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Welcome

Welcome to UC Irvine Medical Center.
On behalf of Dr. Ran Schwarzkopf and all of the Department of Orthopaedic Surgery staff, we are happy you have chosen Orange County's only university medical center for your total joint replacement.

As you prepare for your surgery, we want you to have peace of mind knowing that you are receiving the best quality and most compassionate care possible in a comfortable environment. We also want you to be well informed and aware of classes that we offer, described later in this book. Our nurses are well-qualified to care for you and will work closely with you to help you prepare and to take care of your needs and concerns.

What we cover in this book

In the book we discuss your operation, both before and after; orient you to the unit you will be staying on; go over discharge planning and more. Many of your questions will most likely be addressed in the book.

Please write down any additional questions you have for your doctor or our staff in Appendix 3, "Dear Doctor notes." There also is a section called "Commonly asked questions" in the back of this booklet (Appendix 5).

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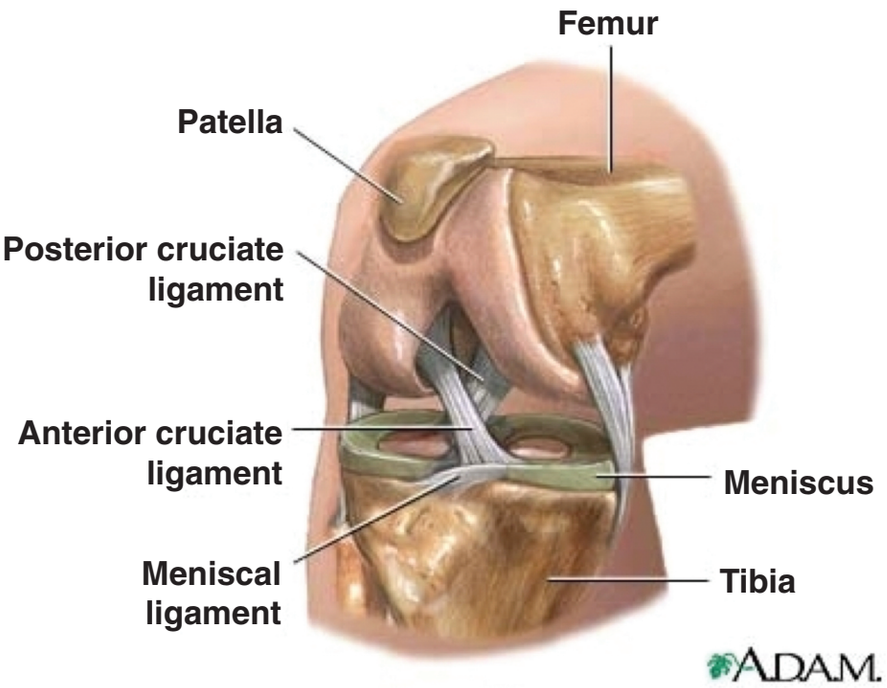
TOTAL KNEE REPLACEMENT

How the knee joint functions

The knee joint is formed by the meeting of two bones, the femur (thigh bone) and the tibia (shin bone). The knee is protected in front by the patella (kneecap). These bones form a joint that is like a door hinge. Each end of the bone is covered by cartilage, which helps cushion the knee joint and makes a smooth surface for the joint to move. The ligaments around the knee joint help make the knee stable.



Arthritis of the knee

Arthritis is a general term that describes inflammation of a joint. This is a normal reaction of the body to injury or disease that results in swelling, stiffness and pain. There are many types of arthritis.

Osteoarthritis is the most common type of arthritis. This is also called degenerative joint disease and can occur as a patient gets older. Osteoarthritis affects the cartilage that covers the ends of the bones. The smooth cartilage cushion wears away. This leaves the ends of the bone rough. When the rough ends of the bone rub together, it causes pain.

Rheumatoid arthritis is a disease of the tissue that lines the inside of the joints. The joint lining is abnormal and produces poor-quality fluid with a chemical substance that destroys the joint surface. The joint becomes stiff, painful and deformed. The cause of rheumatoid arthritis is not known.

Traumatic arthritis can be caused by a fracture or injury to the knee joint. The injury may damage the cartilage in the knee. If the injury does not heal properly, the joint surfaces may become rough, leading to early "wearing out" of the joint, similar to osteoarthritis.

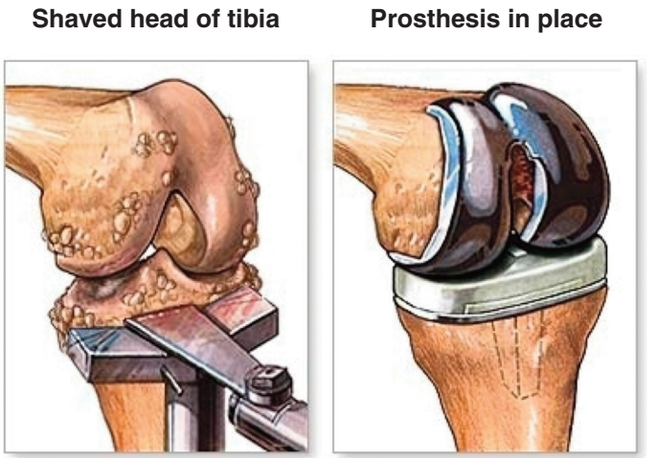
Surgical Repair – Why is it needed?

The most common reasons for recommending knee replacement surgery are:

- Severe pain
- Loss of function and motion
- Disabling deformity (bow legs or knock knee)
- Improvement of quality of life

The patient is the best person to judge the amount of pain and the extent of loss of function. If the pain or loss of function interferes with normal daily living, it is time to consider a knee replacement.

Surgical procedure – Repairing the knee



During knee replacement surgery, the surface of each end of the bone is removed. The ligaments on the sides of the knee are left in place. The surfaces are replaced with artificial components. The thigh bone surface is covered with a metal component made of cobalt-chromium. The shin bone surface is replaced with a metal-backed plastic surface. These materials provide a new joint surface for the end of the femur (thigh bone), top of the tibia (shin bone) and back of the patella (kneecap). The metal and plastic surfaces move across each other to provide smooth motion. The components are usually held in place with a special type of cement.

PREPARING FOR SURGERY

Before surgery, your surgeon and anesthesiologist will review your medical records, consult with each other and may order certain lab tests or studies in order to ensure that you are in the best possible condition. You will be asked to detail your medical history and will undergo at least one physical examination. Some patients may require an extensive anesthesia consultation. Although you may think that our doctors, nurses and other healthcare professionals are asking a lot of questions, please be assured that the answers are very important and will help to ensure that you and the surgical team are well prepared for your surgery.

Your support coach

Joint replacement requires significant preparation and recovery. Having a support system is very helpful. You should designate a support person – a family member or friend who comes with you to your doctor appointments, is there when you go to surgery and is there for you when you get out. Your support person can help you get your home environment ready for the day of discharge and help you attend your follow-up appointments.

Facts about blood transfusion

While having a joint replaced is safe, there is some blood loss during the surgery. You may need to have a blood transfusion after the procedure. The number of units of blood required varies from patient to patient. However, your doctor will discuss this further with you and will ask you to consent to the possibility of a transfusion. **Please refer to Appendix 1 – "Facts About Blood Transfusions."**

Getting ready for surgery (pre-op visits)

The week before your surgery, you will make one or more preoperative visits to the hospital. You will meet with the surgical scheduler. Please note that your preoperative visit could last several hours, especially if you are going to meet with your surgical team and anesthesiologist, or if you are going to have any tests performed.

