Choosing Your Care

Approximately 18 million patients visit a doctor or a hospital because of knee pain each year. Fortunately, there are many ways to successfully treat knee pain and get back to an active lifestyle.

The physicians and surgeons at Cleveland Clinic’s Orthopaedic & Rheumatologic Institute are recognized as among the best in the world for knee assessment and repair. We use a multidisciplinary team approach, with all of the experts you need under one roof, including orthopaedic physicians and surgeons, rheumatologists and physical therapists.

With a broad range of treatment options, state-of-the-art diagnostics and decades of experience, we can evaluate the cause of your knee pain and determine the treatment that is best for you.

Cleveland Clinic’s Orthopaedic and Rheumatology programs have a long history of excellence and innovation, and are consistently ranked among the top five programs in the nation by U.S. News & World Report. We also offer convenience, with same-day access and multiple locations throughout Northeast Ohio.

Knee pain can affect every step you take. From playing sports to climbing steps, knee pain is difficult to ignore. Many home remedies can help, but if you have chronic pain or symptoms such as swollen or red joints, it’s time to see a doctor.

Using this Guide

Please use this guide as a resource as you learn about knee pain causes and treatment options. As a patient, you have the right to ask questions and seek a second opinion.
What are the different types of knee pain?

Knee pain has many causes. Some of the most common include:

**Osteoarthritis**

Arthritis is a chronic condition that causes joint inflammation. Symptoms include redness, warmth, swelling, tenderness and pain. Up to 30 percent of the population may have knee osteoarthritis, or “wear and tear” arthritis. This is the gradual breakdown of the cartilage in the knee. Also called degenerative joint disease, osteoarthritis usually develops over years and often is found in patients who have had a knee infection or injury and those who are overweight.

As cartilage wears away, the bones around it can grow thicker and develop bony spurs. This can lead to increased friction between the bones and disrupted movement in your knee. This also can lead to problems with the synovium, a membrane in your knee that produces a liquid to keep your cartilage slippery. This membrane can become inflamed and make too much fluid. This results in swelling, or “water on the knee.” In the most severe cases, the knee can become deformed as the continued friction wears away the bone.

Common symptoms of osteoarthritis include pain, stiffness, tenderness, a limited range of motion and a grating sensation when you bend your knee. The pain is usually worse after activity.

**Rheumatoid arthritis**

Rheumatoid arthritis can affect joints on both sides of the body (both knees, both hands and/or both wrists). In rheumatoid arthritis, your body’s cells attack your own tissues. While in most people symptoms develop gradually over years, they can appear rapidly. Rheumatoid arthritis affects three to five times more women than men and often presents between the ages of 20 and 50.

Rheumatoid arthritis may be related to a combination of abnormal immunity and genetic, environmental and hormonal factors. Over time, rheumatoid arthritis can cause cartilage to wear away, swelling in the synovium, and excess fluid in the knee. In later stages, bones can rub against each other.
Bursitis
Bursitis is the inflammation of any of the fluid-filled sacs (bursae) protecting the body’s joints. This is usually caused by repetitive motions or by a stress such as kneeling. Sometimes, a sudden injury can cause bursitis.

Tendonitis
The tendons – rope-like tissues connecting muscles to bone at the knee and other joints – can become painfully inflamed by repetitive and strenuous movement. Tendonitis is a common sports injury, caused by overuse of the same parts of the body. Patellar tendinitis, or “jumper’s knee,” is an inflammation or irritation of the tendon between the knee cap and the shin bone.

Baker’s cyst
A lump behind your knee could be a Baker’s cyst. A Baker’s cyst, also called a popliteal cyst, is a fluid-filled pocket that causes swelling and tightness behind the knee. Often, it is not painful. A Baker’s cyst is typically associated with arthritis or a cartilage tear, conditions that can cause your knee to produce too much fluid. The key to treatment is to find the underlying cause of the fluid accumulating in the Baker’s cyst.

