

WHEN IS IT TIME TO HAVE KNEE REPLACEMENT? Ted Manson M.D.

Knee replacement is one of the most successful operations in medicine and has improved the lives of millions of patients. Patients often ask about the correct time to have a knee replacement. This paper will explore conservative treatments for knee arthritis, the risks of knee replacement, and signs that it may be time to consider knee replacement.

CONSERVATIVE TREATMENT FOR KNEE ARTHRITIS:

I am a firm believer that conservative treatments for knee arthritis work well and are an appropriate solution for many patients.

Physical Therapy

One of the most effective means of treatments is physical therapy. The most effective therapy is called closed-chain quadriceps strengthening, which involves maneuvers when the foot is planted on the floor to strengthen the large thigh muscles. Often times, this will improve the way that the kneecap moves through the knee joint and will improve patient's pain and ability to function.

Weight Loss

Weight loss is also a very effective means of dealing with knee arthritis. When we speak about patient's weight we usually speak about the body mass index (BMI), which is a ratio of your weight and height that can be calculated using an online calculators such as <https://www.nhlbi.nih.gov/guidelines/obesity/BMI/bmicalc.htm>. For patients with a body mass index of above 30, patient should consider weight loss to see if it improves their symptoms prior to embarking on any kind of joint replacement.

The way that the mechanics work in the body, if you lose one pound of overall body weight, it takes three pounds of stress off of your knee. I have had several patients who were too heavy to undergo joint replacement and I asked them to lose weight prior to the joint replacement. When they lost the weight they came back and decided that they no longer needed the joint replacement because their pain had improved so dramatically. Certainly this does not apply to everyone, but it has convinced me that attempting weight loss prior to knee replacement is a sound strategy if your body mass index is over 30.

Steroid Injections

Steroid injections into the knee are commonly used for knee arthritis treatment. While there is a very small risk of infection they are remarkably effective in relieving pain. Unlike steroid pills, they rarely have any major effects on the whole body other than a temporary rise in blood sugar in diabetic patients.

Steroid injections can be administered into the knee every three months in the clinic (we have to wait three months in between shots) and I have had patients who have had delayed joint replacement for years with routine steroid injections. There is also a new six month delayed release steroid injection that is also available. Not every insurance covers this medication, but we should investigate it because it may save you trips to the office.

Hyaluronic Acid Injections

Hyaluronic acid can be thought of as the building blocks of cartilage. 15 years ago these medications were introduced to great hope for restoring cartilage in arthritic knees. Unfortunately, they did not work as well as we thought they would for the vast majority of patients. I feel that these medications are a good option for a patient who does not have bone on bone arthritis (bones are not seen touching each other on x-ray). While it may be a process to get insurance approval, for this subset of patients (painful arthritic knees, but not bone on bone) then these medications are probably worthwhile trying.

Anti-inflammatory Medications

Anti-inflammatory medications such as Tylenol (acetaminophen) and ibuprofen are also very effective. For Tylenol (acetaminophen) to be effective, patients should take it three times a day. For example, patients without liver problems can take two Extra Strength Tylenol (1000 mg acetaminophen) three times a day to maximize the results. Ibuprofen and naproxen can also be used for pain relief as long as patients do not experience stomach problems such as ulcers or bleeding. Excessive use of ibuprofen or naproxen can cause kidney damage, so follow the instructions on the bottle.

Other treatments such as knee unloader braces, heel wedges placed in the shoe and injections of hyaluronic acid (a gel which is injected into the knee) have also been used in the past for conservative treatment of knee arthritis. The American Academy of Orthopaedic Surgeons has not really found them to be of substantial benefit. This being said, if the patient wants to try heel wedges, unloader braces, or injections of the hyaluronic acid gel, I am more than happy to accommodate them.

RISKS OF KNEE REPLACEMENT:

Knee replacement is overall a very safe procedure. However, there are risks to knee replacement that patients should be aware of. The biggest risks following knee replacement are infection and stiffness.

Infection

Infection is uncommon following knee replacement. However, when it occurs, it is very disruptive to the patient's life. Treatment of infection around knee replacement usually requires removal of the knee replacement, installing an antibiotic knee replacement for three months, and then later a third operation to put a new permanent knee replacement back in place. As you can imagine, this is extremely disruptive to a patient's life.

We take several steps to prevent infection before, during and after the surgery and the University of Maryland is a leader in research into how to prevent and treat knee infection.

