

# Understanding your thumb osteoarthritis

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- **Introduction**

- The CMC joint is one of the most important joints of the thumb and hand due to its wide range of motion. Over time, the CMC joint is subject to large and repeated forces during use which may lead to degenerative (osteoarthritis) changes.
- Individuals can develop unstable pinch patterns that alter the natural muscle and ligament structures designed to stabilize the thumb joint. With the education and exercise tips found in this handout, you can learn to “retrain” your thumb to use a more stable pinch pattern.
- Predisposing factors to thumb CMC joint osteoarthritis include
  - Anatomic anomalies of the joint
  - Acute trauma to the soft tissue structures (i.e. ligaments)
  - Fracture to the base of the thumb
  - Hormonally linked excessive laxity of ligaments (i.e. females during peri or post menopause)
- Non-surgical approaches to symptom management include pain-relieving modalities, orthosis support (splinting), targeted exercises, and joint protection techniques.

## CMC (Basal) Joint Arthritis



- **Symptom Management**

- Pain-relieving modalities
  - *Superficial heat and cold modalities* such as hot packs, paraffin baths, warm water baths, cold packs, ice baths, and ice massage. The goals of these thermal modalities are to reduce pain, decrease inflammation, improve function, and increase or maintain motion.
  - *Nonsteroidal anti-inflammatory drugs -NSAIDs (should be discussed with your physician)*
    - These medications are routinely used to reduce pain and inflammation, and they can be oral or topical. A commonly prescribed topical NSAID is Voltaren gel.

- *Corticosteroid injections (should be discussed with your physician)*
  - Usually provide short-term pain relief. Steroid injection at the thumb joint is less common than in larger joints such as the knee or shoulder.
  - Studies have shown that long-term use of multiple corticosteroid injections can cause articular cartilage loss and weakening of the capsule.

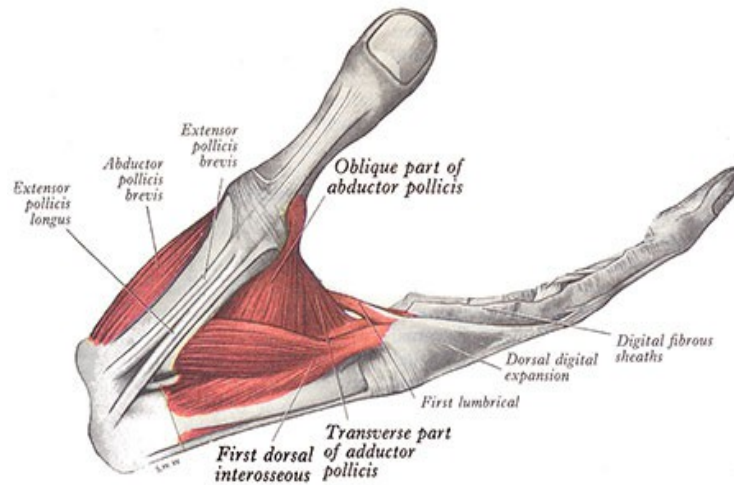
○ Splinting

- Splinting is the mainstay of conservative management of an unstable and painful thumb. It helps to rest and support the thumb joint and reduces stress during use.
- There are several types of splints available for treating an unstable and painful thumb. Your therapist will discuss with you the benefits of each and make suggestions based on your specific symptoms.



○ Exercises

- NOTE: Your therapist will discuss with you which exercises are appropriate for you, and when you should begin the stabilization exercises. During periods of a markedly unstable or inflamed joint, rest and support through positioning are required and exercises may be contraindicated. As a general rule, exercises are more appropriate when the joint is not inflamed and relatively painless.
- The thumb CMC joint is stabilized by ligaments and muscles that help to keep it on the trapezium (wrist bone). Knowledge of a few key muscles will aid in protecting your thumb.
- Some muscles work against the thumb joint by becoming too tight and moving the thumb away from the trapezium.
- The *first dorsal interosseous* is a strong finger muscle that comes from the side of the thumb bone and helps to keep the base of your thumb on the trapezium. Helping to maintain the strength of this muscle, and learning to use it properly when you pinch will help to protect your thumb joint and keep it stable.
- The *adductor pollicis* is a common muscle to tighten up around the thumb and pull it towards your palm. Helping to relax this muscle with pressure point exercises will help to protect your thumb and prevent deformity.



○ Joint Protection Techniques

Joint protection can be defined as the act of decreasing the stress/load on a joint and its surrounding tissues while performing daily activities. Some activities that are likely to exceed the force of your thumb joint are cutting with scissors, opening a bottle or jar, and turning a key in a lock.

▪ *Activity modification*

- Altering long-term behaviors can be difficult. It is important to understand that these alterations are essential to the success of protecting your joints from stress that leads to pain, inflammation, and possible deformities.
- Basic principles of joint protection include:
  - Rest- allow frequent breaks to avoid overuse of your thumb.
  - Exercise to maintain joint motion- finding balance between rest and exercise will be very important and will be different for each person.
  - Respect pain- if you notice that you have done too much of a certain activity, with increased pain that lasts more than two hours, pay attention and next time do a little less.
  - Distribute weight evenly- use both hands when lifting instead of one when possible. Always lift an object from the bottom with both arms and palms, and not from the top with your fingers and thumbs.
  - Avoid staying in/holding one position for long periods of time- take rest breaks when performing activities and use utensils/equipment with larger handles.
  - Use larger and stronger joints- carry a heavy purse on your shoulder or elbow versus using your fingers.

▪ *Assistive Devices*

- Many assistive devices used for joint protection are designed to reduce the pinch and grip forces associated with varying activities. In general, utensils and equipment with larger handles are more supportive for smaller joints found in the hand and thumb.
- These devices may include jar openers, spring loaded scissors, doorknob turners, modified kitchen utensils, modified key holders, and pen grips or larger pens.



**NO/WRONG**



**YES/RIGHT**

