NAVIO◇ ROBOTICS-ASSISTED SURGICAL SYSTEM – FAQs

What is the NAVIO Surgical System?

The NAVIO Surgical System is an advancement in the way orthopedic surgeons perform partial and total knee replacement. Every NAVIO procedure has an individualized plan based on each patient's unique anatomy. The system works in conjunction with the surgeon's skilled hands to achieve accurate positioning of components during surgery.[1-9] With the use of the hand piece, this level of accuracy may potentially help improve the longevity of the knee implant. [10]

What is osteoarthritis?

Osteoarthritis, also known as OA, occurs when there is a breakdown in the cushioning cartilage between joints, such as the knee. When this cartilage wears down bones begin to rub against each other causing pain, swelling, stiffness, and damage to other parts of the knee. Patients with OA often develop bone spurs, or osteophytes, which can further limit motion.[11]

What are my treatment options?

While there is no cure for osteoarthritis of the knee, there are multiple treatment options — both surgical and non-surgical — that are available to manage pain and that may delay the progression of the disease. Talk to your doctor. He or she may prescribe exercises, weight loss, or medication. If osteoarthritis has progressed to an advanced stage and is causing chronic and severe pain, surgery may be an option.[11]

What is the difference between partial and total knee replacement?

Partial knee replacement is an alternative to total knee replacement for certain patients with early to mid-progression osteoarthritis that is limited to one compartment of the knee. Unlike total knee replacement which addresses the entire joint, with partial knee replacement only the damaged portion of the bone is removed while the ligaments that help with knee stability are spared.

How does the NAVIO Surgical System work?

Anatomical data is collected by the system and used to generate a 3-dimensional model of your knee, which your surgeon uses to plan your operation. Proper implant placement and knee balancing are key factors to a successful surgery. In a NAVIO procedure, implant placement and knee balancing are achieved virtually before any cut to the bone is made. Once your surgeon is happy with your surgical plan, the NAVIO system's robotics-assistance guides the surgeon so that the damaged bone and cartilage are removed and the implant is positioned according to the plan.

What are CT scans and are they used with the NAVIO Surgical System?

CT scans or, computerized tomography scans, are a series of images similar to x-rays that show cross-sections of a joint. Other robotics platforms use CT scans to help a surgeon visualize a patient's knee anatomy. While CT scans are effective at showing the layers of knee anatomy, they can expose the patient to potentially harmful radiation. In fact, the average does for a single CT scan is equivalent to the radiation exposure received in 48 chest X-rays.[12]

The NAVIO system eliminates the need for CT scans by using an advanced computer program to collect anatomic and alignment information about your knee. Once captured, this information is used to build a computer-rendered 3D model of your knee that your surgeon will use to plan your surgery

What are the risks associated with knee replacement?

According to the American Academy of Orthopaedic Surgeons (AAOS), the rate of serious complications following total knee replacement surgery, such as infection in the knee joint, is very low, under two percent.[13] If your health is already challenged by a chronic medical condition, the chance of complication may be greater. If complications occur, they can delay or limit your ability to recover fully from your surgery. Some of the complications that can occur include blood clotting (Thrombophlebitis), infection, pneumonia, long term pain, knee stiffness, implant wear or failure, and nerve or vascular complications.

Knee replacement surgery is intended to relieve knee pain and improve knee functions. However, implants may not produce the same feel or function as your original knee. There are potential risks with knee replacement surgery such as loosening, fracture, dislocation, wear and infection that may result in the need for additional surgery. Longevity of implants depends on many factors, such as types of activities and weight.

Important Note

Individual results may vary. There are risks associated with any surgical procedure including NAVIO◇-enabled Knee Replacement. NAVIO is not for everyone. Children, pregnant women, patients who have mental or neuromuscular disorders that do not allow control of the knee joint, and morbidly obese patients and patients contraindicated for UKR, PFA and TKA should not undergo a knee replacement where NAVIO is used.

This information is for informational and educational purposes and is not meant as medical advice. Every patient's case is unique and each patient should follow his or her doctor's specific instructions. Consult your physician for details to determine if NAVIO is right for you.

Citations

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