

## **WELLNESS UPDATE - MARCH 2008**

### **ANKLE SPRAINS: BRACING VS. TAPING**

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**Ankle sprains are an extremely common injury, accounting for 40% of all athletic injuries.** Most of what is known about the incidence rate of ankle sprains comes from studies including initial ligament sprains and recurrent ligament sprains. A study by Beynnon et al <sup>1</sup> researched the incidence rate of first time ankle sprains among high school and college aged athletes competing in high risk sports. He also looked at the difference in incidence between male and female athletes. He found that for most sports the incidence rate was less than 1/1000 days of exposure to sport. **The first-time injury for female athletes was sports specific, with female basketball athletes at a significantly higher risk than male athletes.** For male athletes, the type of sport was not significant. Finally the study revealed that **an equal number of ankle injuries occurred during practice compared to games.**

Rehabilitation of the sprained ankle is extremely important for the athlete to return to sport. **Initial care of acute ankle sprains consists of ice, compression, mobilization, strength exercises, and balance training.** Physical therapy is beneficial to develop a specific rehabilitation program for the individual and their sport. Conservative management/physical therapy should focus on neuromuscular control and restoring control and strength of muscles acting around the ankle joint. **Common exercises used to emphasize neuromuscular control include single limb stance (standing on one leg), with eyes open and closed, balance board exercises, and balance exercises on foam.** Injured athletes undergoing a balance training program were more than twice as likely not to experience a recurrent lateral ankle sprain as those not performing balance exercises. <sup>2</sup>

A very common question with ankles is, **“should I wear a brace or should I tape”?** The use of bracing and taping is done to reduce the risk of ankle injuries. Studies have shown evidence about which may provide better support. **Both taping and bracing have proven to reduce the incidence of ankle sprains, and the use of either results in less severe ankle sprains. Braces, however, seem to be more effective in preventing ankle sprains than tape,** they also are effective on athletes with previous ankle sprains.

A study by Rovere et al compared taping with laced ankle braces; they found **laced ankle braces were twice as effective in preventing ankle injuries as taping.**<sup>3</sup> They suggest that **retightening the brace could recreate the initial support available when the brace was put on initially.** The tape however, loosened with time and mechanical stress decreasing its effectiveness.

In conclusion, ankle sprains are very common among high school athletes. If a sprain should occur, conservative management by a physical therapist can help the athlete return to sports and provide balance training to reduce the incidence of a reoccurring injury. Bracing rather than taping is more effective in preventing ankle sprains.

### **Bibliography**

<sup>1</sup> Beynnon, Bruce et al. First-time inversion ankle ligament trauma; the effects of sex, level of competition, and sport on the incidence of injury. *American Journal of Sports Medicine* 2005; 33(10): 1485-1491

<sup>2</sup> Wester, J.U. et al. Wobble board training after partial sprains of the lateral ligament of the ankle; a prospective randomized study. *Journal of Orthopaedic Sports Physical Therapy* 1996; 23: 332-336.

<sup>3</sup> Rovere G.D. et al. Retrospective comparison of taping and ankle stabilizers to reduce acute ankle injuries. *American Journal of Sports Medicine* 1988; 16: 228-233.

*Physiotherapy Associates are the sports medicine providers for the Boys' State Basketball Tournament.*