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Volume 12, Issue 4

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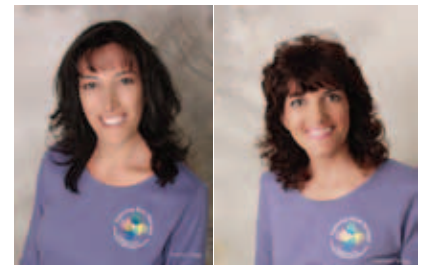
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Susan Weiss
OTR, CHT

Nancy Falkenstein
OTR, CHT

Featured Article

by Nancy Falkenstein OTR/L, CHT

SNOW BOUND

Winter is a time for family, fun, and falling. One of the most common injuries is the "skier's thumb" or an injury to the major stabilizer of the thumb, the ulnar collateral ligament (UCL). The UCL of the thumb helps us to stabilize objects in the hand as well as assist with pinching and grasping. The injury usually occurs when the skier has a sudden forced fall while gripping the ski pole with an outstretched hand with the thumb jamming into the snow



in an abducted (radial deviated) position.

The skier will have clinical symptoms that typically include pain, swelling along the ulnar border of the joint, ecchymosis, tenderness on the inner side of the metacarpophalangeal joint and loss of strength in the thumb. There is often a rotation of the proximal phalanx when a tear is present.

The literature suggests that an acute partial rupture of the UCL is effectively treated with a hand based thumb spica splint immobilizing the thumb MPJ with the IPJ free for 4 wks. After 4 weeks of strict immobilization,



it is followed by 2 weeks of continuous splint use but removed for AROM exercises during the day. Strenuous activity using the thumb is avoided for 12 weeks after injury.

Full recovery is expected because the injured ligament maintains its normal anatomic relationship during splinting/healing. It is however, typical for the skier to complain of aching pain on the ulnar side of the MPJ for 6+ months after injury. If an athlete has a minor UCL injury they typically can return to play after 2 to 4 weeks of immobilization with a protective "playing splint" Occasionally, however, with



Hand based splint with IPJ free. Photo from Orfit Injustriels USA from EHT's Orthotic course.



UCL RED
Bone fragment Black

continued on page 3



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complete tears or displacement of the ligament, surgery is required to repair the injured ligament. Long-term problems can result from instability of the thumb.

Everyone loves to go ice skating in the winter but few expect to fall. Many inexperienced ice skaters will fall on the ice with an



outstretched pronated, extended, & ulnarly deviated hand resulting in a scaphoid fracture. The ice skater typically presents with pain about the radial wrist, a bony prominence adjacent to the radial styloid may be present, pain with palpation to the the snuff box (the "floor" of the snuff box is the scaphoid). The literature suggests up to 25% of scaphoid

fractures are not visible on initial x-rays. It is best if the treating physician immobilizes the wrist for 10 to 12 days and then obtains x-rays again if



the initial x-rays were negative. If he chooses not to immobilize and the ice skater continues to complain of pain after about 10 days additional x-rays should be obtained as by then, the healing process causes the fracture line to widen, making it more visible on x-ray. This is important because the literature suggests treatment should be within 4 weeks and if not a delay can increase the non union rate.

Treatment depends on the location of the fracture of the scaphoid. For

instance a proximal pole fracture is suggested to have percutaneous pinning or open internal fixation whereas a distal scaphoid fracture is often treated



Radial thumb splint. Photo from Orfit Industries USA from EHT's Orthotic Course.

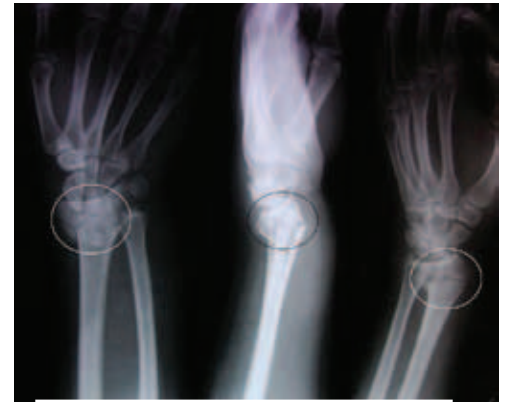
with a short radial thumb arm cast for 6 to 8 weeks. It is not unusual for the physician to prescribe a removable thumb splint after the initial 6 to 8 weeks of cast immobilization for protection for an additional 2 to 4 weeks; removing the splint multiple times a day for active range of motion exercises. Utilizing a 2nd splint is often the case if the cast immobilization is removed before 8 weeks from the injury. If left untreated, a scaphoid fracture can lead to chronic pain in the wrist and the inability to extend the wrist.

