weeks following surgery, most of our patients require and receive some form of therapy: either home therapy, outpatient therapy, or therapy as part of care in a rehabilitation facility.

Your active participation in physical therapy is critical to a successful surgical outcome following total knee replacement. The knee joint requires movement after surgery to prevent the formation of scar tissue that would make the knee stiff. Your physical therapist will instruct you on exercises that will help your knee regain its flexibility and strength. It may be recommended that you exercise 20 to 30 minutes three times a day: morning, afternoon, and night. (*See the instructions for exercises starting on page 18.*)

Resuming your normal activities

Most knee-replacement patients experience a dramatic reduction in joint pain and a significant improvement in their ability to participate in the activities of daily living. Be aware, however, that recovery takes time. Expect to feel a bit more tired than usual for a few weeks. Your surgery is a major event. Give yourself time to regain your strength and self-confidence. Stay active – just don't overdo it! You will notice a gradual improvement over time in your strength and endurance.

(continued on page 22)

Taking care of your surgical incision

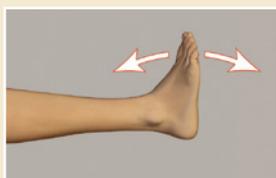
Your surgical incision will be closed using sutures or staples that will be removed about two weeks after your surgery. (In some cases resorbable sutures are used that do not need to be removed.) The following apply to taking care of your wound:

- Keep the area clean and dry. A dressing will be applied to the site in the hospital and should be changed as necessary. Ask for instructions on how to change the dressing if you are not sure. Once drainage has stopped you may leave the dressing off.
- Notify your doctor if the wound appears red or begins to drain.
- Some swelling is normal for the first three to six months after surgery.

Early postoperative exercises

These exercises are important for increasing circulation to your legs and feet to prevent blood clots. They also are important to strengthen muscles, improve your knee movement and prevent the formation of scar tissue that would make the knee stiff. Do not give up if some exercises feel uncomfortable at first: They will speed your recovery and reduce your postoperative pain. All exercises should be done SLOWLY.

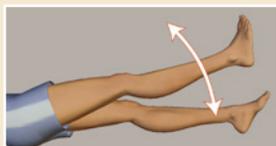
Not every exercise is appropriate for every patient. Your therapist will check off the exercises that are right for you. Unless otherwise indicated, do these exercises every day in three sessions: morning, afternoon and night.



Ankle pumps: Slowly move your foot up and down. Do this exercise several times as often as every five or 10 minutes. This exercise can be done while you are either lying down or sitting in a chair. You can begin this exercise immediately after surgery in the recovery room. Keep doing it periodically until you are fully recovered.

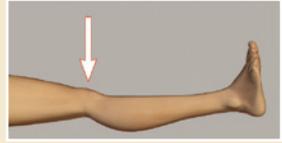


Ankle rotations: Move your ankle inward toward your other foot and then outward away from your other foot. Repeat five times in each direction. This exercise can be done while you are either lying down or sitting in a chair.

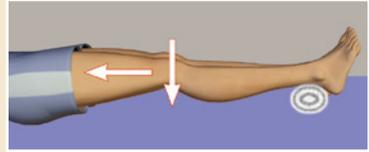


Straight leg raises: Tighten your thigh muscle with your knee fully straightened on the bed. As your thigh muscle tightens, lift your leg several inches off the bed. Hold for five to 10 seconds, then slowly lower your leg. Repeat this exercise 10 times for each leg (not just your operated leg).

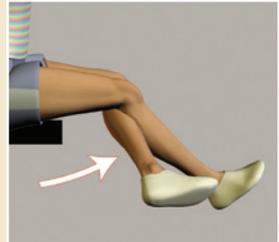
Quad set: Tighten your thigh (quadriceps) muscle. Try to straighten your knee while pushing the back of your knee to the bed. Hold for five to 10 seconds. Repeat this exercise 10 times for each leg (not just your operated leg).

