Patient Guide

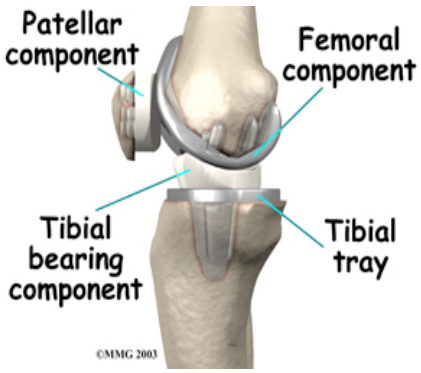
To

Total Knee & Partial Knee

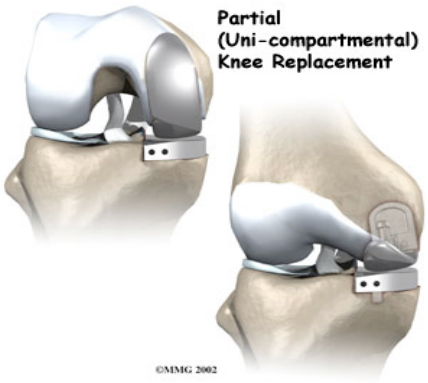
Replacement

Surgery

Total Knee Replacement



Partial Knee Replacement



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Dr. Tingstad received his undergraduate degree from Washington State University where he graduated as the most outstanding graduating senior in the College of Arts and Sciences. He received his medical degree from the University of Washington, School of Medicine. He graduated with honors as a member of Alpha Omega Alpha. He completed his orthopaedic surgery residency at Vanderbilt University Medical Center, Department of Orthopaedics and Rehabilitation. Following his residency, he did a one-year Sports Medicine Fellowship at the University of Washington. He began his practice at Inland Orthopaedic Surgery & Sports Medicine Clinic in 2000. He is the team physician for the Department of Intercollegiate Athletics at Washington State University and the University of Idaho. Dr. Tingstad is a board certified fellowship trained orthopaedic surgeon. He is a member of numerous professional societies and is a fellow in the American Academy of Orthopaedic Surgeons. He is a state delegate and member of the American Orthopaedic Society for Sports Medicine. Dr. Tingstad is devoted to excellence; he has enthusiasm for research and teaching and has tremendous compassion for his patients. He is a father of three, and he and his wife Laura are Northwest natives.

Dr. Tingstad and daughter, Abby at Rose Bowl.

What is a Total Knee Replacement?

Total knee replacement or "arthroplasty" is the relining or resurfacing of the joint (bone end surfaces) with artificial parts called prostheses.

There are three components used in the artificial knee. The femoral (thigh) component is made of metal alloy and covers the end of the thigh bone. It may be cemented to the bone or, for some prosthesis, inserted without cement for tissues to grow into the porous coating or the device (biological fixation).

The tibial (shin bone) component, made of metal alloy and polyethylene (medical-grade plastic), covers the top end of the tibia. The metal forms the base of this component, while the polyethylene is attached to the top of the metal to serve as a cushion and smooth gliding surface between the metal of the femoral and tibial components. The tibial component will be secured to the bone with bone cement, or through biologic fixation.

The third component, the patella or knee cap, may be all polyethylene or a combination of metal and polyethylene. Depending on the prosthesis used, this part may be fixed with or without cement. The total knee replacement is inserted through an incision that is appropriate to each patient's needs. The new components are stabilized by your ligaments and muscle, just as your natural knee was.

What is a Partial Knee Replacement?

Partial knee Replacement is a minimally invasive procedure for relieving arthritic knee pain and disability. During the operation, the damaged surface of the knee joint is replaced with metal and plastic implants.

Because the Partial Knee Replacement implants are so much smaller than total knee implants, the incision can be significantly smaller as well. Only damaged bone in the affected knee is removed and the implant is fitted to that bone surface.

For those who have arthritis on only one surface or compartment, Partial Knee Replacement offers a promising alternative to total knee replacement. This is most commonly done on the medial (inside) compartment of the knee.

Background

Knee replacements or total knee arthroplasty (TKA) have been performed in the United States since the early 1970s. The procedure has evolved over the last forty years into a very reliable procedure. Recent data (from AAOS 2006) suggest that over 90 percent of patients who underwent TKA were pleased with their outcome. However, it remains a major surgical procedure and can have side effects and complications much like any major surgery.

