TWIN CITIES ORTHOPEDICS

Knee Surgery for Arthritis

Osteoarthritis is a common condition of the joints and is characterized by cartilage deterioration and wearing. This will lead to narrowing of the cartilage space between the bones. On an x-ray, one can often see the bone of the femur touching the bone on the tibia once the arthritis is severe. The primary thing that can be done for this problem is to lose weight and strengthen the leg. Medicines (Tylenol or NSAIDs like ibuprofen), shots (cortisone or gel), therapy, use of a knee sleeve, or surgery are also options. Arthroscopic surgery should generally only be done if the space between the bones is nearly normal.

The decision to do surgery is based primarily on overall health, degree of arthritis, and failure of common treatments. Most importantly, surgery is best done when quality of life is beginning to deteriorate. Research shows that results are best when replacement is done before health and fitness worsen and before arthritis pain starts to affect outlook and mood.

Knee Replacement Surgery

Total knee replacement (TKR) is one the most successful surgeries in history. It involves removing the arthritic surfaces of the knee and replacing these surfaces with metal alloy and titanium caps on the bone with a polymer piece in between. The underside of the kneecap is also replaced. TKR is generally a predictable and reliable surgery that takes about an hour to perform.

Dr. Lewis performs well over 200 knee replacements per year. This handout is meant to guide patients and family with information that our team has learned in over 25 years of experience caring for patients.

Location for surgery and length of stay

With Medicare rule changes and better rehab/pain management, the new standard of care is a single overnight stay or discharge home on the day of surgery. It is important that you take responsibility to have a friend, family or spouse be available for the first few days to be with you and support you. “Rehab” stays cannot be arranged ahead of time and

cannot be set up for family convenience. If you do not have a coach who can stay with you then it may not work for you to have surgery at this time. You will need a driver to get you to therapy, which is 2-3 times per week initially and tapers off based on how well you are doing.

The surgery can be done at Minnesota Valley Surgery Center (MVSC), through the Excel program at the TCO/Vikings Eagan facility, or at the Orthopedic Institute in Chaska. Location is based on availability, insurance coverage, and your health. Same day surgery has been proven to be as safe and effective as an overnight stay in certain patients.

For patients with medical problems, elevated BMI (high weight) or insurance restrictions, hospital-based surgery (Orthopedic Institute of Fairview) is needed. Surgery is done Monday morning with discharge to home on Tuesday morning. Again, to stay more than one night requires a specific necessity and is determined by the hospital, not Dr Lewis's team. If you are a Medicare patient, you must be aware that the government has now classified knee replacement as an outpatient procedure. This means that it is EXPECTED that you leave the hospital the next day. Unfortunately, the government and the hospital have determined that pain, stairs, wanting to go to rehab, and not having help at home are NOT adequate reasons. If you have these issues, you may need to POSTPONE surgery until you are able to make proper arrangements.

<u>Partial Knee Replacement (Uni or UKA)</u>

A partial knee replacement can be done if the arthritis is confined to the medial or inside part of the knee. This applies to about 20 percent of patients. Within the orthopedics field, UKA is controversial with the main disadvantage being higher re-do or revision rate (10% higher over your lifetime) and the fact that any pain from the other parts of the knee would not be improved. The advantages are, in my opinion, a 30% faster recovery, better motion, and a knee that "feels" and performs more normally. In my opinion, UKA is best for younger patients whose pain pattern and x-rays point to one area of the knee. It is sometimes used as a "bridge procedure" to get 10-15 years of function until the patient is older and could undergo a full knee replacement. That said, a good UKA can last a lifetime as well.

Anesthesia

The anesthesiologist will also give you a nerve block in the thigh, prior to surgery. This will also greatly reduce pain for most patients for more than 24 hours. It is normal to have "rebound pain" which will subside with normal medication. This is definitely not a sign of a problem but is a normal consequence of the block.

Data has shown clearly that a spinal anesthetic is safer with fewer risks and complications, as well as a quicker recovery. It is safer for your heart and lungs and brain. Although many patients are worried that they will "be awake and hear the surgery", the anesthetist will give you medication to make you unaware and asleep but be breathing on your own. It is recommended that you ask for spinal anesthetic when you speak to the anesthesiologist on the day of surgery.

Results

The satisfaction rates are generally 85%. This is excellent for a medical procedure but it is clearly not a perfect or guaranteed solution. Both data and my experience suggest that 40% of patients "forget" about their knee, another 40-50% still describe occasional pain, clicking and the sense of a mechanical knee, and 15% aren't sure they are happy. Of the 15% who are unhappy, most do not have an explainable reason, likely due to both mechanical and inflammation-based causes as to why the body does not adapt well to the artificial joint.

