DISEASES & CONDITIONS

Arthritis of the Hand

The hand and wrist have multiple small joints that work together to produce motion, including the fine motion needed to thread a needle or tie a shoelace.

When the joints are affected by arthritis, activities of daily living can be difficult. Over time, arthritic joints can lose their normal shape. This causes more pain and further limits motion. Some activities may become impossible.

Arthritis can occur in many areas of the hand and wrist and can have more than one cause. This article focuses mainly on arthritis of the hand. Learn more about arthritis of the wrist (/en/diseases--conditions/arthritis-of-the-wrist/) and arthritis of the thumb (/en/diseases--conditions/arthritis-of-the-thumb/).

Description

Simply defined, arthritis is inflammation of one or more of your joints. The most common types of arthritis are osteoarthritis(/en/diseases--conditions/osteoarthritis/) and rheumatoid arthritis (/en/diseases--conditions/rheumatoid-arthritis/), but there are more than 100 different forms.

Healthy joints move easily because of a smooth, slippery tissue called articular cartilage. Cartilage covers the ends of bones and provides a smooth gliding surface for the joint. This smooth surface is lubricated by a fluid that looks and feels like oil. It is produced by the joint lining, which is called synovium.

Disease

When arthritis occurs in the absence of trauma, the onset of symptoms is typically gradual, and the cartilage degrades (breaks down) over a long period of time.

Osteoarthritis:

- Is much more common than rheumatoid arthritis

- Generally affects older people.
- Is known as wear and tear arthritis because it causes cartilage to wear away in a joint over a long period of use, like tires wearing out on a car
- Appears in a predictable pattern in certain joints

Rheumatoid arthritis:

- Is a chronic autoimmune disease that can affect many parts of your body
- Causes the joint lining (synovium) to swell, which produces pain and stiffness in the joint
- Most often starts in the small joints of the hands and feet (/en/diseases--conditions/rheumatoid-arthritis-of-the-foot-and-ankle/)
- Usually affects the same joints on both sides of the body
- Causes damage to the cartilage over time

Trauma

Fractures, especially those that damage the joint surface, and dislocations are among the most common injuries that lead to posttraumatic arthritis.

Even when properly treated, an injured joint is more likely to become arthritic over time than a joint that is never injured. The trauma itself might directly injure the cartilage at the time of the event. Or the fracture may heal out of position, leading to an uneven joint surface or an abnormal angle at the joint that causes arthritis to develop gradually.

This X-ray shows fractures within the finger joints.

Symptoms

Pain

In the early stages of hand arthritis:

- You may experience joint pain that feels dull or like or a burning sensation.
- The pain often occurs after periods of increased joint use, such as heavy gripping or grasping.
- The pain may not be present immediately; it may occur hours after using the hand or even the next day.
- Morning pain and stiffness are typical.

As the cartilage wears away, the symptoms will occur more frequently. In advanced disease, the joint pain may wake you up at night.

- Pain is often made worse with use and relieved by rest.
- Many people with arthritis complain of increased joint pain with rainy weather.
- Activities that once were easy, such as opening a jar or starting the car, become difficult due to pain. To prevent pain at the arthritic joint, you might change the way you use your hand.

Swelling

When the affected joint is subject to greater stress than it can bear, it may swell. Swelling may occur during or several hours after heavy use of the joint.

Changes in Surrounding Joints

In patients with advanced thumb base arthritis, the neighboring joints may become more mobile than normal. This compensates (makes up) for the stiffness in the arthritic joint, but joints moving more than they are designated to do can cause other issues.

Thumb extension deformity. This patient has lost mobility at the base of the thumb due to arthritis. The next joint closer to the tip of the thumb has become more mobile than normal to compensate for the arthritic joint. This abnormal motion can be problematic.

Warmth

The arthritic joint may feel warm to touch. This is due to the body's inflammatory response.

Crepitus and Looseness

- There may be a sensation or sound of grating or grinding in the affected joint (crepitus). This is caused by damaged cartilage surfaces rubbing against one another (bone on bone).
- If arthritis is due to damaged ligaments, the support structures of the joint may be unstable or loose.
- In advanced cases, the joint may appear larger than normal (hypertrophic). This is usually due to a combination of bone changes, loss of cartilage, and joint swelling.

Cysts

When arthritis affects the end joints of the fingers (DIP joints), small cysts (mucous cysts) may develop. The cysts may then cause ridging or dents in the nail plate of the affected finger. They may also rupture and leak gelatinous (jelly-like) fluid. Ruptured cysts can become infected.

Mucous cyst of the index finger.

Doctor Examination

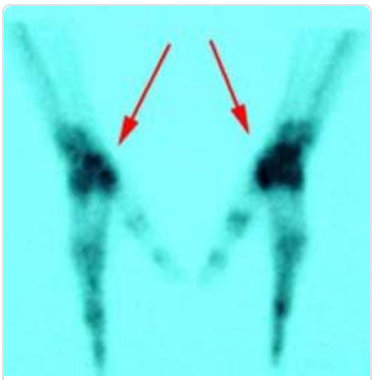
A doctor can diagnose arthritis of the hand by examining the hand and by taking X-rays.

Specialized imaging tests, such as magnetic resonance imaging (MRI), are usually not needed except in cases where the doctor suspects Kienböck's disease(/en/diseases--conditions/kienbocks-disease/) (a condition where the blood supply to one of the small bones in the wrist, the lunate, is interrupted).

Treatment

Arthritis does not have to result in a painful or sedentary (inactive) life. It is important to seek help early so you can begin treatment and return to doing what matters most to you.

