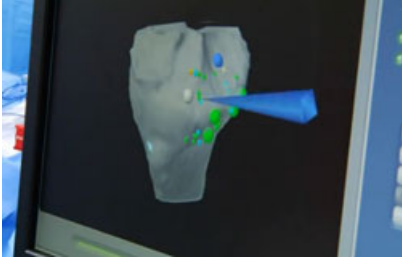


Using robotics for partial knee replacement

A new, minimally invasive surgical technique for adults living with osteoarthritis in their knees is resulting in more rapid recovery, shorter hospital stays and a more natural feeling knee after surgery.



Orthopaedic surgeons at The Ohio State University Medical Centre are among a few nationwide to use new robotics technology for partial knee replacement.

"This innovation strengthens our comprehensive robotics program and reinforces our commitment to developing personalised approaches for each patient," says Dr. Andrew Glassman, chief of the division of adult reconstructive surgery in Ohio State Medical Centre's Department of Orthopaedic Surgery. "By integrating robotic technology, patients experience lower levels of soft tissue trauma during surgery, increased bone conservation and improved range of motion."

CT scanning used in planning resurfacing

The procedure involves using a three-dimensional CT scan to plan the resurfacing precisely, removal of affected bone and placement of the implant. The diseased portion of the knee is resurfaced, sparing the patient's healthy bone and surrounding tissue. An implant is then secured in the joint to allow the knee to move smoothly again.

The robotic arm provides the surgeon with real-time visual, tactile and auditory feedback to facilitate optimal joint resurfacing and implant positioning, resulting in a more natural knee motion.

The ideal surgery candidate has early to mid-stage osteoarthritis in the medial, patellofemoral or lateral compartments of the knee. Typically, patients tend to be young active adults between age 40-50, and adults age 65 and older, who are experiencing knee pain.

Causes leading to OA

According to the National Institutes of Health, osteoarthritis (OA) is the most common joint disorder. It is caused by "wear and tear" on a joint and is characterised by pain and stiffness in the joints. Although the cause is often unknown, it is mainly related to aging. Before age 55, OA occurs equally in men and women. After age 55, it is more common in women.

Some factors that can lead to OA include heredity, being overweight, fractures or other joint injuries, or long-term overuse at work or in sports. Medical conditions, including haemophilia, disorders that block blood supply near joints and other types of arthritis, such as gout, can also be causes.

While OA cannot be cured, Glassman believes this new surgical approach will provide patients with better outcomes and improve function. "While every person with osteoarthritis is different, we believe this procedure will be beneficial for all aspects of a patient's life, from performing simple daily activities to maintaining a physically active lifestyle."

The first MAKOpasty procedure was performed by orthopaedic surgeon Dr. Matthew Beal at OSU Medical Centre's University Hospital East.

This procedure continues the use of robotics at OSU Medical Centre. Ohio State's Centre for Advanced Robotic Surgery includes more than 25 robotically-skilled surgeons working in over eight different specialties, and performing more than 70 robotic procedures in a variety of conditions.

Source: Ohio State University