For most patients (TKA) requires a short hospital stay that is 1-4 days in most instances, but is sometimes longer for patients having bilateral replacements or shorter for those who have partial replacements. Some patients choose to go home the same day. The major risks of surgery are infection, blood loss, blood clots or perioperative heart or lung problems. The risk of infection is 1%, but is higher in certain groups such as diabetics and those with inflammatory arthritis such as rheumatic arthritis. Special equipment, operating room suits and antibiotics are utilized to reduce the risk of infection. Most patients do not require any blood products after surgery. Blood clots or deep vein thrombosis can also occur. These can migrate to the heart and lungs and be fatal. Multiple prevention strategies are used to minimize this problem. Stiffness or persistent pain can also occur after surgery. The motion after surgery is best predicted by what it is prior to surgery. Frequently patients are asked to work with a therapist prior to surgery to optimize their motion before surgery.

Recovery time after surgery is variable. A study (CORR, 2004) polling nearly 1000 patients after knee replacement suggested it took 12 weeks for most patients to feel that one half of their pain had resolved. Often it takes a year for full strength to return. The recovering time and satisfaction with surgery varies due to each patient being unique. Expectation of a knee that hurts much less and works better than the worn are seen in 80% - 85% of patients. (AAOS 2015) Most feel that knee replacement is the most difficult of the three major replacements hip, knee and shoulder to recover from. However, for most patients it proves a very good long-term decision.

The longevity of knee replacements continues to improve. Most TKAs will last 20 years, some more, some less. The failure rate is estimated at percent per year. Currently 80 percent of knee arthroplasties are lasting twenty years. Statistically, this has improved each decade; thankfully, learning from our past experiences has brought benefits to each new generation of knee arthroplasty patients. Continued improvements in knee replacements have made it one of the most important health improvement innovations seen in the last century.

What is the process?

- Make the decision to have surgery.
- Schedule the date for your procedure. The clinical assistant, who will help you select a date, is available to answer any questions. To allow adequate time for the necessary preparations, a surgery date is usually set for four to eight weeks after your decision to proceed.
- Make an appointment with your regular physician for a pre-operative medical evaluation two weeks prior to surgery. You must be cleared for surgery. Your doctor will order some lab work and test if needed.
- Make an appointment with your dentist for a dental exam to insure that there is no dental work needed before you can have surgery and to insure that there is not infection in your teeth or gums.
- If you are taking aspirin or certain arthritis medications, inform us; you may need to stop taking these two weeks before surgery.
- Arrange for family and/or friends to assist you after you go home from the hospital.

The Day of Surgery

What you should bring:

- Walking shoes with rubber soles or tennis shoes. No house slippers.
- Pen and pad of paper to write down questions you may have.
- Personal care items.
- WOMEN: Gowns and robes; knee length only. Bring underwear. May wear shorts, sweatpants, and T-shirts, or a hospital gown with a robe, if you prefer.
- MEN: Short pajamas or exercise shorts and T-shirts. May prefer hospital gown with a robe. Bring underwear.

Report to:

The front desk of the hospital you are scheduled to have the surgery at. The front desk greeter will let Same Day Services know you are there. You will then wait in the waiting area and a nurse will come and get you and take you to the preoperative area.

The Preoperative area:

The nurse will have you change into a hospital gown. An IV will be started in your arm. You will receive fluids and antibiotics prior to your surgery. You will meet the anesthesiologist. He/She will discuss the options for anesthetic. These include a spinal, which numbs you from the waist down, or a general anesthetic. If you elect to have a spinal, medicine can be given through your IV so you sleep during the operation. You may also have an adductor canal block, which is performed after you are asleep, to assist with post-op pain management. Your family and friends may wait with you until your nurse takes you to the Operating Room.

After Surgery

After surgery, you will be moved to the recovery room, where the nurses will monitor your vital signs and oversee your recovery from anesthesia. When you awaken, you will notice that there may be a drainage tube under the knee bandage to drain blood from the knee and prevent swelling.

You may receive oxygen through nasal breathing tubes for 24 hours. Most patients do not need a urinary catheter. Occasionally a catheter may be used for patients with difficulty emptying their bladder.

Pneumatic compression boots are also placed on both feet to help improve circulation. An arm pump inflates and deflates air filled pressure compartments within the boot. This rhythmic change in pressure promotes blood flow and also helps prevent blood clot formation.

Patients should be aware of another machine that bends their knee while they rest in bed. This machine is called a continuous passive motion or CPM device. In most cases we use a CPM immediately following surgery. Use of the machine is the most comfortable way to help obtain good knee motion. It also reduces the risk of blood clots, helps regain early knee movement, and shortens your hospital stay. Some patients elect to use the CPM at home.

