



THE HAND CENTER AT DANBURY ORTHOPEDICS NEWSLETTER

HANDSHAKE



WINTER 2013 VOLUME 2 ISSUE 1

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Welcome to Handshake, The Hand Center Newsletter!



Dear Colleagues:

On December 7th we presented a paper at the New England Hand Society entitled, *The Lacertus Tunnel Syndrome*. It dealt with the compression of the median nerve at the front of the elbow as the nerve slides beneath the lacertus, the muscular part of the upper arm. The paper was well-received, and we plan on continuing our work, not only with this nerve compression problem, but with other compression syndromes affecting the arm.

As always, we invite you to call with any comments or questions about this or any topic affecting your upper extremity.

Thank you,
The Hand Center at Danbury Orthopedics



Snap, Crackle, Pop: The Truth Behind Knuckle Cracking and Arthritis

Knuckle cracking or popping is the act of manipulating a joint to create a sharp popping or cracking sound. This action often helps to relax the muscles around the joint and increase joint mobility ... and often annoys others within earshot.

What makes that popping sound? The knuckles are covered by a joint capsule, which contains synovial fluid that provides lubrication and nutrition to the surrounding bones. The synovial fluid also contains gasses. During the act of joint manipulation, those gasses are released, resulting in that popping sound.

Does knuckle cracking cause arthritis? For more than 60 years, Donald Unger cracked the knuckles of his left hand twice a day and did not or rarely cracked the knuckles on his right hand. Radiographic results revealed no arthritic changes when the left and right hands were compared. As a result of his research, Dr. Unger earned the Ig[®] Nobel Prize in 2009, awarded for "achievements that make people laugh, then think."

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HAND SURGERY

Distal Radius Fracture

The bones of the forearm include the radius and the ulna. The radius is the larger of the two bones, and the end toward the wrist is called the distal end. A fracture of the distal radius occurs when the radius breaks near the wrist.

Causes

The radius is the most commonly broken bone in the arm, and distal radius fractures are very common. The break usually happens when a fall causes you to fall on your outstretched hands. It can also happen in a car accident, a bike accident, or a skiing accident. Osteoporosis (decreased density of the bones) is a factor in as many as 250,000 wrist fractures. Therefore, it has been suggested that if a person suffers a wrist fracture he or she should be screened for osteoporosis, especially if they have other risk factors.

Symptoms and Diagnosis

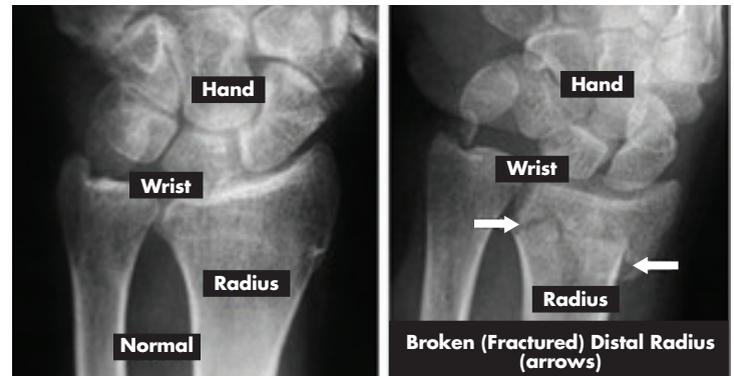
A broken wrist usually causes immediate (acute) pain, tenderness, bruising, and swelling. Frequently, the wrist hangs in an odd or bent way (deformity). The doctor will take an X-ray of the wrist. This is important to understand the extent of the injury. The fracture almost always occurs about 1 inch from the end of the bone. The break can occur in many different ways, however. A fracture that extends into the joint, is called an intra-articular fracture. A fracture that does not extend into the joint is called an extra-articular fracture. (The word "articular" means joint.) When a fractured bone breaks the skin, it is called an open fracture. When a bone is broken into more than two pieces, it is called a comminuted fracture.

Risk Factors and Prevention

Osteoporosis can cause a relatively minor fall to result in a broken wrist. Many distal radius fractures in people older than 60 years are caused by a fall from a standing position. Although a broken wrist can happen even in healthy bones if the force of the trauma is severe enough, good bone health remains the most important prevention option. Wrist guards may help to prevent some fractures, but they will not prevent them all.

