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A Patient's Guide to

Excision Arthroplasty of the Thumb



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Glendale Adventist Medical Center

Adventist Health

Orthopedic Services
Glendale Adventist Medical Center
1509 Wilson Terrace
Glendale, CA 91206
Phone: (818) 409-8000

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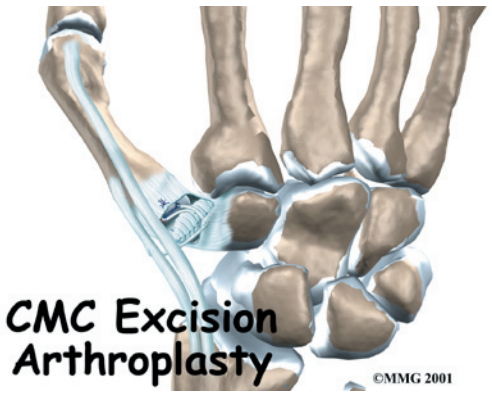


Glendale Adventist Medical Center's Orthopedic Institute, Orthopedic Services and Therapy & Wellness Center provides patients near and far with convenient access to a full-service orthopedic program. At GAMC, renowned orthopedic teams work side-by-side with patients to ensure that every patient returns to normal activities as quickly as possible.

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AdventistHealth.org/Glendale/Ortho

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Introduction

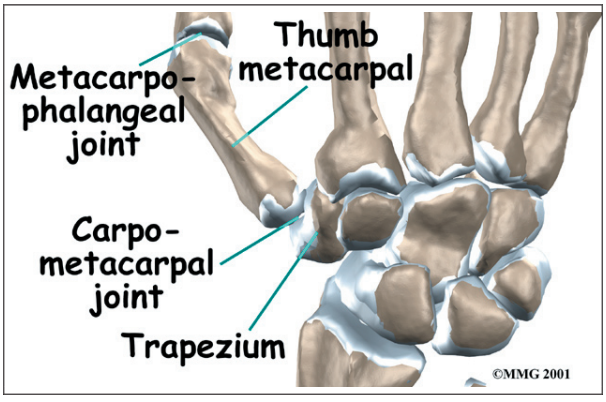
Thumb arthritis may be surgically treated with a procedure called *excision arthroplasty*. The term *excision* means to take out. In this surgery, the surgeon takes out a small bone at the base of the thumb and fills in the space with a rolled up section of tendon. The soft tissue forms a *false joint* that keeps the thumb somewhat mobile and stops pain by preventing the joint surfaces from rubbing together.

This guide will help you understand

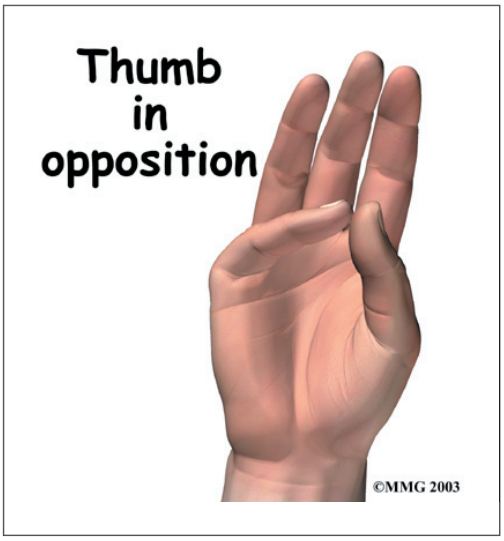
- **which parts of the thumb are involved**
- **why this type of surgery is used**
- **what happens during the procedure**
- **what to expect before and after surgery**

Anatomy

Which parts of the thumb are involved?

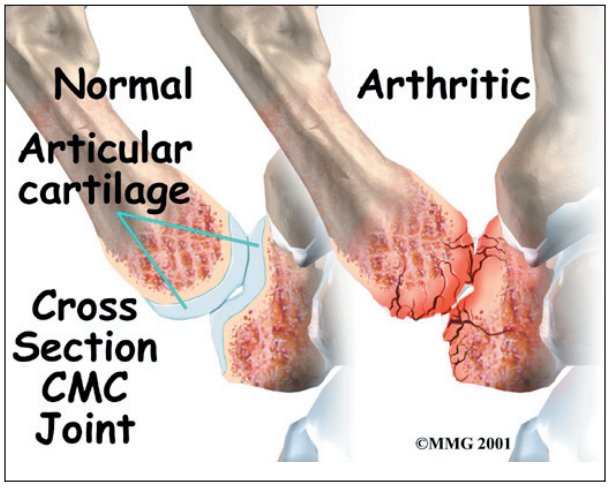


The *CMC joint* (an abbreviation for *carpo-metacarpal joint*) of the thumb is where the *metacarpal* bone of the thumb attaches to the *trapezium* bone of the wrist. This joint is sometimes referred to as the *basal joint* of the thumb. The CMC is this joint that allows you to move your thumb into your palm, a motion called ***opposition***.