Surgical scheduler visit in Orthopaedics involves:

- Scheduling the date of surgery.
- Scheduling your preoperative appointment with the Center for Perioperative Care in UC Irvine Douglas Hospital.
- Scheduling you in a Joint Replacement class, Preparing for Surgery – Mind, Body & Spirit Class, and a tour of the

inpatient Orthopaedic Unit located at DH32 in UC Irvine Douglas Hospital.

- Verifying your insurance eligibility and coverage. Please notify the surgical scheduler of any changes in your insurance because it may affect your coverage.
- Providing estimates for your out-of-pocket expenses, including copayments, deductibles and charges for non-covered services.
- Working with your insurance company to provide for assistive devices for your home, such as commodes, walkers and crutches. Please discuss this with your scheduler at the time of your visit.

Nutrition

Adequate nutrition is important for overall good health. Proper nutrition is also crucial when preparing for surgery and for healing after surgery. Research has shown that a well-nourished patient usually tolerates surgery better. On the other hand, a nutritionally depleted patient may have a much higher likelihood of postoperative problems. Most surgery patients have increased nutritional needs for protein, vitamins and minerals. Therefore, a balanced and nutritious meal plan before and after surgery can help you heal more quickly with a better overall outcome.

Please refer to Appendix 2 – "Nutritional Information"

Classes

Joint Replacement class

UC Irvine Medical Center offers a free Joint Replacement class twice a month. You are strongly encouraged to attend this class with your support person(s). This class will help you understand what will happen before, during and after your joint replacement. You will also tour the unit where you will be cared for and meet some staff members. In addition, you will observe a physical therapist demonstrate exercises that are necessary before and after surgery.

Preparing for Surgery – Mind, Body and Spirit class

Facing surgery can be very stressful. This stress can be uncomfortable and actually weaken the immune system and your body's ability to heal. The class will prepare you mentally and physically by teaching you relaxation exercises and good coping skills.

Please call 877.UCI.DOCS (877.824.3627) to reserve a seat in these free health classes.

Prepare in advance if you are a smoker

Your anesthesiologist may request that you stop smoking before surgery to improve your breathing function and circulation, which promotes better healing. If your surgery will not take place for several weeks, we encourage you to call the California Smokers' Helpline

at 800.NO.BUTTS [800.662.8887]. This is a free service to help you quit smoking; it is paid for by tobacco tax.

Nasal Ointment Application

You may receive a nasal ointment during your pre-op visit with instructions on its application. The ointment is absorbed through nasal membranes and decreases the rate of bacterial colonization, especially of Staphylococcus species. This treatment helps decrease the risk of surgical site infection.

Pre-op bathing

Shower or bathe with a special soap, if you have been instructed to do so. It will be provided with instructions on how to use it properly. You will use it the nights before your surgery.

Day before surgery

Reminder: No food or drink

Sometimes patients react to anesthesia by vomiting and this can be dangerous. Your stomach should be empty to ensure that nothing can be expelled from your mouth or into your lungs during surgery.

Regardless of the type of surgery you are having, you must not eat or drink anything **– not even water** – after midnight on the night before surgery. These precautions help prepare your body for anesthesia and surgery. If you do eat or drink anything after midnight, your surgery may be canceled. The only exception is for medications, but those may be taken only with your doctor's approval.

We realize you may take medications for other conditions, and we want to be sure you are safe during your surgery. Your doctor and clinic staff will review your medications with you to decide if you are allowed to take anything before your surgery or if everything can wait until afterward.

Day of surgery

On the day of surgery, drive up to the main entrance of UC Irvine Douglas Hospital and use the valet parking. You will be instructed at the front desk to take the lobby elevators to Surgical Reception.

Checking in:

- Plan to arrive two hours before your surgery.
- Leave money and other valuable possessions at home or give them to your support person. We cannot be responsible for lost possessions.
- If you wear a hearing aid, dentures, glasses or contact lenses, please bring them (as well as containers) and they will be held for you until after your surgery.
- Bring all doctors' orders and copies of any recent laboratory tests.

- Bring your insurance card.
- Bring a list of all your allergies and any medications you are taking, including dosage, how often you take the medication, and the last time you took it. (Please leave all of your medications at home.)

Preoperative holding room

Soon you will be directed to a room designed to prepare patients before they enter the operating room. An intravenous (IV) infusion of fluid may be started. In this procedure, a needle is placed in your vein (usually the arm) as a means to administer fluid and medication.

When you go to the preoperative holding room, only one family member or support person may accompany you. You will be given a hospital gown to change into. If privacy is needed, your visitor may be asked to step out briefly. You may give your clothes to your support person to hold for you. Your doctor and anesthesiologist will come and speak with you prior to surgery.

Anesthesiology

The role of the anesthesiologist is to provide sedation and anesthesia and to monitor you during the operation. This will be a good time for you to ask your anesthesiologist any last-minute questions about anesthesia. While you are in the preoperative holding room, you may be given medication for relaxation.

Operating room

You will be transferred to the operating room by a registered nurse or an orderly, along with your anesthesiologist, who will stay with you throughout the operation. You may find the room to be cool and somewhat noisy. The noise is caused by the laminar flow fans, which help keep the room sterile. You will be given warm blankets while monitoring devices are put in place. You will then be given an anesthetic, and your surgery will begin after it has taken effect.

Instructions for family/support person

It is best if your support person can help you check in. If your support person will be meeting you at the hospital, give the receptionist his or her name. Please have the support person check in at the surgical reception area on the second floor of UC Irvine Douglas hospital.

After surgery, your support person will be contacted by the doctor in the surgical reception area to let him or her know how things went and when to expect you out of the post-op area. If your support people leave the lobby waiting area, they will be given a paging device to let them know when you return from the OR.

They may visit our cafeteria, which is located on the first floor of UC Irvine Douglas Hospital. Ask the information desk for directions.

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AFTER SURGERY

Post-anesthesia care unit (PACU)

After surgery, you will be transferred to the post-anesthesia care unit (PACU) where you will be closely monitored until you are ready to be transferred to the nursing unit. Your doctor will contact your family in the surgery waiting area to discuss your surgery and your condition.

After your surgery, you may be a little thirsty or may possibly feel a little sick. You may be sore where you had the surgery. Tell the nurses or doctor if you feel these symptoms. They will do everything they can to make you feel more comfortable.

Arrival to the Orthopaedic Unit

Meet the team

When you arrive on the Orthopaedic Unit you will be greeted by our staff. A nurse and a nursing assistant will care for you. They are well trained to care for patients who have had orthopaedic procedures. The unit's physical therapist will also come in to discuss your plan for rehabilitation and to start your therapy soon after your arrival.

Nursing care

Your nurses will be monitoring your vital signs (blood pressure, breathing, temperature and heart rate), as well as your circulation to your leg. They will report to your doctor any findings that are abnormal. Our nurses, secretaries and nursing assistants work 12-hour shifts from 7 o'clock to 7 o'clock. At the beginning of the shift, the nurses will do a complete assessment of your whole body, looking for anything that would delay your progress. They also will be watching the amount of drainage from your surgical wound and dressing. The first dressing change will be done by your doctor the second day after surgery, unless a sterile dressing is placed that will remain until your office visit.

IV catheter

You will receive intravenous (IV) fluids going through a pump and into your veins. This is needed to keep fluids and electrolytes in balance and provide a way to administer antibiotics and medications for pain, if needed. Let your nurse know if your IV swells or has redness or if you notice any leaking from the IV site. From time to time the IV pump will alarm. Please notify your nurses so they can take care of it.

Eating and drinking

You will start eating a regular meal as soon as you are able to tolerate taking liquids. We will show you how to order food from our kitchen.