After you spend 1-2 hours in the recovery room, you will be transferred to a patient room, where your family & friends can visit you.

The nurses will check your vital signs and pain control. If you are uncomfortable or have nausea, medications will be given to help.

A therapist will evaluate you and begin therapy, including sitting, standing, and walking. Often a hospitalist physician will help with your care with your orthopedic physician in the hospital.

The staff at the Hospital will make sure your recovery goes as smooth as possible.

The remainder of your hospital stay

Day 1 (the day following surgery):

- Your oxygen will probably be removed.
- Your operative leg will be put in a continuous passive motion machine, which will help you bend and straighten your knee. If you are out of the machine at night, your knee immobilizer will be put on to promote straightening.
- The nurse will encourage you to lift your leg off the bed. It may be a few days before you will be able to lift your leg on your own.
- You will get up to a chair with the assistance of the nursing staff. A soft splint will be on your leg to support it when you get up. When you can lift your leg off the bed on your own, the splint will be discontinued.
- Your exercise program with the physical therapist will begin, helping you to bend, straighten and gain strength in your new knee. You will begin walking with a walker with the physical therapist.

Day 2-4:

- If you have a drain, it will be removed by the nursing staff in the morning.
- Your IV will probably be discontinued, and the needle will be capped for a few days.
- Your exercise program will continue twice daily, helping you to bend, straighten and gain strength in your new knee. You will continue to walk further each day with your walker.
- Many patients proceed to return home on the second day after surgery.
- You will continue physical therapy twice daily. When you can get in and out of bed alone, walk safely with your walker, and you have shown that you can climb stairs, you will be able to leave the hospital. You must be cleared by physical therapy before you go home.

After you are discharged from the hospital

If you live alone or do not have adequate help, you may go to a rehab facility for a while following surgery. We will discuss options for your care prior to your hospital admission. Whether at a rehab facility or at home, the following things are important for your care.

Pain Medicine

Patients should expect a significant amount of pain for 24-48 hours following knee replacement surgery. We want you to be comfortable but also awake and alert enough to do exercise, 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 either epidural analgesic or intravenous analgesia. The epidural catheter is a tiny tube placed in your back very carefully and painlessly under local anesthesia by the anesthesiologist. If you have an intravenous method for pain control, the intravenous line is usually connected to the IV tubing in your arm.

Your Knee Incision/Wound Care

The day after surgery your wound bandage will be changed. To avoid irritating the skin, we use a special nonstick bandage without tape. Your elastic stocking will hold this bandage in place. You may notice that your knee is slightly swollen and that there is some discoloration (like a bruise) in the leg. This is from the bleeding that occurs shortly after surgery. The discoloration, which may extend to the hip or ankle, will slowly disappear. To close the wound, your surgeon uses dissolving sutures or staples, which are removed at the time of your first postoperative office visit 10-14 days after surgery.

Preventing Blood Clots

Clots can develop in the veins of the leg because surgery stimulates the blood to clot, and inactivity after surgery permits blood to pool in the veins of the leg. Exercising your leg muscles as soon as you return to your hospital room from surgery is very important to help prevent clots.

Ice and Elevation

We encourage the application of ice packs following exercise and at least four times per day for 30 minutes at a time when resting with the foot and leg elevated on three pillows (at least 18 inches above the level of your heart). An easy schedule to follow is 10:00am, 2:00pm, 6:00pm, and 9:00pm. This elevation is important. It helps reduce swelling and promotes better circulation.

Swelling/Bruising

You are likely to see more swelling and discoloration on the outside portion of the knee. This is expected but can be reduced by lying down with the leg elevated as described above.

Walker/Crutches

A walker or two crutches will be used to walk for two to three weeks. This is usually full weight bearing. Progression to a cane can begin at three weeks as pain allows. You should use the cane until you can walk without a limp. This usually takes two weeks.

Supervised Physical Therapy

Following discharge from the hospital, you will begin outpatient physical therapy two to three times per week for four to eight weeks. This will allow you to work with a therapist to maximize tour range of motion and strength. This is very important to the success of your knee. You will perform exercises three times per day, seven days a week, for the first six to eight weeks after surgery.

Showering/Bathing

Showering is permitted as soon as the incision is free of drainage, usually by two to three days following surgery. You may shower and let the water run over the incision and then pat it dry with a towel, no rubbing. Immersing the leg in collected water such as a bathtub, hot tub or swimming pool is not permitted until 72 hours after the staples have been removed. A dryer layer of gauze may be applied to cover the incision if desired. No ointments, lotions or oils are to be applied to cover the incision until the staples are removed.