Snowboarding is fun, exciting, and has speed. Therefore, when a snowboarder falls with an outstretched hand it is not



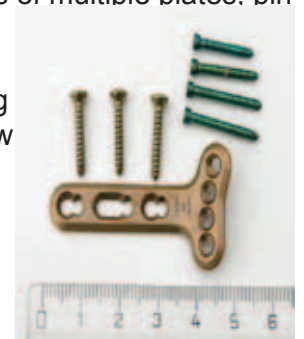
uncommon to get a distal radius fracture or commonly called Colles' fracture. The Colles' fracture's typical characteristics are:

- A distal radius fracture with dorsal comminution
- Dorsal angulation
- Dorsal displacement
- Radial shortening
- An associated fracture of the ulnar styloid



Colle's Fracture. Photo from Wikimedia Commons.

Many times due to the speed and impact associated with snowboarding falls, the fracture can be unstable with multiple bone fragments, displacement, ligament and nerve involvement. If this high velocity injury occurs treatment often consists of multiple plates, pin and/or screw fixation, & tension wiring to name a few options. If, however, the fracture isn't as involved the referring physician may choose closed



Titanium plate from Wikipedia commons.

reduction with splinting. Therapists may be ordered to fabricate a sugar tong splint or a muenster splint with the forearm in supination for 3 weeks. This splint is chosen because it will limit forearm rotation while allowing elbow flexion. Take extra care to allow full MCP flexion.



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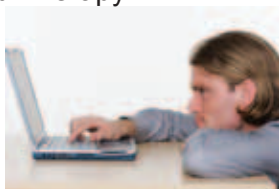
tong splint a short arm splint is often chosen for 3 more weeks. Each technique of physician intervention will afford the therapist varied rehabilitation implementation. While some doctors require the patient's forearm and wrist to be immobilized up to 3 to 6 weeks other doctors want forearm rotation and gentle active wrist motion within 10 to 14 days post intervention/injury. Regardless of the physician's choice of intervention ranging from closed reduction with casting to combine internal/external fixation and everything in-between, most patients will be sent to therapy immediately to begin hand active range of motion and tendon gliding exercises, often referred to as the "SIX PACK". These consist of:

- Straight fingers
- Table top
- Hook fist or claw fist
- Full fist
- In-and-out exercises (finger abduction/adduction)
- Thumb to each finger tip

Winter can be a fun time and it also can be a risk of injury. Obviously prevention is the best protection against injury. One way to decrease skiing and ice skating injuries is to take lessons and learn how to safely fall. Additionally, proper fitting equipment will help reduce the risk of falling.



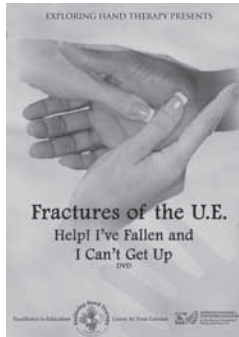
Exploring Hand Therapy/ Treatment2go has over 100 courses to help you solidify your knowledge in hand rehabilitation, occupational therapy, and pediatrics.



To learn more about fractures EHT highly recommends:

Fractures: I've Fallen and I Can't get up

<http://www.liveconferences.com/product.asp?cid=94>



Sports Injuries: Off the Side Line & Into the Game

<http://www.liveconferences.com/product.asp?cid=140>



Slip, Fall, Broken Wrist! A Fracture Everyone Treats

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Orthotics: Creative Static Splinting

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Orthotics: Creative Mobilization Splinting (SPS/Dynamic)

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References:

Wolfe, Hotchkiss, Pederson, Kozin. *Grenn's Operative Hand Surgery*, 6th ed. Elsevier Churchill Livingstone, 2011.

Taleisnik, J. *The Wrist*. Churchill Livingstone, 1985.



