

Base of Thumb Osteoarthritis

What is it?

Osteoarthritis of the base of the thumb (Carpometacarpal or CMC joint arthritis) is a very common condition which commonly affects postmenopausal women and women over the age of 50 years. Approximately 40% of post-menopausal women have x-ray changes at the base of the thumb. 1 out of 10 patients will seek medical treatment and only 1% is severely affected. It can also occur in males, but this is less common.

Why does it occur?

Osteoarthritis usually occurs due to the wearing of the smooth cartilage surface at the base of the thumb. This is basically bone ends rubbing on bone. This may be due to a previous injury or fracture, but many patients do not have a specific history of this.

What are the symptoms?

Pain localised to the joint at the base of the thumb, and this is also tender to palpation. Patients complain of reduced grip strength and limitation of many activities of daily living.

Clinical examination

There is a bony swelling at the base of the thumb which is markedly tender to palpation. A Grind Test, where the thumb is pushed along its long axis towards the base of the thumb, can also be specifically tender. Grip strength is often reduced on the affected hand.

What investigations are required?

The most common investigation is an x-ray of the thumb which shows typical features of osteoarthritis, including loss of joint space, osteophytes, or bony swelling around the joint.

What are the treatment options?

There are two main options for treatment of base of thumb osteoarthritis. These are:

Non-Operative:

Non-operative treatment of carpometacarpal arthritis is usually directed by a hand therapist. These include splinting, rest, painkillers/analgesia, and avoidance of activities which provoke the pain. An intra-articular steroid injection (or injection into the joint) may also relieve pain and improve function. I recommend that most patients trial these non-operative measures before considering operative treatment.

Operative:

Surgery is usually performed under a day-case procedure under a general anaesthetic. A tourniquet is placed above the elbow to ensure a bloodless field. The procedure usually takes 30-40 minutes to complete. An incision was made over the palmar side at the base of the thumb and the trapezium bone is removed, leaving a potential space. A small portion of one of the wrist tendons is then harvested and used to stabilise the base of the thumb and to fill the affected space. The skin is sutured closed, and a plaster of paris cast is then applied. The patient is usually able to return home the same day as the procedure.

Post-Operative Rehabilitation:

The affected hand needs to be elevated as much as possible for the first five days after surgery. Bending and straightening of the fingers during this time is heavily encouraged. Around 10-14 days after the operation, the wound is reviewed by the hand therapist and a thermoplastic splint is fitted, which is worn for 4- 6 weeks. Range of motion exercises usually commenced at this stage under the supervision of the hand therapist. Most patients notice that the arthritic pain is gone within 4-8 weeks after surgery, but improvements can continue to be made for 6-12 months after surgery as the thumb strengthens.

Possible complications

Overall, greater than 95% of patients are happy with the results of the surgery, however complications do occur sometimes. Some complications specifically related to hand surgery include infection (less than 1% chance), neuroma (less than 1% chance) which is a damaged nerve that becomes painful on reattempts to regenerate, numbness, chronic regional pain syndrome or reflex sympathetic dystrophy (1-2% chance) which is a reaction to surgery which can cause painful or stiff hands.

Complications specific to base of thumb osteoarthritis surgery include failure to completely resolve the symptoms due to arthritis in the adjacent joints. This is rare but may require further surgery. The thumb will be weaker than on the opposite side if this side is unaffected. This will improve with time but may never be fully normal.