Some patients may experience nausea for a while after surgery. This usually fades after a period of time. There is medicine that helps alleviate those symptoms. Please let your nurse know if you are feeling nauseated.

Communication with staff

Good communication between patients and caregivers is important. Erasable whiteboards are in each room for conveying information. Here we will discuss your goals for the day and talk about your recovery, your therapy and your discharge planning. The nurse will discuss your pain management and when your next dose of medication is due. Your nurse and the staff will discuss your whiteboards with you throughout your hospital stay.

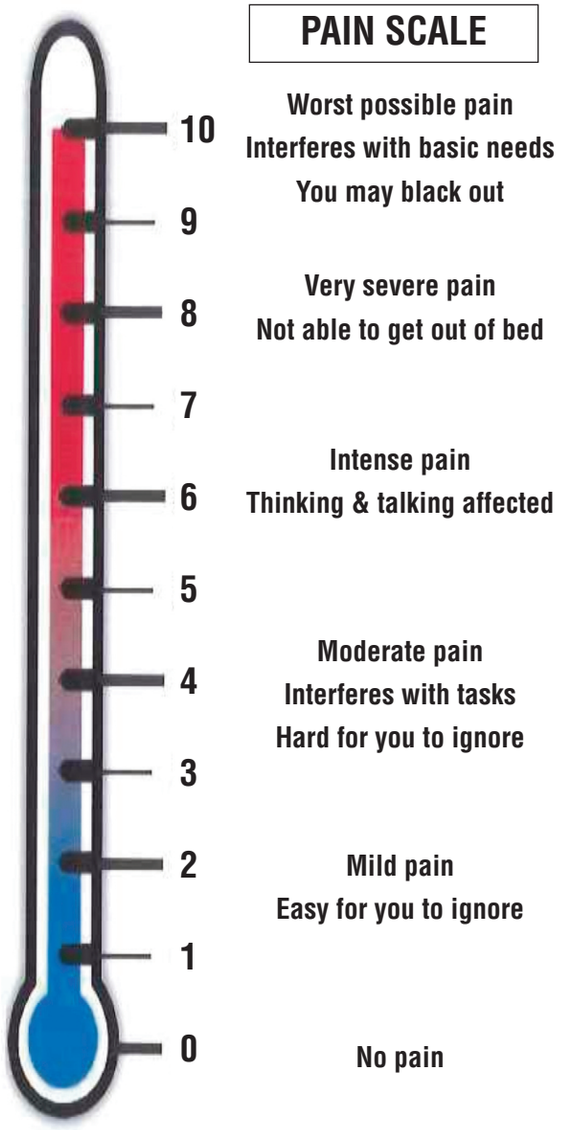
You also can use a call button to communicate your needs. The hospital staff at the nurses' station will answer your call as quickly as possible. They will also follow up with a call to make sure we have addressed your needs. If you have questions, you may have your nurse write them down on the whiteboard, and of course, you may also write questions in this book.

Please refer to Appendix 3 – "Dear Doctor notes"

Pain Management

Your nurse and others caring for you will use a pain scoring tool to assess your pain level every four hours or more frequently, as needed.

Although it is normal to experience pain after your surgery, we want to take care of your pain as best as possible. Your nurse will use the tool (pictured) to measure your pain and attempt to make you comfortable.



If you are in pain, let us know and we will help you feel better.

Here are ways you can help relieve your pain.

- Don't try to tough it out. Let your nurse know you have pain.
- Understand that oral medication takes about 30 minutes to work, so don't wait for your pain to rise to the upper level of the pain tool before saying something to your nurse.
- Even if you have a low amount of pain, remember you will tolerate your therapy sessions better if you are properly medicated.
- Remember to call for help when walking and getting out of bed. While on medication you have an increased risk of falling. We recognize that prior to surgery you might not have needed assistance, but now you must take precautions to be safe. Please call for help.
- When you have pain between the times your oral pain medications are given, your nurse may be able to give you something through your IV. The IV method will start to work more quickly.

It is normal to have some knee swelling after surgery. Ice may be applied to your knee for comfort, to help reduce this swelling and to decrease your pain.

Your nurse, doctor and pharmacist will work together for the best pain control plan.

Preventive measures – Keeping you healthy

Prevention of falls

After surgery, your risk of falling is high. The surgery itself increases your risk of falling, but so does the fact that you are in a different environment with tubes and lines attached to you. You will be taking a blood-thinning medication and pain medications, which also put you at higher risk. We do not want you to trip and fall. Please use your call light to request help to get out of bed at all times during your hospital stay. We use the phrase **"Call, don't fall!"**

Prevention of blood clots

Surgery increases the risk of developing a blood clot or a thrombus. We use several techniques to prevent you from developing a blood clot. While you are recovering from your surgery, compression stockings and "sequential devices" are used. Sequential devices squeeze the leg to facilitate blood flow and to prevent blood clots from forming. The sequential devices are to be kept on at all times unless you are walking. You also will be taught some exercises that will help prevent blood clotting. You will be started on a medicine to keep your blood thin and prevent blood clots. This medicine is usually given as

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a tablet, and periodic blood tests will be needed to verify the proper levels. The expected treatment course is two to four weeks. You will be monitored for correct blood count.

Bowel elimination

As a side effect of the pain medication and decreased activity, you may have constipation. We will encourage you to drink plenty of liquids, give you stool softeners, and teach you about foods that have higher fiber to ease bowel elimination with less strain. If constipation continues to be a problem, there are other remedies to help, and we will discuss these options with you.

Respiratory illness

To make sure you do not develop any respiratory illnesses while you are hospitalized, you will be asked to use a breathing device called "an incentive spirometer" that helps you breathe deeply. Use this often. Our staff will show you how to use it.

Skin breakdown

After surgery, your skin is at risk for breaking down from not moving enough. Our nurses will check for any type of skin issues frequently during your hospital stay. To prevent your skin from breaking down, it is important for you to turn every two hours or so while in bed. Your nurse will help you turn. Please ask for help.

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REHABILITATION AND RECOVERY

During your hospital stay, you will receive physical therapy and occupational therapy as prescribed by your doctor. Physical therapy (PT) is primarily concerned with mobility – walking, leg exercises, range of motion (ROM) and transfer training. Occupational therapy (OT) primarily works with activities of daily living (ADL), training to use adaptive devices that assist in ADL, and bathroom transfer training. Generally, your hospital rehabilitation will last two to three days and will take place in the acute Orthopaedic Unit.

Rehabilitation therapies are an essential part of your recovery process and will begin after surgery. It is important to move a joint as soon as possible so the joint does not become stiff.

A stiff joint puts abnormal stresses on the components inside and decreases the healing and results. Exercise helps to improve circulation, regain ROM, increase strength, build up endurance and promote safety. You will need special assistive walking aids (e.g., crutches, walker) to ensure safety as you progress with your rehabilitation. Your therapist will teach you about the appropriate exercise and precautions. You may experience discomfort during exercise and walking, but you should take pain medicine ordered by the doctor, as needed.

Types of equipment

You will need an assistive device (walker, cane or crutches). The Case Management Department will make sure that the proper equipment is ordered for your use at home. If you have access to any of the equipment (through friends or relatives), discuss this with your discharge coordinator and have family members bring it for evaluation before your discharge.

Home physical therapy/ occupational therapy

Your physician and therapist may decide that you need home physical or occupational therapy. The discharge coordinator can make arrangements for a physical or occupational therapist to visit your home as ordered by your physician until you are more independent in your activities. For those patients who are more able, your physician may recommend a course of outpatient physical therapy. Your discharge coordinator will make these arrangements.