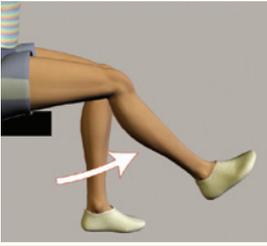


Knee-straightening exercises: Place a small, rolled-up towel under your leg just above your heel so that your heel is not touching the bed. Tighten your thigh. Try to fully straighten your knee and to touch the back of your knee to the bed. Hold fully straightened for five to 10 seconds. Repeat until your thigh feels fatigued.

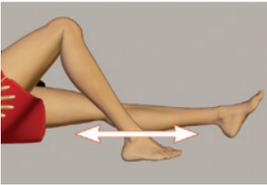


Sitting supported knee bends: Sit on a bed or chair with your thighs supported. Alternately straighten and bend your knee, using the foot of your unoperated leg to push your operated leg up (left-hand illustration) and back (right) as far you can. Hold your knee in the full bent/straightened position for five to 10 seconds. Repeat several times until your leg feels fatigued or until you can completely bend and straighten your knee.





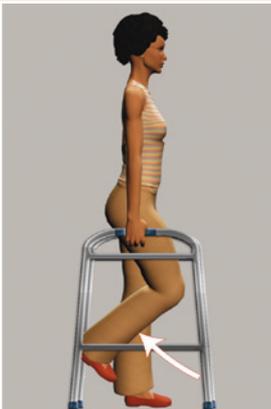
Sitting unsupported knee bends: Sit on a bed or chair with your thighs supported. Bend your knee as far as you can until your foot rests on the floor. With your foot lightly resting on the floor, slide your upper body forward in the chair to increase your knee bend. Hold for five to 10 seconds. Straighten your knee fully. Repeat several times until your leg feels fatigued or until you can completely bend your knee.



Bed-supported knee bends: Bend your knee as much as possible while sliding your foot on the bed. Hold your knee in a maximally bent position for five to 10 seconds and then straighten. Repeat several times until your leg feels fatigued or until you can completely bend your knee.

Advanced exercises and activities

A full recovery will take time. The pain from your problem knee before your surgery and the pain and swelling after surgery have weakened your knee muscles. The following exercises and activities will help your knee muscles recover fully.



Standing knee bends: Standing erect with the aid of a walker or crutches, lift your thigh and bend your knee as much as you can. Hold for five to 10 seconds. Then straighten your knee, touching the floor with your heel first. Repeat several times until fatigued.

Assisted knee bends: Lying on your back, place a folded towel over your operated knee and drop the towel to your foot. Bend your knee and apply gentle pressure through the towel to increase the bend. Hold for five to 10 seconds. Repeat several times until fatigued.



Knee exercises with resistance: You can perform any of the early or advanced exercises with light weights around your ankle. (Inexpensive wraparound ankle weights with Velcro straps can be purchased at most sporting goods stores.) These resistance exercises usually can begin four to six weeks after your surgery. Use one- to two-pound weights at first; gradually increase the weight as your strength returns.

Stationary bicycle exercise: Exercising on a stationary bicycle is an excellent activity to help you regain muscle strength and knee mobility. Adjust the seat height so that the bottom of your foot just touches the pedal with your knee almost straight. Pedal backwards at first. Pedal forward only after a comfortable backwards cycling motion is possible. As you become stronger (at about four to six weeks) slowly increase the tension on the pedals. Pedal forward 10 to 15 minutes twice a day, gradually building up to 20 to 30 minutes three to four times a week.

Resuming your normal activities *(continued from page 17)*

Once you are home, you will want to keep track of the state of your new knee as well as your general health for several weeks. In particular:

- Take your temperature twice daily and notify your doctor if it exceeds 100.5°F.
- Take all medications as directed.
- Notify your doctor immediately if you notice tenderness, redness, or pain in your calf, chest pain, and/or shortness of breath. These are all signs of a possible blood clot.