Long Term Results and Expectations

Due to improved techniques, rehab and materials, it is expected that most knees will last a lifetime. Young age, heavy weight, and high activity can be exceptions.

Loosening of the knee ligaments, infection, and issues with the parts (wear or loosening) are the most common reasons to have the knee re-

done. Most patients who do well initially, will continue to do very well for their lifetime after a successful knee replacement surgery.

Higher Risk Surgery

Multiple research studies have shown that being younger than 50, heavier set (BMI>40), and work in manual labor make it more likely that you will have mechanical issues with your knee replacement.

Anxiety, depression, poor conditioning, not full bone-to-bone, and use of pain pills prior to surgery are MAJOR risks for slow and incomplete recovery. Many patients who don't "love" their knee have these factors. If these apply to you, pre-op therapy can be helpful as well as re-calibrating your expectations and making sure all other options have been exhausted.

Obesity (BMI over 40), lower leg swelling or "edema", diabetes, a stiff knee and previous surgery also increase risk of infection and poorer result. The infection rate may be up to 10 times higher than the usual ½ percent.

Pain medication use before surgery can be a major problem in several ways. Research has shown that using narcotic pain pills before surgery (Vicodin, oxycodone, hydrocodone, Percocet, Tramadol) slows recovery and increases the risk of poor outcomes and lower satisfaction. Chronic use of these medicines before surgery alters the body's set point, which then requires much higher doses of these medicines after surgery. Inform Dr. Lewis if you are on these medications. It may be necessary to stop them for 2-3 weeks before surgery to re-set your system.

Anxiety, depression and a high level of worrying

In our modern society, many people suffer from depression, anxiety and just worrying a lot about how things will work out. If you have these issues, please call Angela (952 808-3011) and notify our team. We will certainly still treat and care for you, but we want to make sure you have the best experience possible.

It is well known that patients with these conditions have a harder time with recovery. This will strain our system more with increased therapy needs, more unexpected visits and calls, and a greater perception of pain. Patients who suffer from these conditions often are worried that something is wrong and are more likely to dislike their result at 6 months and a year when compared to others. This puts our team in a difficult situation: we want to be supportive and available to you, but also need you to take ownership of this issue before surgery. The best way to prepare is to seek help from your primary care provider and talk to friends and family BEFORE surgery. You also need to have faith and trust in this process and be patient with pain, swelling, night symptoms and the speed of your recovery. If you suffer from anxiety and depression, even if you have not been formally diagnosed, you can expect your recovery may be slower and incomplete.

If this makes you hesitate about surgery, then you should reconsider the surgery or consider mental health treatment before surgery. You can also ask Dr. Lewis's team about new non-operative treatments to deaden the nerves about the joint. Dr Aaron Bloom and Dr Maura Hartigan are specialist within TCO who provide these services.

POSTOP INFORMATION

Stairs

Stairs are a concern for most patients due to the layout of their home. The good news is that the replacement is sturdy enough to use stairs immediately. You may need to use a railing, crutch, or spouse for help. Many patients take stairs one at a time initially until the leg strength returns.

Postop Medications

Narcotics (oxycodone, hydromorphone):
These meds are necessary but have high risks such as addiction, confusion and constipation. They are used early but we make all efforts to get patients off them as soon as possible, even if that requires "putting up" with moderate pain up. Most patients use these regularly for the first week but beyond that time, only for sleep and before therapy. It is generally recommended to stop these medicines and remain on ibuprofen and Tylenol by 2 weeks from the surgery. It is unusual narcotic medicines at all after 4 weeks.

Anti-inflammatories (Ibuprofen, motrin, aleve, naproxen):
These are medicines for inflammation and are very helpful for controlling pain after surgery. They are generally safer than narcotics and can be taken along with narcotics. The main side effect is upset stomach, although kidney and other problems can occur with longer use. Tell your doctor's team if you have kidney issues.
Celebrex (celecoxib) is an anti-inflammation drug that causes much fewer stomach issues. It is safer to use around the time of surgery but is expensive for use outside the hospital and not covered by many insurance companies.

Non-narcotic pain medicine:
Tylenol (acetaminophen) – this blocks pain and has few side effects; although less potent, it can be used with the other medications.
Tramadol (ultram) – this is a "narcotic-like" medicine that can be used in patients with allergies or sensitivity to narcotics.