Exercises

Knee exercises

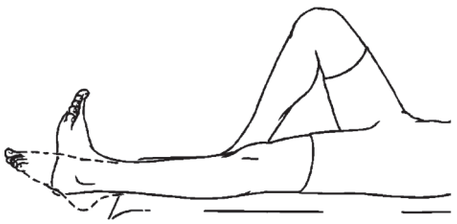
Gentle exercises help to promote blood flow and maintain current muscle tone. **Practice the following exercises before your surgery to give yourself the advantage of the strongest leg muscles possible, and resume them after surgery.**

Do these exercises for 10 repetitions, three times daily, except for the knee extension stretch, which is to be done two times daily.

Remember to breathe while doing the exercises.

All the exercises can be done while in bed except for the last four exercises, which are to be done standing. **After surgery, wait for your therapist to instruct you when you should resume these standing exercises.**

Ankle pumps



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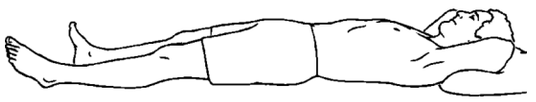
This is a simple exercise in which you pump your ankles up slowly and down slowly.

Repeat 10 times, three times daily

Quad and gluteal sets



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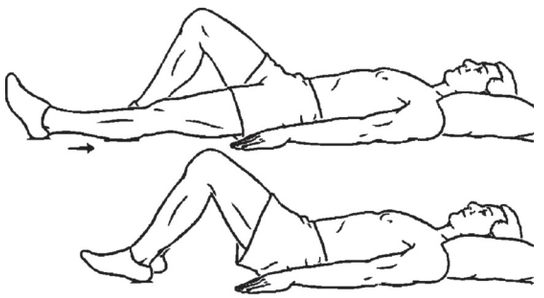
These muscles give your knee stability and keep your knees from buckling while you are walking. This exercise is done by tightening your thigh until the back of the knee is flat on the bed, while squeezing your buttock at the same time. Hold this straight leg position for five seconds.

Repeat 10 times, three times daily.

Heel slide



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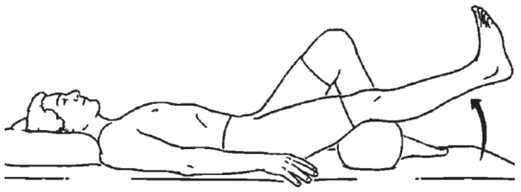
This exercise will help your knee motion and strength while alleviating a lot of the tightness you may experience. Slide the heel of your involved leg up toward your buttock as far as possible. Slowly lower it back down to the extended position.

Repeat 10 times, three times daily.

Short arc quads



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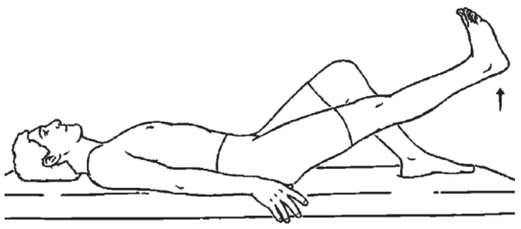
This exercise strengthens the quadriceps muscle of your front thigh. Place a big towel or bolster under the knee of your involved leg, then keep your knee on the bolster while raising your foot up toward the ceiling until your involved leg is completely straight. Slowly return your foot back down to the starting position.

Repeat 10 times, three times daily.

Straight leg raise



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First tighten your thigh muscle. Lift your leg toward the ceiling until your foot is only approximately 6-8 inches off the bed surface. Then slowly lower it to the starting position and relax all muscles before continuing. Bending the opposite knee helps reduce back strain.

Repeat 10 times, three times daily.

Knee extension stretch



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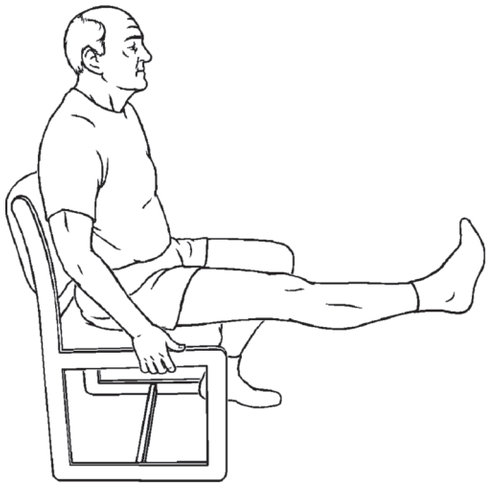
While lying in bed, place a towel roll or pillow under the ankle of your involved side. Allow your leg to straighten as much as possible. Lay in this position for 20 minutes or up to one hour, twice a day. You will feel pulling behind the knee.

Sitting knee extensions



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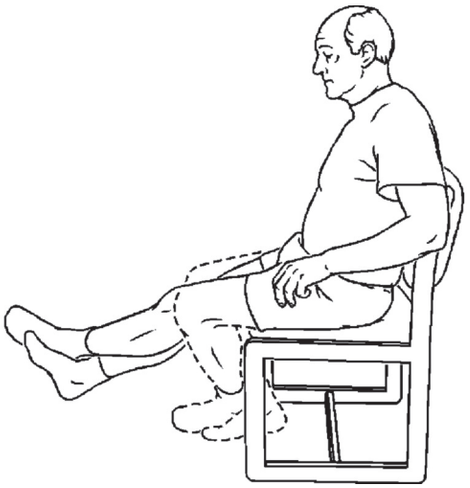
Sit on a firm chair with both feet flat on the floor. Lift your foot slowly until your leg is completely straight. Slowly return your foot back down to the starting position.

Repeat 10 times, three times daily.

Sitting knee flexion stretch

(with other leg assist)



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Sit in chair. Cross uninvolved leg in front of involved leg at ankles. Bend involved knee by pushing back with uninvolved leg. To stretch further, slide your bottom forward in the chair while keeping your foot planted on the floor. Feel the stretch in front of your knee. Hold the stretch for five seconds.

Repeat 10 times, three times daily.

Standing heel raises



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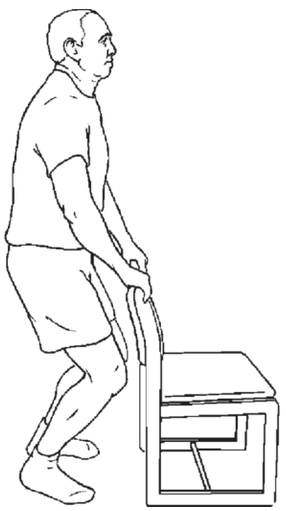
While standing and holding onto a chair or your walker for support, rise up on the balls of your feet.

Repeat 10 times, three times daily.

Standing squats



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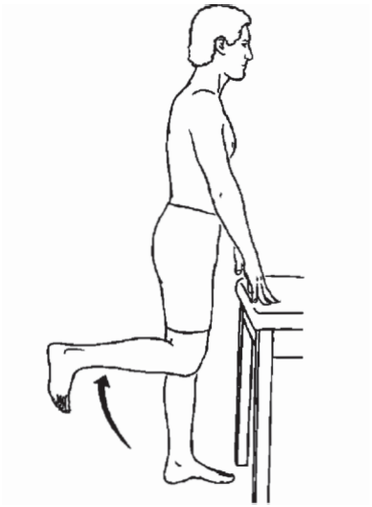
Holding onto a chair or a countertop for support, squat down while bending your knees less than 90 degrees.

Repeat 10 times, three times daily.

