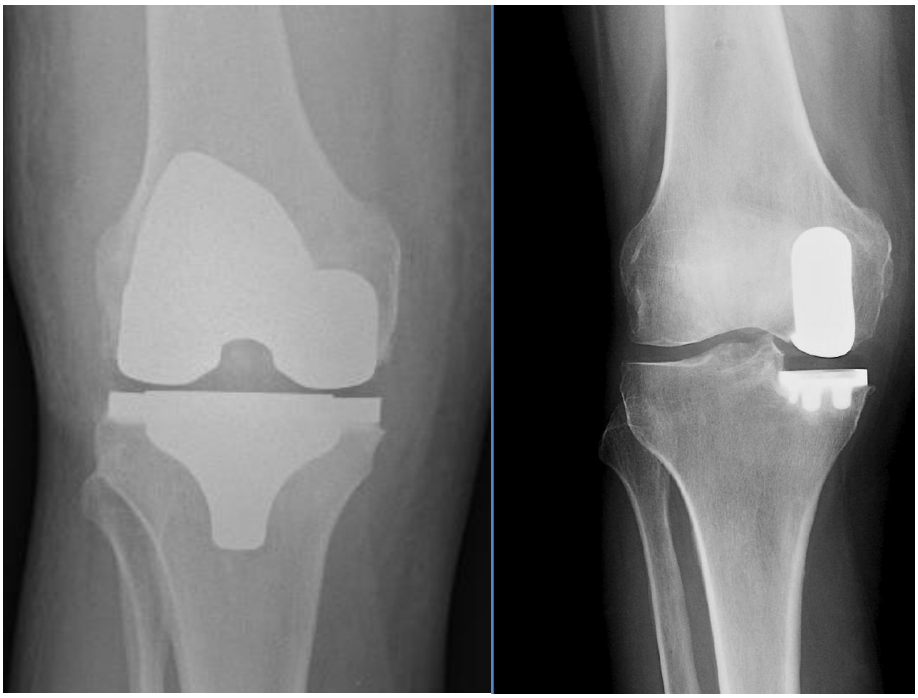
Oklahoma Sports and Orthopedics Institute

Dr. Jacob A. Haynes

Knee Replacement Packet



About Dr. Haynes

Dr. Haynes is a fellowship-trained adult hip and knee reconstruction surgeon who specializes in joint replacement and has extensive surgical expertise in hip and knee replacements, including anterior hip replacement, partial and total knee replacement, and outpatient joint replacement surgery as well as complex and revision hip and knee surgery. He also offers nonoperative treatments for a variety of orthopedic conditions.

Dr. Haynes was born in Minneapolis and raised in Ames, Iowa. He came to the University of Oklahoma as a National Merit Scholar and graduated in with his bachelor of science degree in microbiology and a minor in history. Dr. Haynes earned his doctor of medicine degree from the University of Oklahoma College of Medicine, where he graduated at the top of his class. After completing his medical degree, he moved to St. Louis, Missouri to undergo an orthopedic surgery residency at Washington University. After finishing his residency training, Dr. Haynes went to Alexandria, Virginia, where he received advanced training in hip and knee replacement through an adult hip and knee reconstruction fellowship at the Anderson Orthopaedic Clinic.

During this time, he developed specific surgical interests, including direct anterior approach hip replacement, complex revision of failed knee and hip replacement, and partial and total knee replacement using navigation techniques. Because he pursued these interests, he is now one of the few doctors in the Oklahoma City Metro Area who can deliver the muscle-sparing direct anterior approach to total hip replacement. This exciting procedure offers the potential for shortened recovery times and reduced complications.

Allowing patients to resume a pain-free active lifestyle and return to the activities that they enjoy is Dr. Haynes's favorite aspect of his practice. Above all medical approaches, he makes it his priority to take a personal approach and take care of each patient to the best of his ability. He works hard to cultivate a strong patient-doctor relationship, so that patients may become motivated in their pursuit of a healthy body.

Knee Replacement

Knee Replacement

Knee replacement is one of the most successful surgeries in the world. More than 600,000 hip replacements are performed every year in the United States. There have been many advances in the materials and techniques of knee replacement that make it an even more successful and durable procedure. When conservative treatment options have failed and you continue to have significant knee pain and disability, knee replacement can be a good option to restore your function and reduce your pain.