Treatment

If the injury is not very painful and the wrist is not deformed, it may be possible to wait until the following day for treatment. Apply an ice pack to the wrist and elevate the wrist until a doctor is able to examine it. The wrist can be protected with a splint. If the injury is very painful, if the wrist is deformed or numb, or if the fingers are discolored, it is necessary to go to the emergency department.



There are many treatment choices. The choice depends on many factors, such as the nature of the fracture, age and activity level of the patient, and the surgeon's personal preferences. If the broken bone is in a good position, a plaster cast may be applied until the bone heals (usually about 6 weeks). Sometimes, the position of the bone is so much out of place that it cannot be corrected or kept corrected in a cast, which has the potential of interfering with the future functioning of your arm. In this case, surgery may be required.

Prognosis

Most fractures hurt moderately for a few days to a few weeks. Many patients find that using ice, elevation, and simple, nonprescription medications for pain relief are all that is needed. If pain is severe, patients may need to take a prescription-strength medication, often a narcotic, for a few days. Most surgical incisions must be kept clean and dry for 5 days or until the stitches are removed.

Most patients return to all their former activities. The nature of the injury, the kind of treatment received, and the body's response to the treatment all have an impact on the final prognosis, but some generalizations can be made.

- Most patients will be able to resume light activities, such as swimming or exercising the lower body in the gym, a month or two after the cast is taken off or after surgery.
- Most patients can resume vigorous physical activities, such as skiing or football, between 3 and 6 months after the injury.
- Almost all patients will have some stiffness in the wrist, which will generally lessen in the months after the cast is taken off or after surgery. Improvement will continue for at least 2 years.
- Full recovery should be expected to take at least a year. Some residual stiffness or ache is to be expected for 2 years. Stiffness may be permanent, especially for high-energy injuries (such as motorcycle crashes), in patients older than 50 years, or in patients who have some osteoarthritis. However, the stiffness is usually minor and may not affect the overall function of the arm.

For more information, visit www.aaos.org. Reproduced with permission from OrthoInfo. © American Academy of Orthopedic Surgeons. <http://orthoinfo.aaos.org>.

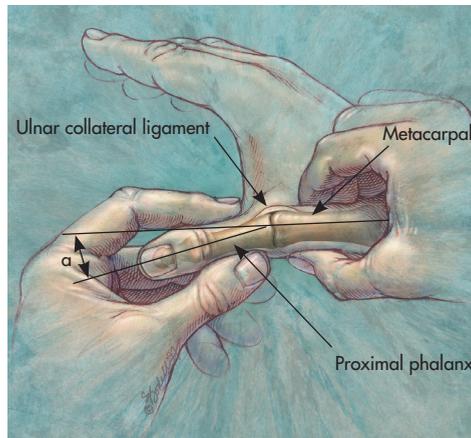


HAND THERAPY

Conservative Treatment for Grade III UCL Injuries: Early Controlled Active Mobilization with Hinged Orthosis

Ulnar collateral ligament (UCL) injuries at the thumb metacarpophalangeal (MCP) joint are common. This injury is also referred to as skier's thumb, as it is associated with a fall on a ski pole while skiing, which results in injury to this critical ligament for thumb stability.

Typical treatment for these injuries involves early immobilization, but recent literature has outlined the benefits of early *controlled* active mobilization. Studies have shown static immobilization results in reduced collagen formation, limited soft-tissue structural strength, and increased joint laxity. Conversely, early controlled active mobilization acts to stimulate tissue-healing properties and has shown to improve mature cross-linked collagen, resulting in stronger tissue repair.



Early controlled active mobilization using a hinged orthosis has been applied successfully to grade III thumb UCL injuries. The hinged orthosis limits MCP radial and ulnar deviation while allowing MCP flexion and extension. By eliminating lateral stress and allowing for linear motion, the ligament remains protected while taking advantage of the benefits of early active tissue mobilization.

A study performed by Michaud, Flinn, and Seitz¹ has shown promise using the hinged orthosis and early controlled active mobilization for thumb UCL injuries. According to the study, there was no significant difference in strength and range of motion at 15 months with either immobilization or early mobilization techniques. However, the hinged MCP orthosis allowed for more functional use of the injured limb and improved skin care during the early phases of healing.