Patellofemoral pain syndrome (PFPS)
Knee pain or discomfort while walking up and down stairs, jumping or squatting may be symptoms of patellofemoral pain syndrome. This common knee problem is felt toward the front of the knee. It can cause a grinding sensation when bending or straightening your leg, and can cause your knee to occasionally buckle. Sometimes called “runner’s knee,” patellofemoral pain syndrome may be caused by a kneecap that is not aligned properly, overuse, injury, excess weight or when the cartilage in the knee cap is worn significantly.

Injuries
Knee injuries can be the result of sports, falls or trauma. They typically involve the ligaments that hold two of the bones of the knee – the femur and tibia – together. Here are some of the most common types:

ACL
Injuries to the anterior cruciate ligament (ACL) are among the most common and dreaded sports injuries. Your ACL keeps your knee from moving too far out of position. Changing directions too quickly or hyperextending the knee can tear the ACL. Women are more prone to tearing the ACL. Surgery is often necessary to repair damage to an ACL.

MCL
A stretch or tear of the medial collateral ligament (MCL) is typically caused by a hit or blow to the outer knee. Pain is felt along the inner knee. Bracing and conservative treatment, such as rest and physical therapy, are usually sufficient to heal these injuries.

Meniscus
The meniscus is crescent-shaped cartilage between your thigh bone (femur) and lower leg bone (tibia). You have two of these cushions in each of your knees, inner (medial) and outer (lateral). The medial one is most often injured. These injuries often are caused by sudden twisting, resulting in swelling, pain and locking of the knee. Arthroscopic surgery may be necessary to remove the torn fragment when conservative treatment does not help.
How is knee pain diagnosed?

Physicians in Cleveland Clinic’s Orthopaedic & Rheumatologic Institute can help sort out the possible causes of your knee pain.

When diagnosing any knee pain, the physician will take your medical history and perform a thorough physical examination.

To help your doctor best understand your knee pain, you’ll need to provide the following information:

- A description of your knee pain (aching, tenderness, burning or swelling)
- Where the pain is located and when it occurs
- When the pain started (and if it is the result of an injury or accident)
- Anything that makes the pain worse or better

Your doctor also may order imaging tests to view the joint, which may include the following:

**X-rays** – An X-ray can show if there are certain problems, such as deterioration or fracture, within your knee.

**MRI** – In some cases, your doctors may order a magnetic resonance imaging (MRI) scan. An MRI provides significantly more detail about the soft tissues in your knee, such as the cartilage on the surface of the bones, ligaments, tendons and muscles.

**CT scan** – Computerized tomography scans combine X-ray views from multiple angles, creating a two- or three-dimensional, cross-sectional image. These images show “slices” of bone and soft tissue.
How is knee pain treated?

Conservative care

Many types of knee pain can be relieved and/or resolved with conservative treatments such as:

**Rest** When the knee is injured or is inflamed, as in bursitis, tendonitis or arthritis, it’s important to rest the joint and avoid overuse. That may mean keeping the knee straight (extended) or in positions that limit bending.

**Ice/heat** Applying ice or cold packs to the knee can reduce inflammation and swelling, especially after an injury. Once swelling is gone, heat may be used to help relax and loosen tissues – although ice is the primary treatment.

**Pain relievers** Over-the-counter anti-inflammatory medicines can help relieve knee pain, including ibuprofen (Advil®) and naproxen (Aleve®).

**Weight loss** Your doctor may recommend that you lose weight to reduce pressure on your knee.

**Braces** In general, knee braces wrap around the knee and leg and help limit unwanted movement while supporting the knee. They are commonly used when knee ligaments are weak, and help to keep the knee from “buckling.” Braces will provide support during healing, but are not a primary treatment for arthritic degeneration.

There is a variety of braces. Functional braces are designed to support knees that have suffered an impact-related injury. Rehabilitative braces provide support when recovering from a surgery or injury. Uploading/offloading braces are used by patients with arthritis and help to stabilize the knee when standing up or sitting down.

