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Don't Let Turf Toe Linger

By Michael J. Leddy III, MD

Turf toe, or sprain of the first metatarsal phalangeal joint (MTP), can be one of the most painful and debilitating injuries an athlete can face. The condition was originally described in 1976 by Bowers and Martin at the University of West Virginia, where they noted an average of 5.4 turf toe injuries per season among football players.[1] In 1990, Rodeo et al reported on professional football players in the National Football League[2] and found that out of 80 active players, 45 percent had suffered turf toe injuries in their professional careers, with 83 percent occurring on artificial turf.

How does turf toe happen?

Turf toe injuries typically occur when the foot is fixed in one position and the heel is raised with a significant amount of pressure being placed on the toes and extending them. It is thought that the combination of the hard artificial turf surface compared to natural turf, and the flexibility of shoes that is preferred by athletes, adds to injury chances. The injury to the toes can range from a slight sprain to dislocation. Swelling of the first toe joint is common for this type of injury.

How do you treat it?

Conservative management, including rest, ice, compression, and elevation (RICE) should be initiated as soon as possible. Taping should be avoided in the initial stages because of swelling and the risk of compromising circulation. Anti-inflammatory drugs may also help minimize pain and inflammation. A short leg cast or a walker boot may be used for the first week to help decrease pain. Gradual range of motion begins in three to five days following injury.

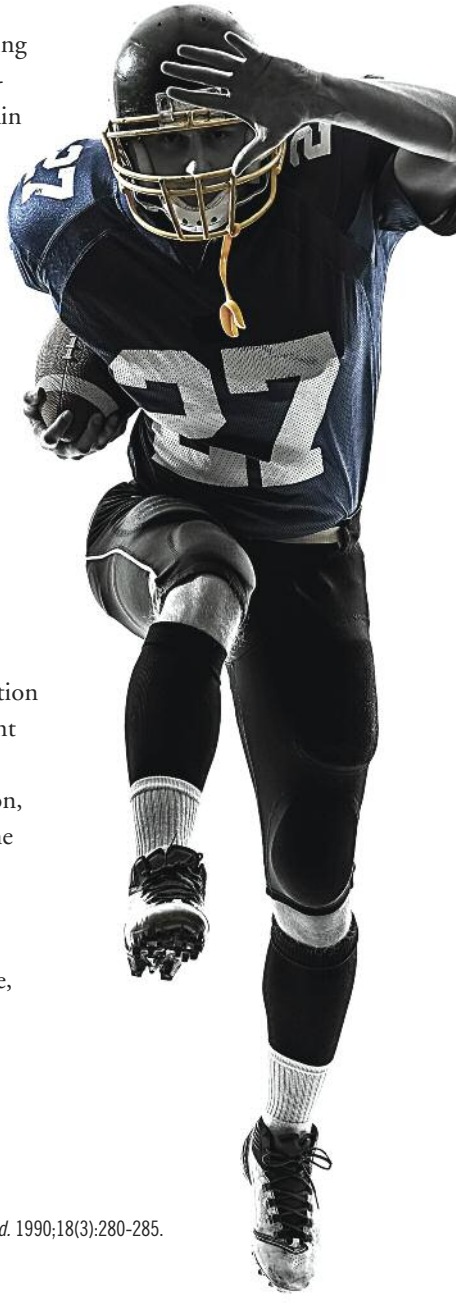
Grade I injuries can be treated with taping and shoe modification such as a rigid sole or insert to restrict foot motion, as soon as swelling decreases. Athletes usually can return to play quickly with little discomfort.

Grade II injuries, where the toe structures are partially disrupted, typically require a boot for protection and may result in the athlete missing at least two weeks of competition. Once low impact activities can be tolerated, shoe modification should be implemented.

Grade III injuries, where there is full disruption of the toe ligaments, usually results in significant loss of playing time. Individuals with this type of injury require several weeks of immobilization, followed by focusing on range of motion. As the injury heals, slow return to low impact activity and shoe modification is implemented.

Surgical intervention may be required, but is usually reserved for injuries involving fracture, instability, and failed conservative treatment.