Total knee replacement is a very successful operation. Patients who have arthritis that affects the whole knee are candidates for a total knee replacement, which replaces the whole knee. This allows the knee to move and function in a more pain free manner, and gets patients to return to the activities that they enjoy doing.

Partial Knee Replacement

Understanding Your Options

Some patients who have knee arthritis have disease in only a portion of their knee joint. The rest of the knee is oftentimes completely normal. Partial knee replacement involves replacing only the diseased part of the knee. This allows for the preservation of your normal cartilage and normal ligaments in the rest of your knee. By doing this, your knee is able to move more normally and feel more like your own knee. This surgery is easier to recover from than a full knee replacement and will provide just as much pain relief if done on the correct patient.

You Are Going to Replace Only Part of My Knee?

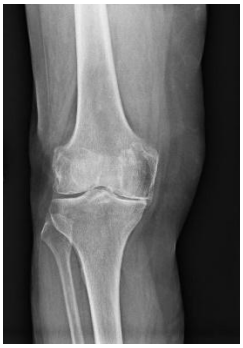
That’s right! By leaving the rest of your knee alone, we are able to preserve the natural ligaments and cartilage that allow your knee to move more normally. This allows for a quicker recovery and for you to be able to return to more advanced activities easily. Surgeons used to incorrectly consider the partial knee replacement as a stepping stone to a full knee replacement. What we have found is that the risk of needing additional surgery on a partial knee in a well-selected patient is not much different than for someone having a total knee replacement. If you are young and do have progression of your arthritis over decades of using your partial knee replacement, the conversion to a total knee replacement is an easier operation, and the hope is that we have given you many years of a highly functional partial knee replacement while you are young and active.

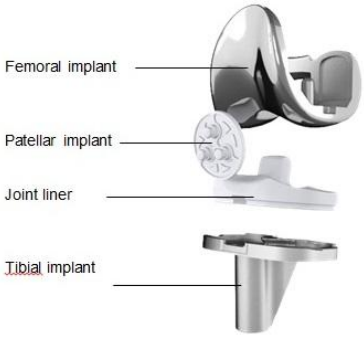
Non-Surgical Management

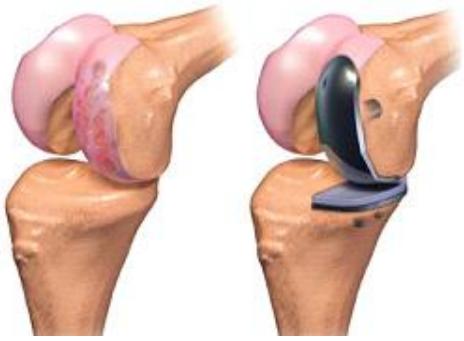
Before having surgery, most patients will try non-surgical measures. Anti-inflammatory medications like Aleve or ibuprofen can provide relief. There are also prescription anti-inflammatories that may be prescribed. Knee injections using a steroid, such as cortisone, are occasionally utilized to give focused pain relief. These injections may be less helpful in more severe arthritis. Lastly, physical therapy can be used to strengthen the muscles around the knee to offload the stress the hip is feeling. Weight loss, however, can be one of the most effective treatment options as this decreases stress on the knee joint, allows patients to be more active and minimizes the chances of complications if a patient chooses to proceed with hip replacement.

Surgery

The surgery itself takes less than an hour. The time spent in the operating room is close to two hours. Total knee replacement involves an incision on the front of the knee that is about four to six inches long. Partial knee replacement involves a smaller incision on the front of the knee that is about three to five inches long. The rest of your knee is checked at the time of surgery to ensure that there isn't any arthritis in other parts of your knee as well.







Implants

Implants that are used today are typically made of titanium coated in a shiny metal called cobalt chromium. The articulating surface of your knee is a highly durable plastic. The implant is well fixed to the bone so that it is strong enough to be able to walk on from the moment you leave the operating room. Patients often want to know how long their knee implants will last. Around 1999, we made a pretty significant change to the polyethylene used. Prior to that time, the implants were lasting between 15 – 20 years. Implants that have been in for almost 20 years now have shown very little wear at all. We can confidently say the implants will last 20 years. It is very likely that they will last 30 years or more, but we will closely watch the implants to track their durability over time.