Because you have an artificial joint, it is especially important to prevent bacteria from entering your bloodstream that could settle in your joint implant. You should take antibiotics whenever there is the possibility of a bacterial infection, such as when you have dental work. Be sure to notify your dentist that you have a joint implant; they are trained to prescribe antibiotics for you to take by mouth prior to an extraction, periodontal work, dental implant, or root canal work.

Diet. By the time you come home from the hospital, you should be eating a normal diet. Your physician may recommend that you take iron and vitamin supplements. Continue to drink plenty of fluids and avoid excessive intake of vitamin K if you are taking the blood-thinning medication Coumadin (warfarin). Foods rich in vitamin K include broccoli, cauliflower, brussels sprouts, liver, green beans, garbanzo beans, lentils, soybeans, soybean oil, spinach, kale, lettuce, turnip greens, cabbage and onions. Try to limit your coffee intake and avoid alcohol altogether. You should continue to watch your weight to avoid putting more stress on the joint.

Basic activities. Generally, the following guidelines will apply:

- **Weightbearing:** Be sure to discuss weightbearing restrictions with your physician and physical therapist. Their recommendations will depend on the type of implant and other issues specific to your situation.
- **Driving:** You can begin driving an automatic shift car in four to eight weeks, provided you are no longer taking narcotic pain medication. If you have a stick shift car, this may take longer. The physical therapist will show you how to slide in and out of the car safely. Placing a plastic bag on the seat can help.
- **Sexual relations** can be safely resumed four to six weeks after surgery.
- **Sitting, sleeping positions:** There are no restrictions on sitting or sleeping position; just find a comfortable position.
- **Return to work:** Your surgeon will determine when you are medically fit to return to work. In your first follow-up visit (usually four to six weeks after your surgery), if everything is normal your surgeon may give you the go-ahead to return to work full-time. If your work is not too physically demanding and you feel up to it, you can return to work even earlier, at least part-time (perhaps a few hours once or twice a week). Don't push yourself too hard. If your work is more physically demanding, it may take more time (approximately three months) to return to work.
- **Other activities:** Walk as much as you like once your doctor gives you the go-ahead, but remember that walking is no substitute for your prescribed exercises. Swimming is also recommended. You can begin swimming as soon as your surgeon has determined that your surgical wound is well healed. By three months, most patients can return to an active lifestyle, which could include golfing, bowling, bike riding, dancing, playing doubles tennis, and, in some cases, even skiing. Most surgeons discourage high-impact aerobic activities like jogging and basketball. Do not do any heavy lifting (more than 40 pounds) or perform weightlifting exercises. Discuss your activities with your surgeon to be sure.

Getting around after your surgery

Walking with a walker or crutches: Stand comfortably and erect, with your weight evenly balanced on your walker or crutches. Move your walker or crutches forward a short distance. Then move forward, lifting your operated leg so that the heel of your foot touches the floor first. As you move forward, your knee and ankle will bend and your entire foot will rest evenly on the floor. As you complete the step, allow your toe to lift off the floor. Move your walker or crutches again, and reach forward with your hip and knee for your next step. Remember, touch your heel first, then flatten your foot, then lift your toes off the floor. Walk as rhythmically and smoothly as you can, but don't hurry. Adjust the length of your step and speed as necessary to walk with an even pattern. As your muscle strength and endurance improve, you may spend more time walking. Gradually, you will put more and more weight on your leg.

Walking with a cane or single crutch: A walker is often used for the first several weeks to help your balance and to avoid falls. A cane or single crutch is then used for several more weeks until your full strength and balance have returned. Use the cane or crutch in the hand opposite the operated knee. You are ready to use a cane or single crutch when you can walk and stand for more than 10 minutes.

