

# Total Knee Replacement

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## Introduction

This booklet provides information for you and your family regarding total knee replacement surgery. The surgical procedure, pre-operative and post-operative care, the risks and benefits of surgery, as well as rehabilitation, are explained. Please read and discuss this booklet with your family before your pre-operative appointment with Dr. Dimond. Our goals are to restore your knee to a painless, functional status, and to make your hospital stay as beneficial, informative and comfortable as possible. Please feel free to ask questions or share concerns with the staff.

## Total Knee Replacement (TKR)

Total knee replacement is a surgical procedure in which injured or damaged parts of the knee joint are replaced with artificial parts. The procedure is performed through a five inch incision by separating the muscles and ligaments around the knee joint. After the joint capsule (covering) is opened the knee joint is exposed. The ends of the thigh bone (femur) and the shin bone (tibia) are removed as well as the underside of the kneecap (patella). The artificial parts made of a strong metal alloy for the femur and tibia and a plastic button for the patella are cemented into place. Your new knee will consist of a metal shell on the end of the femur and tibia separated by a plastic liner which becomes the new joint surface.

## Who is a candidate for TKR

Total knee replacements are usually performed on people suffering from severe arthritic conditions. Most patients who have artificial knees are over age 55, but the procedure is performed in younger people. The indications for surgery are

- Knee pain that is unresponsive to conservative therapy
- Knee pain that restricts not only work and recreation but also your activities of daily living
- Significant stiffness in your knee
- Significant instability in your knee
- Significant deformity that interferes with walking

## What to expect from your knee?

An artificial knee is not a normal knee, nor is it as good as a normal knee, however the operation should provide pain relief for up to fifteen years. If the replacement provides you with pain relief and if you do not have any other health problems, you should be able to carry out all activities of daily living. I allow my total knee replacement patients to resume all sporting activities including skiing, tennis, and golf. One of my patients is still an active surfer.

You may have occasional clicking in your knee. This is normal and will not cause you any pain. After surgery you may have a minor amount of numbness along the side of your knee. This also normal and will improve in time

What are the risks of TKR

Total knee replacement is a major operation that takes approximately two hours. The most common complications are not directly related to the knee and usually do not affect the result of the operation. These complications include urinary tract infection, blood clots in the leg, or clots in the lung. To prevent blood clots all my patients take a blood thinner for three to four weeks after surgery.

Complications affecting the knee are much less common, but in these cases the operation may not be as successful. These complications include:

Some knee pain

Stiffness

Infection

The most devastating complication is infection. The risk of infection is 1%. Infected artificial knees require re-operation and sometimes the implants need to be removed. Antibiotics need to be taken for six weeks and then the implants can be put back in. Results are not as good if infection does occur.

How long do artificial knees last?

About 90 to 95 percent of total knee replacements are successful up to 12 years. Although some implants can last 15-20 years. The results are continuing to improve with better implant designs and stronger plastics. However loosening of the implants can occur, which can lead to pain. If this occurs a second operation can be done to put new implants in place. The results of revision (re-do) surgery are typically not as good as the initial operation.

Preparing for surgery

Preparing for a total knee replacement begins several weeks ahead of the actual surgery date. Maintaining good physical health before your operation is important. Activities which will increase upper body strength will improve your ability to use a walker or crutches after the operation.

A blood transfusion may be required after total knee replacement. All knee replacements are done with a tourniquet to prevent the need for transfusion. You can choose to donate one of your own units of blood prior to surgery. When donating blood, you must be healthy, without a cold, flu or infection. Eat a nourishing meal two hours before donation, and avoid strenuous exercise twelve hours after donation. If you donate blood I will order for you one injection of a medicine called Procrit, designed to stimulate your body to restore its blood cells to normal, prior to surgery.

Prior to surgery you need to see your primary care physician and any other medical specialist (cardiologist) to obtain medical clearance. All your medical problems need to be addressed and stabilized before your operation.

#### Pre-op visit

You will meet with me one to two weeks prior to surgery. At that appointment you will meet with my pre-op coordinator who will go over many of the items contained in this booklet. Prior to that appointment you should have obtained medical clearance and had all your lab tests. I will answer any other questions that you or your family may have. The next time that I see you will be the Day of surgery. If you have any problems prior to your surgery date please contact my office staff immediately. Remember to stop all your anti-inflammatory medicines two weeks prior to surgery. You can take Tylenol for pain during that time. If you are on aspirin or coumadin, they need to be stopped 5-7 days prior to surgery as directed by your primary care physician

#### Night Before Surgery

A shower should be taken the night before and the morning of surgery. You will be given special antiseptic scrub brushes. Use the spongy side and gently clean the surgical site. Do not shave the hair on the surgical site as it can cause cuts that can contaminate the area. The brushes contain a special soap which will reduce the risk of infection. Nothing to eat or drink after Midnight.

#### Day of Surgery

You need to arrive one hour prior to your scheduled surgery start time. Falmouth Hospital will call you the night before surgery to tell you the exact time that you need to arrive. You can not eat or drink anything after midnight prior to surgery. Although, you can have your medicines with a sip of water on the morning of surgery. Your primary care physician or your surgeon will tell you what medicines to take. One the morning of surgery you will meet many nurses who will prepare you for surgery. They will start your intravenous (IV) which is used to administer fluids and medication during and after surgery. I will meet with you one half hour prior to surgery to confirm and initial the operative site.

