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Treating
Hip and Knee Pain

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Topics

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- Understanding joint pain
- Treatment options
- Joint replacement surgery
- Recovery expectations
- Q&A


Your joints are involved in almost
every activity you do.
A diseased or injured hip or knee can limit your ability to move and work.[1]

Common causes of joint pain

Rheumatoid arthritis (RA), sometimes called inflammatory arthritis, is a condition in which a person's immune system attacks the joints with uncontrolled inflammation, potentially causing joint erosion.[2]

Osteoarthritis (OA) can occur when the cushioning cartilage at the end of the femur may have worn down, making walking painful as bone rubs against bone.[3]

Post-traumatic arthritis is a less common form of arthritis, in which a broken or fractured bone extends into the joint space, causing the surface to become uneven. Over time, friction causes the joint to break down and become arthritic.[3-4]

Arthritis affects the lives of **54 million Americans**.[5]

Non-surgical treatment options

Walking aids may allow you to put less pressure on the affected joint.

Heat or cold therapy can provide relief to an achy hip or knee joint.

Physical therapy can lessen your pain by teaching better posture or "form" for your day-to-day activities, like getting in and out of a chair.

Over-the-counter or **prescription anti-inflammatory medicines** may help reduce pain and swelling. Non-steroidal anti-inflammatory drugs (NSAIDs), like ibuprofen, and steroid medications, like corticosteroids injections, may also be helpful.[6]

When to consider joint replacement

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Questions to ask yourself

- ❑ Is joint pain affecting your ability to get a good night's sleep?
- ❑ Does joint pain keep you from doing things you want to do?
- ❑ Are you less active because of joint pain?
- ❑ Is joint pain affecting your ability to walk up stairs?

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Total knee replacement

Knee anatomy

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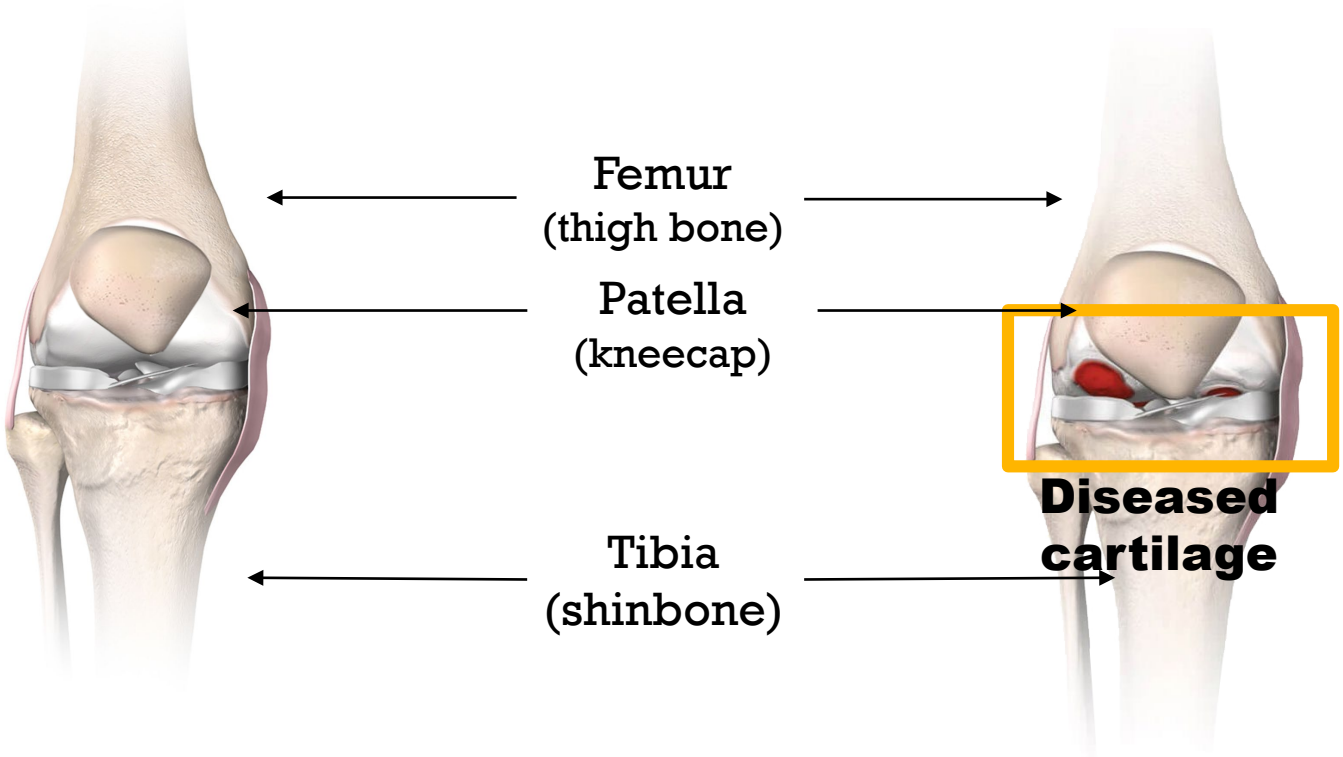
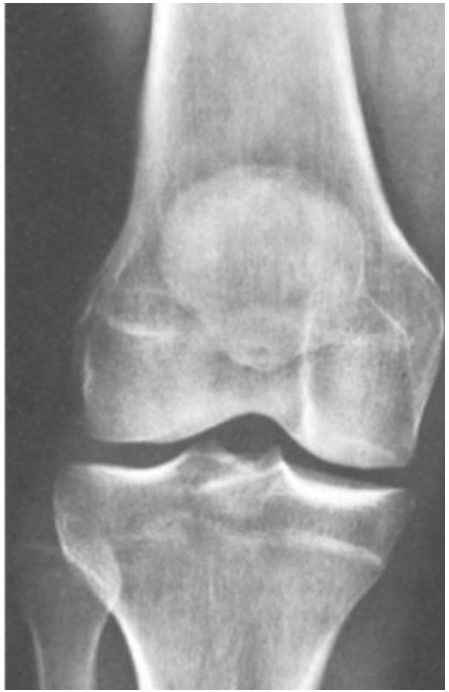
A **healthy** knee