Blood clot prevention:
Aspirin (ASA) – nationally this has become the primary medicine for blood clot prevention, using 1 regular strength once or twice per day. If you have had a deep clot or strong family history of clotting, tell the team and then you may need a more potent medication.

Antibiotics:
Antibiotics are given before surgery and for 24 hours after. More antibiotics after this do not improve risks of infection. Most redness and heat of the wound after surgery is normal.

Physical Therapy

PT (physical therapy) is started immediately. Your knee is immediately solid and cannot be internally damaged by walking, bending or pressure. It is even solid for a vast majority of falls. You will be expected to stand and walk after surgery in the late afternoon or evening. Don't be afraid of your knee: it is normal to feel pain, stiffness, bruising and swelling. The knee will feel wobbly until the muscle fully awakens – that is all normal. It is very important to remember that you cannot harm the knee and that your own hard work will be the biggest factor in recovery.

PT in your home is rarely as effective as office PT. You will need to arrange for someone to drive you in for therapy 2-3 times per week. Outpatient PT can be started on Thursday or Friday after your surgery. This should be scheduled BEFORE surgery. We prefer PT be done in our office due to our ability to communicate with your therapist and control quality, but you can go locally if you live far away. There is no substitute for working hard on your own. There is actually strong evidence that working alone can be just as effective as therapy with a therapist, but we prefer that you have some professional guidance.

CPM (continuous passive motion) machines have been proven to have no impact on outcome after knee replacement and are not used unless there is a special situation. These motion devices were often used in the 2000's before newer data was available.

Your Wound

You will have several layers of sutures and a top layer of staples which will need to be removed at 7-10 days from surgery. You will have a special silver impregnated bandage that repels infection. This will remain on your knee until you return to see Libby after surgery. You may shower with the bandage in place and you may also shower after the staples have been removed. In both cases, keep a direct flow of water off the wound and pat the wound dry with a towel. Do not immerse the wound in a bathtub or hot tub until 4 weeks from surgery. Redness, warmth and swelling are normal.

Lower Leg Swelling

Because of the surgery, the circulation will be affected at the knee causing blood and lymph fluid from the lower leg to pool at the foot and ankle. To some degree this is normal, especially for patients who tended to retain fluid before surgery. Rarely does this mean a serious blood clot. Bruising is normal – it is blood pulled from the knee toward the foot from gravity. This is NOT a blood clot that would go to your lungs and be dangerous. The white compression hose (TEDS) are often used to minimize swelling in the lower leg. They may be used at your discretion to control swelling and can be stopped at your choosing.

Return to Work and Daily life after TKR

You may kneel, squat and do stairs based on pain. For a right knee, you may legally drive after 4 weeks and when you feel safe getting to the brake, while a left TKR may drive when off narcotic pain medicine. For patients who go to a YMCA or health club, it is often helpful to return ASAP to enjoy the friendships and people that you know there. You may do any upper body exercise and may bike as soon as you wish.

Return to work depends on the type of work you do and how quickly you personally recover. Phone and computer work can be done from home when your mind is clear, generally 5-7 days postop. People who sit at work usually return at 3-6 weeks depending on the ability of their work to allow for elevation, position change, and an occasional “early day” home if there is discomfort.

Walking, driving, or standing jobs (sales, nursing, or cashier) can return between 6-10 weeks. Heavier jobs (cleaner, laborer, factory) often require 3-4 months. It is usually best to speak with your supervisor and HR person and give them a "best guess". All forms for FMLA and Disability can be faxed to Angela Gelhar at (952) 808-3001 or dropped off at the office. Please allow adequate time for completion. Angela or Libby can also provide a temporary handicap parking form for 4 months.

The Dentist

Newer data from the American Dental and Orthopedic Associations suggests that 1 year of dental prophylaxis is adequate. Call our office for antibiotics. Wait 3 months until you see your dentist for cleaning.

The Airport

Due to airport security changes, "airport cards" are no longer accepted and you must tell the TSA agent that you have a TKR and you will be screened with a wand device. You should delay flying for at least 6 weeks and move frequently when you do travel.

Travel after Surgery

Travel issues relate to two points: blood clot risk and mobility. Generally short, sitting trips in a car can be done at 2-3 weeks although stretching and frequent walking (every half hour) is encouraged. Flying can be challenging as it may be difficult to get through the airport and deal with your bags so you may need a wheelchair and someone to help you if you try to fly at 6 weeks.

Allowed Activity

All activities are allowed. Running, impact sports, and heavy squats are concerning due to worry that the parts will wear out or loosen early, but this is unknown. Kneeling can be safely done at any time although many find it uncomfortable due to the scar.

