

Hand bones are called metacarpals. The finger bones are called phalanges. The metacarpophalangeal joint (MP joint), or knuckle, is where the finger bones meet the hand bones. At the MP joints, the fingers can move in multiple directions. They can bend, straighten, spread apart and move together. MP joints are important for both pinching and gripping.

MP joint arthritis is most common in the thumb and index fingers due to the stress of pinching. The different joints of the hand are shown in Figure 1.

Arthritis means joint inflammation and is a word that is often used to describe pain or a problem at a joint. Arthritis occurs when there is a loss of cartilage. Cartilage is the layer of tissue on the end of a bone.

## Causes

The MP joints can be affected by arthritis from many different causes. They include but are not limited to:

- **Osteoarthritis**, which is routine wear and tear
- **After an injury**, which could include a broken bone where the crack extends into the joint
- **Certain medical conditions** (rheumatoid arthritis, gout and pseudogout, psoriasis, etc.)
- **Infections**, often after a cut, puncture or animal bites where bacteria are introduced into the joint and cause rapid cartilage injury

## Signs and Symptoms

MP joint arthritis may cause pain, loss of motion, and swelling. These changes often come on gradually and may not be noticed right away. These symptoms may feel worse when gripping or grasping, such as when turning a key or opening a jar. Patients with arthritis sometimes have weak hands and may tend to drop objects due to sudden pains.

Over time, the fingers may shift toward the pinkie, which is called an ulnar drift (Figure 2).

Seek urgent medical attention if there is a deep cut or puncture over a joint, especially if the joint becomes very painful or swollen, has fluid leaking out, if moving the joint is extremely painful, or if motion is very limited.

## Diagnosis

The diagnosis of arthritis is often confirmed by taking x-rays. Figure 3 (right) is an x-ray of a hand with MP joint arthritis. The x-ray shows narrowing of the space between the bones, which is a sign that cartilage has been lost. Your doctor may also order blood tests or imaging studies to confirm the diagnosis.

## Treatment

There are many treatments available depending on the amount of pain and loss of function. Oral medication can be very helpful in relieving pain. Sometimes joint injections of a steroid medication can help. Other options include:

- Skin creams
- Heat or ice
- Splints
- Supports, such as buddy strapping two fingers together

Therapy can help maintain motion and strength.

If medical treatment fails, then surgery can be considered. There are many surgical options depending on the type and severity of arthritis. If the arthritis is extensive and severe, joint replacement or joint fusion are effective surgical options.

Not everyone is a good candidate for surgery. Discuss your treatment options with your hand surgeon.