An **arthritic** knee



Knee anatomy

A **healthy** knee



An **arthritic** knee

For every **1 pound** you lose, you take **4 pounds** of pressure off the knees.[14]

Types of knee replacement

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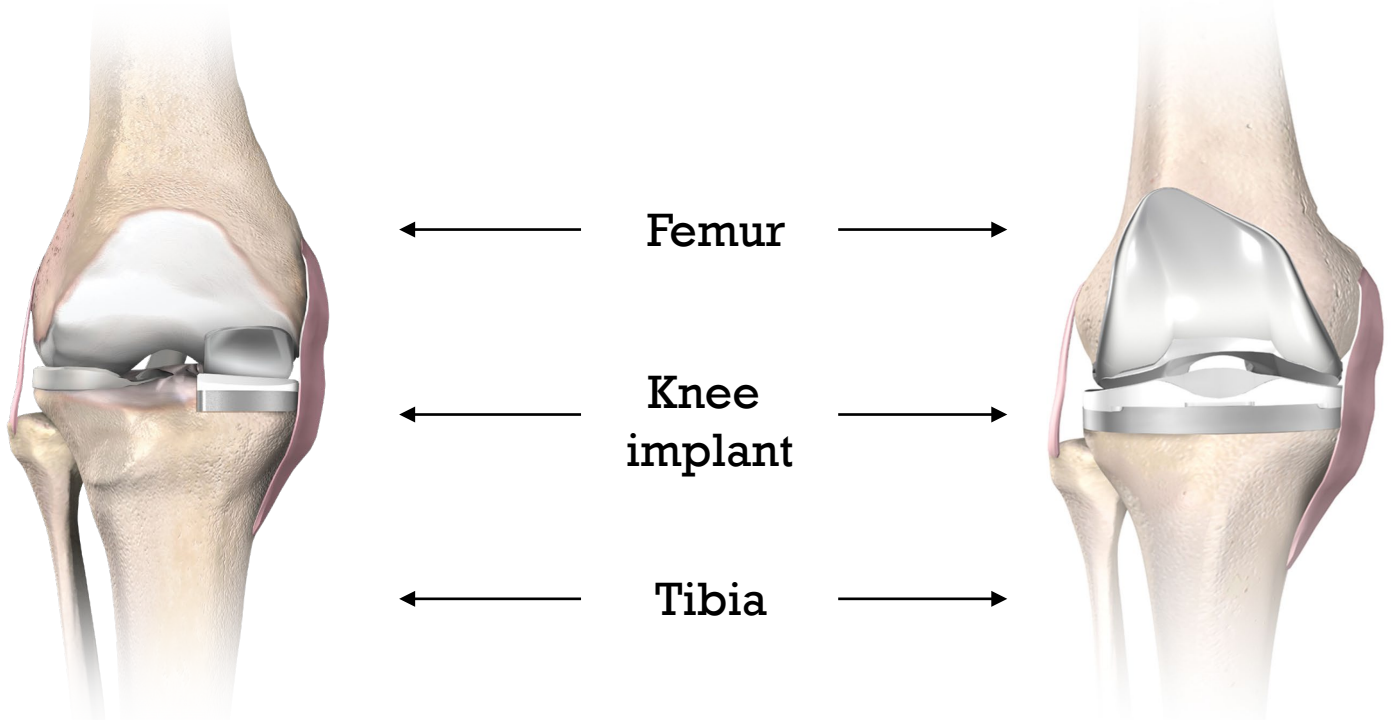
Partial knee replacement

