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A PUBLICATION OF THE AMERICAN ORTHOPAEDIC SOCIETY FOR SPORTS MEDICINE

FALL 2014

Provided in Conjunction with Town Center Orthopaedic Associates, P.C.



To Brace or Not to Brace That Is the Question

By Lance LeClere, MD

Anterior cruciate ligament (ACL), medial collateral ligament (MCL), and other ligament injuries of the knee can be devastating for football players and may result in significant loss of playing time and/or require surgical treatment. As player safety and injury prevention continue to be a priority, many players and parents wonder if a knee brace can help prevent major football injuries.

Several factors come under consideration when trying to decide whether a player should wear a knee brace:

- Effectiveness in preventing an injury
- Play hindrance
- Added weight
- Unnatural feel
- Cost
- Practicality of routine use
- Possibility of increases in injuries in the hip or ankle

Prophylactic knee bracing or using a knee brace to prevent injury in football is controversial, with no clear-cut answer from quality studies. Some studies suggest that prophylactic knee bracing helps prevent MCL injuries in “high risk positions” such as offensive and defensive linemen, linebackers, and tight ends and may decrease the severity of injuries when they do occur.¹ However, there is no strong evidence to suggest that the rate of ACL injuries is decreased by routine use

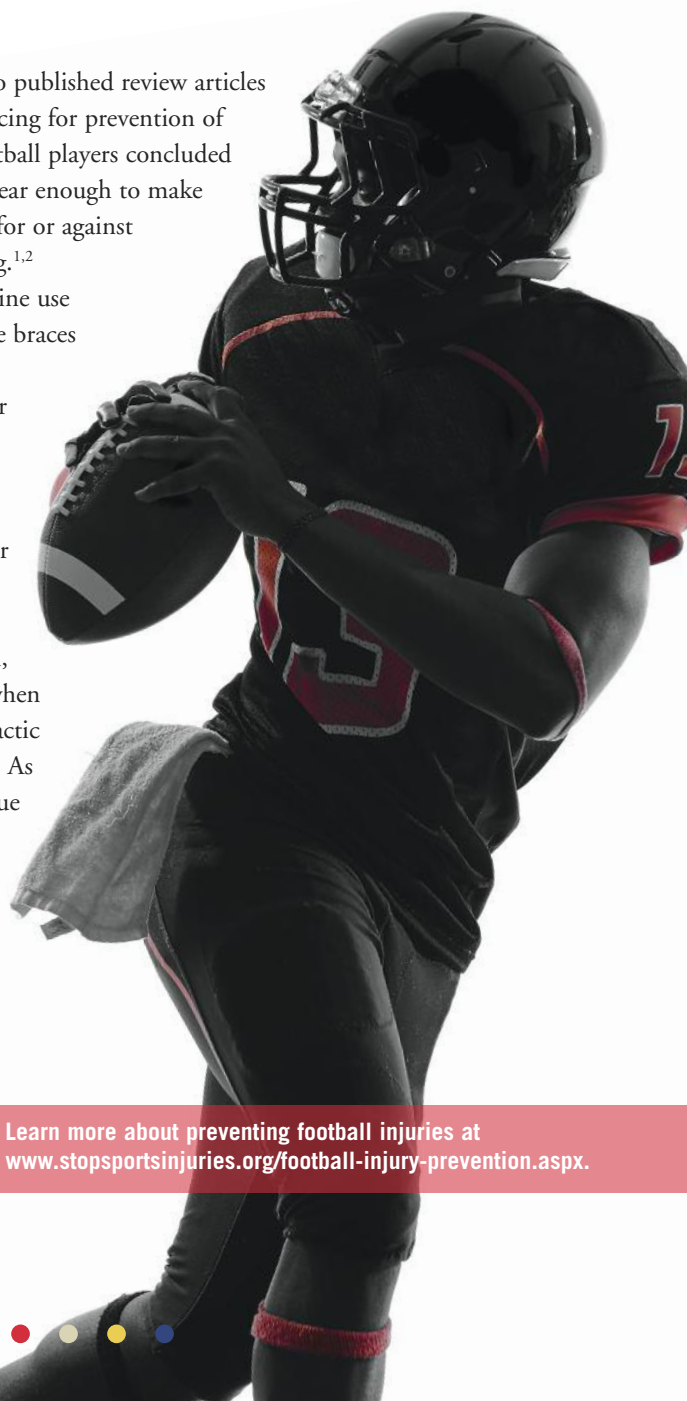
of knee braces.¹ Two published review articles on prophylactic bracing for prevention of knee injuries in football players concluded that data was not clear enough to make a recommendation for or against prophylactic bracing.^{1,2}

Widespread, routine use of prophylactic knee braces is not supported by available evidence or professional society recommendations. However, each player must consider individual factors such as position, level of competition, comfort, and cost when deciding if prophylactic bracing is advisable. As always, open dialogue among players, parents, coaches, athletic trainers, and team physicians is encouraged.

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Learn more about preventing football injuries at
www.stopsportsinjuries.org/football-injury-prevention.aspx.



Increase Training Gradually to Stay on the Cross Country Running Path

By Michael J. Smith, MD



For more tips to prevent running injuries visit www.stopsportsinjuries.org/running-injury-prevention.

Cross country running has many challenges, including varied terrain, hills, inclines, and uneven surfaces. A cross country runner has to adjust his/her stride length with these many variables. This challenges the athlete differently than running on a flat surface track.

Cross country season begins at the start of the school year. Unless the athlete has trained over the summer, a lack of conditioning could lead to many early-season injuries. Instead of progressively increasing the intensity and duration of the workouts, an athlete may try to force too much training during the first part of the season, which often leads to injuries. The injury rate is usually higher for girls than

boys. This can be due to physiological differences such as hip and knee angles, as well as lack of preseason conditioning.