Standing knee flexion



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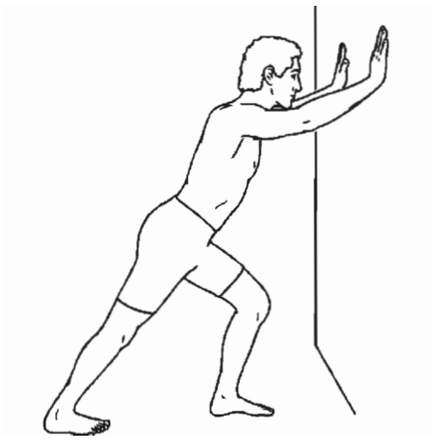
Holding onto your walker or a countertop for support, bend your operated knee as far as possible.

Repeat 10 times, three times daily.

Calf/back of the knee stretch



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Stand with the foot of your operated leg positioned back behind you, planted on the floor. Press your heel to the floor and straighten your leg at the same time. Feel the stretch in the back of your leg behind the knee. Repeat 10 times, three times daily.

Rehabilitation tips

- **Daily exercises should be done for at least three months.** If any exercise causes lasting pain or if swelling is still present the next morning, contact your therapist or surgeon.
- Walk as much as you can tolerate, but let pain in the knee be your guide as to how long to walk. Don't overdo it.
- Walking aids should be used to help you walk upright without a limp until your leg muscles get stronger and you can walk without a device.
- **Use a large ice bag after exercises and during evening hours as much as possible for six weeks after surgery.** You will feel more comfortable and exercising will be easier. You can use large bags of frozen peas or corn. These can be re-frozen and used for approximately two weeks. Remember, ice will reduce swelling, numb nerves and make exercise easier.
- It is important to obtain a full range of motion as soon as possible after the surgery so that the joint will not stiffen up.
- **Remember to breathe when doing each exercise.**

Bed mobility

Turning/positioning

Turning and repositioning are important to prevent any potential skin complications.

You may sleep on your back or turn to your good (non-operated) side at night. The staff will be able to assist you and will use pillows to help support your body as needed.

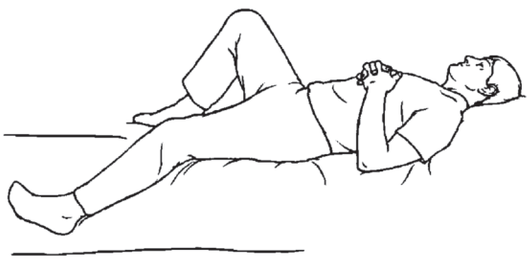
Using a trapeze



A trapeze is a triangular device attached to your bed that you hold to help you move in bed or reposition yourself. Your nurse will show you how to use it. Your therapist will show you how to move without relying on the trapeze.

Getting out of bed – by way of pivoting

1. Move "good" leg to edge of bed. Then move operated leg forward to edge of bed



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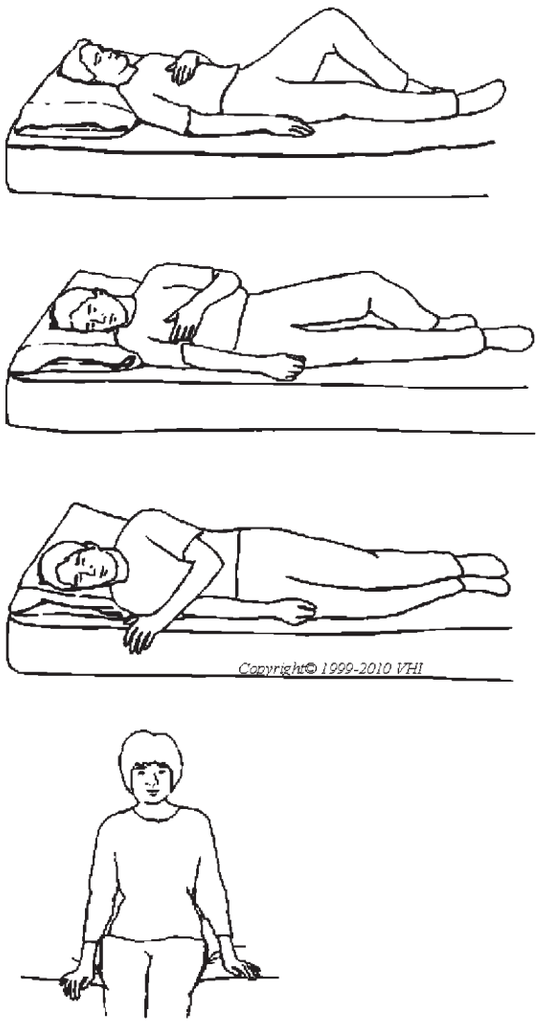
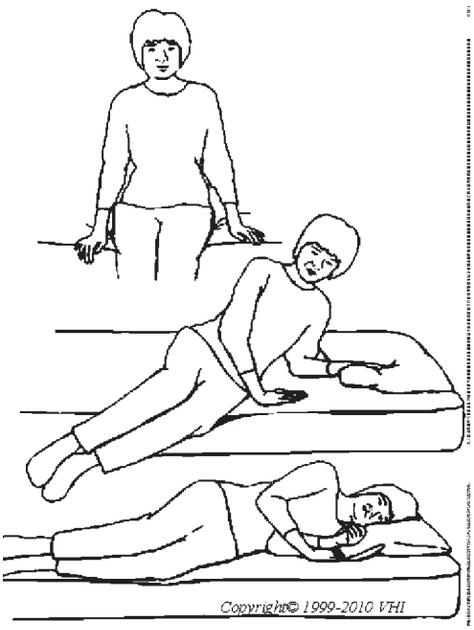
2. Pivot on your buttocks and bring your legs off the edge of the bed. Use your elbows to help push yourself to a sitting position.

Getting out of and into bed – by way of rolling

- Bend your knees as tolerated and roll onto your side. Reach over with one arm for either the bed rail or the side of the bed. Bring your feet off the side of the bed and as your legs go down, push up with your elbow and hand into a seated position.
- To return to the lying position, reverse the steps. Make sure that you start to sit down only when you feel the bed behind you on the back of your legs.



Rolling and coming to a sitting position.



Sitting and coming to a lying position.

Transfer training

Getting out of a chair, wheelchair or commode

1. When attempting to stand from a sitting position, scoot your hips forward to the edge of the bed or chair.
2. Keep one or both hands back on the arm rest (stable surface) while initiating standing.



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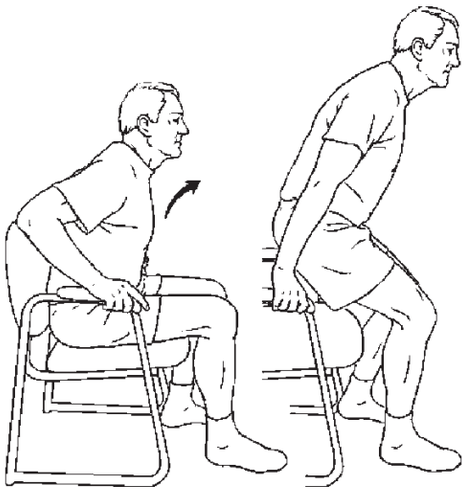

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3. As you stand, shift your weight onto your "good" leg and grasp the hand grips of the walker. It is acceptable to not have your involved knee bent as much as in the picture above.
4. Do not pull yourself up with the walker; this may cause you to fall backwards.
5. Once you are standing, take a few moments to get your balance before taking a step.