Physical therapy

Once your doctor diagnoses the cause of your knee pain, physical therapy may be the next step. Physical therapists can show you specific exercise programs that will help you recover from the injury and decrease the pain you are experiencing. They also may demonstrate low-impact stretches and exercises that can strengthen muscles in your knee, improve stability and flexibility, and reduce pressure on the joint. They can advise you on helpful low-impact aerobic exercises, such as swimming and cycling, that won’t aggravate your knee pain. Physical therapy also is an important part of recovery after knee surgery.

Injections

Steroid (or more commonly known as cortisone) shots can be placed inside the knee to reduce pain and inflammation.

Another nonsurgical procedure that can provide relief from knee pain is viscosupplementation. Administered in the doctor’s office, this treatment involves injecting a lubricant into the knee. The filler lubricates and adds cushioning to the joint, allowing bones to move more easily and reducing friction.

In some cases, relief from viscosupplementation can last for months. It can be a viable, though short-term, solution for mild to moderate osteoarthritic knee pain.
Surgical options

Conservative treatment is sometimes not enough for knee problems, and conditions such as osteoarthritis tend to worsen over time. When knee pain makes you unable to comfortably perform the activities of daily living, your doctor may eventually recommend surgery.

Arthroscopy

Arthroscopy is a relatively minor surgery performed with the use of a miniature camera (arthroscope). Arthroscopic knee surgery is commonly used to diagnose and treat knee pain. This surgery takes about an hour. During the procedure, an orthopedic surgeon can repair tissue and cartilage tears, or scrape and cut away bone and cartilage fragments to ease knee pain. Advances in arthroscopy have made this process more accurate and effective than ever before.

Recovery – In most cases, arthroscopy is an outpatient procedure. Patients often can return to office work within a week and to a normal lifestyle within a month or two. Physical therapy is important for recovering mobility.

Benefits – This surgery involves small incisions for the arthroscope and other tools, meaning a quicker recovery. Arthroscopy can provide relief from knee pain and improve mobility, allowing patients to return to a normal, active lifestyle with greater comfort.

Who is a candidate? – Patients with knee problems such as ACL tears, meniscus tears and cartilage wear are good candidates for arthroscopic surgery. The surgery can be performed on patients of all ages, depending on the condition of the knee.

Risks – Knee arthroscopy is a safe procedure with few complications. Risks may include swelling, stiffness, bleeding, blood clots, infection or continuing knee problems.

Same-day appointments are available.
866.275.7496   clevelandclinic.org/ortho
Focal Knee Resurfacing

For the right patients, resurfacing is a great alternative to a knee replacement. This newer procedure replaces only a specific area of the knee cartilage surface. Broken down cartilage is removed and replaced with a custom-made, metal implant that is cemented to the bone.

**Recovery** – Patients are encouraged to walk soon after surgery. Many are able to drive after a week or two. Physical therapy is an important part of getting back mobility in your knee.

**Benefits** – Knee resurfacing may be the wave of the future in treating severe knee pain. It is less invasive than a knee replacement. Because less bone is cut away, patients are left with more of a “real knee.” It also can feel more natural than a knee replacement because the implant is custom-made to fit a patient’s knee. Recovery can be shorter than it is with a knee replacement.

**Who is a candidate?** – Knee resurfacing may be ideal for younger, more active patients. It can be effective for patients with focal cartilage defects and early to mid-stage osteoarthritis.

**Risks** – Possible (but rare) complications of surgery include blood clots, infection and nerve damage. Long-term complications may include continued pain, infection or a loosening of the implant.

**Durability** – Knee resurfacing is a new procedure and is predicted to last 10 to 15 years.

There are three compartments to the knee. In a resurfacing, only the damaged areas are replaced.
Partial knee replacement

Partial knee replacement may be an option for you if parts of your knee are free of disease or injury. This minimally invasive procedure may be possible when just one or two of the three compartments of your knee are damaged. In a partial knee replacement, cartilage and bone is shaved away and replaced with an implant in the affected compartment(s). This means a smaller incision and a shorter recovery time than with a total knee replacement.

