Total Knee Replacement Information Sheet

Patient Information Form

"My goal is to provide my patients with a knee that gives them a lifetime of good function with minimal or no pain. All the decisions I make during the planning and performing of a knee replacement, including surgical approach and implant selection, are done with the best interests of my patients in mind. I want to do as minimally invasive an operation as I can do, but still adhere to the surgical principles that are required to make a knee replacement function well for many years. Another main goal is to avoid any complications that can prolong your recovery. The following is a brief summary of the knee replacement experience. Any questions that arise can always be answered in person. Thank you for your trust and allowing me to help you improve your quality of life"

- Alexander C. Gordon, MD

Total knee replacement is a surgical procedure designed to reconstruct the arthritic knee joint. The goals are to relieve pain and improve function. In 2003, the National Institute of Health had a conference regarding knee replacement surgery and came up with the following conclusion.

"The success of primary total knee replacement in most patients is strongly supported by more than 20 years of follow-up data. There appears to be rapid and substantial improvement in the patient's pain, functional status, and overall health-related quality of life in about 90 percent of patients; about 85 percent of patients are satisfied with the results of surgery"

Although it is a commonly performed surgical procedure today, it has taken decades to develop the principles and implants that allow knee replacement to be a successful operation. It is beyond the scope of this letter to describe all of these principles. Any questions that come about after reading this can be addressed in person.

Once we have met and decided that a knee replacement is the appropriate treatment for you, this is what to expect.

Schedule a date for surgery

- Most pre-operative testing must be done within 30 days of the surgery, so getting a date scheduled is important

Pre-operative examination

- Prior to surgery you will need an evaluation by your primary physician. This will consist of a physical exam, blood tests, and an EKG. If your medical condition warrants it, further testing will be done. We can't proceed with the operation until all the testing is completed and the results have been sent to the hospital. If your primary physician is not on staff at the hospital where

you are having surgery, we will assist in assigning one to you. Some medications you take will have to be stopped prior to surgery. Please refer to the sheet in your packet for specifics.

Day of surgery

- You'll see me in the pre-operative holding area where we will verify the correct knee and that nothing has changed in your health history
- You will meet with the anesthesiologist to discuss the anesthesia for surgery as well as post-operative pain management

Pain Management

- This is one of the most concerning areas for patients. Knee replacement has typically been thought of as a painful operation and recovery. We are doing several things to alleviate the pain associated with the operation.

Pre-medication

- Often, we will use medications before surgery to start the pain management program. This can consist of medications called Celebrex, Opana, and/or Oxycodone.

Anesthesia

- Spinal and epidural anesthesia block the nerves that transmit pain signals to your brain. This can last from many hours to days.

Femoral nerve blocks and catheters

- This is a way to give continuous medication over the course of several days to block the pain signals from your knee to your brain.

General Anesthesia

- There are several factors that determine what the best anesthesia for a given person is.
- Some studies have shown that a combination of a spinal anesthetic and femoral nerve catheter are very effective in relieving pain and assisting in a faster recovery after knee replacement surgery.

Post-operative

- Narcotic medications, like morphine and similar substances, are the traditional ways to manage pain post operatively. We use these medications frequently, but they do have side effects such as nausea and drowsiness. If we can minimize the use of these medications and still manage your pain well, it can help in a faster recovery.
- Usually by 2-3 days after surgery, oral medications like hydrocodone are effective in managing pain. These are used for 3-4 weeks after surgery, with a transition to non-narcotic medications after that. Hopefully, by 6 weeks after surgery, you will not need prescription pain medication.

Pre-surgical medication use

- If you take pain medication prescribed by a physician prior to knee replacement, it may make it difficult to manage your pain after surgery. Please let us know any and all medications, as well as doses and frequencies, you are taking.