Climbing and descending stairs: Going up and down stairs requires both flexibility and strength and so should be avoided if possible until healing is complete. If you must use stairs, you may want to have someone help you until you have regained most of your strength and mobility. Always use a handrail for support on the side of your unaffected leg and move up or down the stairs one step at a time:



Going up stairs:

1. Step up on your unaffected leg.
2. Next step up on your operated leg.
3. Finally bring up your crutch(es) or cane(s).



Going down stairs, reverse the process:

1. Put your crutch(es) or cane(s) on the lower step.
2. Next step down on the operated leg.
3. Finally, step down on the unaffected leg.

Remember to always lead *UP* the stairs with your unaffected leg, and *DOWN* the stairs with your operated leg.

Risk factors and complications

There are risks in any type of surgery, not just knee replacement surgery. The general risks of knee replacement surgery – such as a bad reaction to anesthesia or heart attack – are no greater than in most other types of surgery. To help prevent a blood clot, your surgeon may prescribe a blood-thinning drug (such as Coumadin or Lovenox). Alternatively, or in addition, pump-driven compressive devices may be applied to your legs following surgery to reduce the chances of clot formation.

The following are among the possible complications following knee replacement surgery. While this list is not complete, it includes complications you should be aware of.

Blood clots. One of the risks of knee replacement surgery is the development of blood clots in the legs. In addition to early ambulation and leg compression hose/devices, your surgeon will place you on an anticoagulant (blood thinner) medication, either a pill (Coumadin) or a shot (Heparin). If on Coumadin, your blood levels will need to be monitored twice a week upon discharge. A pharmacist from the UC Davis anticoagulant clinic will notify you of necessary dosage changes, which is common for Coumadin therapy. Please set a time in the late afternoon (i.e., 5 p.m.) to routinely take your medication. If you do not hear from the anticoagulation clinic or your home health nurse before your scheduled dose, take the same dose you took the day before – it can be adjusted later if needed. If you are taking an injectable anticoagulant you will be instructed how to do so in the hospital and asked to give a demonstration to confirm. It is advised that you pick up your prescription from the hospital pharmacy as your local pharmacy may not have it in stock.

Implant loosening and wear. The typical knee replacement has a 90-95 percent probability of functioning well for more than 10 years. This is still not forever. Over time, the implant may show signs of wear, or it may loosen, and so may require a second replacement (“revision”). Continuing research promises to increase implant lifetimes and make replacement even easier in

the future. Feel free to discuss the current state of technology with your surgeon regarding implant designs.

Infection. Although infection in a knee replacement is relatively rare, it is a serious complication that requires urgent, aggressive treatment. Many infections can be avoided. For example, standard dental procedures, including routine cleaning, carry the risk of bacteria entering your bloodstream and infecting your knee implant. Taking an antibiotic approximately an hour before your procedure can greatly reduce or eliminate this risk. The same rule applies to medical procedures such as surgery or even a colonoscopy. Ask your surgeon for guidance when you are scheduled for one of these procedures.

Nerve or blood vessel injury. There is a risk of damage to nerves or blood vessels in knee replacement surgery – as in any other kind of surgery – but it is extremely low. After surgery, sometimes just the position of your leg on the bed or on the CPM machine may cause pressure against a nerve along the outside of your knee. If you experience sudden numbness or weakness in your leg or foot in the days following surgery, notify your nurse or doctor immediately.

Metal alloys and metal detectors. Your new knee is made of metal alloys. There are some things you will have to keep in mind. Most likely you will activate metal detectors found in courthouses and airports. Be sure to give yourself plenty of time to be manually assessed (“wanded”). Some equipment vendors provide a card that you can carry in your wallet. If provided it would be mailed sometime after your surgery. Remember, though, card or no card, you will be pulled aside and manually checked.

MRI (Magnetic Resonance Imaging). You should not have any difficulty with such tests if you need them in the future.



We keep you moving

UCDAVIS
HEALTH SYSTEM

Department of Orthopaedic Surgery
4860 Y Street, Suite 1700
Sacramento, CA 95817

(916) 734-2700
www.ucdmc.ucdavis.edu/orthopaedics