

## Total Knee Workbook

### [Introduction](#)

For many years, I have struggled to find a way to fully inform my patients facing **Total Knee Replacement** (TKR) **Surgery** about the benefits and risks of this procedure. It is my duty to inform you of all possible risks, but I do not want to frighten you by doing so. Too often, we physicians “talk medical,” and this gets in the way of patient understanding.

For this reason, I have created a **Total Knee Workbook**, an informed consent document that allows you to participate interactively to learn about this procedure. When you complete this workbook, you will be well informed about TKR. While I cannot begin to cover all possible occurrences or medical misadventures that may occur after this operation, the following pages address the most common situations I have seen.

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# Total Knee Workbook

## Part 1: Understanding Outcomes and Expectations

### Expected activity:

Your activities cannot be expected to greatly increase after this surgery. For example, if you play tennis now with pain, you should be able to play tennis after surgery with less pain. Allowed activities after **TKR** include walking, swimming, playing golf, playing doubles tennis. We do not recommend skiing, singles tennis, contact sports, jogging, or running. Kneeling will remain difficult.

**\*\*\*I understand that my activities will not necessarily increase after TKR.**

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### Pain relief:

Few **TKR** patients experience no pain whatsoever after the surgery. Indeed, most patients will have varying degrees of pain, depending upon their pain threshold. After all, you have had major surgery. An artificial knee is not the same as an original, healthy knee. Some patients will even have pain after surgery that cannot be explained. Conversely, many hip replacement patients can even forget, at times, that they have had a hip replacement; the artificial hip feels so natural. However, the mechanics of the knee are much more complex.

Complexity can be compounded if a patient has other health problems. For example, patients who have back problems may sometimes have continued unexplained or frustrating pain after knee replacement. Nerves that are irritated from the back problem can innervate the areas around the knee and lower leg.

Patients who have had previous knee surgery will have less likelihood of an excellent result. Neither can patients who have sustained severe injuries about the knee prior to surgery expect to have an excellent result.

You cannot expect to have a perfect knee after TKR. After all, the surgery has repaired a flawed joint, replacing it with an artificial joint; therefore, it cannot be the same as a natural, healthy knee.

**\*\*\*I understand that my knee replacement will not feel like a normal knee.**

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**\*\*\*I understand that I may have pain that persists after surgery. \_\_\_\_\_**

**\*\*\*I understand that my surgeon may be unable to explain continued pain.**

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**\*\*\*I understand that patients with chronic back problems will sometimes have continued pain. \_\_\_\_\_**

**Typical outcomes after knee replacement:**

You must remember that results of knee surgery depend upon the state of your knee before surgery. In other words, if your knee was in a very bad condition before surgery, your results will not be as good as someone whose knee was in better condition than yours. If your knee was in a bad condition, good--not excellent-- results are all you can hope to have. The earlier in the disease process that you have surgery, the better your outcome will probably be. In other words, someone with a mildly arthritic knee will probably be more satisfied with the result of surgery than someone who has had a severely arthritic knee prior to surgery. Keeping that in mind, your range of motion will not be significantly better after surgery than it was before surgery. Patients who have the surgery earlier in the disease process will have better range of motion after surgery. Patients who wait for years to do something about their knee problem will have less range of motion after surgery.

According to statistics nationwide, 88% of patients having total joint replacement surgery will have a good to excellent outcome. Bear in mind: 88% is not 100%.

**\*\*\*I understand that the worse my knee is before surgery, the more difficult it will be for me to have an excellent result. (*Excellent* meaning that the knee will have a nearly normal range of motion with little or no pain.)**

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**\*\*\*I understand that 12% of patients undergoing this procedure will have a fair to poor result. \_\_\_\_\_**

**Joint Longevity:**

Most artificial knees will last from 10 to 15 years, but we cannot guarantee this longevity. Many factors are responsible for the life span of a knee replacement. These factors include the patient's age or weight, activities undertaken after surgery, and the alignment of the prosthesis.

Sometimes mechanical failure beyond a surgeon's control may happen, and if it does, revision surgery will be required.

**\*\*\*I understand that my knee replacement will probably last 10 to 15 years, but there is no guarantee of that. \_\_\_\_\_**

**Part 2: [Understanding Complications](#)**

**Below is a list of some of the more common complications:**

**Infection:**

Infection is a known complication of TKR Surgery. The rate of infection is approximately 1% or less. Reasons for infections are extremely varied. Frequently, infection has more to do with the patient's ability to fight minor infections than anything else. Patients with an immunocompromised state are at an increased risk of infection, and a nutritional screen prior to surgery can identify those patients.

