



Osteoarthritis of the carpo-metacarpal thumb joint: conservative treatment

This leaflet gives advice on managing osteoarthritis of the carpo-metacarpal thumb joint using non-surgical techniques. The condition is also called ‘basal thumb arthritis’ or you may hear your clinician refer to it as ‘1st CMC OA’.

What is osteoarthritis?

Osteoarthritis (OA) is the most common type of arthritis. In a normal joint, cartilage covers the ends of the bones, allowing them to move smoothly and painlessly. When a joint has osteoarthritis, the cartilage becomes thin and rough and the bones may rub against each other, causing pain. Osteoarthritis may develop at any age but usually appears in people over the age of 45. It may run in families and is more likely to develop if a person has previously had a fracture at the joint.

Symptoms of OA in the thumb include:

- Pain at the base of the thumb, made worse by use – particularly pinch grip activities, e.g. holding a pen, opening jars, or turning a key.
- Tenderness if you press on the base of the thumb.
- Stiffness of the thumb, particularly after periods of rest and in the morning.
- Muscle weakness and instability – you may find it hard to grip and have difficulty holding the thumb away from the hand.

Thumb Arthritis

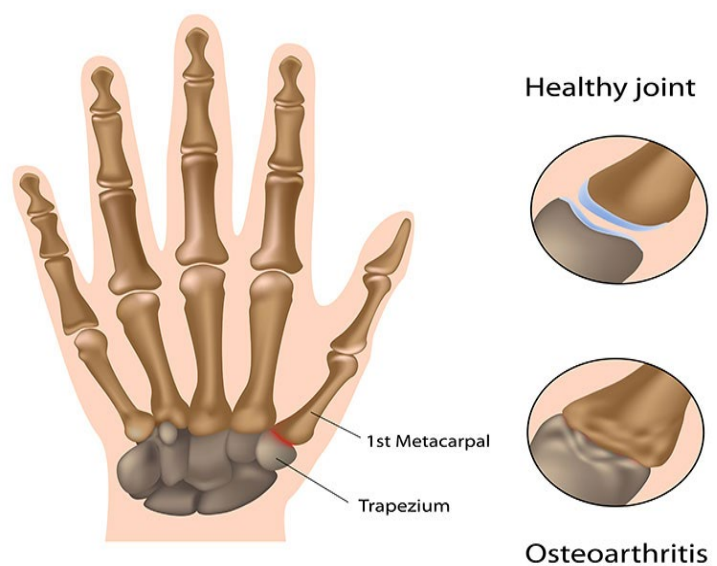


Image courtesy of Versus Arthritis <https://versusarthritis.org/>

Treatment options may include:

- Adapting activities to reduce the pressure on the thumb joint.
- Using a splint to support the thumb during painful activities
- Exercises to help strengthen the muscles around the thumb joint.
- Using painkillers and/or anti-inflammatory medication.
- Steroid injection improves pain in many cases, though the effect will wear off over time. The injection can be repeated if needed.
- Surgery is only considered as a last resort, as the symptoms often stabilise over the long term and can be controlled by the non-surgical treatments mentioned above.

Physiotherapy treatment aims to:

1. Help manage pain by using a splint to help hold the joint in position during activities that cause pain.
2. Help limit pain and any further joint damage by use of joint protection techniques. This is not about stopping doing activities, but finding the best way to do them to help reduce pain and damage to the joint.
3. Maintain or improve the movement of your thumb joint by exercises to stretch the thumb and strengthen the muscles around the joint.

Thumb exercise and splinting programmes have shown benefit in reducing pain and improving hand function in the early stages of arthritis. However, there is little benefit from these where there is a fixed deformity in the thumb joint. Joint protection techniques can help manage pain at any stage of arthritis.

Splinting

Splints are made of neoprene, thermoplastic or a combination of both. Most people prefer the neoprene splints as these are generally the most comfortable. You should wear your splint for activities that cause you the most pain. Try not to wear the splint for all activities, as prolonged use can cause stiffness and will reduce muscle strength.

Important things to note:

- If you experience pain, numbness, redness or swelling or increased pain when wearing a splint, stop wearing it.
- If you wish to wear your splint when driving, you need to notify your insurance company and gain their prior consent as it may otherwise invalidate your insurance.
- You should not wear your splint while operating heavy machinery unless it specifically fitted for this purpose (speak to your occupational therapist for advice).
- You may also wear your splint to help rest the thumb or overnight if you get pain at night.




Splint care: Neoprene splints should be hand washed or washed in a washing machine, on a cool wash (30-40 degrees) and air-dried. Please do not put the splint in a tumble dryer as it will shrink.