Total knee replacement



600,000 knee replacements are performed each year in the U.S.[15]

Types of partial knee replacements

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Midstage osteoarthritis

Implant

Medial | Lateral | Patellofemoral | Medial bicompartmental

Replaced knee X-rays

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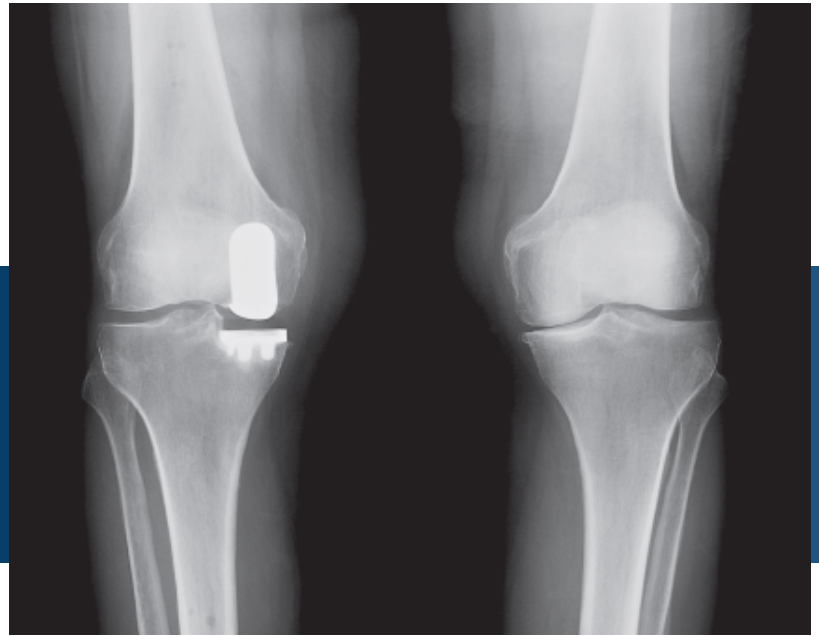

Partial knee replacement

Total knee replacement

They see more.

You keep more.

Mako SmartRobotics™

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Benefits of Mako SmartRobotics™ demonstrated in clinical studies:

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By guiding your doctor during surgery, **Mako's AccuStop™** technology allows your surgeon to **cut less** by cutting precisely what's planned[17-19] to help protect your healthy bone[20-24]

Mako Total Knee

- Mako patients surveyed 6 months after surgery reported **lower pain scores** than those who received a conventional joint replacement [25]
- Greater soft tissue and ligament protection than manual surgery [26]
- Preservation of healthy bone[21]

Mako Partial Knee

- Less pain in the days and weeks following the surgery [27]
- Shorter hospital stay [28]
- **Quicker recovery** in a study of 10 patients, where 9 were walking without an aid three weeks after surgery[28-29]
- Preservation of healthy bone[24]

