

Robotic Arm-Assisted Surgery for Total Hip Replacement

*Patient
Guide*



Causes of your hip pain

Your joints are involved in almost every activity you do. Movements such as walking, bending and turning require the use of your hip and knee joints. When your hip becomes diseased or injured, the resulting pain can severely limit your ability to move and work.

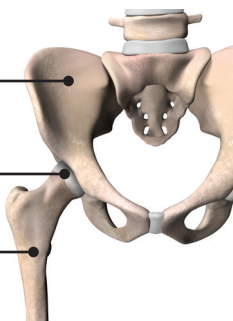
One common cause of hip pain is **osteoarthritis (OA)**. OA is sometimes called degenerative arthritis because it is a “wearing out” condition involving the breakdown of cartilage and bones. With osteoarthritis, the cushioning cartilage at the end of the femur may have worn down, making walking painful as bone rubs against bone.

A normal hip

Pelvic bone

Healthy cartilage

Femur (thigh bone)

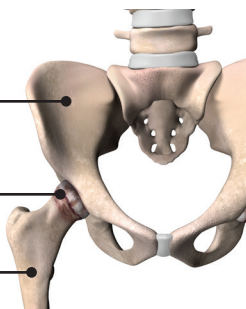


An arthritic hip

Pelvic bone

Diseased cartilage

Femur (thigh bone)



Did you know?

Approximately **27 million Americans** suffer from OA.¹

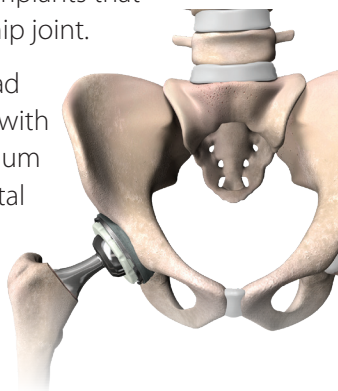
Did you know?

Most patients who undergo Total Hip Replacement are between the ages of 50 to 80.²

What is total hip replacement surgery?

Total hip replacement (THR) surgery involves removing arthritic bone and damaged cartilage, and replacing them with hip implants that are designed to replicate the hip joint.

During surgery, the femur (head of the thigh bone) is replaced with a metal stem and the acetabulum (hip socket) is fitted with a metal cup. The artificial ball is placed on a metal stem, and the artificial socket is lined with polyethylene (a durable plastic).



Robotic arm technology can be used for total hip replacement surgery, which is a procedure designed for patients who suffer from non-inflammatory or inflammatory degenerative joint disease of the hip. This technology provides your surgeon with a patient-specific 3D model to pre-plan your hip replacement. During surgery, your surgeon guides the robotic arm based on your patient-specific plan. This helps the surgeon to focus on removal of diseased bone, helps preserve healthy bone, and assists your surgeon in positioning the total hip implant based on your anatomy.



How robotic arm-assisted surgery works

1 Have a plan personalized for you

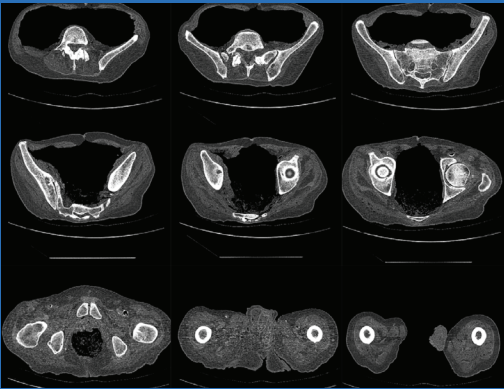
It all begins with a CT scan of your joint that is used to generate a 3D virtual model of your unique anatomy. This virtual model is loaded into the system software and is used to create your personalized preoperative plan.

2 In the operating room

The surgeon guides the robotic arm while preparing the hip socket and positioning the implant based on your personalized preoperative plan. During surgery, the surgeon validates the plan and makes any necessary adjustments in real time, while the robotic arm allows the surgeon to execute the plan with a high level of accuracy and predictability. The combination of these three features of the system has the potential to lead to better outcomes and higher patient satisfaction.

3 After surgery

After surgery, your surgeon, nurses and physical therapists will set goals with you to get you back on the move. They will closely monitor your condition and progress. Your surgeon may review an X-ray of your new hip replacement with you.



CT Scan



Personalized Planning



Postoperative X-ray

He made his move.

Michael Gershon

Total Hip Replacement patient

Michael Gershon, a 41-year-old New York City real estate investor, has been an athlete all his life. Before moving to New York City, he was a ski instructor in Colorado and enjoyed mountain biking and karate. However, after a lifetime of activity, pain in his hip caused him to lose 70 percent of his range of motion and kept him from the activities he loved. An X-ray showed he had virtually no cartilage left in his left hip joint. Eventually, the pain got so bad that he couldn't tie his shoe on his left foot.