Exercises

The exercise programme consists of stretching, then levels 1, 2 and 3 for strengthening. Only move onto the next level when you are happy and confident with the previous level. **Level 3 will be taught at your follow-up appointment with the occupational therapist.**

Before you start you may find it beneficial to warm up your hand by placing your hand in warm water or applying a heat pad and gently moving your thumb in a circular motion.


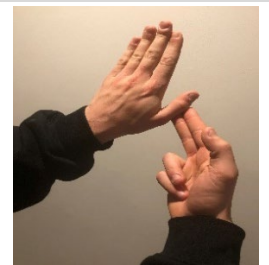

Stretching to relieve tightness

<p>1) With the palm facing down, move the thumb out to the side as far as you can. Gently massage into the thumb web space with the other hand.</p>	
<p>2) Gently lift your thumb, keep both joints bent, and gently stretch the thumb using the opposite hand as shown.</p>	
<p>3) Using the other hand, gently push the affected thumb out from the base to give you a flat hand. Do not do this stretch if it causes pain.</p>	

Level 1: Static exercises




These exercises make the muscles work, but they do not move the joint. This is a simple way to start to strengthen the muscles without putting too much stress on the joint. Make sure you keep both the thumb joints bent whilst completing these.

Perform all exercises 1 x daily. Repeat all exercises 5 times, holding for 5 seconds. If you feel any pain, reduce the repetitions or the length of the hold.

<p>1) Make an O shape with the thumb and index finger then with the other hand gently apply pressure to try and break the O.</p>	
<p>2) Keep the thumb still while gently pushing the thumb towards the index finger with your other hand.</p>	
<p>3) Lift the thumb up, bend both joints, hold in this position for 5 seconds. Alternatively, you can place your hand palm down on a table and slide your thumb away from your hand.</p>	

Level 2: Stabilisation exercises

Aim to complete the following exercises 1-2 x daily. They will help reduce joint stiffness and maintain range of movement of your thumb. It is usual to experience some discomfort or a stretching feeling whilst completing the exercises, but no exercise should cause a sharp pain or an increase in pain. If you find them difficult, check you are doing them correctly and if so, reduce the number you are doing until you find them comfortable again (e.g. if you are doing 10, reduce to 5). Repeat each exercise 5 -10 times. Start with 1 set, increasing to 3 sets as able.

<p>1) Pinch each finger in turn making a good round 'O' shape. Make sure the thumb joints are always slightly bent (flexed). Do not to let the thumb collapse towards the palm or let the joints hyperextend (bend backwards).</p>	
<p>2) Hold a tennis ball (or similar) in your hand, slide your thumb up towards your index finger then down towards the bottom of the ball.</p>	
<p>3) Place your hand over a tennis ball (or similar), keeping both thumb joints bent, move the thumb out to the side and hold for count of 10.</p>	

Looking after the joints: Joint Protection Principles

Many people find their own way of doing things that is less painful. There are some general principles that should help you think about the way you are doing things and if this is causing additional strain on the basal thumb joint.

- **During activities that require a pinch grip (e.g. writing, opening packets, using clothes pegs), keep the thumb bent and your wrist slightly back.**



- Try to avoid very tight pinch grips by making grips wider (e.g. using a pen grip) or change how you do a task, e.g. open packets with scissors.
- **Activities that involve twisting or turning (e.g. opening a bottle top or taps). Avoid fully straightening the top joint of the thumb and the thumb coming across the palm.**



- **Try to enlarge your grip and use a long lever for turning (e.g. use lever taps, key turners, bottle openers).**
- In general, try to use the **largest joint** possible for a job and spread the load across multiple joints. For example, lift and carry bags on your forearms or use a rucksack. Use two hands to lift where possible, keeping the hands flat.
- Get into the habit of doing tasks in small chunks, or changing between activities so you regularly change the position of your joints. For example, try not to sit and type for more than an hour, **build movement breaks into your day** and regularly take your hands away from the keyboard and stretch your hands and upper arms.

Further information

There is a lot more information on adapting activities to protect your joints on the Versus Arthritis website (www.versusarthritis.org.uk) or the National Rheumatoid Arthritis Society (NRAS) website (www.nras.org.uk). Your occupational therapist can also talk through any activities that you are finding particularly difficult. Many shops now supply ergonomic equipment, from specialist living aid shops to chemists and supermarkets. There are also numerous options online, including:

Livingmadeeasy.org.uk

Amazon.co.uk

Arthr.com

Activehands.com

For further reading, see:

<https://www.versusarthritis.org/media/22908/osteoarthritis-information-booklet.pdf>

<https://www.versusarthritis.org/media/24668/looking-after-your-joints-information-booklet-2022.pdf>

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To find out more about our Trust visit www.royalberkshire.nhs.uk

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