Rapid Recovery Knee Replacement

Dr. Haynes and the Oklahoma Sports & Orthopedics Institute believe in a team concept which will speed recovery and the ability to return to work. This team approach includes patient education, presurgical planning, better anesthesia, less traumatic surgery, better pain control and faster return of function.

Specially designed instruments are used that allow patients to have the smallest incision possible. I make the incision long enough to do your surgery safely. Your weight plays a big part in how long your incision will be. Several different surgical approaches can be utilized. Most patients benefit from all of the minimally invasive advances and go home the day of surgery or after one to two nights in the hospital or surgery center. Partial knee replacement patients are typically able to go home the day of surgery. Most patients will be walking and/or moving their knee on the day of surgery.

Revision Knee Replacement

Although relatively rare, the most common reasons for revision surgery are wear, infection and fracture. For this reason, we ask our patients with well-functioning knee replacements to see us annually for 1-2 years then every 4-5 years after the initial postoperative period. This is necessary to monitor the long term function of the implant, as signs of wear can show up on x-rays.

Preparation for revision surgery is more complex than for an initial surgery. Revision patients who had their primary surgery at another institution can help us by obtaining detailed records, including the “implant sticker page”, of previous surgeries so that we know exactly what types of parts need to be replaced. When the procedure includes removing cement or repairing damaged bone, the operation takes longer, and a patient’s recovery time will likely be significantly longer than for a first-time knee replacement.

Scar tissue from previous surgery and bone from the failed knee replacement require special attention both during and after surgery. For example, bone graft may be used to rebuild areas where bone loss has occurred. Patients may also require a blood transfusion when revision surgery takes longer.

We customize the rehabilitation plan for each revision patient on the basis of the difficulty and the extent of surgery. Customized rehabilitation can be as simple as limited exercise or limited weight bearing, or as complex as using a brace for 6 to 12 weeks.

Complications

All surgeries have possible complications. These complications are rare, and we will do everything to help ensure they don’t happen to you. I hope that by making you aware of these potential problems, and by discussing them openly, you will have more

confidence in my expertise and ability to avoid complications. Below are some of the more significant complications that can occur.

- *Blood Clots*

  Major surgery on the lower extremity puts you at risk for blood clots. The risk of blood clots is higher in some patients, particularly those who have a clotting disorder or a history of blood clots in the past. We will put you on a blood thinner for a month after surgery. Based on your risk factors, it may be as little as just an aspirin twice per day or it may be something stronger. Being as mobile as you can after surgery will help reduce this risk.

- *Nerve or Vascular Injury*

  Any time you have surgery, the surgeon does everything possible to avoid damaging nerves and blood vessels that are near the surgical site. One small skin nerve that gives sensation to the outside part of your knee is often unavoidably stretched during surgery. Many patients after knee replacement will have a small area on the outside of their knee that is numb. Over the course of a year, that numb spot gets very small and is often not noticeable or bothersome, as it is not in a part of your body that is very sensitive.

- *Infection*

  Infections in joint replacements are significant problems. They often require additional surgeries and weeks of IV antibiotics to get rid of it. This is why it is very important to make sure that you are healthy before surgery and take good care of your incision after surgery. The overall risk of an infection is around 0.5%.

Risks from anesthesia also exist and vary for different patients and types of anesthesia. We encourage patients to discuss their options with the anesthesiologist on the day of surgery. We believe that well-informed patients approach the surgical procedure and postoperative experience with greater enthusiasm and less apprehension. By discussing your procedure, its risks and benefits, as well as our techniques, alternative treatments, and expected outcomes, we hope to reassure you that we are committed to your well being.

Preparing for a Knee Replacement

Your Joint Replacement Team

A team of professionals will help you through all phases of your surgery. This team includes Dr. Haynes, his medical assistant Christa Almon, and the rest of his clinical staff. Other important members of our Joint Replacement Team include physical therapists, case management, physician assistants, nursing and support personnel.

Scheduling Surgery

If you do not schedule surgery at the time of your office visit, our scheduling staff, who will help you select a surgery date, are available to answer any questions. To all adequate time for the necessary preparations, a surgery date is usually set weeks prior to the operation. You will initially get a date for surgery but the time of your surgery will not be determined until approximately the week before the surgery date.

