Anatomy of the Hand

The hand is composed of many different bones, muscles and ligaments that allow for a large amount of movement and dexterity. Each finger has three phalanges – distal, middle, and proximal – and joints where they meet. All of these joints make it possible to form a fist and other hand-related gestures.

Arthritis is the breakdown of the bone and/or soft tissues surrounding joint spaces. Determining the cause of arthritis can be difficult. Several factors may contribute to the development of this common problem – including a previous injury, or wear and tear on the joint. Someone with arthritis may be suffering with pain, swelling, loss of function and deformity which can affect their everyday activities.

Types of arthritis

- **Rheumatoid Arthritis (RA):** is a systemic disease that can affect any or all joints and surrounding soft tissues
- **Osteoarthritis (OA):** is a wearing away of the cartilage between the joints
- **Post-traumatic Arthritis (TA):** develops after injury to a joint

Treating thumb arthritis

Treatment options available to patients suffering from thumb arthritis may include one or a combination of exercise, splinting and/or medication. If conservative treatments do not work for you, surgery may be an option.
Treating CMC Arthritis

There is no single medication or treatment which alleviates arthritis for everyone. There are treatment options which help improve your daily life by managing pain, controlling arthritis symptoms, and reducing joint damage or deformity. Treatment options available to patients may include one or a combination of exercise, splinting and/or medication. If conservative treatments do not work for you, surgery could be an option.

Surgical treatment options for CMC arthritis

Arthrodesis (fusion):
Designed to eliminate pain by allowing the bones that make up the joint to grow together, or fuse, into one solid bone. This results in loss of motion but can eliminate the pain.

Trapeziectomy and resection arthroplasty with ligament reconstruction and tendon interposition (LRTI):
Involves removal of a small bone called the trapezium and placing a harvested piece of the patient’s tendon into the space. Over time, this may lead to shortening of the thumb.

Arthroplasty (joint replacement):
Removal of damaged bone, which is then replaced by an artificial joint to facilitate restoration of motion, function and strength.
About PyroCarbon Implants

Surgeons have been using PyroCarbon for 30 years in the small joints of the hand. It is a biocompatible, carbon-based material transformed into extremity implants. Years of follow-up and a clinical study show that PyroCarbon orthopedic implants:

• Are strong and durable
• Have a similar flexibility to bone
• Demonstrate superior wear characteristics on bone and cartilage compared to ceramic and metal implants
• Show no evidence of leaving fragments of debris in the body

Benefits PyroCarbon thumb (CMC) implants may provide you:

• An implant with a similar flexibility to cortical bone minimizes damage to healthy bone and surrounding tissues
• Superior bone and cartilage wear properties provide long lasting use and functionality
• Improved range of motion and functionality potentially resulting in faster recovery and return to work
• Preservation of the trapezium, soft tissues and thumb height may improve overall aesthetic appearance of your hand
• Multiple sizing options allows your doctor to find the perfect fit to your natural anatomy

Integra PyroCarbon CMC implants are designed for high demand patients undergoing joint replacement who:

• Have healthy, strong bones
• Show no signs of joint infection
• Have muscles and tendons which are repairable
• Do not have other devices that block implant insertion or normal motion
• Do not have problems with cuts healing or other skin problems
• Do not have problems with numbness or tingling in hands or fingers
What to expect with a PyroCarbon joint implant surgery

Before the procedure – A medical evaluation will include a physical exam to determine your general health and well-being. Diagnostic exams will be performed to determine the current functionality and pain levels of your hands. Comparison tests may be done on both hands to note differences.

During the procedure – The surgical procedure begins with an incision being made over the thumb joint. The damaged ends of the joint bones are removed. The PyroCarbon joint is inserted, and the incision is then closed. The doctor will prescribe pain medication and send you home with a dressing and splint on your operated hand.

CMC Arthroplasty

After surgery – Patients will be required to remain for observation for 1-2 hours after the procedure. Typically patients are released to rest for 1-3 days with limited movement. A prescribed rehabilitation exercise plan will be designed for you. You will be instructed to place minimal stress on the joint replacement during the initial period of recovery. Your therapist will construct splints for you. Notify your doctor if you feel any pain, swelling or changes in your new joint.

Risks associated with the procedure – Arthroplasty with PyroCarbon implants has a strong safety profile that, like any surgery, does involve some risks. Complications are rare but these should be discussed with your doctor.
PyroCarbon thumb joint replacement

Join the thousands of satisfied patients who have returned to normal and productive lives after joint replacement surgery using Integra’s cutting edge PyroCarbon joint implants.

Ask your doctor today how small joint implants from Integra can help you.

Integra® NuGrip® CMC Implant

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For more information or to place an order, please contact:

United States, Canada, Asia, Pacific, Latin America
USA 800-654-2873 • 888-980-7742 fax
International +1 609-936-5400 • +1 609-750-4259 fax
integrailife.com/contact

Manufacturer:
Ascension Orthopedics, Inc.
11101 Metric Blvd
Austin, Texas 78758 • USA

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