

# Hand Arthritis

By John Flint, MD

## What is arthritis?

Arthritis refers to a joint in the body being inflamed. The normal joint has cartilage capped bones that articulate, or move in relation to each other. The cartilage plus the synovial fluid, which lubricates the joint, allows the joint surfaces to move past each other without friction. The cartilage surfaces can wear thin or wear completely through to the underlying bones. This causes irregular surfaces that rub against each other causing pain, inflammation, swelling and often decreased range of motion. Most patients experience wear and tear arthritis, also known as osteoarthritis, but it can be caused by previous injury, auto-immune diseases such as rheumatoid arthritis, gout, infection and psoriasis.

## Where does arthritis occur in the hand?

Any joint can develop arthritis, but it is very common in the hand. This occurs due the repetitive activities of the hand and the high forces that are transmitted across the joints of the hand with pinching, twisting, and grasping. Some joints see as much as fourteen times the force applied at the finger tips. For example, pinching something with ten pounds of pressure at the finger tip, like a key, translates to 140 lbs of pressure at the joint at the base of the thumb. There are three common places to develop arthritis in the hand:

- the base of the thumb - also called the trapezio-metacarpal or basilar joint
- the last knuckle of the finger –also called the distal interphalangeal or DIP joint
- the middle knuckle of the finger – also called the proximal interphalangeal or PIP joint

## What are the symptoms of hand arthritis?

A person with hand arthritis will most commonly experience stiffness, transient swelling, and pain at the affected joints. Arthritis in the fingers can cause the last two knuckles of the hand to become permanently enlarged and lose motion. Thumb arthritis, or basilar arthritis, can cause an aching pain at the base of the thumb. The symptoms are worse with forceful gripping or pinching with the thumb –such as turning a key or opening a jar.

## What are the treatments for hand arthritis?

Most of the symptoms of hand arthritis can be treated without surgery. The primary goals of treatment are to diminish the pain and to allow normal use of the hand. Anti-inflammatory medications are instituted to decrease the irritation of the joint. Resting the arthritic joint can also help with the pain. Braces or splints should be worn during activities that aggravate the symptoms to help support the joint and provide relief. Warm wax and paraffin baths also can help arthritic hands. Steroid or cortisone injections into the arthritic joints are also very effective for decreasing the pain and inflammation in the joints.

**When does hand arthritis need surgery?**

Surgery is recommended to a patient when the patient's pain is not controlled by non-surgical interventions or their ability to have good hand function has been too compromised by the pain or deformity. Thus, the goal's of surgery are to restore function and reduce if not eliminate the pain. There are many surgical options to address the pain and loss of function. Joint replacement or joint reconstruction involves removing the rough surfaces of the joint and replacing them with either tendon, metal, or plastic. Another option is to fuse the arthritic joint in a position of function thereby eliminating the abrasive motion between the arthritic bones. Both of these options can be accomplished through fairly limited incisions and downtime. After surgery the patient also works very closely with a hand therapist to maximize and speed their recovery.

**What are the future options for hand arthritis?**

Hand surgeons continue to look for new and innovative ways of treating these common conditions. Most of the newer options are variations on standard techniques of joint replacements. Some are trying different injection therapies, such as hyaluronic acid and growth factor injections. They show some promising results but are not established as the standard treatment yet due to either high cost or varying results.

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