# ANKLE SPRAINS

Posted by STLCoach - 12 Oct 2009 06:52

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Below is an article on ankle sprains from Mark Buckingham of Performance Rehab.

Ankle Sprains: Early Intervention Strategies & Full Recovery Considerations

This article is intended to briefly cover the more common of ankle sprains, an inversion sprain. This occurs when the foot rolls onto the lateral aspect of the foot and ankle (big toe up, pinky toe down). The importance of responding quickly and correctly to ankle sprains can not be over emphasized for a speedy recovery to full competition abilities.

Initial care for an ankle sprain should consist of following the R.I.C.E (rest, ice, compression, elevation) method. The more of these four components that can be implemented at the same time the more efficient the recovery. The severity of the sprain will dictate how much rest and protection is needed early in the rehab. However for all sprains taking things as easy as possible for first 24-48 hours is very helpful. After this time frame rest does not mean resting from all activities but rather resting from painful activities. Use common sense in that if it hurts to walk or be on your feet back off and do less of this. Ice should be used consistently over the first 48 hours off and on at least 20 minutes every 2 hours. Heat of any kind should not be used during this time. Compression can be achieved by lightly wrapping the ankle starting at just before the toes and progressing up to the largest portion of the calf. Make sure not to wrap the leg too tight where loss of sensation is noticed. Finally elevate the ankle as often as possible above the level of the heart. Depending upon the severity of the sprain protection during weight bearing may be recommended. Ankle sprains are typically classified as Grade I, II, or III.

A Grade I sprain presents without any significant swelling or pain and there is only a slight stretching/tearing of ligaments. There will be some local tenderness to the touch but the ankle typically does not feel loose or unstable. In addition the individual will usually be able to walk with minimal to no pain. Grade I sprains usually only require some protection from lateral movement via an ankle brace for 1-3 weeks. Walking is allowed immediately, if pain free, as well as balance drills. Strengthening exercises, focusing on the peroneal musculature (muscles that pull the foot to the outside), can also begin early if full motion compared to the other leg is present and is pain free. With proper care full return to activity can be achieved in 2-3 weeks.

A Grade II sprain is more involved and there is usually a partial tearing of ligaments. This results in moderate pain, swelling and maybe some discoloration. There is decreased range of motion and pain with all or some motions of walking. The involved area will also be painful to the touch. Grade II sprains usually require more protection early and individuals may be placed in a boot or given crutches or both for 1-2 weeks. ROM/flexibility exercise moving the foot up and down and stretching of the Achilles tendon can begin after a couple of days. ROM drills working side to side movement of the ankle typically become tolerable after 10 days to 2 weeks. From this point on progression through strength, stability and sport specific activities are allowed as indicated by pain and control. The majority of these injuries require 4-6 weeks before return to athletic activity.

A Grade III sprain results in the complete tearing of one or more ligaments in the ankle. There is severe swelling, pain, discoloration, and any attempt to bear weight and perhaps even to move the ankle. Grade III sprains are treated more conservatively and time before full return to athletic activity is usually closer to 6-8 weeks.

Initial exercises for ankle sprains vary depending upon the severity of injury and should only be done if

pain free and with approval from your physician, physical therapist, or athletic trainer. Range of motion, progressive strength, proprioception/stability, and sport specific exercises are the four main categories of rehabilitation exercises for the ankle. Here are a few basic ideas on each.

Range of Motion
Start with passive range of motion drills (using a towel to move your ankle) and progress to active range of motion drills (moving your ankle with your muscle control). With both of these activities work first on pulling the foot up and down and progress carefully into side to side mobility as this puts stress on the injured area. A point of emphasis should be placed on the flexibility of the Achilles tendon region. This can be done passively by pulling the foot up with a towel with a bent knee, actively this can be done by performing a calf stretch leaning the upper body into a wall with the injured leg back, heel on the floor, and the knee bent. Work all drills that are pain free as much as possible.

Progressive Strengthening
Start with isometrics exercises by pressing your foot into an immovable object and progress into light resistance exercises with light bands or weights. Again you should progress carefully into side to side resistance drills and once they can be done safely more attention should be given to the peroneal musculature as mentioned above. In addition you should focus on a slow eccentric phase of the motion (the return motion). From here you can progress into functional weight bearing activities as tolerated (i.e. step-ups, squats, etc.).

Proprioception/Balance Training
Once pain free weight bearing is established balance training can begin. Progressing should move from stable surfaces with hand support to unstable surfaces with upper or lower extremity movements to further challenge the ankle. Again care should be taken with these types of activities so that no pain is felt and that the athlete looks and feels confident with the drill.

Sport Specific Training
Once it is appropriate for sport specific rehab to take place progression should once again build gradually making sure the athlete looks and feels confident in the drill. There are several ways to monitor the intensity of these drills such as progressing from double leg to single leg drills, working at 25% top speed moving steadily up to 100%, doing drills independently before reacting to other athletes. The final abilities to come back after a sprain consistently are full speed lateral change of direction and reacting to an opposing players move.

Summary
The main question asked when an athlete sprains their ankle is “When will I be able to play again?” The answer to that question depends on several factors. First, is how well was the ankle treated the first 24-48 hours after the injury. Second, is determining the severity of the injury (Grade I, II, or III sprain) quickly and implementing the proper treatments strategies. The final factor is how well the athlete follows their rehab protocol and does not try to resume activities they are not ready to handle. The next most frequent question asked is “How do I know if it is safe to return to play”. This question is answered by undergoing a functional evaluation that compares right and left lower extremities in a variety of closed kinetic chain drills that can be measured. A passing score is when the injured side is at least at 85% of the capacity of the uninjured side. Without proper diagnosis and treatment of ankle injuries athletes may face the development of chronic ankle instability which can lead to repetitive sprains, cartilage and tendon damage and ultimately decrease the career longevity and productivity of the athlete. Having a plan in place ahead of time as to how you will deal with an injury when it occurs can save days or perhaps weeks in recovery time.

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