Several *ligaments* (strong bands of tissue) hold the joint together. These ligaments join to form the *joint capsule* of the CMC joint. The joint capsule is a watertight sac around the joint.

The joint surfaces are covered with a material called *articular cartilage*. This material is the slick, spongy covering that allows one side of a joint to slide against the other joint surface easily. When this material wears out, the joint



develops a type of arthritis called *osteoarthritis* and becomes painful.

Rationale

What does the surgeon hope to achieve?

The main goal of this surgery is to ease pain where the surfaces of the thumb joint are rubbing together. The surgeon uses a piece of tendon to form a *spacer* that separates the surfaces of the CMC joint. Unlike a fusion surgery that simply binds the joint together, excision arthroplasty can help take away pain while allowing the thumb joint to retain some movement.



Pain location

Preparation

What should I do to prepare for surgery?

The decision to proceed with surgery must be made jointly by you and your surgeon. You need to understand as much about the procedure as possible. If you have concerns or questions, you should talk to your surgeon.

Once you decide on surgery, you need to take several steps. Your surgeon may suggest a complete physical examination by your regular doctor. This exam helps ensure that you are in the best possible condition to undergo the operation.

On the day of your surgery, you will probably be admitted to the hospital early in the morning. You shouldn't eat or drink anything after midnight the night before.

Surgical Procedure

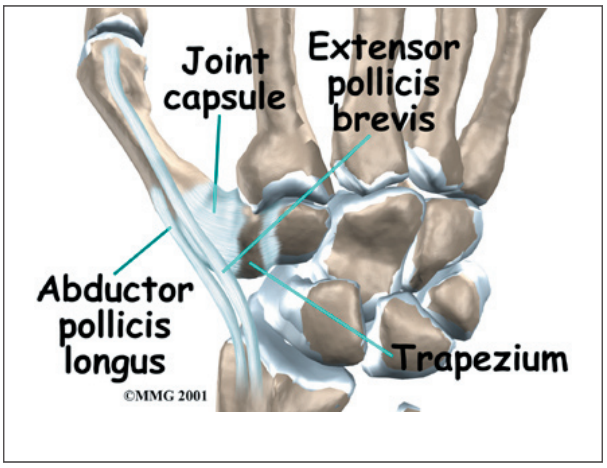
What happens during surgery?

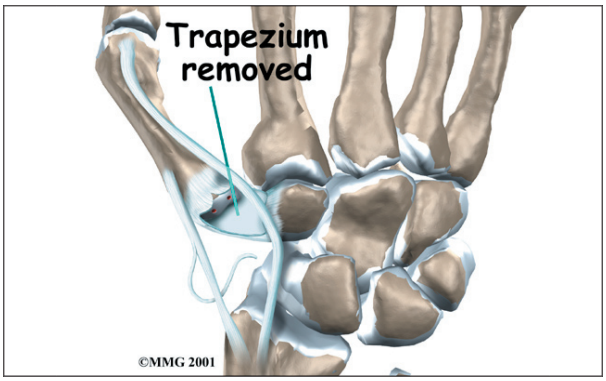
Surgery can last up to 90 minutes. Surgery may be done using a *general anesthetic*, which puts you completely to sleep, or a *local anesthetic*, which numbs only the hand. With a local anesthetic you may be awake during the surgery, but you won't be able to see the surgery.



Incision site

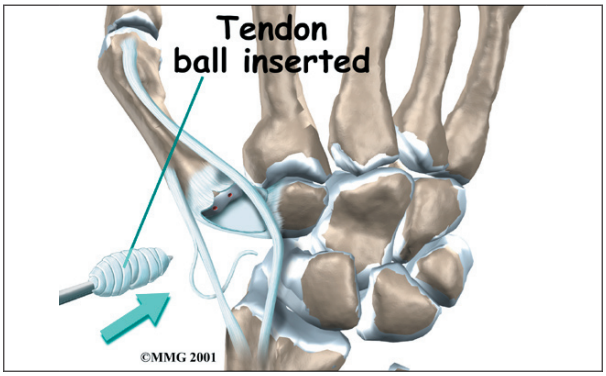
Once you have anesthesia, your surgeon will make sure the skin of your hand is free of infection by cleaning the skin with a germ-killing solution. An incision will be made that angles along the back of the thumb to the edge of the wrist. Special care is taken not to damage the nearby nerve going to the thumb.