Recovery – Patients usually can start moving the knee the day after surgery. Physical therapy is key to recovery and regaining mobility. Patients can be back to full activity in about a month. However, high-impact exercises, jogging and running are discouraged because implants have a surface that can wear.

Benefits – Compared to a full knee replacement, a partial knee replacement has a shorter recovery time, less post-operative pain, less blood loss during surgery and a smaller incision. In addition, more of the patient’s healthy bone and soft tissues are preserved, which means you could a have better range of motion and knee function than you would with a full knee replacement. Patients who have partial knee replacements also are still candidates for a full knee replacement, if needed, down the road.

Who is a candidate? – The ideal candidate has osteoarthritis that is severe (but not advanced) and whose pain can no longer be managed with conservative treatments. This is not a procedure for patients with significant deformity.

Risks – Possible (but rare) complications of surgery include blood clots, infection, nerve damage and other risks. Long-term complications may include continued pain, infection, and a failure, loosening or dislocation of the prosthesis.

Durability – Approximately 85 percent of knee implants will last 20 years.
Total knee replacement

When all of the parts of a knee need repair, total knee replacement may be the best option. This involves removing broken-down cartilage and bone and replacing it with the right artificial joint for you. This prosthesis is made of plastic and metal and provides fluid and free movement. It is attached to the bone with acrylic cement or can be press-fit, allowing bone to grow into the implant. Surgeons also perform any needed ligament repair. To work properly, the new joint needs support from the patient's muscles and ligaments.

Total knee replacement in our aging and active culture is increasingly common. By 2030, it is estimated that more than 3 million total knee replacements will be performed each year.

Recovery – Following a total knee replacement, most patients spend only two to four days in the hospital. Patients can stand and move the joint the day after surgery and use a cane, walker or similar aid for several weeks. Physical therapy is crucial to restore motion to your joint. After six weeks, most patients are able to put full weight on their knee with the use of a cane. Full recovery and rehabilitation typically takes about six months. Patients are able to return to an active lifestyle, except for high-impact activities, such as running and jumping.

Benefits – Most patients experience dramatic improvement and relief from pain within weeks of surgery.

Who is a candidate? – Total knee replacement can be a good option for people with painful knee deformities, severe degenerative changes, or advanced or end-stage arthritis.

Risks – The risk of complications is rare in total knee replacement surgeries, occurring in less than 2 percent of patients. Your surgeon may prescribe blood thinners to prevent blood clots after surgery. Some patients notice some loss of motion, stiffness or pain. For a very small percentage of patients, the joint may fail. Studies have shown this is more common in obese patients.

Durability – Doctors have been performing total knee replacements since the early 1970s, and it is one of the most successful surgeries for knee arthritis. New data suggest that contemporary knee replacements may last more than 30 years. Approximately 85 percent of knee replacements done 20 years ago are still functioning well.
Making an appointment

Call 866.275.7496 to make an appointment with a Cleveland Clinic knee specialist, or visit us at www.clevelandclinic.org/ortho to schedule an appointment online.

Why should I choose Cleveland Clinic?

At the Orthopaedic & Rheumatologic Institute, our team of orthopaedic physicians and surgeons, rheumatologists and physical therapists offers the most comprehensive and personalized solutions for all types of knee pain. We can help you get back to your everyday activities.

Being part of Cleveland Clinic also means you have easy access to our other specialists to manage any related conditions. Both our orthopaedic and rheumatology services have been consistently ranked among the top five programs in the nation by U.S. News & World Report.

Need a second opinion but cannot travel to Cleveland?

Our MyConsult service offers secure online second opinions for patients who cannot travel to Cleveland. Through this service, patients enter detailed health information and mail pertinent test results to us. Then, Cleveland Clinic experts render an opinion that includes treatment options or alternative recommendations regarding future therapeutic considerations. To learn more about MyConsult, please visit clevelandclinic.org/myconsult.