Follow-up

We generally will see you at 1 week, 8 weeks, and 4 months after surgery. If you are doing well, we may try to save your time and the insurance company's money by making the 4 month visit only "if needed". Returning every year if there are no problems or pain is unnecessary.

Issues at 8-week appointment

Stiffness is very common still at this point. People make different amounts of scar tissue and bending may still be a problem. Continue to work hard in PT. 1 in 20 patients will need to go to sleep and have the knee bent for them to break up scarring (manipulation). This is usually due to poor effort in PT or a genetic predisposition to scarring. This is done for knees which can't straighten and knees that cannot bend past 90 degrees at 10 weeks from surgery. Flexibility will improve slowly for up to one year.

Warmth is a sign of inflammation and is normal even out to 6 months from surgery.

Grinding can occur from scar buildup, usually felt and heard when getting up from a chair. It may fade away or become painless. About 1 in 50 patients will need a scope surgery if the grinding is painful and doesn't go away after the first year.

Numbness is normal due to the nerves that cross the incision. The area of numbness will gradually shrink, but most patients have a painless, numb area on the outside half of the scar.

Clicking is normal and due to slight laxity or "play" in the joint. It is harmless and may fade away. It does not lead to future problems, although it occasionally is due to excessive looseness in the knee.

Issues at 1-year appointment

Occasional aching is common with an artificial knee. It is a mechanical knee and rarely is truly painless. You may still feel slight discomfort

with changes in barometric pressure/weather or with excessive activity. Other issues are some of the same seen at 8 weeks. Unfortunately, only about 30% of patients forget they had surgery.

The Size of the Knee and Length of the Leg

The new parts will be sized to almost exactly match the size of the bone removed. Many feel that the knee is "bigger". This is due to swelling and may take a year to resolve; in some cases the knee may permanently feel bigger due to scarring. The is rarely if ever related to part sizing which is very accurately matched.

Because of the tension of the ligaments, the knee cannot be made substantially longer or shorter. Different insert thicknesses are tested to determine the correct amount of ligament tension. The knee may "seem" longer due to straightening a bowed or crooked leg, however.

The "Other Knee"

Arthritis is caused by multiple factors: aging, injury, weight, and genetics. Many patients have moderate wear of the opposite knee. Hopefully, by replacing the "bad knee", the other knee will be off loaded and can be treated with cortisone or medication. If not, replacement could be done as early as 6-8 weeks from the first knee.

Doing both knees at the same time

This is generally no longer done due to higher complications, higher mortality and longer recovery.

Unsatisfied patients

Unfortunately, there is nothing in life or in medicine that works perfectly every time. Knee replacement is one of the best surgeries in human history, but still roughly 10% of patients are only somewhat happy and 10% wish they had not done the operation.

Of the patients who are unhappy, some have an obvious problem such as stiffness, a wobbly feeling, a "parts problem" on x-ray, infection, or a nerve problem. These are difficult problems with imperfect solutions.

10% of TKR patients have pain for no clear reason. There are risk factors like being young, male, having mild arthritis before surgery, and being on narcotic pain meds before surgery; high anxiety and depression are large factors as well.

Your doctor should make sure you do not have an explainable reason to hurt. If there is not an identifiable problem, you will likely have to live with your current situation, although we would encourage multiple, unbiased second opinions (even outside of TCO) for peace of mind. Dr Eggers, Bloom and Hartigan within TCO can treat patients with persistent pain, although results are unpredictable.

Preoperative Checklist

Complete and give to Angela or Libby before you schedule your surgery

<u>Medical history</u>:
Diabetes?

Low Hemoglobin or anemia?

Anticoagulation or blood thinners beyond aspirin?

Narcotic use (vicodin, oxycodone, fentanyl, morphine, tramadol)?

Urinary issues for men such as enlarged prostate, cancers or surgery?

Medications for autoimmune disease such as Methotrexate or prednisone pills?

Can you take a full or baby aspirin?

Have you ever been allergic to cephalosporins?
Have you ever had a severe reaction to penicillins (more than rash)?

Personal situation:
What is your BMI (the team can get this for you)?

Who will you stay with after surgery?

Who will be your personal coach and helper?

GAD Survey
(0-None, 1-Several days, 2-More than half of days, 3-Nearly every day)

A- Over the past 2 weeks, how often have you been bothered by feeling nervous, anxious or on edge?
B- Over the past 2 weeks, how often have you NOT been able to control or stop your worrying?