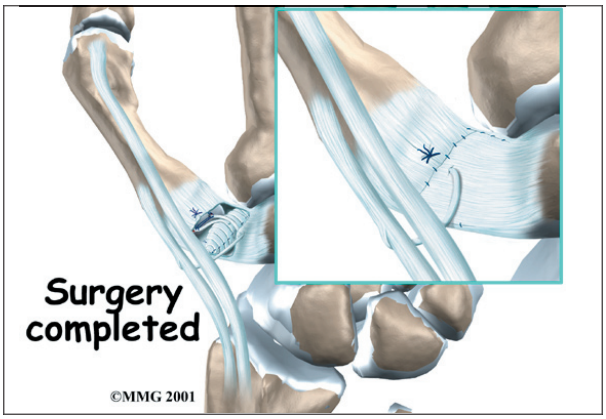


The CMC joint and surrounding tissues are **exposed**. Next, the joint capsule surrounding the CMC joint is opened. The surgeon **takes out (excises) the trapezium bone** at the base of the thumb.

Then the doctor removes a small section of one of the tendons near the thumb. The piece of tendon is **sewn into a small ball** and placed



into the space where the trapezium bone was removed. The remaining portion of the tendon is sewn to the thumb metacarpal to stabilize the joint. The surgeon may also insert a



surgical pin to connect and hold the metacarpal bones of the thumb and index finger. The pin protects the reconstructed joint and is usually removed three weeks after the surgery.

The soft tissues over the joint are **sewn back together**. The thumb is placed in a splint, and the hand is wrapped in a bulky dressing.

Complications

What might go wrong?

As with all major surgical procedures, complications can occur. This document doesn't provide a complete list of the possible complications, but it does highlight some of the most common problems. Some of the most common complications following excision arthroplasty are

- anesthesia
- infection
- nerve damage

Anesthesia

Problems can arise when the anesthesia given during surgery causes a reaction with other drugs the patient is taking. In rare cases, a patient may have problems with the anesthesia itself. In addition, anesthesia can affect lung function because the lungs don't expand as well while a person is under anesthesia. Be sure to discuss the risks and your concerns with your anesthesiologist.

Infection

Any operation carries a small risk of infection. Excision arthroplasty of the thumb is no different. You will probably be given antibiotics before the operation to reduce the risk of infection. If an infection occurs you will most likely need antibiotics to cure it. You may need additional operations to drain the infection if it involves the area around the arthroplasty.

Nerve Damage

All of the nerves and blood vessels that go to the thumb travel across, or near, the CMC

joint. Because the operation is performed so close to these important structures, it is possible to injure either the nerves or the blood vessels during surgery. The result may be temporary if the nerves have been stretched by retractors holding them out of the way. It is uncommon to have permanent injury to either the nerves or the blood vessels, but it is possible.

After Surgery

What happens after surgery?

After surgery, your thumb will be bandaged with a well-padded dressing and a splint for support. The splint will keep the thumb in a natural position during healing. Your surgeon will want to check your hand within five to seven days. Stitches will be removed after 10 to 14 days, though most of your stitches will be absorbed into your body. If a surgical pin was used, it will be removed three weeks after surgery. You may have some discomfort after exicision arthroplasty. You will be given pain medicine to control the discomfort.

You should keep your hand elevated above the level of your heart for several days to avoid swelling and throbbing. Keep it propped up on a stack of pillows when sleeping or sitting up.

Rehabilitation

What should I expect during my recovery period?

After surgery, you'll wear a thumb brace for up to six weeks to give the repair time to heal. Then a physical or occupational therapist will probably direct your recovery program. You will likely need to attend therapy sessions for one to two months, and you should expect full recovery to take up to four months.

The first few therapy treatments will focus on controlling the pain and swelling from surgery. Heat treatments may be used. Your therapist may also use gentle massage and other hands-on treatments to ease muscle spasm and pain.

Then you'll begin gentle range-of-motion exercise. Strengthening exercises are used to give added stability around the thumb joint. You'll learn ways to grip and support items in order to do your tasks safely and with the least amount of stress on your thumb joint. As with any surgery, you need to avoid doing too much, too quickly.

Some of the exercises you'll do are designed get your hand and thumb working in ways that are similar to your work tasks and daily activities. Your therapist will help you find ways to do your tasks that don't put too much stress on your thumb joint. Before your therapy sessions end, your therapist will teach you a number of ways to avoid future problems.

Your therapist's goal is to help you keep your pain under control, improve your strength and range of motion, and regain your fine motor abilities with your hand and thumb. When you are well under way, regular visits to the therapist's office will end. Your therapist will continue to be a resource, but you will be in charge of doing your exercises as part of an ongoing home program.

Notes