

Carpometacarpal (CMC) Arthroplasty

Operative Management



Campbell Clinic[®]
ORTHOPAEDICS

What is CMC Osteoarthritis?

A joint is the articulation between two or more bones which typically consist of a smooth material called cartilage that allows for smooth painless gliding between the bones.

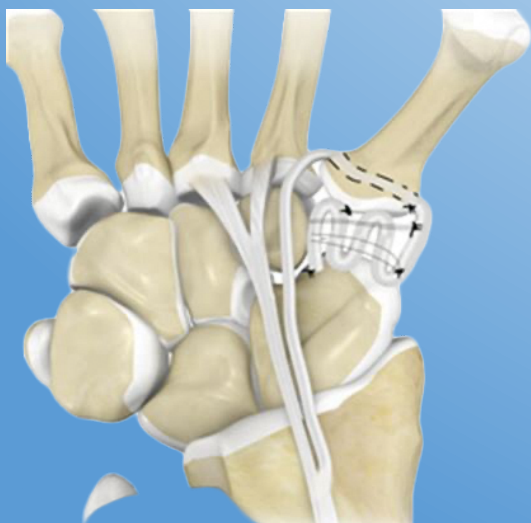
Osteoarthritis is a condition where the smooth cartilage and the bony prominences have worn down due to overuse or general wear and tear related to age. This condition typically leads to limited painful motion, swelling, and decreased strength during gripping and pinching activities.

The carpometacarpal joint, more commonly referred to as the CMC joint is particularly susceptible to this condition. The CMC joint is the joint at the base of the thumb and refers to the junction between two bones called the 1st metacarpal and the trapezium. The CMC joint is what allows our thumb to have so much motion needed for various gripping and pinching task, and due to the frequent use of our hands and thumbs, this joint is one of the most common joints to be affected.



What is a CMC Arthroplasty?

The term “arthroplasty” refers to a surgery intended to restore the function of a joint. There are many different types of surgical procedures used to restore function of the CMC joint and the appropriate procedure will be determined by your surgeon depending on your current condition and severity of symptoms. However, the most common procedure performed is a trapeziectomy with ligament reconstruction and interposition (LRTI). This procedure entails the removal of the arthritic bone, the trapezium. Next a hole is drilled through the 1st metacarpal and a portion of a nearby tendon is cut. The tendon is then placed through the hole and folded into the empty space where the trapezium was removed.



Trapeziectomy + LRTI

What Happens After the Surgery?

Depending on the surgical approach you will be immobilized in a cast for 2-6 weeks. Two weeks following your surgery you will return to the clinic to have your cast and stitches removed. Depending on your surgeon's recommendations for immobilization you will either be fitted for a new cast, or you will transition to a removable brace. Once you transition to a removable brace your surgeon will provide you with instructions for how often to wear your brace as well as exercises you should perform in and out of the brace. Around 6 weeks after your surgery you will likely begin hand therapy to help regain range of motion, strength, and overall functional use of your hand and wrist.

Management for Post-Surgery

Patients are commonly surprised by the length of recovery following the surgery. The length of recovery following this surgery varies from patient to patient. Some patients may have a full recovery within 3 months, however other patients have reported recoveries lasting up to a year. The important thing to keep in mind is this is a major procedure and will require time to fully heal. Throughout the recovery process **the primary factors you will focus on are pain management, wound care, edema management, and exercise.**

Pain Management

Patients should expect to experience a fair amount of pain following the procedure and throughout the recovery process. Your surgeon will prescribe you pain medication, and you may also use hot and cold packs to help alleviate the pain, however they should only be used for no more than 20 minutes at a time. Other recommendations for an optimal recovery are a healthy diet, adequate hydration, managing stress, and getting enough sleep each night. It is very important to follow the instructions given to you by your surgeon and therapist regarding exercise and brace wear, because over working and lack of motion could both contribute to increased amounts of pain.



Wound and Edema management

Once you transition out of a cast managing edema and proper wound care is an important part of the recovery process. Swelling is a normal and expected following surgery, however an excessive amount can cause issues. Swelling can be managed by applying a cold pack to the affected area for 10 minutes, elevating your hand about heart level, and general motion instructed by your surgeon or therapist.

The most effective way to prevent an infection following surgery is proper wound care. While your sutures are still present and the wound is still healing, you need to avoid submerging or soaking the wound. The wound can be cleaned with running water and antibacterial soap. **DO NOT APPLY ANY LOTIONS OR OINTMENTS UNTIL WOUND HAS HEALED.** After cleaning ensure to dry the wound and apply sterile gauzes if needed.

Exercise and Therapy

Exercise and therapy will be the key factors contributing to increasing your range of motion and strength. Following surgery, your surgeon will provide you with instructions regarding exercises to complete during the first few weeks of recovery. After 2-6 weeks, you will begin physical/occupational therapy. Your therapist will slowly progress you through exercises to help you return to fully participating in your all-desired activities.

To see examples of common exercises for the initial stages of therapy scan the QR code with your mobile device.



Adaptive Equipment

Another way activities can be modified is with adaptive equipment, which are tools or devices that assist with daily activities. Adaptive equipment can be very beneficial for increasing participation with tasks that tend to aggravate the CMC joint. A few popular examples can be seen below.



Built Up Handles



Rocker Knife



Button Hook/Zipper Pull



Jar Opener



Spring Loaded Scissors



Bottle/Can Opener

Activity Modification

Activity modification is another vital strategy to combat CMC osteoarthritis symptoms, because typically overuse and poor joint mechanics are the root cause of this condition. General recommendations for activity modification include letting your thumb rest and avoiding painful repetitive gripping and pinching activities. Also use larger, stronger joints and muscles when possible. Examples of this include:

- Pushing/pulling heavy objects instead of carrying
- Using your palms instead of fingers
- Carry objects close to your body
- Use a backpack instead of a purse or handbag

Another tip is to adjust the position of your thumb during pinching. It is recommended to try to avoid the “key pinch” and instead use a “C pinch” as seen below.



C Pinch



Key Pinch



Potential Risks

The majority of patients recover well following this procedure however, as with any surgery, there are potential risks:

- Infection
- Blood clots
- Scarring
- Blood clots
- Return of arthritic symptoms

Summary

A CMC arthroplasty can be a very beneficial procedure for individuals that have exhausted conservative treatment options. However, it is important to consider that the recovery for this procedure can sometimes be a lengthy process. Many patients see a full recovery around 3 months post-surgery, however some patients report full recoveries taking as long as a year after surgery.

Post-surgery management includes splinting, pain management, wound care, edema management, exercise, and physical/occupational therapy. Other helpful options to assist with recovery are activity modification and adaptive equipment.