Getting into a chair, wheelchair or commode

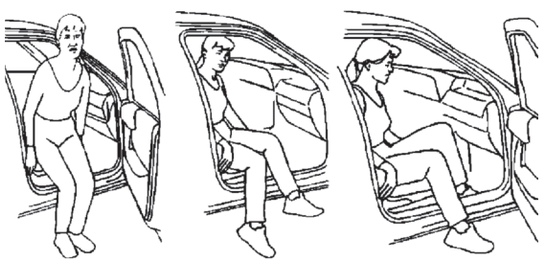
1. When sitting down, slowly walk back toward the chair or wheelchair until you feel the back of your legs against it.
2. Move your involved leg slightly forward.
3. Reach back with one arm and grasp chair handle.
4. Slowly lower yourself into the chair. Do not hold onto the walker while lowering yourself. Lower yourself slowly so that you do not "plop" into the chair.

Car transfers

Please follow these instructions closely for six to eight weeks after surgery. You will want to make sure that any vehicle in which you will be riding is not too low or high and has enough room to allow you to get in safely.

Getting into the front passenger seat

1. Make sure the seat is moved as far back as possible and slightly reclined. If it is too low or has bucket seats, place a firm pillow in the seat to make it higher and/or to make the seat level.
2. Back up to the car with your walker until you feel the car behind your legs.
3. Sit down on the side of the seat as you would on any chair.
4. Lean back onto the seat in semi-reclined position with your hands behind you for support. Scoot yourself backward onto the seat until your legs will clear the front opening. Fasten your seat belt.
5. Reverse the process to get out. Begin by scooting toward the center of the car before you begin to turn, in order to clear your legs.



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Getting into the back seat

Follow the same procedure to back up to the car and sit down. Enter the side of the car that allows your operative leg to be toward the rear of the car. You may scoot across the seat and remain seated with your leg up if you can semi-recline against the opposite door and be seat belted for safety.

Gait training

Walking sequence with a walker

1. Move assistive device first.
2. Move weak (operated) leg second.
3. Move good (non-operated) leg third.

Using a walker

1. Move the walker first and place it in comfortable distance in front of you with all four of its legs on the floor.
2. Move the weak (operated) leg, then the good (non-operated) leg.
3. Try to step past the other foot, but not past the walker.
4. Do not take such big steps that you are too close to the walker.
5. Use your hands on the walker to support some of your weight as needed.
6. There should be space between you and the walker at all times. If you are too close to the walker, it may cause you to tip or fall backwards.
7. Hold your head up and look straight ahead. It is tempting to watch your feet, but this is more tiring and you may run into something.

Using crutches

- Crutches must be adjusted correctly according to your height. There should be a two-finger-wide clearance between the arm pads of the crutches and your armpit when you stand tall.
- The weight of your body should be supported evenly through both of your hands on the crutch handles, not through your armpits. The pads under your armpits should press against the sides of your body for stability.

Sit to stand with crutches

1. Place one hand on both crutches.
2. Put the other hand on the bed/chair.
3. Push up to standing.
4. Once balance is attained, transfer one crutch to underarm of other side.
5. Put remaining crutch under first arm.

Walking with crutches

1. Move crutches first. Both crutches are placed ahead of you.
2. Place the foot of your weak (operated) leg between the crutches, on the imaginary line that connects the crutches.
3. Keep that foot on the line while your other footsteps over (or up to) the imaginary line on the floor in front of you.

Your therapist will review the best gait pattern for you.

Stairs with crutches

1. Step up with good (non-operated) leg first.
2. Then bring the crutches and the weak (operated) leg up together and repeat.
3. Going down, put crutches on the next step.
4. Step down with the weak (operated) leg.
5. Then bring good (non-operated) leg down last.

Using a cane

- A cane must be adjusted correctly according to your height.
- There should be a slight bend in your elbow as you stand tall with the cane six inches from your side.
- **The cane should always be used in the hand opposite the weak (operated) joint.** For example, if you have had right knee replacement, the cane should be used with the left hand. This may take some getting used to (especially if you are right-handed) but it is important so that you will progress to a normal walking pattern.

Walking sequence with a cane

Generally, the sequence for walking with a cane is as follows:

1. Place the cane ahead of you about six to eight inches.
2. Place the foot of the weak (operated) leg ahead of you in line with the cane.

3. Keep that foot on the floor while your other foot from the good (non-operated) side steps between the cane and your weak (operated) leg to the floor in front of you.

Stair climbing with a cane

To walk up and down stairs with a cane, use a railing with your free hand whenever possible.

Going up stairs:

1. Go up with your good (non-operated) leg first
2. Then move the cane up
3. Move your weak (operated) leg.

Going down stairs:

1. Go down with the cane first
2. Followed by your weak (operated) leg
3. Then the good (non-operated) leg.

Activities of daily living / occupational therapy

Using a commode

Over-the-toilet commode chairs with arm rests or raised toilet seats are used in the hospital and at home to raise the height of the toilet so you do not sit on a low surface. The following are directions for adjustment and use of commodes.

- Have someone assist you to adjust the notches on the legs so that the seat height is comfortable for the amount you are able to flex your knee.
- Use your walker or crutches to get onto the commode/toilet if needed.
- Turn around carefully, picking up your feet as you turn. Back into the commode until you feel it with your legs.
- Slide the operated leg out in front of you and reach back with one hand, easing yourself onto the commode.
- Remember to take your time.

Tub transfers

- **Do not sit on bottom of the tub.**
- To enter the tub, stand next to the tub facing faucet and sideways to the tub.
- Use the wall for balance and step in sideway with one leg, bending the knees backward, not the hip backward.
- Use a tub transfer bench if you have difficulty with balance or standing or if you are on weight-bearing precautions.

Shower stall transfers

1. To enter the shower, move the walker first
2. Then move the weak (operated) leg
3. Move the good (non-operated) leg
4. To exit the shower, make sure the floor is dry before standing.
5. Use grab bars or raised commode if you have difficulty with balance, standing or are on weight-bearing precaution.

Bathing

- **Before bathing, get clearance from your doctor.** (You may need to cover the incision site.)

- **Use commode chair or sturdy waterproof chair in shower.**
- Grab bars allow for added stability and safety.
- Hand-held showers are very convenient.

Lower extremity dressing

Putting on your shoes, socks and pants can be difficult. The occupational therapist will teach you how to properly dress yourself using adaptive equipment as needed.

1. You should dress the weak (operated) leg first when in a seated position
2. Then proceed to stand using an assistance device such as a walker or crutches

Shoelaces

- Regular shoelaces can be replaced with elastic laces or with ¼-inch elastic.
- Lace shoes, then tie ends of elastic into knot. This method cannot be used with high-top athletic shoes.

Homemaking

- **Heavy housework, such as vacuuming, lifting and bed-making should be avoided.** Keep commonly used items in the kitchen or bathroom at counter top level. If you use a walker, you can attach a basket or apron with large pockets to the front of the walker to help carry objects.

Safety suggestions

The following suggestions may help you at home or work for ease and safety.

- Minimize carrying objects which compromise the grip on your walker on crutches.
- Use big pockets. Slide objects along counters (especially pots and pans). Store objects where you will use them.
- Remove throw rugs to prevent tripping or slipping on them.
- Have someone assist you to make clear open paths wherever you need to go.
- Rearranging furniture or temporarily storing unneeded items may make getting around much easier and safer.

Please refer to Appendix 5 – "Home Safety Checklist"

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PLANNING FOR DISCHARGE

It is important for you to be prepared for going home. We believe a good plan for this starts from the very beginning of your presurgical visits and continues through your hospital stay. Your therapists and doctors will recommend appropriate equipment (e.g., walkers, canes, commodes) and the course of follow-up therapy. Your case manager will coordinate delivery of your equipment and assist in other discharge issues as needed. Your nurse will provide you with written discharge instructions and information regarding your next doctor's appointment, medication and incision care. The nurse also will go over your personal recovery plan.