Injuries can be twisting of an ankle or knee in the uneven terrain but most commonly cross country running injuries are a gradual onset or related to overuse and affect the knee, hip, shin (tibia), foot, and ankle. It is important to start slow and gradual, and never increase training more than 10 percent at a time. Paying attention to proper nutrition and rest is also important over the course of the season. Some common injuries include:

- **Patello-femoral pain syndrome**
Pain in the front of the knee that is usually worse with stairs, climbing, sitting, and at the start of the run and/or at the end of the run. Treatment includes both stretching the muscles

of the leg, as well as strengthening the quadriceps and hip muscles.

- **Iliotibial band friction syndrome**
Pain around the outside of the hip and knee that can be so severe that it that it can be confused with a meniscal tear. Stretching and strengthening is key to treatment and prevention.
- **Achilles tendinitis and plantar fasciitis**
Pain in the heel and foot is common. Stretching and strengthening the muscles of the lower leg as well as paying attention to good, properly fitted footwear, are important prevention strategies.
- **Shin splints**
Lower leg pain in the shin area. If not properly treated, shin splints can lead to a more serious stress fracture of the tibia. The cause is usually a sudden increase in training volume and intensity. It is important to not only increase the aerobic training capacity, but work on strengthening and stretching of the entire lower extremity.

Newer participants, especially young teenagers, are sometimes not strong enough physiologically to handle the increased intensity of cross-country training.

Cross country running is challenging but it can provide excellent cardiovascular benefits, as well as improve overall strength. It teaches discipline, and since it is a team sport, can provide a good social atmosphere. The expense of the sport is minimal, with only a good pair of shoes being the main requirement. Paying attention to a proper training program, including regular strengthening and stretching exercises, can make cross country running a very rewarding athletic experience.



Know the Right Way to Slide and Prevent Injuries

By Kevin W. Farmer, MD

Millions of athletes compete in baseball and softball on an annual basis, and, as with all sports, injury risk and prevention are important concerns. One type of injury particular to these sports are injuries that occur during a slide to a base.

Athletes utilize both head-first and feet-first techniques when sliding. This activity is an important part of the game, and occurs, on average, eight times per game in collegiate and high school baseball, and five times per game in softball.^{1,2} The Centers for Disease Control estimated that \$24 million could be saved annually from sliding injury prevention, underscoring the importance of understanding the risks involved.³

There are several aspects to sliding injury prevention that can be implemented. As with many sporting activities, proper technique is important. One potential explanation for the increased rate of injury in softball players is a higher incidence of last second sliding decisions. Shorter base paths and smaller fields may also lead to more last second decisions. Players should be coached to consider sliding at all times, to minimize the last second slide. In addition, sliding compression

shorts and appropriate baseball pants are important in reducing injury. Some players hold their batting gloves to minimize the risk of jamming their fingers during headfirst slides.

Breakaway bases have also been shown to decrease injury rates during sliding. A 1993 study demonstrated a decrease in injury rates from two injuries per 100 baseball games with standard bases, to 0.4 injuries per 100 games with break-away bases.⁴ Biomechanical studies have also confirmed the benefit of break-away bases. However, the widespread use of break-away bases has not caught on, with increased costs likely a large reason.

Sliding injuries are a common cause of injuries during baseball and softball games. Fortunately, most injuries are minor. Improvement in technique and the use of break-away bases could help decrease the incidence of these injuries.

Learn more ways to prevent baseball injuries at www.stopsportsinjuries.org/baseball-injury-prevention.

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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.

This important educational tool is published quarterly and distributed electronically.

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What is a stinger?

By Karen Y. Peck, MEd, ATC, CCRP, and Brett D. Owens, MD

Stingers or burners are common injuries among collision athletes, but most of these injuries are not long-lasting or serious in nature. A stinger, more formally known as brachial neuropraxia, results when there is injury to the vast network of nerves surrounding the neck and traveling to the shoulder, arm, and hand. These nerves are susceptible to injury when the head is forcibly pushed into an extreme range of motion. Stingers can also occur after a direct blow to the area between the neck and shoulder. This injury commonly occurs in football, wrestling, rugby, and gymnastics.

Symptoms include neck pain, numbness, burning, and weakness in one arm. Symptoms in both arms could be indicative of a more serious spine injury and should be evaluated by medical personnel immediately. The symptoms of a stinger usually subside in moments to hours but more serious injuries can last for weeks. Injuries with symptoms that persist should be referred to an orthopaedic surgeon for further evaluation. Permanent injury is rare but can occur.

When can an athlete return to his/her sport?

Athletes can return to their sport as soon as they can perform full range of motion of the neck and shoulder without symptoms.

Additionally, they should demonstrate full strength and normal sensation in the upper extremities. Athletes who return to sport with residual numbness or weakness are at increased risk for further injury. Most athletes who sustain stingers can expect to recover and return to their sport within minutes or hours.

In rare cases, stingers can become recurrent or chronic. This is commonly the result of accompanying injuries in the spine such as a herniated disk or a narrowed cervical nerve opening. These abnormalities can cause an athlete to be at increased risk for stingers or to experience prolonged symptoms after injury.

How can I prevent this injury from happening again?

Athletes who experience prolonged symptoms should be evaluated by an orthopaedic surgeon and should work with a certified athletic trainer or a physical therapist to improve neck strength and flexibility to minimize the risk of future injury. Equipment should be assessed to ensure proper fitting. Some additional equipment, such as football cowboy collars and neck rolls designed to limit the range of motion of the neck, may also be helpful to help reduce the risk of re-injury.