#### Anesthesia/ Pain control

You will meet your anesthesiologist on the morning of surgery. I prefer to have patients get an epidural anesthetic for total knee replacement. If your anesthesiologist feels that you are a candidate for an epidural he will insert a small catheter around your spine. This catheter stays in for 48 hours after surgery and delivers pain medicine directly to the nerve around your spine. It blocks pain very well but does not prevent you from moving your legs to begin your physical therapy. You will need a bladder catheter while epidural is in.

If you are not a candidate for an epidural or you do not want an epidural than you will go to sleep (general anesthesia) for the procedure. After surgery you will use "Patient controlled analgesia" (PCA). The PCA is a pain pump that delivers morphine through your IV when you press a button. It is designed so you can not get to much medicine. Typically I have you use the PCA for two days after surgery. Both the PCA and the epidural can cause the intestinal function to slow down. It is important to increase your

diet only as your stomach will allow. It not important to eat a lot in the first several days after surgery, as your IV will give you all the necessary hydration. Liquids and soft solids such as jello are easy to tolerate.

Whether you used a PCA or an epidural for pain, after two days I will switch you to oral narcotics. Typically my patients need some oral narcotics for six weeks after surgery. Although as time passes the requirement will get less and less.

#### After Surgery (In Hospital)

You will wake up in the recovery room and will stay there for approximately two hours. I will check on you while you are in the recovery room. You will have a large bandage on your knee that will stay on for 48 hours. In the recovery room we will put your knee in the “continuous passive motion machine” (CPM). This machine can be on as much as you like. It is designed to gently move your knee into flexion and extension. The minimum that you should use it per day is six hours. Don’t hesitate to tell your nurse to put your knee back into the machine if you so desire. I will show you how to use the machine so you can increase the amount of bending that you knee is doing.

Each day after surgery I will see you on daily rounds. I will check you blood count and monitor the need for a transfusion. I will also be checking on your coumadin level and see to it that you get a daily dose of the medicine. Patients who are on an epidural will get lower doses of coumadin prior to its removal as blood that is to thin can cause bleeding around the epidural site when it is removed.

Your physical therapist will meet with you daily to assist you in walking. They will teach you exercises to help move, as well as, strengthen your knee. As you feel better day to day you rehabilitation will become more strenuous.

Typically by the second post-operative day I like to have the nurses remove the bladder catheter, and to help you in to loose fit clothing. This is the best attire to do your rehab in. Your main goal while in the hospital is to get over the feeling of ‘sickness’ and ready yourself to participate in the rehabilitation phase

#### After Surgery (At Rehab)

Once you are feeling well I will arrange for your transfer to a rehab facility. Eighty to ninety percent of my patients go to rehab prior to going home. Patients who become independent while in the hospital can go directly home with visiting nurse assistance.

While at rehab you activity level and strength will improve. The therapists will work with you twice a day. They will work on range of motion and strengthening of your new knee.

I make rounds weekly at JML where I am the rehab director. If you go to another facility I will see you at your first post-operative appointment. Typically patients go to the rehab hospital of the cape and islands. They have doctors on staff there to monitor your progress.

The main goal is to obtain independence in order to go home. Both the rehab staff and I will continue to evaluate your readiness for home. The rehab staff will do a home evaluation to ensure your safety at home.

#### After Surgery (At Home)

Once you get home you will have a physical therapist come to you house two to three times a week to help your knee get stronger and to improve the range of motion. A

nurse will come in to draw your blood to check the coumadin level. My nurse will call you at home to tell you what dose of coumadin you will take. I will keep you on the coumadin for four weeks after surgery. If you have any increasing drainage, or redness around the wound, or if you have a fever greater than 100.5 degrees, than you should alert our office immediately. As soon as your knee becomes strong, I will allow you to start driving. Typically you will be able to drive by four weeks after surgery. Once you are able to drive we will begin an outpatient physical therapy program. The therapists will do many different exercises with you to improve your functional result.

#### Other concerns

It is normal to have clicking in the knee after replacement. This improves as your swelling and your muscle strength improves. However you may have some clicking in the knee for the life of the implant. This will non cause you any pain and is simply the metal and plastic touching together.

There is a small nerve bellow your kneecap that is always cut at the time of surgery and it results in numbness on the outside of the knee. This will not cause any functional disability and the numb feeling tends to improve over the first year after surgery. You may have some numbness for a lifetime.

I will let you shower at any time after the surgery as long as the wound is kept dry with a special dressing. You can let the wound get wet two weeks after surgery.

#### Expectations

Everybody is very different in their recovery after total knee replacement. However I expect that everyone should have at least 90 degrees of flexion by four weeks after total knee replacement. Typically you should be off any assisted device by six weeks. If you have any concerns about your progress you should talk to your physical therapist or speak with me directly.

Remember that full recovery can take up to six months, and some patients will take a year to achieve full functional status.