Nonsurgical Treatment



Bone scans of the hands. The darker color is an indication of arthritis.

Treatment options for arthritis of the hand and wrist include:

- Medication
- Splinting
- Activity modification
- Injections
- Ice/heat
- Surgery

Your doctor bases treatment recommendations on:

- How far the arthritis has progressed
- How many joints are involved
- Your age, activity level and other medical conditions
- Whether your dominant or non-dominant hand is affected
- Your personal goals, home support structure, and ability to understand the treatment and comply with a therapy program

Medications. Medications treat symptoms but cannot restore joint cartilage or reverse joint damage. The most common medications for arthritis are non-steroidal anti-inflammatory drugs (NSAIDs) (/en/treatment/what-are-nsaids/), which stop the body from producing chemicals that cause joint swelling and pain. Examples of NSAIDs include naproxen and ibuprofen.

Glucosamine and chondroitin sulfate(/en/treatment/glucosamine-and-chondroitin-sulfate/) are widely advertised dietary supplements or neutraceuticals. Neutraceuticals are not drugs. Rather, they are compounds that are the building blocks of cartilage. They were originally used by veterinarians to treat arthritic hips in dogs. However, neutraceuticals have not yet been studied as a treatment for hand and wrist arthritis. (Note: The U.S. Food and Drug Administration does not test dietary supplements. These compounds may cause negative interactions with other medications. Always consult your doctor before taking dietary supplements.)

Rheumatoid arthritis can be treated with specialized drugs designed to combat the autoimmune cause of the condition. These medications are typically prescribed and monitored by specialists with expertise in treating rheumatologic conditions (rheumatologists). Learn more about medications and other treatments for RA(/en/diseases--conditions/rheumatoid-arthritis/).

Injections. When first-line treatment with anti-inflammatory medication is not appropriate, injections may be used. These typically contain a long-lasting anesthetic and a steroid that can provide pain relief for weeks to months. The injections can be repeated, but only a limited number of times, due to possible side effects, such as lightening of the skin, weakening of the tendons and ligaments, damage to the cartilage, and infection.

Splinting. Arthritic joints can be splinted to limit motion and therefore reduce pain. The splint helps support the affected joint to ease the stress placed on it from frequent use and activities. Splints are typically worn during periods when the joints hurt. They should be small enough to allow functional use of the hand when they are worn. Wearing the splint for too long can lead to muscle deterioration (atrophy). Muscles can assist in stabilizing injured joints, so atrophy should be prevented.

Surgical Treatment

If nonsurgical treatment fails to provide relief, surgery is usually discussed. There are many surgical options. The chosen course of surgical treatment should be one that has a reasonable chance of providing long-term pain relief and return to function. It should be tailored to your individual needs.

If there is any way the joint can be preserved or reconstructed, this option is usually chosen.

When the damage has progressed to a point where the surfaces will no longer work, a joint replacement or a fusion (arthrodesis) is performed.

A joint fusion using a plate and screws at the base of the thumb.

Joint fusion. Joint fusions provide pain relief but stop joint motion. The damaged joint surfaces are gone, so they cannot cause pain and other symptoms. However, because there is no longer a joint, the motion provided by that joint is no longer possible. Thus, these surgeries may reduce function while relieving pain. In some joints, this loss of function is unimportant. In other joints, the limitations of the fusion are obvious and challenging, possibly affecting quality of life.

Joint replacement. The goal of joint replacement (/en/treatment/total-joint-replacement/) is to provide pain relief and maintain function. As with hip and knee replacements, there have been significant improvements in joint replacements in the hand and wrist (/en/treatment/wrist-joint-replacement-wrist-arthroplasty/) since these procedures were first performed.

The replacement joints are made of materials similar to those used in weightbearing joints, such as ceramics or long-wearing metal and plastic parts. The goal of these materials is to improve the function and longevity of the replaced joint.

Many of the major joints of hand and wrist can be replaced. A surgeon often needs additional training to perform the surgery. As with any evolving technology, the long-term results of hand or wrist joint replacements are not yet known. Early results have been promising. Talk with your doctor to find out if these implants are right for you.

An example of a finger joint prosthesis used in joint replacement surgery.

After Surgery

After any type of joint surgery, there is a period of recovery. Often, you will be referred to a trained hand therapist, who can help you maximize your recovery. You may need to use a postoperative splint or cast(/en/treatment/about-casts-video/) for some time after surgery. This helps protect the hand while it heals.

During this postoperative period, you may need to modify activities to allow the joint surgery to heal properly. Typically, oral (taken by mouth) pain medication is also used to reduce discomfort. It is important to discuss your pain with your doctor so it can be adequately treated.

Length of recovery time varies widely and depends on the extent of the surgery performed and multiple individual factors. However, people usually can return to most if not all of their desired activities in about 3 months.

New Developments

Increasingly, doctors are focusing on how to preserve the damaged joint. This includes confirming the diagnosis earlier in the disease process and repairing joint components before the entire surface becomes damaged.

Arthroscopy(/en/treatment/wrist-arthroscopy/) of the small joints of the hand and wrist is now possible because the equipment has been made much smaller.

There have been encouraging results in cartilage repair and replacement (/en/treatment/articular-cartilage-restoration/) in the larger joints such as the knee, and some of these techniques have been applied to the smaller joints of the hand and arm.

In addition, stem cell research may be an option to regenerate damaged joint surfaces.

Last Reviewed

March 2023

Contributed and/or Updated by

Tyler Steven Pidgeon, MD, FAAOS

Peer-Reviewed by

Thomas Ward Throckmorton, MD, FAAOS