"I walk about a mile to work every morning in Manhattan and I would fear that my left shoe would become untied," said Gershon. "I felt old. At 40 years old I was like, how is it possible I need a hip replacement?"

After consulting with his orthopedic surgeon about the benefits and risks of surgery, Gershon decided to get a total hip replacement performed using a surgeon-controlled robotic arm.

"All of the delays that I put into making the decision, I wish I could've gone back and done it sooner. I would tell anybody, if you're in pain, there is no reason to be in pain. Talk to a surgeon, and see if hip replacement surgery is right for you. I am seven weeks out of my surgery, and I'm very happy to say it looks like I have a bright future ahead," said Gershon.

Individual results may vary. Not all patients will have the same postoperative recovery and activity level. See your orthopedic surgeon to discuss your potential benefits and risks.

What to expect in the weeks prior to surgery

Preparing for total hip replacement surgery begins weeks before the actual surgery. The checklist below outlines some tasks that your surgeon may ask you to complete in the weeks prior to your surgery date.

- Exercise under your doctor's supervision
- Have a general physical examination
- Have a dental examination
- Review medications
- Stop smoking
- Lose weight
- Arrange a preoperative visit
- Get laboratory tests
- Complete forms
- Prepare meals
- Confer with a physical therapist
- Plan for post-surgery rehabilitative care
- Fast the night before
- Bathe surgical area with antiseptic solution



It's your move.

Questions to ask your doctor at your next appointment

1. What are the benefits and potential risks involved with total hip replacement surgery?
2. How long does it typically take to recover from surgery?
3. Is osteoarthritis a factor in my hip pain?
4. Will reducing activity, taking pain or prescription medication, or adding physical therapy help ease my pain?
5. Could a total hip replacement help provide me with relief from my hip pain?
6. Am I a candidate for robotic arm-assisted surgery?

Did you know?

Regular, sensible exercise may help your arthritis. Arthritic joints sometimes need a short period of rest followed by a gradual return to activity. It's important to maintain your strength and range of motion in your joints.³

Important information

Hip Replacements

Hip joint replacement is intended for use in individuals with joint disease resulting from degenerative and rheumatoid arthritis, avascular necrosis, fracture of the neck of the femur or functional deformity of the hip.

Joint replacement surgery is not appropriate for patients with certain types of infections, any mental or neuromuscular disorder which would create an unacceptable risk of prosthesis instability, prosthesis fixation failure or complications in postoperative care, compromised bone stock, skeletal immaturity, severe instability of the joint, or excessive body weight.

Like any surgery, joint replacement surgery has serious risks which include, but are not limited to, pain; bone fracture; change in the treated leg length (hip); joint stiffness; hip joint fusion; amputation; peripheral neuropathies (nerve damage); circulatory compromise including deep vein thrombosis (blood clots in the legs); genitourinary disorders (including kidney failure); gastrointestinal disorders including paralytic ileus (loss of intestinal digestive movement); vascular disorders including thrombus (blood clots), blood loss, or changes in blood pressure or heart rhythm; bronchopulmonary disorders including emboli, stroke or pneumonia; heart attack and death.

Implant-related risks which may lead to a revision of the implant include dislocation, loosening, fracture, nerve damage, heterotopic bone formation (abnormal bone growth in tissue), wear of the implant, metal sensitivity, soft tissue imbalance, osteolysis (localized progressive bone loss), audible sounds during motion, and reaction to particle debris.

The information presented is for educational purposes only. Speak to your doctor to decide if joint replacement surgery is appropriate for you. Individual results vary and not all patients will return to the same activity level. The lifetime of any joint replacement is limited and depends on several factors like patient weight and activity level. Your doctor will counsel you about strategies to potentially prolong the lifetime of the device, including avoiding high-impact activities, such as running, as well as maintaining a healthy weight. It is important to closely follow your physician's instructions regarding post-surgery activity, treatment and follow-up care. Ask your doctor if robotic arm-assisted surgery is right for you.

References

1. Arthritis Foundation website, <http://www.arthritis.org/about-arthritis/types-of-arthritis/osteoarthritis/what-you-need-to-know/osteoarthritis-is.php>, accessed October 2014.
2. AAOS website, <http://orthoinfo.aaos.org/topic.cfm?topic=A00377>, accessed September 2014.
3. Cleveland Clinic website, <http://health.clevelandclinic.org/2012/08/six-myths-about-joint-pain-and-arthritis/>, accessed October 2014.

Individual results vary. Not all patients will have the same postoperative recovery and activity level. See your orthopedic surgeon to discuss your potential benefits and risks.

Robotic arm-assisted partial knee replacement surgery is performed at:

St. Clare Hospital

11315 Bridgeport Way Southwest
Lakewood, WA 98499



Highline Medical Center

16251 Sylvester Road Southwest
Burien, WA 98166



St. Clare Hospital and Highline Medical Center are part of CHI Franciscan. Learn more at chifranciscan.org/orthopedic.