Stiffness

Stiffness is another uncommon, but possible complication of knee replacement. Most patients who have a knee replacement are not able to straighten their leg fully and in general knee replacement allows them to straighten their leg all the way. Most patients after knee replacement are able to bend their leg to the same degree as they were prior to surgery. However, knee replacement does not usually give people more knee bending than they had

before the operation. It is always possible that the patients will be exuberant scar tissue formers, who have less motion in the knee replacement than they did before the operation.

Instability

Instability is one of the main reasons to have a knee replacement and in most cases the stability of the knee replacement is better than the preoperative arthritic knee. However, some patients have instability after the knee replacement or develop it over time and need the knee replacement redone to improve its stability.

Incomplete Relief of Pain.

While knee replacement is very effective at relieving pain, somewhere between 5 and 10% of patients who have a knee replacement still have pain after the knee replacement. This could be as minimal as occasional pain on cold days or they can have pain with climbing stairs or pain with level walking. It is important to understand that vast majority of patients are very happy with the pain relief, but there is a small subset of patients who have persistent pain after knee replacement.

Nerve and Artery Damage

The knee is surrounded by major nerves and arteries and it is sometimes possible to injure these during surgery. In the worst injuries, the patient can lose their leg. Fortunately, this is very rare and specific steps to avoid it are taken during the surgery.

Medical Complications

Medical complications of knee replacement surgery are uncommon, but can include blood clots including blood clots in the lung or leg, heart attack, stroke, and even death. These risks are minimized by optimizing the patient's weight and medical status prior to the operation in conjunction with your primary care doctor.

The above mentioned risks are all very rare, but it is important to know that they are possible.

WHEN IS IT TIME TO HAVE KNEE REPLACEMENT?

Knowing the risks, when is it time to have the operation. Below are reasons to consider knee replacement

Marked disruption of everyday activities

One of the main reasons to consider knee replacement is pain that markedly limits everyday activities despite using anti-inflammatory medicines. Pain should be disruptive to the activities of daily living and the patient should feel that their knee pain markedly impacts their everyday activities or they find themselves staying in the house more to avoid activity altogether.

Inability to go up and down stairs or needing to use a cane are also signs that it may be time to consider knee replacement. Failure of the anti-inflammatory medications to improve pain when anti-inflammatory medications are no longer able to control the patient's pain and they have bone-on-bone arthritis that is causing them pain on a hourly basis and then it is probably time to consider knee replacement for pain relief.

Many patients have trouble with sleeping at night because of the pain of knee arthritis. If anti-inflammatories fail to allow patients to sleep, it may be time to consider knee replacement.

Bone on bone arthritis

Before considering knee replacement, the patient's should have x-rays that show bone touching bone somewhere in the knee. For patients who just have thinning of the cartilage, but do not have bone touching bone, they should not undergo knee replacement except in rare circumstances. The reason for this is that patients who do not have bone on bone arthritis and then undergo a knee replacement are much less likely to be satisfied with their knee replacement and we should find some other pain management strategy to help with their symptoms

Instability

Part of knee arthritis is a progressive instability of the knee where the knee becomes much looser and more unstable than the native knee. In some cases, this is mild. In other cases, it is significant enough that particularly when the knee bends or if the knee is in a bent position, it becomes markedly unstable.

Many times this is manifested as a "giving way" sensation to the knee. In severe cases, the knee instability causes the patient to fall. It is my feeling that for patients with bone-on-bone arthritis that have started to have falls because of their knee arthritis, it is probably time to have a knee replacement to improve the stability of their knee and limit their chances of falling.

SUMMARY:

There are risks to knee replacements and it is important for the patients to be aware of them. However, they are in general very rare with the exception of incomplete relief of knee pain, which is around 5% to 10% of patients who have a knee replacement. The vast majority of patients are happy they had the procedure.

Only the patient can decide when they are ready for knee replacement and in most cases the knee replacement is an entirely elective procedure where that can be done on the patient's time.

There is usually no rush to having the operation. The one exception to this is the patient who is starting to fall frequently because their knee is unstable. Patients who have knee arthritis and are starting to fall because of their knee should strongly consider surgery.

In summary, a knee replacement is extremity successful operation that has helped millions of patients. Knowing the risks, benefits and options will help us include you as part of the care team and get the most out of your knees.