Did You Know?

by Nancy Falkenstein OTR/L, CHT

It is always good to know your state practice acts and how they correlate with your facilities policy and procedures. The following article is from Healthcare Providers Service Organization's newsletter. It is a good idea to consider having your personal insurance policy, not only are you covered you will receive legal information on a regular basis. Here is one example.

When Duty and Policy Clash

If you believed that your duty to provide care conflicted with your employer's policies and procedures, what would you do? While struggling with your decision, keep in mind that you might share in any liability that the facility might face for not meeting the required standard of care. In addition, you could also be held liable for not acting as a reasonably prudent healthcare provider would in a similar situation. Assuming for this discussion, that the action you're considering falls within your scope of practice, you may want to consider the options described in the following two scenarios:

Situation: An athletic trainer feels that his patient would benefit from a piece of isokinetic equipment that his facility does not have.

Option #1: He could talk to his supervisor about the good public relations associated with referring the patient to another facility that has the needed equipment.

Option #2: He could ask his supervisor, or someone else higher up the chain of command, about the feasibility of ordering the equipment for the facility.

Option #3: It may simply be appropriate for him to collaborate with the referring physician and discuss alternative treatment options.

Whatever the approach, it's important that the provider document

the steps that were taken, and the outcome, in the patient's chart.

Situation: A patient's medical insurance won't pay for the additional treatments he requires.

Options: Although a healthcare provider may be tempted to either release the patient or quietly treat him at no charge, he should talk to his supervisor first about the legal risks involved. He should notify the physician of the situation and discuss options with the patient, including a scenario where the patient continues treatment at his own expense. The supervisor, physician, or patient may help the provider petition the insurance company to reconsider the reimbursement issue, or the facility's administration may agree to waive the charges for the extra treatment. Taking the proper steps to reconcile duty with policy and procedures will benefit your patient. That's always the best way to reduce your chances of being sued



New Study Suggests Mirror Therapy May Reduce Arthritis

Exploring Hand Therapy/Treatment2go has always supported mirror therapy for pain reduction. Our Mirror Mirror On the Wall: Motor Imagery CEU course covers aspects of pain reduction and mirror therapy for a wide range of pathologies ranging from phantom pain to CRPS/RSD to intervention with CTD and tendon injuries. A recent study (11/2011) presented at the annual Society for Neuroscience suggest that pain caused by arthritis may be relieved with mirror therapy. This isn't a surprise for us but it is great to know new evidence suggests mirror therapy works specifically with

arthritis. The University of California conducted the study and found that the group that used mirror therapy reported a decrease in joint pain and joint stiffness compared to the group that did not use the mirror. More research is needed in this area, but it is encouraging and may mean more affordable options for arthritis sufferers.

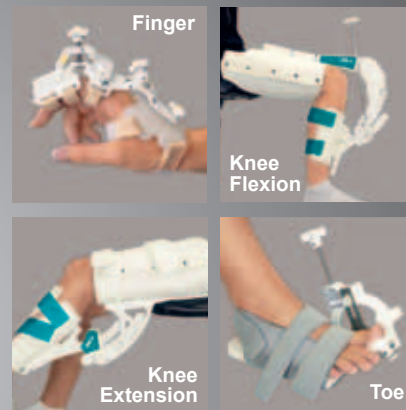
Mirror Mirror on the Wall: Motor Imagery Program

<http://liveconferences.com/product.asp?cid=179>

Instructed by world renowned speaker, Susan W Stralka, PT, DPT, MS.



This course is designed for clinicians who have an interest in treating upper extremity dysfunction both neurovascular and musculoskeletal. Mirror imaging or motor imagery has been around for ages but now with improved brain imaging there is a rebirth. Recent brain imagery measurement has been able to confirm a mirror neuron system in humans which is involved in higher cognitive processes. Following injury, sensory and motor retraining are of utmost importance in gaining functional control of the upper limb. The clinician will learn ways to evaluate difficult problem areas in the upper extremity which may be contributing to dysfunctional motor planning. The clinician will learn to identify graphesthesia, stereognosis, localization and kinesthesia and develop treatment programs to regain UE function. Patients need a structured program which can be precisely repeated at home. This course is designed to discuss the physiological principles of mirror imaging and its application to treatment programs.