Understanding the risks of surgery

As with any surgery, there are certain risks. The following are some of the more common complications of which you need to be aware and things we do to try to prevent them.

Infection

There is always a risk of infection with any surgery. You will receive antibiotics in surgery and several doses after surgery to reduce this risk. The risk of infection after Total Knee Replacement is approximately one percent.

Blood Clots

When you have surgery on the knee, circulation is impaired during healing. A blood thinner medication will be prescribed for you, which will help to keep your blood a little thinner than normal to prevent blood clots. We begin the first dose on the evening of surgery. Each day in the hospital, blood will be drawn to check your blood thinning level. Another thing that will help to prevent blood clots is to elevate both feet while sitting to prevent blood pooling in the lower legs and perform ankle-pumping exercises.

Pneumonia

Breathing deeply after surgery and using an incentive spiro meter are very important to prevent congestion in the lungs, which can lead to pneumonia. It is very important that you are up and out of bed often.

Bladder Infections

Bladder infections are more common when you have had a catheter. It is very important to drink a lot of fluids to help prevent an infection.

Numbness around the knee

It is important to know that you will experience some numbness on both sides of your knee. This is not a problem; it is very normal. During surgery the nerves around your knee are disturbed. You may feel tingling sensations as the nerves are healing. You may always feel some numbness around your incision, but this will not affect the function of your new knee. Rarely there can be permanent numbness or weakness as a result of trauma to the nerves.

Stiffness

In the early postoperative period, all patients with a total knee replacement experience pain and stiffness of the knee. Pain medication will ease the pain, but it is very important that you work to increase your motion daily. You will not damage your knee by working to increase motion, despite the soreness.

Severe Complications

Again, with any major surgery there is a possibility that any of the above complications, as well as problems with anesthesia, could be severe enough to result in death. If there are any questions or concerns regarding these complications, please feel free to discuss them with your surgeon.

Some Frequently Asked Questions after Total Knee Replacement Surgery

What is the recovery time?

Everyone heals from their surgery at a different pace. In most cases, however, you will be restricted to using a walker or crutches for 2 to 3 weeks after your operation. You will then be allowed to advance to a cane outdoors and no support around the house for several weeks. You will gradually return to normal function without any assistive devices.

How long will I be on pain medications?

You will likely require some form of pain medication for about 2 months; initially you will need a stronger medication (such as a narcotic). Most people are able to wean off their strong medication after 1 month and are able to switch to an over-the-counter pain medication (such as Tylenol or ibuprofen). If you are on Coumadin (warfarin), avoid taking any NSAIDs (e.g. aspirin, ibuprofen, Advil, Motrin, Aleve, Naprosyn) without first consulting your internist.

Do I need physical therapy?

Yes! The physical therapist plays a very important role in your recovery. You will see a physical therapist soon after your operation and throughout your stay at the hospital. After discharge, you will be referred to an outpatient physical therapist. If you go to a rehabilitation facility, you will receive therapy there. The therapist will help you walk, regain motion, build strength, and help you reach you postoperative goals. Your therapist will keep your surgeon informed of your progress.

What exercises should I do?

You will be instructed by your physical therapist on appropriate exercises and given a list to follow. In general, swimming and a stationary bicycle are good exercise options. These exercises should be continued indefinitely, even after your recovery is completed.

What are good positions for my knee? What positions should I avoid?

You should spend some time each day working on straightening your knee (extension), as well as bending your knee (flexion). A good way to work on extension is to place a towel roll underneath your ankle when you are lying down. A good way to work on flexion is to sit on a chair or stationary bicycle and bend your knee. Avoid using a pillow or towel roll behind the knee for any length of time.

Can I use weights?

Generally, not for the first 4 weeks. However, as everyone's strength varies, consult with your physical therapist before using weights. Use light weights to begin with, and gradually progress.

I am constipated. What should I do?

It is very common to have constipation postoperatively. This may be due to a variety of factors, but is especially common when taking a narcotic pain medication. A simple over-the-counter stool softener (such as Colace) is the best prevention for the problem. In rare instances, you may require a suppository or an enema.

When can I drive?

If you had surgery on your right knee, you should not drive for at least a month. After 1 month, you may return to driving as you feel comfortable. If you had surgery on your left knee, you may return to driving as you feel comfortable, as long as you have an automatic transmission.