Turf toe represents a significant injury that deserves adequate recognition and treatment.



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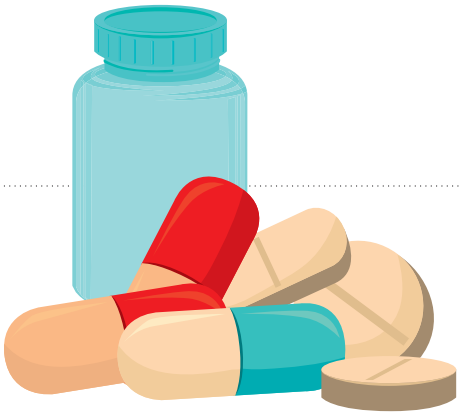
Supplements for Athletes: What Should I Be Taking?

By Kimberly Spahn, MD, and Lance LeClere, MD



Athletes are always looking for ways to be faster, stronger, or have more energy. Every day we are inundated with advertisements claiming to enhance sport performance with various pills, drinks, meal supplements, or cleanses. With so many supplementations available on the market it can be confusing and overwhelming as to what, if anything, people should be taking and the safety of these unregulated supplements. One disclaimer that applies to any supplementation is that you should seek the advice of your athletic nutritionist or physician before starting, to make sure you are taking the appropriate amount and that it is safe.

Should I be taking vitamins or minerals?

While most experts agree that people should be able to obtain the necessary vitamins and minerals by eating a well-balanced diet there are some cases where adding additional vitamins to a diet can be helpful. First, vitamin and mineral supplements should never be used in place of a healthy diet. The supplementation of vitamins should be just that, a supplement, and should not be used as the main source of the vitamin or minerals. Vitamins can be helpful if, despite eating a nutrient-rich well-balanced diet, you are still unable to reach the recommended daily amount of essential nutrients. Keep in mind that the supplementation often provides more than 100 percent of the daily recommendation of a substance. It is possible to take too much of certain vitamins and minerals, so it is important to follow the recommended dosage. Some vitamins must be taken with food in order adequately absorb them so be sure to take your vitamin supplement with a meal.

Should I be drinking protein shakes?

Eating a protein-rich diet provides the amino acids that act as the building blocks of muscles. Many athletes use protein supplementation to help enhance this process and believe this helps build muscle mass. As with vitamins, most people can obtain the recommended amount of protein by eating a balanced diet. Protein supplementation should only be used in those athletes involved in demanding and arduous training. The recommended protein intake for the average adult is 50 to 60 grams of protein a day, which is easily attainable with a well-balanced healthy diet. Those adult athletes who are in training may need to increase that intake to about 80 to 90 grams per day, which can be more difficult to obtain from dietary sources alone. In these cases adding a protein supplement after a rigorous workout may be of benefit to the athlete.

What about drinking energy drinks before a workout?

One common ingredient across most energy drinks is caffeine. The use of caffeine has been well studied and, if used properly, may improve athletic performance. In exercise, it is thought to improve performance by allowing athletes to increase the duration of exercise or by decreasing the perception of their exertion. What does that mean? Athletes using caffeine may not realize their muscles are fatigued, thus allowing them to continue working out for a longer duration. However, while it may allow for longer time to fatigue, caffeine is also a diuretic which means it increases urine output and can lead to dehydration. Dehydration in an athlete not only decreases performance but can be dangerous. Those athletes who are looking to improve their performance in high intensity activities for short periods of time, such as sprinting, may not benefit from the use of caffeine.

Can supplements be dangerous?

Absolutely. The FDA does not regulate supplements the same way they regulate prescription medications. Supplements are not tested for safety or effectiveness by the FDA and the claims on the bottle are not always verified. Additionally, what the bottle states as the ingredients and quantities of the supplement may not actually be what is in the pill you are taking. It is important to do your own research on manufacturers of various supplements to ensure you are getting what you paid for and putting into your body exactly what you think you are. Discussing the supplement you plan to take with an athletic nutritionist or your physician is helpful as well.