Your surgeon will do everything possible to prevent this infection, including using proper antibiotics prior to and after surgery, wearing body exhaust suits while doing the surgery, and performing the surgery in high air exchange operating rooms. Despite all of this, infection has always been—and will probably always be—a possible complication of orthopaedic implant surgery. Fortunately, it is very uncommon.

Patients who do develop deep infections of their knee joint should expect further surgeries—at least two more—to correct this problem. Patients in whom deep infections do occur will definitely have an inferior result compared to patients who do not develop this complication.

**\*\*\*I understand that infection is a known complication of TKR. \_\_\_\_\_**

**\*\*\*I understand that infection is frequently due to the patient's inability to fight infections. \_\_\_\_\_**

**\*\*\*I understand that the infection rate for surgery is approximately 1%. \_\_\_\_\_**

**\*\*\*I understand that if infection develops, it will require further surgery to correct the problem. \_\_\_\_\_**

**Mechanical Failure:**

Your implant longevity has been previously discussed. It is important for you to remember that implants sometimes fail after surgery. This is completely beyond the control of your surgeon.

**\*\*\*I understand that my TKR is a mechanical device and that mechanical devices can fail prematurely. \_\_\_\_\_**

**Nerve or Blood Vessel Injury:**

Nerve or blood vessel injuries are unusual but may happen. Even experienced surgeons may incur these kinds of complications during surgery or may recognize them after surgery. These kinds of complications are much more common in repeat surgeries because the surgical dissection is much more difficult when scar tissue is present.

**\*\*\*I understand that nerve or blood vessel injury may not be recognized until after surgery. \_\_\_\_\_**

**\*\*\*I understand that nerve or blood vessel injury may require additional surgery to correct the problem. \_\_\_\_\_**

**Stomach (Gastrointestinal) Problems:**

Stomach problems are uncommon but may occur. This includes bleeding ulcers resulting from the presence of blood thinners.

A condition called an *ileus* may occur, but it is unusual. (*Ileus is a condition where the bowels stop working for a few days.*) Should an *ileus* occur, a tube may be placed into your stomach for a few days until it resolves.

Patients rarely have gall bladder problems after surgery, but it has happened.

More serious GI problems may occur. This is rare but not impossible.

**\*\*\*I understand that stomach (gastrointestinal) problems may occur after surgery. \_\_\_\_\_**

**Urinary Complications:**

The inability to urinate after surgery is common. This is less likely when your surgeon inserts a Foley catheter at the time of surgery. Urinary complications resolve after a few days in almost all cases.

Infections in your bladder—urinary tract infections or UTI—may occur after surgery. If so, it is important to treat these aggressively so that you do not develop an infection in your artificial joint.

**\*\*\*I understand that urinary tract infections may cause an infection in my knee replacement. \_\_\_\_\_**

### **Pulmonary (Lung) Complications:**

The most common thing we surgeons see in their patients is a benign condition called *atelectasis*. This occurs in almost every surgical patient. *Atelectasis* is the main reason most surgical patients have fevers after surgery. This condition is usually resolved in 2 to 3 days.

More serious pulmonary complications may occur, such as pneumonia, but this is very uncommon.

**\*\*\*I understand that surgical patients almost always have fevers after surgery. The source of the fever is from the lungs 90% of the time. \_\_\_\_\_**

### **Wound Healing Complications:**

The incision or “wound” may not heal properly in some patients. The wound’s healing may be delayed in some patients.

This is more common in patients who are not nutritionally normal. Your preoperative labs can determine nutritional normality. Patients who are not nutritionally normal are those who have lower protein levels in their blood. (Protein levels are determined by the albumin level in your blood.) Another indicator of nutritional abnormality is your Total Lymphocyte Count. This is determined by looking at your blood count. When any or all of these labs are abnormal, the patient may have as much as 5 to 7 times increased risk of wound healing problems.

It is important for you to realize that a high percentage of patients with wound healing problems may develop a deep infection of their prosthesis.

**\*\*\*I understand that wound healing problems are in large part related to my medical health prior to surgery. \_\_\_\_\_**

### **Numbness Lateral to the Incision:**

Numbness lateral to the incision is almost always present after knee replacement surgery. This is usually resolved after 6 months.