Mako Total Hip

- Replication of the **feeling of a natural hip** [30]
- Preservation of healthy bone[31]
- More accurate placement and alignment of hip implants based on the surgical plan[32]

Mako SmartRobotics™ stats

worldwide, through 2019:

14+ years
robotic-arm assisted surgery experience

145+
published, peer reviewed studies

850+ Systems
have been installed across 26 countries and every state in the contiguous U.S.*

1,000+
U.S. and foreign patents and patent applications have been established

300K+
Mako procedures have been performed*

*Stryker's 2019 sales data

How it works

for joint replacement

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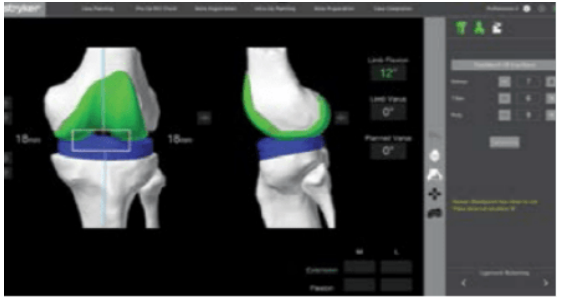
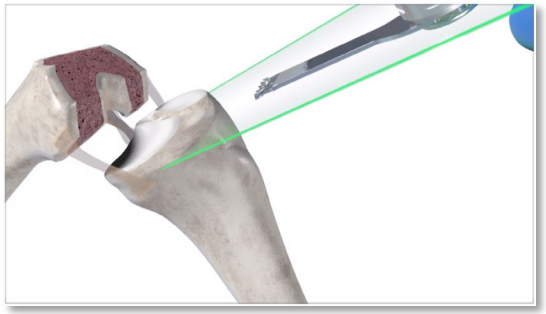
1. Personalized surgical plan

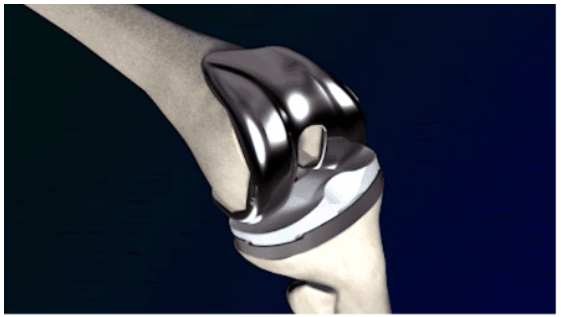
3. Range-of-motion assessment



2. Arthritic bone removal



4. Implant placement



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Recovery from joint replacement

Recovery plan

Following surgery, you will work with your medical team to **set goals** and determine a recovery plan that's right for you.

Surgery → Postoperative at-home care **or** rehab facility → Initial follow-up → One-year follow-up

Recovery time

Although every individual is unique and every treatment plan is different, below are **general recovery time frames**.

Recovery

Joint replacement has the potential to **get you back to what you love.**

But it's important to remember that joint replacement will not allow you to do more than you could do before your joint problems developed.

33, 34-35


Walking


Driving


Biking


Swimming


Golfing


Dancing

Your doctor will recommend the most appropriate level of activity for you.

Activity limitations

Activities that place **excessive stress** on the replaced joint should be **avoided**.
Examples include:

34-35


Skiing


Running


Contact sports


Basketball


Jumping

Your doctor will recommend the most appropriate level of activity for you.

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Please call 317.497.6497 for more information about Mako SmartRobotics™

Important information

Hip & Knee 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.

Knee joint replacement is intended for use in individuals with joint disease resulting from degenerative, rheumatoid and post-traumatic arthritis, and for moderate deformity of the knee.

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, infection, 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 and/or foreign body sensitivity, soft tissue imbalance, osteolysis (localized progressive bone loss), audible sounds during motion, and reaction to particle debris and reaction to metal ions (ALTR). Hip and knee implants may not provide the same feel or performance characteristics experienced with a normal healthy joint.

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 doctor's instructions regarding post-surgery activity, treatment and follow-up care. Ask your doctor if a joint replacement is right for you.

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