

Osteoarthritis of the Thumb Carpo-metacarpal Joint (*“basal thumb arthritis” or “1st CMC OA”*)

Introduction

In a normal joint, cartilage covers the ends of the bones and allows them to move smoothly and painlessly. When a joint has osteoarthritis the cartilage wears out and the bones may begin to rub on each other. This can cause pain at the base of the thumb and can make it difficult to grip or pinch grip, for example doing buttons.

Causes

This joint is particularly at risk from normal wear and tear during hand use. It is more common in women over the age of 40 years. Past injuries to this joint may increase the risk of developing osteoarthritis.

Signs & Symptoms

The most common symptom is a deep ache at the base of the thumb. Pain is often worse when doing activities that involve gripping e.g. writing, turning door knobs and using keys. As the problem worsens, a loss of strength, and an alteration in the shape of the base of the thumb may occur.

Treatments

- Rest and splints to stop the activities that aggravate the condition.
- Anti-inflammatory medication.
- Hand Therapy – this may include exercises to strengthen the base of the thumb, splinting and pain-relieving treatments.
- Injection of a steroid and local anaesthetic to help reduce the inflammation and the swelling, this may need to be done under x-ray guidance and more recently using ultrasound guidance in a clinic setting.
- Viscosupplementation – this is another form of injection to replenish the normal fluid in the joint and promote cartilage health. It is not yet available at the UHCW hand unit as it is a relatively new treatment for basal thumb arthritis, and its safety and results are still being investigated.
- Surgery – usually a form of trapeziectomy (removing the bone), but other options (e.g. joint replacement) may become available in the future once safety and outcomes have been assessed properly.

Splints

You may be provided with a splint to support your thumb joint during activities that cause you pain. Some splints are made from soft material (e.g. neoprene), others from a thermoplastic material (that is moulded when heated then sets hard), and some are a combination of the two. The type of splint is chosen to meet your individual needs.

Splints are designed to be worn during certain activities help to reduce the pain you are experiencing and also support the joint to help prevent further problems. You should **not** wear these for all activities as they restrict the movement of the joint resulting in stiffness and muscle weakness. You can also wear your splint at night time if you have any pain at night or during times of a flare-up.

Therefore aim to wear the splint during activities that you find painful, but complete light functional activities without the splint to maintain your joint range of movement and muscle strength.

Exercises & Stretches

It is common for the thumb to adopt the position seen on the right-hand image. The hand on the right demonstrates difficulty taking the thumb away from the palm. You should massage the tight muscles at the base of the thumb as advised by your therapist and do the exercise below to improve this.



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1. Interlock your thumb web spaces together. Holding the thumb, massage the affected thumb web space area. Your therapist will advise you on how many times per day to repeat all these exercises.



muscle control is very important to stop the thumb collapsing; exercises 2 and 3 are to gain control in the muscles at the base of the thumb

2. Keep your hand including your thumb on a table, with the top 2 joints bent. Move the thumb gently in and out as if playing two notes on a piano
3. With your hand on table, pretend your thumb is the mouth on a puppet. Open but do not fully close “the mouth” as if the puppet is talking.
4. Using the other hand stretch the affected thumb up- from the base (below the top 2 joints). Hold for 10 seconds and repeat 3 times. Take care to avoid pushing the thumb backwards.
5. Without assistance from the other hand lift the thumb upwards as far as possible as if hitch-hiking but with the top joints slightly bent. Hold for up to 10 seconds and repeat 10 times.



Protecting your thumb joints

Each time you experience thumb pain when doing an activity, stop and consider whether the way you are doing it is causing stress on the joint. Think about if there is another way the activity can be performed that is better for your joints. Avoid heavy tasks such as lifting and gripping for 3 months. When doing tasks involving a 'pinch grip' position please try and keep in 'O' shape and avoid allowing the thumb to collapse, see the images below



***when doing activities that involve a pinch grip (e.g. writing)
keep the top of the thumb joint bent and the wrist extended***

The following are joint protection techniques that may help to reduce the pain you experience when doing activities and prevent further damage to the joints:

- Take notice of any pain you feel, it can serve as a warning that the way you are performing the activity may cause further pain or damage to the joint.
- Spread the load over several joints (e.g. by carrying items on two flat hands rather than gripping with your thumb).
- Use larger stronger joints rather than putting the strain through your thumb joints.
- Use less effort (e.g. push or slide heavy items rather than carrying).

Pain Control

Some people find that paracetamol, anti-inflammatory medications (such as aspirin and ibuprofen) or anti-inflammatory creams can help to reduce the pain experienced. This should always be discussed with your GP or consultant as they will be able to recommend what type of pain relief and what dose is appropriate for you, depending upon any other medical conditions you have.

Assistive Devices

There are a variety of small aids that are available to assist you in maintaining your independence completing daily activities. For example:

- Jar twisters: jar twisters to help you open tight jars.
- Pen grips: pen grips to support your grip or writing reducing the effort to grip and helping pain.
- Key turners: key turners if you have difficulty turning key in door.
- Wide grip cutlery: wide grip cutlery if you find it difficult or painful to hold cutlery.
- Tap turners: attach onto your taps to make them easier to turn on and off.
- Plug pulls: assists grip if you have difficulty removing plugs.

For further visit www.versusarthritis.org and download their information booklet “Everyday living and arthritis”.

Surgery

The principal operation is called a trapeziectomy and involves removing one of the bones called the trapezium, which forms part of the worn joint. space left by the bone then fills up with dense scar tissue. Some surgeons will perform a ligament reconstruction to help thumb stability and strength. This involves using a part of an existing tendon in your arm, and there are some additional risks associated with this, which your surgeon will talk to you about. The surgery is usually performed as a day case under a general anaesthetic. Stitches will be in for 14 days; these are usually removed at your GP practice.

After the operation you will have either a large bandage or plaster cast depending on your consultant’s preference. You may need to wear a supportive splint at your consultant’s request, You will be encouraged to exercise by your hand therapist, to ensure that you regain movement and strength. You can expect to have some discomfort for the first three to four months following surgery. In some people this period may be last for as long as nine months. Pinch and power grip which are usually weak before surgery will improve in nine to twelve months following the surgery. Overall hand function will also improve over this time.



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Further information

The day surgery unit can be contacted on 02476 966861 / 02476 966868 (University Hospital), or on 01788 663264 (Hospital of St. Cross). For further information please visit our hand service's web site at www.tinyurl.com/uhcwhand, or contact:

- Hand Therapy at University Hospital Coventry & Warwickshire on 02476 966016
- Hand Therapy at Hospital of St. Cross, Rugby on 01788 663257
- Our specialist hand surgery nurse / hand-coordinator on 02476 965072

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact 02476 966861 and we will do our best to meet your needs.

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