



Arthritis of the Wrist

Arthritis affects millions of people in the United States. Simply defined, arthritis is inflammation of one or more of your joints. A joint is where the ends of bones meet. Inflammation causes swelling, pain, and stiffness in the joint.

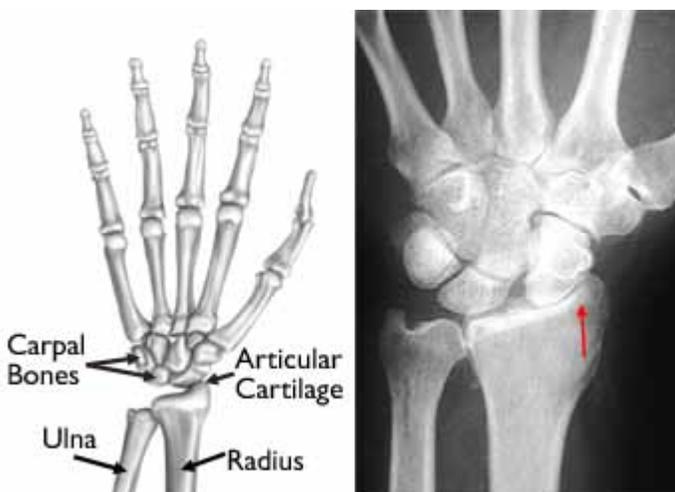
A significant number of people have arthritis in their wrists and hands, which makes it difficult for them to do daily activities.

Description

Although there are hundreds of kinds of arthritis, most wrist pain is caused by just two types: osteoarthritis and rheumatoid arthritis.

Osteoarthritis

Osteoarthritis (OA) is a progressive condition that destroys the smooth articular cartilage covering the ends of bones. Healthy joints move easily because of articular cartilage. Osteoarthritis causes this cartilage to wear away. When the bare bones rub against each other, it results in pain, stiffness, and weakness.



(Left) Articular cartilage protects the ends of bones where joints meet. **(Right)** In this x-ray of a wrist with osteoarthritis, the cartilage is destroyed and the healthy space between bones is narrowed (arrow).

(Left) Reproduced from J Bernstein, ed: *Musculoskeletal Medicine*. Rosemont, IL, American Academy of Orthopaedic Surgeons, 2003. **(Right)** Reproduced from JF Sarwark, ed: *Essentials of Musculoskeletal Care*, ed 4. Rosemont, IL, American Academy of Orthopaedic Surgeons, 2010.

Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic disease that attacks multiple joints throughout the body. Rheumatoid arthritis often starts in smaller joints, like those found in the hand and wrist. It is symmetrical, meaning that it usually affects the same joint on both sides of the body.

Rheumatoid arthritis is an autoimmune disease. This means that the immune system attacks its own tissues. In RA, the defenses that protect the body from infection instead damage normal tissue (such as cartilage and ligaments) and soften bone.

RA often affects the joint between the two bones of the forearm, the radius and ulna. It can soften and erode the ulna which can cause tearing of the tendons that straighten your fingers. This can result in joint deformity, such as bent wrists and gnarled fingers.



In this x-ray of rheumatoid arthritis the carpal bones have collapsed into the radius and ulna.

Cause

Osteoarthritis can develop due to normal "wear-and-tear" in the wrist, particularly in people who have a family history of arthritis. It may also develop as a result of a traumatic injury, such as a broken wrist bone or a wrist sprain.

Osteoarthritis of the wrist can also develop from Kienböck's disease. In Kienböck's disease, the blood supply to one of the small bones of the hand near the wrist (the lunate) is interrupted. If the blood supply to a bone stops, the bone can die. Over time, this can lead to osteoarthritis.

The exact cause of RA is not known. There may be a genetic reason — some people may be more likely to develop the disease because of family heredity. However, doctors suspect that it takes a chemical or environmental "trigger" to activate the disease in people who genetically inherit RA.

Symptoms

OA of the wrist joint causes swelling, pain, limited motion, and weakness. These symptoms are usually limited to the wrist joint itself.

RA of the wrist joint also causes swelling, pain, limited motion, and weakness. However, in contrast to OA, wrist symptoms will usually be accompanied by pain, swelling and stiffness in the knuckle joints of the hand.

Doctor Examination

Your doctor will use a combination of physical examination, patient history, and blood tests to diagnose arthritis of the wrist.

X-rays are imaging tests that create detailed pictures of dense structures, like bone. They can help distinguish among various forms of arthritis.

Blood tests sometimes help to diagnose rheumatoid arthritis. Osteoarthritis is never associated with blood abnormalities.

Treatment

Nonsurgical Treatment

In general, early treatment is nonsurgical and designed to help relieve pain and swelling.

Several therapies can be used to treat arthritis, including:

- **Modifying your activities.** Limiting or stopping the activities that make the pain worse is the first step in relieving symptoms.
- **Immobilization.** Keeping the wrist still and protected for a short time in a splint can help relieve symptoms.
- **Medication.** Taking non-steroidal anti-inflammatory medications, such as aspirin or ibuprofen, can reduce both pain and swelling.
- **Exercise.** Following a prescribed exercise program. Specific exercises can improve the range of motion in your wrist.
- **Steroid injection.** Cortisone is a powerful anti-inflammatory medicine that can be injected into the wrist joint.

When rheumatoid arthritis symptoms are not adequately controlled by the above therapies, additional medications with varying risks and benefits may be prescribed by your doctor. Specific medicines called disease-modifying anti-rheumatic drugs are designed to stop the immune system from destroying the joints. The appropriate use of these medications is directed by a rheumatologist.

Surgical Treatment

When nonsurgical treatments are no longer effective, resulting in progressive loss of hand and wrist function, surgery is an option. The goal of surgery is to relieve pain and to preserve or improve hand function.

Surgical options include:

- **Removing the arthritic bones.** In this procedure, three carpal bones are removed. This procedure, called a proximal row carpectomy, will relieve pain while maintaining partial wrist motion.
- **Fusion.** When motion is the source of pain, carpal bones can be fused together to make one, solid bone. A fusion can be partial, in which just some of the carpal bones are fused together. This eliminates pain and retains some wrist motion. When the arthritis is extensive, a complete fusion may be necessary. In this procedure, all of the carpal bones are fused together, as well as the radius. This completely eliminates wrist motion, but does not affect forearm rotation.
- **Joint replacement.** This surgery removes the damaged joint and replaces it with an artificial device (prosthesis). This surgery may help retain or recover wrist movement.



(Left) In a fusion, the bones are held together with a combination of a plates, screws, and pins. **(Right)** In a joint replacement, the worn-out bones have been replaced with an artificial implant. You and your physician should discuss the surgical options and select the one that is best for you.

Living with Arthritis

Learning you have arthritis can be discouraging. In addition to the many treatment options for arthritis, there are things you can do to lessen the impact the disease has on your life.

- **Talk to your doctor.** If your symptoms worsen or you are having a hard time coping, your doctor can review your treatment plan.
- **Get plenty of rest.** Arthritis can make you more tired, and your arthritis symptoms may worsen when you are fatigued. Try to get a full night's sleep, and take short naps during the day if you need to.
- **Alternative medicine.** Discuss alternative medicine with your doctor. Some alternative therapies appear to help arthritis pain. Talk to you doctor before trying any alternative treatments. They could interfere with your treatment plan.