Arthritis & Joint Pain

Your Guide to Arthritis & Joint Pain

Joint pain can be associated with more than 50 kinds of arthritis — but it also can be caused by conditions that are not arthritis at all. So when a joint aches, how do you know whether you have arthritis or something else? And if you have arthritis, how do you know which kind you have?

Getting the right diagnosis is critical. Treatment for joint pain differs widely, depending on the cause. The right diagnosis and early treatment can arrest joint damage and return you to your previous level of activity. The wrong treatment — or avoiding treatment — may mean joint deterioration, poor function and compromised mobility.

Read on to educate yourself about the three most common types of arthritis. You’ll understand which symptoms are important to communicate to your doctor so that, together, you can arrive at the right diagnosis and treatment sooner.

A look inside the knee: a common target for arthritis

The knee is made up of four bones: the femur (thigh bone), tibia (shin bone), fibula (outside shin bone) and patella (kneecap). The ends of the femur, tibia and fibula and the underside of the patella are covered with articular cartilage. This firm rubbery substance is critical to joint health. Cartilage prevents the bones from touching each other and keeps the joint space intact. A joint capsule encloses the ends of the femur and tibia, and has a special membrane that produces synovial fluid to nourish and lubricate the joint. The patella sits in the joint capsule and glides across a groove in the femur during motion. The muscles, tendons and ligaments alongside these bones help to flex and extend the leg, allowing us to walk, run, stoop and stand.

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**What is arthritis?**
Arthritis literally means “joint inflammation” — redness and warmth within the joint. Because inflammation is painful, arthritis limits movement. The three most common types of arthritis are:

- Osteoarthritis
- Rheumatoid arthritis
- Gout

The causes, symptoms and risk factors for each of these forms of arthritis may differ. You may suffer from more than one type of arthritis — for example, gout and osteoarthritis.

**Osteoarthritis**
Osteoarthritis, or OA, is the most common type of arthritis, affecting up to 27 million Americans. OA, the “wear-and-tear arthritis,” is also called degenerative joint disease. It usually develops after age 45 and progresses slowly, often over a decade. Typically, the hips, hands, knees, lower back and/or neck are affected.

In OA, cartilage within the joint gradually thins and wears away. Osteophytes (bone overgrowth) may develop when the ends of the bone touch each other, and the joint can eventually become deformed. When cartilage wears away, allowing bone to touch bone completely, advanced or end-stage OA is diagnosed.

**OA: Common symptoms**
Depending on the joint affected, you may experience:

- Pain
- Stiffness (especially after periods of inactivity)
- Swelling
- Osteophytes (bony enlargement over the joint)
- Crepitus (crackling sound with joint movement)

**Risk factors**

- Being overweight
- A previous injury or surgery that damages the cartilage in a joint
- Repeated overuse of joints (at work, in daily activities, on the playing field)
- A sedentary lifestyle
- Older age
- Being female
- Congenital problems (bone deformities at birth)
- Having associated diseases such as Paget’s disease, hypermobility, gout, etc.

**Diagnosis**
OA is diagnosed with a thorough history and physical exam. X-rays or magnetic resonance imaging (MRI) can help determine the cause of joint pain and the extent of the damage. If fluid is present in the joint, your doctor may also aspirate (drain the fluid from) a swollen joint to evaluate it in the laboratory.

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Weight loss. If you are overweight or obese, weight loss will significantly reduce pressure on painful joints.

Exercise. Regular, joint-friendly exercise such as walking, swimming or guided weight training is a good complement to healthy eating habits. Exercise improves both overall fitness and joint health. (Seek your doctor's approval before you start an exercise regimen).

Sometimes inflamed arthritic joints need a short rest with a gradual return to activity. Applying ice to ease joint inflammation can be helpful.

Physical therapy. Physical therapists can create a plan that strengthens muscles around the joints and increases your flexibility and endurance. This ensures proper body mechanics so that you avoid overloading your joints, and will help maintain good range of motion.

Bracing. Braces used by physical and occupational therapists can alleviate pressure on painful joints. Braces typically used for people with arthritis include a soft knee sleeve to support the joint and a hinged brace to take pressure off the joint.

Drug therapies. For mild to moderate OA, doctors may recommend NSAIDs or inject steroids to relieve inflammation. Hyaluronan, a substance found in normal joint fluid, can be injected into arthritic knee joints. Use of this type of injectable medication, called viscosupplementation, may effectively alleviate pain and increase range of motion in some patients with OA of the knee.

Supplements. Glucosamine supplements (with chondroitin) may or may not help with OA joint pain. Your doctor can advise you on whether supplementation will be worthwhile.

End-stage OA calls for surgery
When cartilage damage is so profound that conservative measures no longer help, diseased joints can be replaced with artificial ones. For active individuals who are not yet ready for total joint replacement, less invasive options are available.

Joint resurfacing repairs cartilage damage while offering greater mobility and a shorter recovery time than total joint replacement. Partial knee replacement may be an option when only one compartment of the knee joint is affected.
Rheumatoid arthritis

Rheumatoid arthritis (RA) is one of the “inflammatory” types of arthritis. While OA is confined to the joint(s), RA is systemic and can affect the entire body. RA can develop at any age but is most common between ages 30 and 60, or during childhood. It commonly affects small joints, such as the fingers and toes, and can progress to large ones, such as the knees and shoulders. Typically, joints on both sides of the body are similarly affected, but RA can involve a single joint, anywhere in the body.

