
National Institutes of Health Consensus Development Conference Statement: Total Knee Replacement 12/10/03


OrthoSensor Multi-center evaluation 2-year results, pending publication

TO LEARN MORE ABOUT VERASENSE
ASK YOUR SURGEON OR VISIT US AT
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BECAUSE EVERY MOVE MATTERS
Do you suffer from chronic knee pain (as a result of arthritis or injury) that limits your normal activities and nonsurgical treatments are no longer helpful? If so, you may benefit from knee replacement surgery. Whether you have just begun exploring treatment options or have already decided with your orthopedic surgeon to have total knee replacement (TKR) surgery, this educational resource can help you understand more about your surgery.

**THE CAUSE** The most common cause of chronic knee pain and disability is arthritis, a degenerative joint disease characterized by the loss of joint cartilage. Cartilage is a protein substance that serves as a cushion between the bones of a joint. When knee cartilage becomes damaged, many people experience the following symptoms and limitations:

- Severe knee pain or stiffness that limits everyday activities (including walking, climbing stairs, and getting in and out of chairs and vehicles)
- Moderate or severe knee pain while resting, either day or night
- Chronic knee inflammation and swelling that does not improve with rest, medications or physical therapy
- Knee deformity – a bowing in or out of your knee
TOTAL KNEE REPLACEMENT SURGERY

ABOUT Total knee replacement surgery has evolved significantly since first performed in 1968. Improvements in materials, techniques, and instrumentation have greatly increased its effectiveness. Today, total knee replacement surgery is a safe and effective procedure to relieve pain, correct leg deformity, and help you resume normal activities. It is also one of the most common elective procedures in U.S.

The National Institutes of Health states that knee replacement surgery has shown to be a safe and cost-effective treatment for alleviating pain and restoring function for patients who have not responded to non-surgical therapies.

CHALLENGES WITH TOTAL KNEE REPLACEMENT While total knee replacement (TKR) complication rate is low, knee instability remains the most common cause for patient dissatisfaction. When this occurs, your surgeon may suggest a revision. Approximately 15% of total knee replacement require revisions. In fact, 40% of early revision procedures can be due to incorrect implant positioning and/or soft tissue imbalance.

STUDIES SHOW 1 IN 5 PATIENTS IS DISSATISFIED AFTER A TKR

TOTAL KNEE REPLACEMENT STEPS A knee replacement might be more accurately termed a knee “resurfacing” because only the surfaces of the bones are actually replaced. There are four basic steps to a knee replacement procedure.

1. BONE PREPARATION: Damaged cartilage surfaces and a small amount of underlying bone are removed at the ends of the femur and tibia.

2. ALIGN, BALANCE AND ROTATE IMPLANTS: The removed cartilage and bone is replaced with metal implants that recreate the surface of the joint. These may be cemented or “press-fit” onto the bone.

3. RESURFACE THE PATELLA: The undersurface of the patella (kneecap) is cut and resurfaced with a plastic button. Some surgeons choose not to resurface the patella.

4. INSERT A SPACER: A medical-grade plastic spacer is inserted between the metal components to create a smooth gliding surface.
OVER 46 MILLION AMERICANS SUFFER FROM ARTHRITIS

650,000 KNEE REPLACEMENTS WERE PERFORMED IN 2013

IT IS PREDICTED THAT BY 2020, 1.2 MILLION KNEE REPLACEMENTS WILL BE PERFORMED¹
(The highest demographics will be between the ages 45-64)

WHAT IS VERASENSE? VERASENSE is the first wireless sensor-assisted device used in total knee replacements. The disposable sensor transmits data about your knee during surgery which enables your surgeon to customize implant positioning and achieve proper soft tissue balance.

With VERASENSE, your surgeon can now make data driven decisions, enhancing your recovery and overall satisfaction.

HOW DOES VERASENSE HELP ADDRESS TODAY’S TOTAL KNEE REPLACEMENT CHALLENGES?
VERASENSE elevates knee replacement surgery to a new level of precision. The sensor is used to support your surgeon in achieving proper soft tissue balance and implant positioning during your total knee replacement. Soft tissue balance is critical to avoiding pain, instability and stiffness post-operatively that can lead to premature implant failures and revision surgery.

HOW DOES VERASENSE WORK? Think about when you take your car in for new tires. The mechanic will use computers to ensure your tires are properly rotated and balanced for improved long-term performance. Similarly, surgeons use VERASENSE during your knee surgery to help them properly rotate and balance your knee with the goal of achieving both long-term stability and improved range of motion.
AM I A CANDIDATE FOR A VERASENSE TKR?
Anyone who requires a total knee replacement can benefit from the use of VERASENSE.

HOW CAN VERASENSE BENEFIT ME? When your surgeon uses VERASENSE during your total knee replacement procedure you may experience:
- Less pain
- Quicker return to normal activities
- Improved function of your knee
- Improved satisfaction

WHAT IS THE LIFESPAN OF A TOTAL KNEE REPLACEMENT USING VERASENSE? VERASENSE is not an implant. It is a disposable sensor that is used one time during a total knee replacement procedure. Total knee replacements have a life expectancy that depends on several factors including but not limited to patient’s weight, activity level, quality of bone and compliance with physician’s orders.

Proper implant position and balance of the soft tissues during surgery are very important factors that can affect the life expectancy of a total knee replacement. VERASENSE data, transmitted wirelessly by the sensor, gives surgeons the information on your soft tissue and best implant position – two key factors for a successful knee replacement. This allows for better outcomes and the potential for a longer lifespan of your knee implant.
QUESTIONS TO ASK YOUR SURGEON

- Why is total knee replacement (TKR) being recommended?
- What are the benefits TKR?
- Typically, how long will a TKR last?
- What are the risks involved?
- What is the success rate for a TKR?
- Will TKR solve my symptoms?
- What percentage of patients improve following a TKR?
- What are the benefits in using VERASENSE?
- Will I have pain following a TKR?
- Will I need physical therapy?
- How can the use of VERASENSE improve my recovery?