Knee replacement surgery

- The operation itself is performed in about 60 minutes. We use a tourniquet on your thigh that stops bleeding during surgery, so you may have some discomfort in your thigh after the operation.
- There is an incision on the front of your knee. Any old incisions that exist will be used if possible for the operation. Would healing problems can be a serious complication after surgery, so proper incision location and length is critical to a successful operation.
- Dr. Gordon uses a quadriceps-sparing approach to the knee. This does not cut muscle and is a less traumatic way to approach the knee than the tradition quadriceps splitting approach
- The ends of the femur and tibia are shaved in precise angles to accept the knee implant. This is done with a series of alignment guides and bone cutting tools. The implant is then attached to the bone with bone cement and allowed to set. A plastic insert is placed between the newly reconstructed bone ends to act as the new cushion in the knee joint. Dr. Gordon has intimate knowledge of the principles and practice of knee replacement surgery. This includes surgical technique and implant selection.
- The incision is closed with dissolvable stitches and the skin is closed with amedical adhesive.
- A drain is inserted into the knee and a bulky bandage to control swelling is applied.
- After 60-90 minutes in the recovery room, you will be taken to your room.

Hospital Room

- Once in your room, you will be in your bed. There should be an overhead frame to help you maneuver in bed. There will be pulsing booties on your feet. These simulate the pressure in your feet while walking and are meant to help prevent blood clots. If you need to get up or move in your bed, please call the staff. Trying to get out of bed by yourself can be dangerous and could lead to a fall.
- You will have blood drawn each morning to check your blood counts and blood thinning levels. More blood draws may be necessary depending on the situation.

Hospital stay

- You will be started on blood thinning medication to help reduce the risk of blood clots. The most typical medication we use is Coumadin, also called warfarin. This is given once a day, usually in the evening. This will be continued for 3 weeks and will need to be monitored by blood tests at least twice a week. In certain circumstances we also use an injectable blood thinner called Lovenox (enoxaparin).
- The drainage tube will be removed on the first day after surgery and the bandage will be changed on the second. You will get 2 therapy sessions each day. I usually do not restrict the amount of weight you can put on your knee, even immediately after surgery. Therapy starts with simply getting out of bed into a chair and progresses to walking in the hallway within 2-3

days. Monitoring of your vital signs, blood counts, and pain levels is done throughout the hospital stay.

2-3 Days Following Surgery

- By the second or third day after surgery, most people are ready for discharge

Follow-up

- You should make follow-up appointments with Dr. Gordon 3, 6, and 12 weeks after surgery
- At each appointment we will assess your incision, your walking ability, and the range of motion in your knee.

Recovery

- The time-frames discussed below are guidelines and are not absolute landmarks. The range of normal is quite wide and we will discuss your progress at each visit.

3 weeks

- You should be walking into the office. Some people are using no support, some are using canes, and others using walkers. This depends on many factors
- We like you to have 90 degrees of bend in your knee and enough strength to straighten it on your own.
- You will stop your Coumadin and staples will be removed. You can shower after this visit.

6 weeks

- Hopefully your walking be improved so that you can almost walk normally
- Flexion of the knee should be 90 degrees without difficulty. If there is significant stiffness at this visit, we will discuss the options available to improve range of motion
- Therapy should be continued for about another 4 weeks
- You should no longer need prescription pain medication
- This is the point at which many people can return to work in some capacity. Return to work is different for each individual and should be discussed prior to surgery.

12 weeks

- Therapy should be done or almost completed
- Pain should be minimal
- You're knee may not be totally "normal" by this point, but you should be able to perform most activities.
- You will be discharged from your post surgical follow-up period, with annual checkups thereafter.
- Complications and other factors affecting knee replacement

Infection

- Infection is a serious complication that can occur after knee replacement. We take many steps to prevent infection after surgery including the use of pre-operative skin cleansers, appropriate

antibiotics, and a sterile operating room environment. Despite these precautions infection can occur in some cases. The risks are dependent on many factors. If an infection does occur, timely and aggressive treatment is necessary. Often times more surgery is needed, and in some cases removal of the knee replacement is necessary. Poor circulation, diabetes, and poor nutrition are some conditions that increase the risk of infection.

