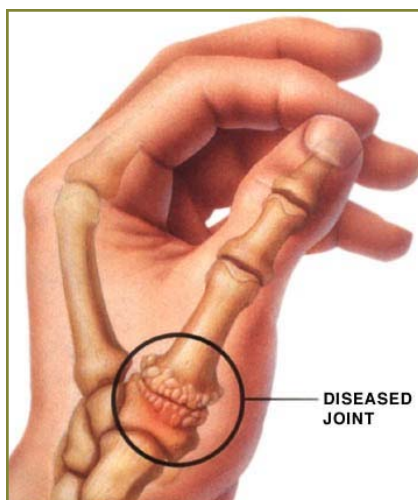


Thumb Basal Joint Arthritis

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The thumb sees a lot of stress throughout its daily life and is essential to the use of our hands. Our thumbs give us the ability to grasp and manipulate objects, open jars, turn keys, hold a pencil, and many other activities that we take for granted. It's been shown in the lab that when you pinch with one pound of pressure, the basal joint of the thumb sees about ten pounds of pressure. That's a lot of force being placed on the joint everyday. In addition, the thumb must have a wide range of motion in order to perform all of the activities that we ask it to do. So throughout life, the basal joint sees a combination of a lot of stress and a lot of motion causing it to wear out.

The joint at the base of the thumb is the second most common joint to be affected by arthritis in the hand. Arthritis simply means that the cartilage is wearing out. In a normal joint, each end of the bone is covered with a thin layer of cartilage which allows them to move smoothly and painlessly against one another. With aging, the cartilage slowly loses its ability to maintain and restore itself. As the cartilage wears out, the two bone ends rub against each other causing pain and inflammation of the joint.

Arthritis at the base of the thumb is typically seen in people over age 40. It affects women ten times more often than men. The cause is unknown in most cases, but past injuries can increase the chances of it developing at a younger age.

Signs and Symptoms

The most common complaint is pain at the base of the thumb especially with pinching activities like opening jars, turning keys and opening doors. As the arthritis worsens patients may experience pain at night and at rest. Grip and pinch strength also decrease. A bump at the base of the thumb may develop as the arthritis progresses and the metacarpal slides off the trapezium. As the arthritis progresses, thumb motion can also become limited.

Diagnosis

The location of the pain can be very helpful in making the diagnosis. Applying longitudinal pressure to the thumb can reproduce grinding and pain (the "grind test"). X-rays are taken to confirm the diagnosis and to determine the severity of the arthritis. The decision for treatment is based on symptoms, not just the severity of arthritis on the x-rays. Some people have terrible arthritis and it doesn't seem to bother them much, whereas some have less severe arthritis yet it greatly affects their life.

Treatment

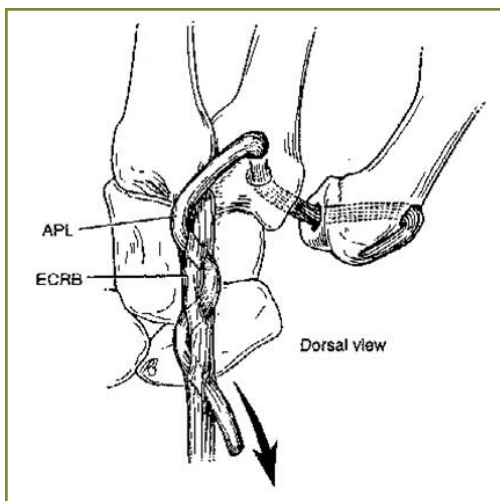
Initially, treatment begins with non-surgical care. Braces can be very helpful at alleviating symptoms and can delay and even eliminate the need for surgery. There are many braces available from rigid to soft with varying amounts of support. Many are pre-fabricated and you buy the size that fits you and some are made by a therapist to fit your hand. The braces that I've found that are most successful are soft braces that give support and relief to the arthritic joint but allow enough motion to be functional and, therefore, worn on a regular basis. The more rigid the splint the more support it gives the joint. However, more rigid can also be more difficult to wear and use throughout the day for some. Anti-inflammatory medicines can also be very helpful at controlling symptoms. After these measures fail, an intra-articular cortisone injection is occasionally tried and can help alleviate an acute exacerbation of pain.



Patients who fail these conservative measures are candidates for surgical reconstruction. There are a variety of surgical procedures described for advanced arthritis of the base of the thumb. Most all procedures have two things in common: 1) excision of the arthritic bone (trapezium), and 2) ligament reconstruction/metacarpal suspension ("Suspensionplasty"). The ligament reconstruction involves suspending the thumb metacarpal on the second metacarpal with a tendon or a portion of a tendon. If the MCP joint of the thumb hyperextends, treatment of that joint may be necessary at the same time of the reconstruction. Results after trapezial excision and suspensionplasty are uniformly good with excellent relief of pain and improved grip strength in 85-95% of patients.

In earlier stages of the disease, osteotomy of the thumb metacarpal (cutting the bone and realigning it) or ligament reconstruction of the joint without excision of the trapezium may be options.

Arthritis of the base of the thumb is a very common problem for many people. Braces can help the majority of people, but when conservative measures fail, there are very successful surgical procedures that can alleviate the pain and get patients back to their active lifestyle.



This illustration shows suspension of the 1st metacarpal on the 2nd metacarpal.