In RA, the immune system loses its ability to distinguish between healthy joint cells and “foreign invaders.” The immune system attacks healthy cells, causing inflammation in the joint. The inflamed joint then starts attracting more immune cells, and swelling and fluid buildup ensue. Exposure to bacterial or viral infections and increased stress can worsen RA.

As the disease progresses, joint cartilage can wear away. Without treatment, joint destruction may occur quickly. Fortunately, the chances of maintaining joint function and mobility in RA are very good with early treatment.

RA: Common symptoms
- Fatigue
- Morning stiffness
- Low-grade fevers
- Warm, tender, stiff joints
- Joints on both sides of the body affected (usually, but not always)
- Bumps under the skin (rheumatoid nodules)

Risk factors
- Family history of RA
- Age between 30 and 60
- Being female (70 percent of sufferers are women)
- Smoking

Obesity and prior joint injury will not increase your risk of developing RA.

Diagnosis
Evaluation for RA involves a thorough history and physical exam, imaging studies, and blood tests to detect antibodies. The two blood tests that are helpful in diagnosing RA check for rheumatoid factor and anti-CCP.
**RA: Tailoring treatment to severity**

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**Different medications used to manage RA.** Doctors prescribe medications, tailored to the severity of the disease, to help people with RA engage fully in life.

**Medications.** With its intense explosion of medications, the past decade has been an exciting time for rheumatoid arthritis patients. In 2009 alone, several new RA drugs arrived on the market.

Disease-modifying antirheumatic drugs (DMARDs), the standard treatment for RA, can slow the progression of mild disease. Tumor necrosis factor (TNF) inhibitors block a protein that triggers inflammation in moderate disease. In severe disease, drugs that target white blood cells can modify faulty immune responses in severe RA. Biologic agents work by mimicking substances that are part of our natural immune system.

**Exercise and rest.** Exercise is important to keep the bones as healthy as possible when you have RA. However, the joints should be rested during periods of painful inflammation.

**Bracing.** At times, splints or canes may be used to support painful joints. Applying heat in the morning can relax the muscles needed to move stiff joints.

**Surgery for end-stage RA**

When too much joint damage occurs, joint replacement may be needed to alleviate pain and restore function of that joint.
Gout
Gout is an increasingly common form of arthritis in people over 40 years of age. It involves sudden, severe inflammation of a joint in which uric acid crystals have collected. Gout pain is described as being so intense that even placing a sheet over the affected joint seems intolerable. Gout typically affects a single joint, such as the big toe, ankle or knee. Attacks may last from several days to two weeks and can recur if not treated.

Gout may be caused by an inherited enzyme defect that prevents the body from eliminating uric acid. Uric acid deposits that accumulate can cause white bumps around the joint called tophi, usually in more advanced disease.

Medications. NSAIDs can relieve the pain of gout attacks, but for more severe attacks, steroids are used to quickly decrease inflammation. Allopurinol and febuxostat are medications used to control uric acid levels and prevent or reduce the number of gout attacks. Probenecid, a medication used to prevent the formation of kidney stones from uric acid, may also be helpful. Colchicine may be used as well.

Lifestyle modification. Drinking less alcohol and avoiding red meats, organ meats and other foods that are rich in uric acid can help ward off gout, to a lesser degree.

Gout: Common symptoms

- Sudden onset of joint pain
- Warmth and swelling in the joint
- Affected area turns red or purple
- Usually just one joint affected

Risk factors

- Frequent alcohol consumption
- Use of certain medications (thiazide diuretics to control high blood pressure)
- Being male (gout is 10 times more common in men than in women)
- Certain medical conditions (metabolic syndrome — the combination of high blood pressure, high cholesterol, diabetes and obesity — or heart failure)
- A family history of gout

Diagnosis
The diagnosis of gout is based on a thorough history and physical examination (the history is especially helpful). To confirm the diagnosis, fluid may be aspirated from the joint and examined under a microscope for uric acid crystals.

Treating gout: Medications a must

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Providing short-term and long-term relief. Doctors manage gout using medications that control uric acid levels, NSAIDS for pain relief, and steroids and colchicine to reduce inflammation.

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About Cleveland Clinic’s Arthritis and Musculoskeletal Center

When joint pain limits your ability to do the things you love — whether it’s knitting scarves or walking the dog — our Arthritis and Musculoskeletal Center can help.

Our goal is simple: to restore you to your normal level of activity — as quickly as possible.

Our diverse team involves experts from many different disciplines, including rheumatologists, orthopaedic surgeons, musculoskeletal radiologists, physical therapists, occupational therapists and musculoskeletal patient educators.

Together, we focus on the diagnosis and treatment of joint pain to streamline your evaluation and care. If you need further evaluation from another specialist, we can easily arrange a referral to the appropriate Cleveland Clinic expert, such as our experienced joint replacement/joint resurfacing surgeons.

To learn more about the Arthritis and Musculoskeletal Center at our main campus and to meet our staff, visit clevelandclinic.org/arthritis. For appointments, call 216.445.3330 or click here to request an online appointment.