

Ankle Sprain Update

It's that time of the year again, daylight is longer, the weather is warmer, and people are heading outdoors for a breath of fresh air. Individuals who may have been lying stagnant indoors during the cold, winter months are hitting the streets, courts and courses ready for some recreational activity. This sudden return to physical activity combined with weathered streets and courts will lead to an increase of sprains/strains and possible ligament and bony derangements in the ankle.

The most prevalent sprains, those caused by plantar flexion and inversion of the ankle, may occur when an athlete lands from a jump on the lateral border of the foot, wearing high-heeled shoes or by stepping wrong off of a curb. This type of sprain can result in damage to the anterior talofibular ligament, the most commonly sprained ligament in the ankle. If there is good contact of the foot to ground the calcaneofibular ligament will also become sprained. If the forefoot is forced into supination or adduction, the calcaneocuboid ligament may be injured.

Less common but more traumatic sprains, also known as high ankle sprains, involve portions of the medial deltoid ligaments and distal interosseus ligaments. This will occur when the foot is planted and the lateral leg receives an external blow into internal rotation forcing an external rotation of the foot. Due to the distal tibia extending below the joint line providing extra medial stability, the trauma may result in an avulsion of the tibial malleolus and bone bruising in addition to damage to the deltoid ligaments.

With strain to any of these ligaments it may lead to pain, swelling and instability in the ankle and will need evaluation to determine the severity of the sprain. Once the grade of sprain is determined, Rest Ice Compression Elevation and physical rehabilitation is in order to ensure a stable, pain-free return to recreational activities.

Grades of ligament sprains:

Grade 1: Mild over-stretch of ligament, no tearing. Pain and swelling is usually present. No lasting instability.

Grade 2: Partial tear of ligament. Will have hemorrhaging and discoloration in addition to pain and

swelling. May have intermittent pain throughout recovery period if the healing ligament is subjected to strain. Will exhibit moderate degrees of laxity with ligament testing, will have moderate levels of functional disability during recovery and may be prone to repeated injury.

Grade 3: Complete rupture of the ligament. Will have hemorrhaging and discoloration in addition to pain and swelling. Pain may be severe initially, but will then subside within a week after ends of ligament heal. Will exhibit significant laxity on ligament testing and will have moderate to severe levels of functional disability during recovery. Will be prone to repeated injury and may require surgery.



At Kassimir Physical therapy we encourage the maturation process by providing the necessary stimuli for restoration of normal ligament strength and functional use of the ankle. Grade I ankle sprains should heal quickly with minimal disability with the combination of R.I.C.E., pain-free isometric exercises, bracing and weight bearing as tolerated to reduce strain on the ligaments. More severe ankle sprains may take weeks to months for the maturation of new collagen fibers to lie down and induce formation of the appropriate collagen cross-links.

At first, rehabilitation exercises may involve active range of motion or controlled movements of the ankle joint without resistance. We also offer aquatic



About the Author: Kelly Leininger, DPT

Kelly Leininger, DPT joined the staff after graduation from the University of Pittsburgh in May 2005. She enjoys cheerleading and likes to keep active with exercise and sports. Kelly is a dynamic therapist keeping the rehab programs interesting for our patients.



therapy if land-based strengthening exercises, such as toe raising, are too painful, or if there is limited weight bearing and gait deviations. Lower extremity exercises and endurance activities are added as tolerated.



Majority of the time when the patient presents to the clinic he/she will also require gait training to correct an antalgic pattern and possibly training of an assistive device for the first few weeks. Once the acute phase is over, a more aggressive approach to ankle rehab may begin.

A key to our success of rehabilitating ankle sprains is the use of our Cybex Norm machine. This tool allows us to strength test and exercise bilateral extremities to ensure that there is less than a 20% deficit between involved and uninvolved sides before the return to sports. This is a great



device to use when retraining athletes or even the weekend warrior because it allows us to vary the degree and plane of motion and different types of muscle contractions to focus on specific strength deficits. It also highly motivates our patients. Proprioception training is also very important, as poor proprioception is a major cause of repeat sprain and an unstable ankle joint. Proprioceptive retraining exercises can be commenced early in the rehabilitation stage and should be gradually progressed from balancing on one leg to ultimately functional activities.



At KPT we like to use perturbation training in addition to the Fitter, various balance boards such as the BAPS, mini-trampoline and Joystick activities to promote stability at the ankle. Once these activities are pain free, other exercises may be added such as agility training to ensure a stable return to recreational and athletic activities.



To see pictures of recent events, our staff and news check out our website at www.kptrehab.com.

www.kptrehab.com

Don't forget to check us out on the web and tell your patients about it when making a referral.

KPT News:

We are happy to announce that Holly Kim technician/office asst. is celebrating her 5th year at KPT. We also welcome Elina Luarsabova who is our new office manager. Other new arrivals are Hetty's (billing manager) fraternal twin granddaughters and Katie's (technician) new born baby girl.

Sponsorships:

Our practice is proud to help support several charitable causes during the year. Recently we sponsored the Arthritis Walk in May, the Michael Feinglass Foundation Bowl-a-thon on 5/20/06, and look for our booth at the Sinai Race for our Kids on June 4th.

KPT KASSIMIR PHYSICAL THERAPY, P.A.

"Ultimate Rehab . . . through personal committed care"

COMMERCENTRE EAST • SUITE 130
1777 REISTERSTOWN ROAD • PIKESVILLE, MD • 21208
TEL • 410•415•5905 • FAX • 410•415•5906

Monday	8:00 a.m.	–	9:00 p.m.
Tuesday	8:00 a.m.	–	9:00 p.m.
Wednesday	8:00 a.m.	–	6:00 p.m.
Thursday	8:00 a.m.	–	9:00 p.m.
Friday	8:00 a.m.	–	6:00 p.m.
Saturday	8:00 a.m.	–	12:30 p.m.

Call for Updated Provider List and Referral Pads

Many Insurance Plans Accepted



COMMERCENTRE EAST
SUITE 130
1777 REISTERSTOWN ROAD
PIKESVILLE • MARYLAND • 21208