Preoperative Planning

Once you have a surgery date, you will need to prepare for surgery. This includes preoperative interviews and tests, which will be done within thirty days of your scheduled surgery date. All patients should attend a Joints Class, typically scheduled the same day as your preoperative testing appointment, which educates the patient on the process of going through hip replacement surgery. We also encourage you to bring someone with you to help you get to your appointments and function as your “coach” and advocate throughout the joint replacement process.

Discharge Planning

Most patients recuperate much better at home with the help of family and friends; therefore our care map promotes discharge to your home. Your team will assist in identifying the kind of help you may need after discharge and advise you of care options. It is important that your discharge plan be worked out with the team before surgery.

Medical Clearance

All patients will be evaluated in a preoperative clearance clinic prior to surgery to determine if they are safe to proceed. This visit will include a medical history, physical exam, and laboratory tests (blood count, chemistry profile, and urinalysis). You may also need a chest x-ray and electrocardiogram (EKG). Additional tests or visits to specialists (cardiology, etc.) may be required if you have other specific medical problems.

Reducing the Risk of Infection

Any source of bacteria within your system must be eliminated before your surgery. Abscessed teeth and pending dental work should be taken care of prior to your hip surgery. A urinary tract infection is an additional source of contamination. Although frequency, urgency and burning are symptoms of a urinary tract infection or prostate problems, you may have an infection without symptoms. A urinalysis is typically ordered during your preoperative workup. If an infection is found, antibiotic treatment may be required prior to your hip operation.

Our goal is to reduce the number of bacteria you carry on your skin prior to surgery. We will instruct you to use an antibacterial wash the night before your surgery. Because certain bacteria are carried in your nostrils, we may instruct you to use an ointment to treat these bacteria. Furthermore, the skin around your hip and operative extremity should be free of any open lesions such as cuts, scrapes, bug bites, etc. If you have any questions, please call your physician's office.

Stopping Medications Before Surgery

Patients should stop taking aspirin and other non-steroidal anti-inflammatory medications (except for any medications prescribed by your surgeon) at least ten days before surgery to avoid increased bleeding associated with these medications. You may take Tylenol for pain during this time.

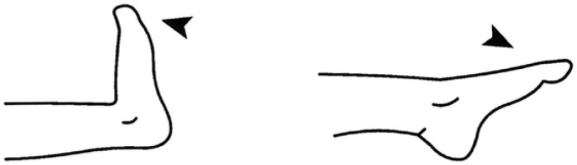
If you are taking blood thinners, such as Plavix, Coumadin, Eliquis or Pradaxa, these can also create bleeding problems; it is important to discuss their use with your surgeon and the prescribing physician to determine the dosage program that will best prepare you for surgery.

Ten days prior to the surgery, you should also discontinue the use of most herbs/supplements: Echinacea, ephedra, feverfew, garlic, ginger, gingko biloba, ginseng, goldenseal, kava, saw palmetto, St. John's Wort, valerian, vitamin E, glucosamine chondroitin, and fish oil.

Preoperative Exercises

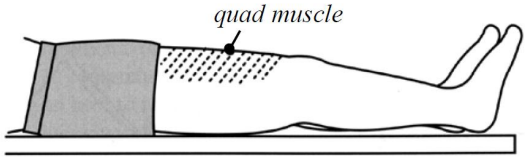
Many of the preoperative exercises are the same exercises that will be part of your postoperative therapy program. Many patients will also utilize a smartphone-based application called Pulse, which will illustrate many exercises, both before and after surgery. We recommend that you work on the follow exercises several times throughout the day. If necessary, start out and gradually build up the number of repetitions. If you are unable to tolerate any of the exercises due to pain, DO NOT continue.

