

# Should Athletes Wear Ankle Brace to Prevent Sprains

This may be the first study to look at preventing ankle sprains (and other leg injuries) by wearing a soft, lace-up ankle brace. Ankle sprains may seem like a minor problem but they put many athletes on the bench every year. And the effects can catch up with you much later in life. Chronic ankle stability, decreased physical activity, and ankle osteoarthritis head the list of potential long-term effects of ankle sprain.

Can a simple lace-up ankle brace really prevent ankle sprains? To find out, a group of researchers from the University of Wisconsin (Madison) enrolled 1460 high school athletes in this study. All participants were basketball players. The study included males and females involved in high school basketball during the 2009-2010 season.

The athletes were randomly divided into two groups. One group received the ankle brace. The other group was the control group (no brace). Athletes in the brace group wore the McDavid Ultralight 195 brace during any conditioning session, practice, or game throughout the season. This particular brace was chosen because it happens to be one that is used by many high school and college-level athletes.

Number and severity of all injuries affecting the lower extremity were recorded. This included ankle sprains, other ankle injuries, as well as knee injuries. An injury was defined as any event that caused the athlete to quit playing for 24 hours (or more). Severity of the injury was determined by the number of days the athletes couldn't practice or play basketball in competition because of the injury.

There were a number of other variables that the athletic trainers involved in the study kept track of. For example, player compliance with wearing the brace was recorded. The use of tape in addition to bracing was noted. Type of shoes (low, mid- or high-top) was included as well. As it turned out, everyone wore the same type of court shoes (mid-tops).

There were a total of 265 injuries (all types). About 16 per cent of the entire group was affected. Most of the injuries were acute, traumatic (rather than slow and gradual). Basketball requires frequent stops, starts, turns, and cutting movements that increase the risk of acute injuries (especially of the knee and ankle). But handling the ball also lends itself to wrist, hand, and finger injuries. And falls resulting in head injuries (concussions) are also common.

Of course the real interest is in knowing how many of the injuries occurred to athletes wearing the lace-up ankle brace compared with those who did not wear a brace. As you might expect, the braced group did have fewer injuries. But the brace did not reduce the severity of the ankle injuries. Bracing did not prevent knee injuries either. The number of acute knee injuries was similar between the two groups.

What do the results of this large study really tell us? Wearing a lace-up ankle brace is effective in reducing ankle injuries in high school basketball players regardless of age, sex (male or female), or body mass index (body weight for size). The protective effect of this simple device also helps athletes who have already had a previous ankle injury from reinjuring that ankle again. This is good news since ankle reinjury is a common problem in athletes.

The authors conclude by saying that future research is needed. First, to repeat these same results in athletes of all kinds. Then, to compare various bracing options to find the one with the best protective effects. Comparing bracing with and without a neuromuscular training program is also called for. And they plan on taking a closer look at the trend for other types of injuries of the lower extremity (leg) observed in this study.

Reference: Timothy A. McGuine, PhD, ATC, et al. The Effect of Lace-Up Ankle Braces on Injury Rates in High School Basketball Players. In *The American Journal of Sports Medicine*. September 2011. Vol. 39. No. 9. Pp. 1840-1848.