**\*\*\*I understand that I am likely to have numbness around my knee incision after surgery. \_\_\_\_\_**

### Part 3: Special Situations and Conditions

**Risk is increased if a patient has some of the conditions listed below. It is important to understand some of these.**

#### **Rheumatoid Arthritis:**

Patients with rheumatoid arthritis will have increased risks of infection, at least threefold. They will also have increased difficulty with wound healing.

**\*\*\*I understand that if I have rheumatoid arthritis, I will have as much as three times the risk of having an infection. \_\_\_\_\_**

**\*\*\*I understand that if I have rheumatoid arthritis, I will have increased difficulty with wound healing.**

#### **Psoriatic Arthritis:**

Patients with psoriatic arthritis have a greatly increased risk of infection compared to the general population with normal skin. The risk in these patients is increased at least threefold.

**\*\*\*I understand that if I have psoriatic arthritis, I will have a greatly increased risk of infection (at least three times as great) compared to the general population.**

#### **Post-traumatic Arthritis or Multiply Operated Knees:**

The more knee surgeries you have had prior to TKR, the less likely you are to be satisfied with the results of the knee replacement. (Patients having knee replacement surgery because of arthritis in their knee resulting from an old injury fall into this category.)

**\*\*\*I understand that the number of previous knee surgeries I have had will make the results of TKR surgery less satisfactory to me. \_\_\_\_\_**

**\*\*\*I understand that if I have arthritis in my knee that resulted from an old injury, I will be less satisfied with my TKR surgery than the general population.**

**Prior History of Blood Clots or Pulmonary Embolism:**

People with a history of blood clots or pulmonary embolism have a significantly increased risk of having these complications after surgery. It is imperative that you inform your surgeon if you or anyone in your family had has these complications after surgery.

**\*\*\*I understand that I must inform my surgeon if I have had a history of blood clots or pulmonary embolism. \_\_\_\_\_**

**\*\*\*I understand that I must inform my surgeon if anyone in my family has a history of blood clots or pulmonary embolism. \_\_\_\_\_**

**Calcification in the Blood Vessels Behind Your Knee:**

When calcification in the blood vessels behind your knee is detected on your X-rays (X-rays taken before your surgery), you are at increased risk for the rare complication of blood vessel injury after surgery.

**\*\*\*I understand that the detection of calcification of the blood vessels behind my knee will put me at increased risk for blood vessel injury after the surgery. \_\_\_\_\_**

**Prior Infection in Your Operative Knee:**

If you have had a previous infection in the knee that is about to be operated on, no matter how long ago, it will put you at increased risk for subsequent infection in your knee after TKR.

**\*\*\*I understand that a previous infection in the knee that is about to be operated on, no matter how long ago that infection occurred, will put me at increased risk for subsequent infection in that knee after TKR. \_\_\_\_\_**

**Patients with Severe Arthritis or Significant Deformities:**

Patients with severe arthritis or significant deformities will be less likely to have an excellent result or outcome after surgery. Again, the earlier in the disease process you have the surgery, the more likely you are to recover quickly, to resume the activities you wish to, and to achieve an excellent result. Patients who have waited until they can barely endure the pain, or who wait until they can hardly walk, will not do as well.

**\*\*\*I understand that my waiting until pain was unbearable or mobility almost impossible has put me at risk of having less than an excellent result. \_\_\_\_\_**

**\*\*\*I understand that knee surgery before the disease proceeds too far will have better results than if I wait. \_\_\_\_\_**

**The occasional "Noisy Knee Replacement":**

Occasionally, we will have a patient's knee replacement make a peculiar noise, which are the metal and the plastic hitting together and making a clunking sound. This is not painful, and is of no significance, and does not mean anything is wrong. Usually this will subside as the patient's muscles become stronger and the joint tightens up. Rarely is this permanent and even when it is, the patients learn how to live with it, just as someone who lives by the railroad tracks learns to ignore the sound of the trains in the middle of the night.

**\*\*\*I understand that my knee may make noise after the operation. \_\_\_\_\_**

**At this time I have the following questions for Dr. Bertram:**

**(Use this space below to write in any questions or specific points you would like to discuss with your doctor.)**

**I have no further questions for Dr. Bertram and feel very fully informed regarding the risks and complications of Knee Replacement Surgery.**

**Patient Name: \_\_\_\_\_**

**Surgeon: \_\_\_\_\_**

**Date: \_\_\_\_\_ Witness: \_\_\_\_\_**