1. Ankle Pumps: Move your foot up and down. Repeat up to 25 repetitions, twice

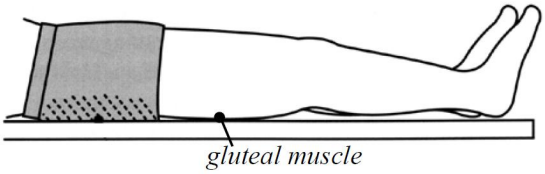


daily

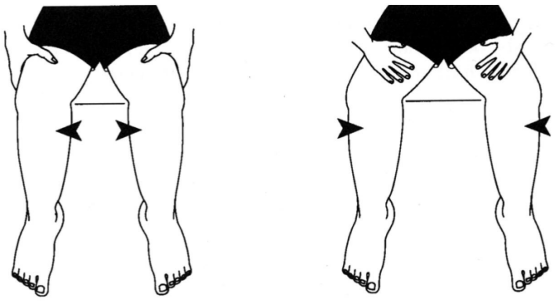
2. Quad Sets/Knee Tighteners: Lying on your back with your legs straight, push down the back of the knee against the bed. Maintain the muscle contraction in the thigh for five seconds. Relax. Repeat up to 25 repetitions, twice daily.



3. Gluteal Sets/Buttock Tighteners: This exercise can be done lying down, sitting, or standing. Squeeze the buttock muscles together and hold for five seconds. Relax. Repeat up to 25 repetitions, twice daily.

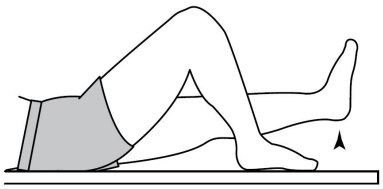


4. Isometric Adduction/Abduction: Sitting in a chair, place your hands along the outside of your thighs. Tensing your thighs, pretend as if you are trying to push them apart; maintain the tension for five seconds. Then, place your hands on the inside of your thighs and pretend you are pushing your thighs together by tensing them for five seconds. You should be exerting your thigh muscles, not your arms or hands. Repeat up to 25 repetitions, twice daily.

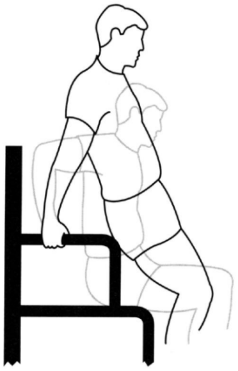


5. Straight Leg Raise: Lie on your back with your right leg bent. Tighten your left knee and thigh and lift your left leg off the bed. Hold for a count of three seconds. Repeat

the exercise using your right leg. Repeat up to 10 repetitions, twice daily. Do not perform this exercise if it causes you pain.



6. Chair Push-Ups: Sitting in a chair with arm rests, push yourself up using your arms. Begin by using your feet to assist you, then progress to putting more weight onto your arms to lift yourself. Hold three seconds. Repeat up to 10 repetitions, twice daily.



Day of Surgery

Reporting to the Hospital or Surgery Center

On the day of surgery, you will report to the Registration Desk. Bring your photo ID and insurance cards for verification. You will be escorted to an area where you will change into a hospital gown. An identification bracelet will be placed on your wrist. An admissions nurse will make sure that your medical work-up has been completed. You will then be escorted to an area where a nurse will make you comfortable and provide warm blankets. An intravenous line will be started. You will your surgeon and your anesthesia provider before going into the operating room.

Clothing

Hospital gowns are suggested during the day of surgery. You are encouraged to bring loose fitting jogging clothes, t-shirts, pajamas, sweat pants, or shorts for the rest of your stay, so that you will be more comfortable when you are walking around. Tennis shoes, loafers, or comfortable support shoes should be worn; we do not recommend bringing new shoes.

Anesthesia

On the day of your surgery, you will meet with the anesthesia staff to go over your medical history and the type of anesthesia that will be utilized for the surgery. Most patients will have spinal anesthesia and will also be given medication that allows them to sleep during the procedure. This avoids the use of a breathing tube during the operation. A spinal anesthesia is generally our preferred method of anesthesia for joint replacement surgery, however there are some situations in which it may not be indicated, and the anesthesia staff will discuss any such situation with you.

Post-Anesthesia Care Unit (PACU)

A typical hip replacement operation takes approximately 45-90 minutes. Revision surgery often takes longer since it is more complex. After surgery, you will be moved from the operating room to the post-anesthesia care unit (PACU), often referred to as the recovery room, where the nurses will monitor your vital signs and oversee your recovery from anesthesia. Your stay in the PACU last approximately 1-2 hours.