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Test Your EHT Newsletter Knowledge

1. Moisturizing your skin in the winter with Shea oil is highly recommended. T/F
2. According to this article what is an acceptable option when your patients insurance has reached its rehab. Limit but the patient continues to need skilled therapy?
3. According to the Society of Neuroscience, Mirror therapy has recently shown to help decrease what in arthritis patients?
4. When is the Hand Care 2012 meeting?
5. What is the focus for the 2012 Philadelphia Meeting?
6. How long should a distal scaphoid fracture be immobilized?
7. What type of splint and wearing schedule is sometimes prescribed for a closed reduction distal radius fracture?
8. A dorsal displacement of the carpus on the radius is typical of a Colles' fracture. T/F
9. How can a surgeon treat a proximal pole scaphoid fracture?
10. What is the SIX PACK?



Answers on page 10

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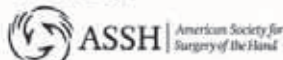
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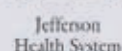
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Questions & Answers

In regards to duypuytren's disease (DD) release; what joint is expected to have complete correction regardless of surgical intervention?

ANSWER: It is well accepted that complete correction of the MPJ contracture is achieved regardless of the surgical intervention. However, contractures of the PIPJ of the small finger is a different story. Less than 25% of PIPJ contractures are completely corrected. That means that less than 75% of PIPJ contractures are not fully corrected regardless of the severity of contracture or method of intervention.

What is paradoxical extension?

ANSWER: Paradoxical extension occurs when attempting to make a fist and the PIPJ and DIPJ do not go into flexion but stays more in extension. Flexion of the IPJs depends on contraction of the profundus and the relaxation of the lumbricals. During paradoxical extension the lumbricals do not relax and they pull the IPJs into extension resulting in this phenomenon. There are

multiple reasons why this may occur. One reason is if there are significant amount of adhesion or a laceration distal to the lumbrical insertion. Another explanation may be due to an un-repaired FDP distal to the superficialis tendon or a FDP graft that is too long.

What position would you place the shoulder in to administer ultrasound or laser treatments when the target structure is the rotator cuff?

ANSWER: The shoulder should be placed in internal rotation. One way to achieve this is ask the patient to place his hand on his hip on the same side you are treating.

What type of splint would you choose for a patient with limited excursion of the FDS?

ANSWER: A splint that will block the MPJ keeping them in extension. Where as to increase FDP excursion you would choose a splint that blocks the MPJ and the PIPJ; often referred to as the Bunnell splint.

A high school football player presents with discomfort or pain and swelling along about the DIPJ of the ring finger. He cannot make a hook fist with the involved finger. What might your suspect?

ANSWER: Most likely this patient had an avulsion of the FDP tendon at the distal phalanx from grabbing a players shirt during a game. When forcefully grabbing (fingers flexed in a tight fist) a player's shirt and the tip of the finger gets caught in the players jersey causing the DIPJ to be forcefully extended from the tight fist. This is known as Jersey Finger. The ring finger is the most commonly injured digit because the ring profundus shares a common muscle belly with the long and small fingers.

One way to treat fusiform swelling is through compression and elevation.

True or false?

Answer: TRUE

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Answers to Quiz (from page 6)

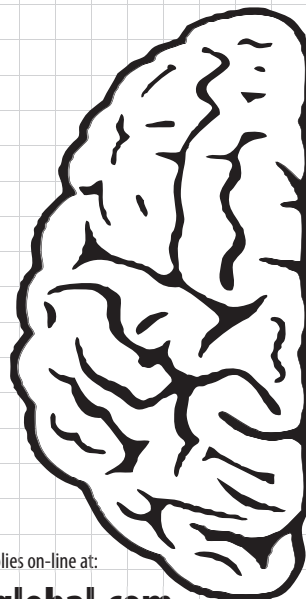
1. False
2. There are several acceptable options. Discuss with the patient about continuing therapy on a self pay basis. Collaborate with all involved including administration, referring physician, patient, and therapist to appeal the insurance company. Another option is to discuss with your administration about the ability to waive the charges the insurance won't cover. What is not acceptable is continuing to treat and not billing the patient.
3. Mirror therapy will help reduce joint stiffness and pain
4. April 27 - 29, 2012
5. Emphasis on BEST PRACTICE
6. 6 to 8 weeks
7. Sugar tong or Muenster splint for 3 weeks
8. False: Colles' fracture is a dorsal displacement
9. Proximal pole is percutaneous pinning or open internal fixation
10. SIX PACK is a series of active hand exercises and tendon gliding exercises consisting of:
 - ◇ Straight fingers
 - ◇ Table Top
 - ◇ Hook Fist or Claw Fist
 - ◇ Full Fist
- ◇ Finger abducted/adducted or called the in-and-out finger exercises
- ◇ Thumb to touch each finger tip.



