

Understanding Computer Assisted Knee Replacement

Knee replacement surgery isn't new. In fact, every year hundreds of thousands of people return to a life of less painful mobility.

During surgery, a surgeon needs to ensure proper alignment between the new implant and the femur (or leg bone). In traditional knee replacement surgery, this is done by mechanical jigs and "feel." A surgeon uses years of operating room experience and specialized cutting blocks to determine where it would be best to remove bone for implant. Once the cut is made, the natural bone cannot be replaced.

The New Solution

The computerized assisted surgery system helps the surgeon determine proper implant alignment with a degree of precision difficult to match with the naked eye alone.

Using infrared cameras, digitized bone images and simple tracking devices, the computer-assisted knee replacement procedure achieves alignment with extraordinary precision. In other words, it gives orthopedic surgeons a tool, which can help them align a knee replacement with more precision.

How does computer-assisted knee surgery work?

Before and during the knee replacement procedure, your surgeon uses the computer to locate specific landmarks and take critical measurements of your body. As the computer gathers this information, it can track the precise position of your leg and the surgeon's instruments at all times during your surgery. This "landmarking" helps with precision of placing the implant.

Throughout the surgery, the computer provides constant feedback and information to your surgeon. Your orthopedic surgeon still does all of the work—the surgeon decides where the implant should be placed and the computer system helps the surgeon put the implant in the exact location he or she chooses.

Given that every patient is different, this real-time, patient-specific, computer-guided accuracy is an important benefit of computer-assisted knee replacement surgery.

Computer system advantage

When joint replacement surgery is necessary, most patients want their surgeon to have every advantage possible.

Computer assisted surgery allows your surgeon to visualize your knee surgery in the most complete way possible, providing a steady stream of data and 3-D visualization.

The computer helps your orthopedic surgeon align your new replacement knee with more precision, which may result in a better fit and a faster rehabilitation. After rehabilitation, many patients experience a more natural range of knee movement.

Computer Vision

The computer system visualization technology allows the surgeon to see more than human eyes are capable of, giving your orthopedic surgeon a more complete picture of your individual knee anatomy.

Better alignment

Because computer-assisted surgery can help a surgeon get a more exact view of how your anatomy lines up with his or her instrumentation throughout the surgery, the surgeon can increase the precise alignment and placement of the knee implant.

You should always ask your physician about anything related to your health, and any new technologies, which may directly affect your surgical success and return to a normal life.