Final discharge instructions from your nurse will include:

- Prescriptions for discharge medications
- Availability of your equipment
- Reasons to contact your physician
- Follow-up appointment with your physician
- Follow up appointment with the lab for close monitoring of your blood

Family members will be encouraged to ask questions.

The hospital transport team will assist you to your car via a wheelchair.

Final discharge instructions from your physical therapist will include:

- Review of transfer techniques and gait with use of walker or cane
- Review of your home exercises

When to call your doctor

Call your doctor if you experience any of the following:

- Chest pain and/or shortness of breath. Call 9-1-1 or go to the hospital emergency room
- Increased knee pain, pain in leg or calf tenderness, or swelling of the leg
- Drainage from your incision
- Redness, swelling or warmth around your incision
- Fever of 101° Fahrenheit or any unusual symptoms that you don't understand
- Wound opening

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APPENDIX 1 – FACTS ABOUT BLOOD TRANSFUSIONS

- For total joint replacement, your doctor may request that you donate your own blood before surgery. The number of units of blood needed varies. Your doctor may also prescribe iron pills.
- Please call the UC Irvine Blood Donor Center at 714.456.5733 promptly to schedule your blood donation. Blood is drawn by appointment only. Unless otherwise specified by your doctor, your blood donation will be scheduled once per week (one unit per week) up to one week before surgery. The donated blood is good for six weeks. If surgery is postponed, arrangements can be made to donate your blood.
- Some patients may not be able to donate their own blood. Common reasons for not donating your own blood are anemia, heart conditions, or an active infection.
- If you are unable to give your own blood, you may request a doctor order for the designated donor program. (Donors are selected by the patient.) Donors should call the Blood Donor Center for an appointment. Selected donors must meet all screening criteria for volunteer donors, and their blood will be fully tested. Only selected donors whose blood correctly matches yours will be accepted. Charges associated with the designated donor program may or may not be covered by your insurance. Please verify your insurance coverage.
- Blood donated by volunteers is also available to meet the needs of patients having surgery at UC Irvine Medical Center.
- While preparing for blood donations or for surgery in general, it is good to build up your bone marrow with iron. Taking an iron supplement is helpful.

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APPENDIX 2 – NUTRITION INFORMATION

The following guidelines will help you to improve your nutrition before and after your surgery.

What nutrition plan should I follow?

A well-balanced nutrition plan is strongly recommended. Your body requires nutrients from all five major food groups: grains, vegetables, fruits, dairy and protein. If you are on a regular diet, we suggest you follow the MyPlate guidelines (www.choosemyplate.gov/dietary-guidelines.html) when planning your meals.

Increase protein intake – what are the protein-rich foods?

Protein is important in the maintenance and repair of body tissue, especially wound healing. You get adequate protein by consuming milk and milk products, meat, poultry, fish and eggs. Good vegetable protein sources include beans, legumes, soybeans, lentils, nuts, seeds and peanut butter.

What if I am on a special diet?

If you are on a special diet, such as diabetic, renal, cardiac or texture-modified diet, consult your health professionals regarding your nutrition plan. You may also ask your doctor to refer you for a nutrition consultation. UC Irvine Medical Center offers outpatient nutrition counseling with a registered dietitian who can provide individualized nutrition counseling and a meal plan tailored to your needs.

What if I have a poor appetite and am not eating well?

Eat small, frequent meals and snacks to ensure adequate nutrition. Make sure the meals are rich in protein and calories. You may also want to try over-the-counter oral supplements for additional nutrition.

Do I need vitamin supplements?

If you are eating a balanced diet and eating enough, most likely you are getting adequate nutrition from your diet. However, if you are not eating well, you may want to consider taking a multivitamin supplement. Please consult your doctor or dietitian.

Should I keep trying to lose weight before my surgery?

Unless recommended by your doctor, you should not go on a weight-loss diet before your surgery. Restricting calories will result in decreased nutrient intake for your body, which may reduce your strength and immunity.

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Bringing Food from Home



We realize that food from home can help you to heal while you are in the hospital. Food from home gives you comfort and offers flavors you like.

Please have your family and support person bring only the amount of food that you can eat at one meal. We have limited capacity to store foods, so you may have your support person take the leftovers home.

Food Safety

Always prepare food on a clean surface, with clean hands and utensils. Be sure food is well cooked.

For your safety, raw or undercooked unpasteurized eggs (such as homemade eggnog or poached eggs) may not be served to ANY patient at any time.

It is best to bring all perishable foods in a cold state by using a cooler and an ice pack. This will help keep the food safe, protecting the patient from food-borne illness. Bring foods in microwavable containers so patient care staff can easily reheat those items that need to be served hot.

Your foods may be reheated. Please ask us to help you with this.

Please do not share foods from home with other patients. If you or your family have questions, please have your nurse contact the registered dietitian.

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APPENDIX 3 – DEAR DOCTOR NOTES

Questions for my doctor, nurse, therapists and others

Question:_____

Answer: _____

_____

Question:_____

Answer: _____

_____

Question:_____

Answer: _____

_____

Question:_____

Answer: _____

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Question:_____

Answer: _____

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Question:_____

Answer: _____

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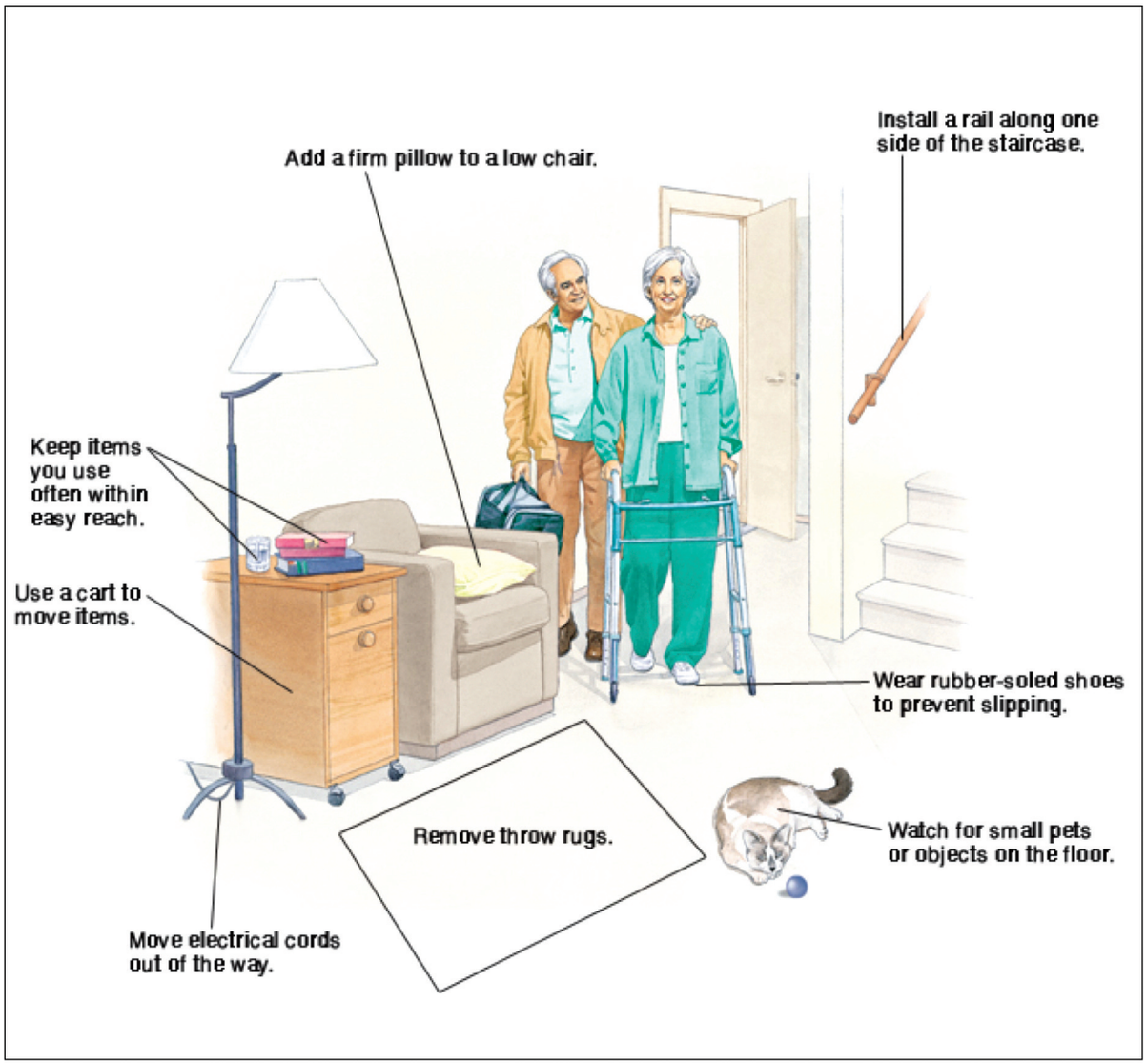
APPENDIX 4 – HOME SAFETY CHECKLIST