You may receive oxygen through nasal breathing tubes for up to 24 hours. To empty the bladder, you may have a urinary catheter. Pneumatic compression stockings are typically placed on both legs to improve circulation. An air pump inflates and deflates air-filled pressure compartments within the stockings. This rhythmic change in pressure promotes blood flow and also helps prevent blood clot formation.

Family Waiting Area

Family members are usually not permitted to visit with patients in the PACU. At the end of the surgery, the surgeon will discuss the details of the procedure with your family members. If family members leave the waiting area, they should let the staff know where they will be. If members of your family are unable to be present on the day of surgery but would like to talk with your surgeon, they should leave a phone number where they can be reached.

Postoperative Course

Pain Medicine

We want you to be comfortable but also awake and alert enough to do exercises including breathing exercises to prevent lung congestion and leg exercises to prevent blood clots. When you have recovered from anesthesia, your pain usually is managed by oral or intravenous pain medications.

We recognize that postoperative pain is a significant source of fear for patients. Adequate pain control is very important to us. We have designed a comprehensive program to improve your experience by decreasing pain with a “multimodal” pain program. This process starts before surgery, using a combination of different medications that work together to reduce the amount of narcotic medications you

require and to maximize your pain control. The narcotic medications can cause side effects such as nausea, itching and constipation, which we would like to avoid.

Wound Care

Your wound will be covered by a dressing after surgery. It should usually be removed after 7-10 days. You can shower as long as there is no drainage from the wound. After the dressing is removed it is not recommended to apply any cream, ointment or lotion to the wound unless specific instructions are given by your surgeon.

Most of the time, your stitches will be under the skin and will dissolve on their own. If you have staples or external stitches they can be removed 10-14 days after surgery as long as there is no drainage.

If the wound is draining, the dressing should be changed daily. The wound should be dry and without drainage by five to seven days postoperative. If there is persistent drainage from the wound after this time period, you should call our office immediately. If there is worsening redness around the incision, you should also call our office immediately. These may be signs of a superficial or deep wound infection and you may have to return to the office for an evaluation by one of our staff.

Other common concerns after knee replacement surgery include swelling and bruising. These can be quite significant in nature and can appear anywhere from the thigh to the toes. These are typically worse at night which can contribute to trouble sleeping comfortably for more than one to two hours at a time.

Rehabilitation

Regaining muscular control of your leg is our first and most important goal after surgery. All patients receive therapy to help strengthen muscles. We want to encourage your independence and discharge to the comfort of your own home.

Family members or friends who may be assisting you after discharge are encouraged to attend all therapy sessions to learn about the appropriate techniques and the amount of assistance that they should offer you after your joint replacement. By being independent, you will be using your own muscles to strengthen and protect your new joint. Before discharge, all joint replacement patients should have practiced how to:

Dress and bathe

Get in and out of a bed, chair, shower or bathtub, and a car

Walk with a walker or crutches

Go up and down stairs

Carry out the specific home exercise program

Your Rehab Team

We believe that your family is an important part that will work with you to develop goals based on your individual needs. The rehab team includes your surgeon, nurses, all therapists and case managers. Family members or friends are urged to attend both physical and occupational therapy sessions to learn appropriate techniques of care and how to assist you at home.

Postoperative Physical Therapy

A comprehensive physical therapy regimen is important to your full recovery. Physical therapy will start the day of surgery and will continue at home. Your first session will include a group of simple exercises in bed, standing at the side of the bed, and walking as soon as you are able. You can expect to use a walker, 2 crutches, or a cane for a period of up to 6 weeks after surgery.

Therapy programs are individually designed by your surgeon based on findings at the time of surgery. Most patients are allowed full weight bearing with the use of a walker or crutches for support. In the weeks that follow surgery, transitioning to a cane is encouraged as patients begin to feel more comfortable with walking. The therapy program may also vary for patients depending on the clinical scenario. The surgical approach also will determine the design of your physical therapy program. Before discharge, you should understand the specifics of your exercise program.

The physical therapist reviews the list of activities you can and cannot do after surgery and provides practice sessions to improve arm and leg strength, and to increase overall endurance before you go home. If you have any questions about sexual relations after surgery, please discuss your questions with the physical therapist or your surgeon at the follow-up visit.

