Osteoarthritis(OA) is a chronic condition that affects millions of people worldwide. It causes joint pain, stiffness, and reduced mobility, significantly impacting the quality of life for those affected. However, advancements in medical technology have brought about innovative treatment options, including robotic joint replacement, which has revolutionized the way we approach osteoarthritis management. In this article, we will explore osteoarthritis, its conventional treatment options, and the role of robotic joint replacement in providing a pain-free life for patients.

Understanding Osteoarthritis:

Osteoarthritis is the most common form of arthritis, characterized by the gradual breakdown of the cartilage that cushions the ends of bones in the joints. As the cartilage wears away, bones may rub against each other, leading to pain, inflammation, and stiffness.

condition typically affects weight-bearing joints, such as the knees, hips, and spine, but can also impact other joints like the hands and feet. Osteoarthritis is often associated with age, joint injuries, obesity, and genetic factors.



Dr. Madan Mohan Reddy Senior Orthopaedic Surgeon, Apollo Hospitals. Chennai

Conventional Treatment Options:

Talking about the conventional treatment options. Dr Madam Mohan Reddy, senior orthopaedic surgeon at Apollo Hospitals. Chennai. explains, "Traditionally, treatment for osteoarthritis has focused on managing symptoms and improving function." According to him, some common conventional treatment options include:

Medications: Over-the-counter pain relievers, such as acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs), can help alleviate pain and reduce inflamma-

Physical Therapy: Physical therapy aims to strengthen the muscles surrounding the affected joint, improve flexibility, and enhance overall mobility. This can help reduce pain and improve joint function.

Lifestyle Modifications: Maintaining a healthy weight is crucial for managing osteoarthritis, as excess weight places additional stress on the joints. Regular exercise, a balanced diet, and proper rest can also contribute to symptom relief.

Surgery: In cases where conservative measures fail to provide relief, surgical interventions like joint replacement surgery may be considered.

Robotic Joint Replacement:

Robotic joint replacement is an advanced surgical technique that utilizes robotic systems to assist orthopedic surgeons during joint replacement procedures. This technology combines the expertise of the surgeon



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Painless

solutions for

painful problems

Ostearthritis affects one's knees

and hips the most: and of late.

this is becoming a matter of

concern. However, advanced

treatments are making lives of

the patients peaceful

with the precision and accuracy of robotic instruments, enhancing the overall surgical outcomes. Robotic joint replacement procedures are primarily performed for hip and

The procedure begins with preoperative planning, where the surgeon uses specialized software to create a personalized surgical plan based on the patient's anatomy. During the surgery, the robotic system provides real-time data, allowing the surgeon to make precise incisions, remove damaged bone and cartilage, and position the artificial joint components with exceptional accuracy. This improved precision can lead to better alignment, optimal implant fit, and improved joint function, ultimately resulting in reduced pain and enhanced longevity of the joint replacement.

Benefits of Robotic Joint Replacement:

Robotic joint replacement offers several advantages over traditional joint replacement procedures, including:

Enhanced Precision: The robotic system provides unmatched precision, allowing for accurate bone preparation and implant positioning. This can lead to better joint alignment, improved range of motion, and reduced risk of complications.

Personalized Treat-

ment: The preoperative planning stage enables surgeons to create a tailored surgical plan based on the patient's unique anatomy, optimizing the outcomes and reducing the risk of implant-related issues.

Minimally Invasive Approach: Robotic joint replacement can often be performed using minimally invasive techniques, resulting in smaller incisions, less tissue damage, reduced scarring,

Obese woman walks a new pain-free walk through Robotic Total Knee Replace-

Weight is not a deterrent anymore in knee replacement surgery. Now overweight patients can get their knees replaced with Robotic Knee Replacement at Apollo Hospital. The approach leaves the soft tissues unharmed and the patient experiences less pain with better muscle control and faster recovery.

Patient Testimony

A 61-year-old woman was presented with a case of osteoarthritis in both knees, due to which she had persistent pain in both knees and faced difficulty in walking. Her excessive weight, about 134 kg (BMI 44.4), deterred several hospitals from treating her. At last, he visited Apollo Hospital where he was advised for Robotic Total Knee Arthroplasty by Dr. Madan Mohan Reddy for Robotic Joint Replacement.

"Patient's weight posed a challenge for her to walk and get treatment anywhere. We successfully performed an active Robotic arm-assisted Total Knee Arthroplasty on her without the use of a tourniquet. We used the minimally invasive approach, which is generally not used for overweight patients and opted not to use external sutures or staples. Contrary to popular belief, our results demonstrated that the minimally invasive

> approach can be effectively utilized in morbidly obese patients without harming any tissues or ligaments. With this mally invasive approach, the quadriceps muscle is left unharmed and the patient experiences less pain with better muscle control and faster recovery ", the doctor

said. The patient was able to walk pain-free on the day of surgery. She was discharged within 4 days after being provided with post-operative rehabilitation and physio-

therapy. "We used the Ti-nib coated CR Knee Implant with UHMWPE poly, and our patient's post-operative rehabilitation and recovery were quick. Robotic technology has brought a revolution in joint replacements and made procedures more efficient and risk-free. The robot's precision and accuracy add value to the treatment and help us in giving our patients a new pain-free walk for life.

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