- ❑ Be aware of uneven surfaces both inside and outside your home.
- ❑ Remove throw rugs and secure extension cords out of all walkways.
- ❑ To avoid rushing to answer your telephone, use a portable phone.
- ❑ Provide a place for your pets to be kept while you are walking around the house.
- ❑ Maintain adequate lighting in all areas. Use night lights.
- ❑ Install safety rails in the tub/shower and wherever you may need extra support.
- ❑ If you have handrails, be sure they are securely fastened.
- ❑ Use a raised toilet seat or commode frame.
- ❑ Make sure you have non-skid surfaces or safety mats inside and outside your tubs and showers. Be cautious with wet floors.
- ❑ Select footwear that stays securely on your feet with non-skid soles.
- ❑ Use chairs with arm rests or place a firm cushion or pillow on seat of chairs.
- ❑ Move frequently used items to shelves and counters that are easy to reach. This reduces unnecessary and unsafe reaching .
- ❑ Prepare simple meals using stovetop or counter-level appliances to avoid bending. Make food ahead of time and store in small containers for heating later.
- ❑ Check your bed/mattress height. It may be necessary to raise the height of the bed so that the top of the mattress will be at or above your knee level.

The picture below shows how you can improve home safety.



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We would like to acknowledge Brigham and Women's Hospital for its generosity in allowing us to use some of its resources in our rehabilitation section of this booklet.

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APPENDIX 5 – COMMONLY ASKED QUESTIONS

When can I take a bath/shower?

You can usually begin to shower 10 days after your operation, if no drainage is present. Then you may pat dry the incision area.

When can I drive?

Driving is allowed once you are comfortable getting in and out of the car and you have regained your muscle strength and reflexes. You will need to discuss timing with your surgeon but driving is not recommended before six weeks. When driving for the first time make sure to conduct a trial run in a safe environment while accompanied by a second driver.

How much exercise should I do and how can I tell if I have done too much?

Mild or moderate exercise is beneficial, and over-exercise is painful and possibly harmful. The physical therapist will supply a list of exercises in the hospital. In many cases it is advisable for a therapist to continue with a supervised exercise program after you are discharged from the hospital. Stretching exercises to improve knee range of motion are necessary for everyone. Thirty minutes, three times daily should be devoted to straightening and bending the knee. If exercises are not followed, the knee may become stiff, which may be harmful and reduce your ability to move.

What kind of shoes should I wear?

Shoes should be comfortable, easy to put on and remove, and provide a safe non-skid surface. High heels should be avoided for the first three months.

How long is my recovery time?

Everyone heals from surgery at a different pace. In most cases, you will be restricted to using a walker or crutch for about four to six weeks. As time goes on, you will move toward normal function. You will need to have some patience since you will continue to use some form of assistive device for about three months; for some people it may take a bit longer.

Can I use weights to strengthen my leg?

Not for the first two months. As your recovery progresses your doctor will give you information about when you will be able to use weights.

Will I go to a rehabilitation center or to my own home?

That depends. Many people are able to go home after their operation. However, the main factor in the decision is your support structure from your family, friends and coach, as well as your living situation and environment. The physical therapist will also perform a

safety evaluation. Then we will discuss this with you in detail. Decisions are made on a case-by-case basis.

Will I need more physical therapy?

Yes, you will need to continue building and strengthening your affected leg. Your therapist will teach you exercises to practice to help you in your recovery.

When can I go back to work?

Everyone heals from surgery at a different pace, and each job differs in its physical demands (sedentary versus active job). Discuss this with your surgeon at your follow-up appointment and at physical therapy appointments. In general, most people take six to 12 weeks to recover and return to work.

How long will I take pain medications?

Everyone heals from joint replacement surgery at a different pace. You will most likely need pain medicine for a few weeks after your surgery. Most people are able to wean off of the narcotic drugs in a reasonable amount of time, one to two weeks, and switch to over-the-counter medicines such as acetaminophen or ibuprofen.

When can I travel?

You may travel when you feel comfortable. It is a good idea to walk and stretch in between sitting positions to prevent blood clots.

Will I set off the alarm device for metal detection at the airport?

This might happen. A letter from us to give to the security personnel about your metal implant does not help. Unfortunately you might undergo a "pat down" during security checks.

Should I use ice or heat for swelling?

You should use ice for several days after your surgery. If swelling continues to be an issue, please call the doctor's office or seek medical advice for these concerns.

When can I expect to have a normal range of motion?

Everyone heals from surgery at a different pace. You will be taught different exercises at the Joint Replacement class that you can practice while in the hospital after your surgery. A physical therapist and the nursing staff will help you practice your exercises, which will allow you to recover better and faster.

Is this feeling of depression normal?

It is not uncommon to have feelings of depression after joint replacement surgery due to a number of reasons, such as limited mobility, discomfort, increased dependency on other people and/or medication side effects. Typically, these feelings will fade as you return to your normal routine and activities. Seek professional advice or talk with your doctor if this concerns you.

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I can't get to sleep. Is this normal?

This is a very common complaint following joint replacement surgery. Non-prescription remedies, such as Benadryl or melatonin, may be helpful. If you continue to have sleepless nights, please call your doctor for a prescription sleep aid.

May I bring a friend or family member with me to the classes?

Yes, of course. We encourage you to bring your support people to class. We believe there is strength in numbers and this is especially true if they will be the ones to help you through this process.

How long will my knee continue to hurt and swell?

The pain after total knee replacement usually decreases during the first month. Then it may come and go for several months. The swelling usually increases during the first few days home from the hospital. This is improved by spending two hours in bed each day with the feet elevated above the heart. Swelling is generally worse in the evenings and is increased by exercise.

Should I walk with a cane or crutches when the knee doesn't hurt?

The knee should be protected for two months after surgery regardless of how good it feels. Short walks inside the house without cane or walker will not harm the knee, but excessive pressure too early can delay healing and cause pain.

Should I use my elastic stockings?

If your leg swells, use elastic stockings until swelling subsides.