Wound healing problems

- Problems with wound healing are rare, but serious. Conditions such as diabetes and obesity put people at increased risk for this complication. Previous non-arthroscopic knee surgery with incisions on the knee is also a risk factor. This can necessitate further surgery and sometime major reconstruction if it occurs.

Nerve or blood vessel injury

- Injury to nerves or blood vessels around the knee can occur with knee replacement. The best prevention is good surgical technique. These are extremely rare complications, but can be very disabling if they do occur. Diabetes, poor circulation, hardening of the arteries, and significant joint deformity are some of the factors that increase the risk of this happening.

Blood clots

- Blood clots in the veins, called deep vein thrombosis, can occur commonly after knee replacement surgery. We use Coumadin, also called warfarin, to prevent blood clots. This is a pill taken once a day and must be monitored by blood tests. Other agents such as an injection may be used if you are at increased risk. Blood clots may be silent or may lead to swelling of the leg. In some instances, the blood clots break loose and travel to the lungs. This is called a pulmonary embolism, and in some cases may be fatal. Your surgical team is very aware of this possible problem and we take many steps to address it. Risk factors include a personal or family history of blood clots, cancer, obesity, and certain other medical conditions.

Stiffness

- Stiffness of the knee joint after knee replacement can occur, this is why we are so aggressive with therapy right after surgery. Scar tissue starts forming in the knee right after surgery. If the knee gets stiff, the scar tissue is very difficult to overcome. If by 6 weeks you don't have at least 90-100 degrees of motion, I may recommend a knee manipulation under anesthesia. This is a procedure where you are anesthetized and I bend your knee, releasing the scar tissue. This is necessary about 2% of the time. In some cases, the stiffness is so profound even the manipulation does not get enough motion. This condition is called arthrofibrosis. This can be very difficult to treat, with more surgery sometimes becoming necessary. Risk factors include previous open knee surgery, limited range of motion before the knee replacement, and some patients with litigation or worker's compensation cases pending.

Revision Surgery

- Despite the use of the most up-to-date surgical technique and implants, a knee replacement may fail to function well for the rest of your life. This may require re-do, or what we call revision, surgery. Historical data shows that the most common reasons for revision are implant loosening

from the bone, ligament instability, and wear of the plastic. The risk of revision surgery is probably about 10-15% in the first 20 years after a knee replacement.

Obesity

- Obesity is defined as a body mass index greater than 30. Much research has been done to determine if obesity is a risk factor for complications after knee replacement. The data is not conclusive, but there is a suggestion that obese patients are at higher risk for a number of different complications after knee replacement and their outcome may not be as good as non-obese patients. Patients with a body mass index over 40 are at particular risk.

Dissatisfaction

- If everything goes well with a knee replacement and no complications are encountered, some patients are still not satisfied with their knee. This can occur from 5%-15% of the time. Most of these people are better functionally than they were before the surgery, but things like stiffness, pain, and the fact that their knee doesn't feel normal has them be dissatisfied. We should discuss your expectations about knee replacement prior to proceeding with surgery.

Bilateral surgery

- Arthritis often affects both knees, and some people are candidates to have knee replacements on both knees. This can be advantageous for a number of reasons such as the need for only one hospital stay, one anesthetic, and one rehabilitation period. In our experience, the recovery period after having both knees replaced is not significantly more than having one replaced. However, there are risks with bilateral surgery. Many studies have reported higher rates of blood clots, pulmonary embolism, heart attacks, and even death in patients undergoing bilateral knee replacement compared to those undergoing only a single knee surgery. Obese patients and those with multiple medical problems are at particular risk with a bilateral procedure. The risks and benefits if this should be discussed with your surgeon

This is not a comprehensive list, but does highlight some of the risks surrounding knee replacement surgery. Any questions should be directed to Dr. Gordon or his staff.