Remember that what you put into your body is just as important as what you are doing with your body to prepare for athletic events. When looking to improve sport performance it is imperative to eat a balanced diet first, stay hydrated, avoid fad diets, be wary of claims made about supplements, and choose your supplements wisely by researching products and working with health professionals.

Know Your Jumping Limits

By Michael J. Smith, MD

Jumper's knee is a common overuse injury that affects up to 20 percent of athletes who jump with rapid acceleration and deceleration. Typically athletes who play basketball, volleyball, soccer, and track are the individuals most affected.

The length and intensity of training and repetitive jumping are well known causes of jumper's knee (patella tendonitis).[1,2,3] Playing surfaces and footwear can also play a part. There are several body type conditions that have also been investigated as causing the issue, including patella height, malalignment, and muscle imbalance.[1]

Initial symptoms are usually pain along the front of the knee that occurs after a sports activity, with specific trauma. Pain may become worse and continue even after the sporting event and training stops. It can also progress into pain with day-to-day activities. Swelling is usually not present.

Jumper's knee is usually managed conservatively. In a high percentage of the cases, most athletes return to their activities and sports. If the condition is treated early, there is a much higher success rate. Nonoperative treatment includes activity restriction and modification, ice, pain medications, and physical therapy. Careful attention to a good stretching and strengthening therapy program and improvement of muscle imbalance across the knee is important. When the pain and inflammation is under control, a gradual training program can be started. Neoprene braces and straps may also be used for comfort. Surgery is a possibility if these measures fail to improve the issue. Surgery for jumper's knee tends to have a long recovery time—6 to 12 months.[7,9,10] Because of this, several arthroscopic procedures are being studied and have had positive recovery outcomes.

The earlier this is treated the better, with a more predictable return to the patient's athletic event. The best treatment is prevention by implementing quadriceps strengthening, as well as eccentric-strengthening exercises in the preseason. This should be followed by a steadily progressive training regimen for the desired athletic event.

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The American Orthopaedic Society for Sports Medicine
6300 North River Road, Suite 500
Rosemont, IL 60018

About AOSSM and *In Motion*

As a world leader in sports medicine education, the American Orthopaedic Society for Sports Medicine (AOSSM), we have designed the publication to highlight relevant information for multiple age groups from exercise and rehabilitation to nutrition and psychology.

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Injuries in Softball Pitchers: Fact Versus Fiction

By Kevin W. Farmer, MD

Softball has become an increasingly popular sport for young athletes. With the advent of Title IX, the popularity of televised collegiate softball games, and the inclusion of softball in the Olympics, the interest in the sport has exploded. Unlike in baseball, many softball teams utilize only one or two pitchers during the season. There is a common perception that softball pitchers are at a low-risk of injury, and that overuse injuries are much less of a concern compared to their overhead pitching counterparts.

Belief #1: Softball pitchers are rarely injured — FICTION

Softball pitchers can be injured just as often as their baseball counterparts. In a study of 181 collegiate softball pitchers, authors found 73 percent of pitchers had obtained an injury during the season. Eighty injuries were directly related to pitching, and 11 required surgery.[1] In another study of high-level softball pitchers, authors found that 45 percent of the pitching staff had to miss time during the season due to injury.[2] Most injuries reported involved the front of the shoulder, including the biceps, and rotator cuff.

Belief #2: Softball pitching places less stress on the arm than baseball pitching — FACT

Biomechanical studies of the softball pitching motion demonstrate a 5–20 percent decrease in force on the shoulder compared to an overhand throw, and a 20–35 percent decrease in force on the elbow. While these numbers are decreased compared to their baseball counterparts, these numbers are not trivial. The forces on the shoulder during a softball pitch can be as high as 98 percent of the pitchers body weight.[3] The windmill force of the softball pitch can easily lead to injury, especially when done repetitively. Interestingly, biomechanical studies demonstrate that the more novice the athlete, the greater the reliance on the shoulder and arm when pitching, likely increasing injury risk in the younger, less experienced athlete.[4]

Emphasis on appropriate conditioning and mechanics along with future studies on pitch counts and volume may serve to decrease the risk of injury in this unique population.

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