Discharge Information

Final Discharge Instructions/Prescriptions

Your nurse will see you before discharge and answer any questions you may have. At the time of discharge, the nurse will give you your prescriptions and review discharge instructions. Most patients have some discomfort at home when they perform their exercises. You will receive a prescription for pain medication, but once home, you should begin to decrease the number of pills you take and increase the interval of time between doses. Pain medication should be taken before therapy or sometimes at bedtime, as needed for your comfort; a non-narcotic medication can be used in between. Applying ice to your knee after therapy helps to control discomfort.

Written Discharge Instructions

You should receive a copy of our discharge instructions to remind you that:

1. It is normal to have swelling and bruising in your lower legs after surgery. Walking frequently during the day and doing your exercises will help strengthen your muscles and reduce the swelling. If you have swelling, we recommend you elevate your legs, and apply ice to your knee for 15 minutes. If the swelling continues to worsen, or becomes increasingly painful, please call your surgeon’s office.

2. You can take a shower when your wound is dry. If you have a plastic dressing, it is waterproof.
3. You should have a copy of your home exercises from the physical therapist. Do your exercises three times per day.
4. You should be walking in your home, frequently, as able. Use your crutches, cane or walker as instructed by your therapist. You are encouraged to walk outside with assistance. Often people will notice some clicking in the knee with activity. This does not mean there is something wrong with the knee prosthesis.
5. Your knee will be sore but the pain will dissipate over time. You will be given a prescription for pain medicines that can be used primarily BEFORE therapy and AT BEDTIME. Extra-strength Tylenol, anti-inflammatories, or Ultram can be used in addition to or instead of narcotics. To ease your discomfort, apply ice to the knee after activity.

Going Home by Car

Patients are able to go home by car after knee replacement surgery. If your trip will take more than two hours, plan on allowing one or more stops for walking and exercising your legs. Please be sure to arrange your ride home prior to surgery.

By Airplane

If you need to travel by air, it is important to request a bulkhead or first class seat, so that you will have enough room to stretch out your leg during the flight. It is advisable to have a travel companion, who can help with your luggage and with getting on and off the plane. Occasionally, your surgeon may recommend that a long airplane ride be postponed for several days after discharge from the hospital.

Getting Into Your House & Using Stairs

The physical therapist will teach you how to go up and down steps. You should have someone help you with steps until you are comfortable and secure with them. Remember that when you use a staircase, your crutches go under your arm on the opposite side from the railing. To go up the stairs, start with your unoperated leg; to go down, begin with crutches and the operated leg.

Returning for Your First Postoperative Visit

Either your surgeon, or a physician assistant, will see you for your first postoperative appointment approximately 4 weeks from the time of your surgery. This will be arranged for you by our staff.

This first follow-up visit will include an examination of the hip. X-rays of the operated knee will be obtained to evaluate the alignment and fixation of the implant. You will receive new instructions concerning your allowed activities and the amount of weight you can put on the operated leg. Arrangements can be made on an individual basis for out-of-state patients.

Long Term Considerations

Use of Antibiotics to Prevent Knee Infections

Each year in the United States more than 800,000 knee and hip replacements are performed. The infection rate for these procedures is very low. Joint replacement surgeons attempt to lower the infection rate by using prophylactic antibiotics during surgery.

Infections that develop around the knee weeks or months after discharge are a rare but serious complication. Infections that occur after six months are usually the result of an infection elsewhere in the body, which spreads by bacterial "seeding" and travels to the hip through the bloodstream. Urinary tract, skin, dental, or respiratory infections are potential causes of hip infection and should, therefore, be treated aggressively.

In addition, since bacteria are normal found in the mouth and intestines, "seeding" may occur during some dental procedures, bronchoscopy, cystoscopy, or endoscopy and cause infection around your joint. Let your dentist and internist know that you have an implanted knee prosthesis. Please discuss with your surgeon the guidelines for antibiotic prophylaxis prior to procedures for a more complete description.

Follow-up Visits

We strongly recommend a return visit to the Oklahoma Sports & Orthopedics Institute to confirm that your prosthesis is functioning well. These visits are important whether or not you are having problems with your knee. The plastic part of the implant may show signs of deterioration. This can only be determined by studying your follow-up x-rays and doing a physical examination.