Click to return to page 6



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Winter Skin Care

We often find ourselves with rosy glowing cheeks in the winter months but we also experience dryness of the face, hands, and feet.



Winter skin problems can range from just an uncomfortable dryness with tight feeling in the face, on the hands and feet to flaking, cracking or even eczema (inflamed skin).

When going from the outdoor winter cold air to the indoor heated air the skin starts to dry out regardless if you heat your home using oil, wood, or electricity. The skin gets dry. Tips to keep your skin healthy in the winter months:

Seek a Specialist

Many people seek skin care product advice from their local drug store associate. Although this may be fine for mild skin dryness it is not recommended for cracking, flaking, or inflamed skin. Most drug stores have a pharmacist on duty and they are always a great source of information. Also investing in a 1X visit to the dermatologist is also a great consideration. What is most important with all products, is, how your skin will respond to the product.

Moisturize More

Your summer or spring moisturizer may not be appropriate for the winter months. As weather conditions change, so, too, should your skin care routine. Find an "ointment" moisturizer that's oil-based, rather than water-based, as the oil will create a protective layer on the skin that retains more moisture than a cream or lotion. Tip: Many lotions

labeled as "night creams" are oil-based creams/lotions. Choose your oil based creams with care because not all oils are appropriate for the face. Instead, look for "non-clogging" oils, like avocado oil, mineral oil, primrose oil, or almond oil. Shea oil -- or butter -- is controversial, because it can clog facial pores. All vegetable shortening products are not recommended. You can also look for lotions containing "humectants," a class of substances including glycerine, sorbitol, and alpha-hydroxy acids that attract moisture to your skin.

Sunscreen in the Winter

Sunscreen isn't just for summertime. Winter sun, combined with snow glare can damage your skin. Try applying a broad-spectrum sunscreen to your face and your hands about 30 minutes before going outside. Reapply frequently if you stay outside a long time.

Hand Protection

The skin on your hands is thinner than on most parts of the body and has fewer oil glands. That means it's harder to keep your hands moist, especially in cold, dry weather. This can lead to itchiness and cracking. Wear gloves when you go outside. Wool gloves cause itchiness and might irritate the skin, so to avoid this when wearing wool gloves slip on a thin cotton glove first. This thin glove will help avoid any irritation the wool might cause.

Wet Gloves and Socks

Wet socks and gloves can irritate your skin and cause itching, cracking, sores, or even a flare-up of eczema.

Grease Up Your Feet

Yes, those minty foot lotions are

lovely in the hot summer months, but during the winter, your feet need stronger stuff. Try finding lotions that contain petroleum jelly or glycerine instead. And use exfoliants to get the dead skin off periodically; that helps any moisturizers you use to sink in faster and deeper.

Pace the Peels

If your facial skin is uncomfortably dry, avoid using harsh peels, masks, and alcohol-based toners or astringents, all of which can strip vital oil from your skin. Instead, find a cleansing milk or mild foaming cleanser, a toner with no alcohol, and masks that are "deeply hydrating," rather than clay-based, which tends to draw moisture out of the face. And use them a little less often during the winter months.

Ban Superhot Baths

After a day in the cold air a hot bath sounds perfect. Unfortunately hot or intense heat from a hot shower or bath will actually break down the lipid barriers in the skin, which can lead to a loss of moisture.



Warm water is acceptable and try limiting the length in the shower during winter months. Another suggestion is a lukewarm bath with oatmeal or baking soda, which can help relieve skin that is so dry it has become itchy. Apply your moisture after a shower or bath. If the dry itchy skin still continues and is not relieved with the above suggestions you may need a prescription lotion or it may be a different condition that requires different treatment.



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