Total Knee Replacement

The first step when making the decision about knee replacement is to meet with your surgeon to see if you are a candidate for total knee arthroplasty (TKA). Your surgeon will take your medical history, perform a physical examination, and X-ray your knee. Even if the pain is significant, and the X-rays show advanced arthritis of the joint, the first line of treatment is nearly always non-operative. This includes weight loss if appropriate, an exercise regimen, medication, injections, or bracing. If the symptoms persist despite these measures, then you could consider TKA

The decision to move forward with surgery is not always straight forward and usually involves a thoughtful conversation with yourself, your loved ones, and ultimately your surgeon. The final decision rests on you based on the pain and disability from the arthritis influencing your quality of life and daily activities. Those who decide to proceed with surgery commonly report that their symptoms keep them from participating in activities that are important to them like walking, taking stairs, working, sleeping, etc.), and that non-operative treatments have failed.

These are some of the frequently asked questions regarding total knee replacement (TKR):

How long does a TKR last?

A common reply to this question is that total joint replacement lasts 15-20 years. A more accurate way to think about longevity is via the annual failure rates. Most current data suggests that both hip and knee replacements have an annual failure rate between 0.5-1.0%. This means that if you have your total joint replaced today, you have a 90-95% chance that your joint will last 10 years, and a 80-85% that it will last 20 years. With improvements in technology, these numbers may improve.

What types of implants are there?

The orthopaedic implant industry has developed a number of innovative technologies in an effort to improve the outcomes of TJA. In recent years, these technologies have been marketed directly to patients, which have increased the awareness as well as confusion on what these different designs mean. The most important message is that while a certain manufacturer may claim that their design is better, almost all of the available registry data (large collections of data from countries that track TJA) show that there is no clear advantage to any of these designs when it comes to improving outcomes. Here are specific implant design terms:

Gender specific: This refers to a modified implant design that accounts for average anatomic differences between men’s and women’s knees. Most manufacturers have incorporated similar modifications in their newer designs, which allow for more sizing options so that the prosthesis can be more accurately fit to the patient’s native anatomy and recreate the natural function of the knee.

Rotating platform: This refers to a plastic bearing that independently rotates on a metal tray on which it is seated. More often, the plastic bearing locks into the metal tray – referred to as a “fixed bearing.” Some theoretical advantages to the rotating platform concept when it was initially designed was that it could reduce the wear of the plastic bearing, reduce the rate of loosening of the metal parts, and better replicate how a patient's knee works (kinematics). Most current data shows that after 5-10 years in use, there does not appear to be any difference between rotating platform and fixed bearing designs in any of these outcomes.

Will my surgeon use a computer, robot, or custom cutting guide in my surgery?

There are many studies attempting to evaluate these emerging technologies and their influence of the success of surgeries. Each of these technologies has a specific goal that has fueled its development (i.e. more accuracy in implant placement, more efficient or faster surgery, etc.). To date, there appears to be both pros and cons to each of these technologies, but more research is required to determine what advantage, if any, these may offer. The best approach is to discuss this topic with your surgeon. You may want to know if they use one of these technologies, why they have chosen to do so, and what their experience has been in using it.

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