****Do Not Drive If Taking Narcotics!****

When can I return to work?

This depends on your profession. Typically, if your work is primarily sedentary, you may return after approximately 3 to 4 weeks. If your work is rigorous, you may require up to 2 to 3 months off before you can return to full duty. In some cases, more time may be necessary.

When can I travel?

You may travel as soon as you feel comfortable. It is recommended that you get up and stretch or walk at least once an hour when taking long trips. This is important to help prevent blood clots.

What activities are permitted following surgery?

You may return to most activities as tolerated, including walking, gardening, hiking, and golf. Some of the best activities to help with motion and strengthening are swimming and riding a stationary bicycle.

What activities should I avoid?

You should avoid impact activities such as running and vigorous racquet sports, such as single's tennis or squash.

Can I have sex?

Yes, as soon as you are comfortable.

Can I drink alcohol?

If you are on Coumadin, avoid alcohol intake. Otherwise, use in moderation at your own discretion. You should also avoid alcohol if you are taking narcotics or other medications.

Should I use heat or ice?

Ice should be used for the first several weeks, particularly if you have a lot of swelling or discomfort. Once the initial swelling has decreased, you may use ice and/or heat.

Can I go up & down stairs?

Yes. Initially, you will lead with your non-operative leg going up stairs, and lead with your operated leg when going down stairs. You can use the phrase, "Up with the good, down with the bad" to help you remember. As your leg gets stronger, you will be able to perform stairs in a more regular pattern (about a month).

Can I kneel?

After 2 months, you may try to kneel. Although this may be uncomfortable initially, you will not injure your knee replacement by kneeling. Most people find the more you kneel, the easier it gets.

How much range of motion (ROM) do I need?

Most people require 70 degrees of flexion (bending the knee) to walk on level ground, 90 degrees to ascend stairs, 100 degrees to descend stairs, and 105 degrees to get out of a low chair. Your knee should also come to within 10 degrees of being fully straight to function well.

Do I need antibiotics before dental work or an invasive procedure?

Yes. You will need to take an antibiotic 1 hour prior to any dental cleaning or work. Call our office prior to your appointment to notify us and we will call in the antibiotic to your pharmacy. Avoid any dental cleaning or non-urgent procedures for 6 weeks postoperatively.

I feel depressed. Is that normal?

It is not uncommon to have feelings of depression after your knee replacement. This may be due to a variety of factors, such as limited mobility, discomfort, increased dependency on others, and/or medication side effects. Feelings of depression will typically fade as you begin to return to your regular activities. If your feelings of depression persist, consult your internist.

I have insomnia. Is this normal? What can I do about it?

This is a common complaint following knee replacement surgery. Nonprescription remedies, such as Benadryl or melatonin may be effective. If this continues to be a problem, medication may be prescribed for you.

How long will my total knee replacement last?

This varies from patient to patient. For each year following your knee replacement, you have a 1 percent chance of requiring additional surgery. For example, 10 years postoperatively, there is a 90 percent success rate.

When do I need to follow up with my surgeon?

Most patients are discharged from the hospital on the third or fourth postoperative day. Follow-up office visits are routinely advised for:

1. 10-14 days after surgery for staple removal.
2. 4 weeks after surgery for an x-ray and exam of knee motion.
3. 3 months after surgery for exam and assessment of activities.
4. 6 months, 1 year, and annually thereafter for x-ray and exam.

Please call our office appointment desk to schedule appointments:

509-332-2828

I'm out of pain medication.

Refills for pain medicines may be obtained by contacting our office during business hours. Or you may contact your pharmacy and they will fax us a request. Prescription anti-inflammatories may be resumed 48 hours following the last Coumadin dose.

Normal things about your new knee:

- Clicking noise with knee motion.
- Skin numbness on the outer (lateral) part of your knee.
- Swelling around the knee and/or lower leg.
- Warmth around the knee.
- "Pins and needles" feeling at or near your incision.
- Dark or red incision line. This will gradually fade to a lighter color.
- Bumps under the skin along the incision. Occasionally, the sutures used to close the wound can be felt.

Abnormal things about your new knee (Call the office immediately, if you experience any of these):

- Increased bruising, if on Coumadin.
- Increasing redness, particularly spreading from the incision.
- Increasing pain and swelling.
- Fevers> 101 degrees F.
- Persistent drainage from your wound.
- Calf swelling or pain, particularly associated with ankle motion.
- Ankle swelling that does not decrease or resolve overnight.