Patients can begin to wean from the hinged orthosis during the fifth to eighth week of care if they demonstrate increased joint stability. If instability continues by the end of 12 weeks of conservative treatment, surgical intervention is recommended. This technique has also been successfully applied to postoperative management. Early controlled active mobilization can positively influence healing tissue and promote early return to function with the proper support and monitoring. Close communication between the physician and therapist, as well as careful orthotic fabrication is the key for success with this program.

¹ Michaud EJ, Flinn S, Seitz WH Jr. Treatment of grade III thumb metacarpal ulnar collateral ligament injuries with early controlled motion using a hinged splint. *J Hand Therapy* 2010;23(1):77-82.

For more information or full article, visit www.aafp.org. Reprinted/adapted with permission by the AAFP.

LINKS:

- New England Hand Society
www.nehand.org
- American Association for Hand Surgery
www.handsurgery.org
- The American Society for Surgery of the Hand
www.assh.org
- American Society of Hand Therapy
www.asht.org
- Hand Therapy Certification Commission
www.htcc.org

CHECK THIS OUT...

The Bio-Mechanical Prosthetic Finger (BPF) is a unique prosthesis developed by a gentleman who sustained a finger amputation. Unlike most prosthetic fingers, the BPF has articulating joints to allow grasping and pinching.

Check out the website:

<http://rcmenterprise.com/>



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DID YOU KNOW ...

The skin on the palm side of our hand is very unique.

- It grows no hair.
- It does not have the ability to tan.
- It is tough and durable, but also sensitive enough to discriminate between a quarter and a nickel in your pocket.
- The skin is anchored to the bone through an intermediate layer of fascia, which prevents the skin from sliding around like a rubber glove.
- Fingerprints provide friction to allow us to grasp and hold onto objects.

EVENTS:

January 9-12, 2013

American Association for Hand Surgery (AAHS) Annual Meeting
Naples, FL

April 6-9, 2013

Surgery and Rehabilitation of the Hand Meeting
Philadelphia, PA

March 4-8, 2013

9th Triennial International Federation of Societies of Hand Therapy (IFSHT) and the 12th Triennial Congress of the International Federation of Societies for Surgery of the Hand (IFSSH)
New Delhi, India

June 3-9, 2013

Healthy Hands Week

October 3-5, 2013

American Society for Surgery of the Hand (ASSH) 68th Annual Meeting
San Francisco, CA

October 24-27, 2013

American Society of Hand Therapy 36th Annual Meeting
Chicago, IL

December 6, 2013

New England Hand Society (NEHS) Annual Meeting
Sturbridge, MA

FINGER TIPS

Upper Extremity Winter Sport Injuries: Tips and Tricks to Stay on the Slopes

By Marc Bartholdi OTR/L, CHT

Snow, holidays, and winter sports make winter an exciting time of year for many of us. Skiing and snowboarding are among the most popular winter sports and upper extremity injuries are common. If proper precautions are taken, you can reduce your chances of injury and make the winter sporting season more enjoyable. Here are some tips to help keep you on the slopes this season.

Skiing Injury: Skier's Thumb

Skier's thumb is the most common upper extremity skiing injury. This injury occurs when a skier falls while holding their ski pole. The pole places stress on the ligament in the thumb often resulting in a ligament sprain or tear. Both sprains and tears require medical attention and will often end your ski season early.

The best strategies to prevent skier's thumb include using ski poles without platforms or saber handles, avoiding restraining devices (wrist straps), and releasing your poles during your fall.

Snowboarding Injuries: Wrist Injuries

Snowboarding continues to be one of the more popular winter sports. In fact, it is one of the fastest growing winter sports of the past decade. With both feet strapped into a snowboard, falling on your hands is a natural protective reaction. Although this protective reaction helps to prevent head injury, wrist injuries have become commonplace. Fractures and wrist ligament injuries can often require surgery that includes the insertion of pins, plates, and/or screws, and often necessitates months of therapy to return to normal activity.

Wrist guards (or gloves with built-in wrist guards) may decrease the risk of sustaining a wrist injury while snowboarding.

If you sustain an injury to your thumb or wrist while skiing or snowboarding, immediate ice, compression, and immobilization is the best treatment. Follow up with a Hand Surgeon for the most comprehensive evaluation and best treatment options to help expedite your recovery.

More information can be found at the American Society for Surgery of the Hand.

<http://www.assh.org/Public/HandConditions/Pages/SkiandSnowboardInjuries.aspx>



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