

Cartilage is the shiny, smooth material that covers bones where they come together to form joints. Wrist arthritis is the loss of cartilage between wrist bones. The wrist is made of many bones. In the forearm there are two long bones (radius and ulna). After the forearm there are two rows of small bones called the carpal bones (8 total). All of these bones need smooth cartilage to work together properly.

Wrist arthritis can develop in different parts of the wrist. Midcarpal arthritis involves only the rows of small wrist bones. Radiocarpal arthritis occurs where the small bones and the long forearm bones meet. Sometimes both areas can be involved. Distal radioulnar arthritis occurs where the radius meets the ulna at the wrist. This causes pain with turning the hand palm up or palm down.

## Causes

There are a few potential causes of wrist arthritis, including:

**Wear and tear:** Like arthritis in other places, wrist arthritis can be due to wear and tear over time. This is called degenerative arthritis and is one of the most common types. There is often no reason why this kind of arthritis develops. It is not necessarily due to a particular activity, and it is often just a natural process.

**Auto immune issues:** In some cases, the body's immune cells accidentally attack its own cartilage. This is called auto-immune or inflammatory arthritis. Rheumatoid arthritis is a common type of inflammatory arthritis, but there are many others. Inflammatory arthritis is usually managed by medicines prescribed by rheumatologists or other medical doctors. These medicines may prevent arthritis from developing at all, and in certain situations they can slow it down. If your hand surgeon thinks you have inflammatory arthritis, you may be referred to your primary doctor or a rheumatologist. This is both to help manage your wrist arthritis and also to keep it from developing in other parts of your body.

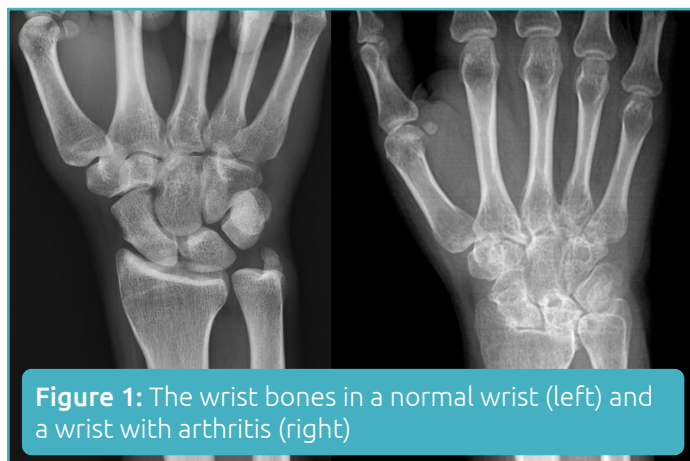
**Trauma:** Wrist arthritis can develop after injuries. This is called post-traumatic arthritis. Arthritis can either develop quickly after an injury, or it can take a long time. Broken bones can lead to uneven joint surfaces that wear out more quickly than smooth ones. This is similar to the same way a rocky road is harder on car tires than a smooth one. The most common types of wrist fractures (broken bones) that lead to wrist arthritis are distal radius and scaphoid fractures. Arthritis can develop after any break that goes into the joint, especially if the bone doesn't heal right or doesn't heal at all. Ligament injuries can keep bones from moving together the right way. This leads to arthritis as they rub against each other. The scapholunate and triangular fibrocartilage complex ligaments are the most common ligament injuries that result in arthritis.

## Signs and Symptoms

Wrist arthritis causes pain, swelling and stiffness. These symptoms can be constant when the arthritis is severe. With milder arthritis, symptoms may come and go over weeks or months.

## Diagnosis

Your hand surgeon can diagnose wrist arthritis with a physical examination and X-rays. The physical exam will look for areas of pain, swelling and decreased motion. X-rays will show if cartilage is missing. This will show bones closer together and bone spurs (see Figure 1). MRI or CT scans are not usually needed to diagnose wrist arthritis. MRIs may be useful if your surgeon needs to learn more about your pattern of arthritis or evaluate the ligaments. With an understanding of your symptoms, activity level, hobbies, and work in combination with your exam and imaging analysis, a hand surgeon will discuss the best treatment for you.



**Figure 1:** The wrist bones in a normal wrist (left) and a wrist with arthritis (right)

## Treatment

Treatment usually begins with rest and over-the-counter medicines. It may be helpful to wear a splint. You should consider avoiding activities that make your wrist pain worse. A cortisone shot (also called a steroid injection) can provide temporary relief, especially when there is a lot of inflammation.

There are several different surgeries for wrist arthritis, some of which are relatively minor and some of which are bigger. Simpler surgeries include denervation, where your surgeon removes the nerves that go into the painful, arthritic wrist joint. The nerves that are removed do not connect to the skin so there will not be any numbness. The recovery is relatively simple, but this is often not a permanent solution. More involved surgeries include removing one or more of the smaller wrist bones or fusing (making multiple bones heal into one) some or all of the wrist bones. There are even total wrist replacements, although they are not a good fit for every patient. The right surgery is determined by your pattern of arthritis, age and activity level. It is a decision you make together with your surgeon. This may take several visits together understand one another better.