



**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.

AOSSM members can add their practice name and logo to *In Motion*. Personalizing *In Motion* is an easy way to get pertinent, patient-friendly sports medicine information to your patients with just a click of a mouse. For more information, please e-mail Lisa Weisenberger at [lisa@aossm.org](mailto:lisa@aossm.org) or contact the Society at 847/292-4900.

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## PRP Myths and Truths Debunked

By Joseph T. Lanzani, Jr., MD, and Brett Owens, MD

Platelet-rich plasma (PRP) has become increasingly popular over the past several years. The media has helped to fuel this popularity by profiling elite athletes returning to form after treatment with PRP. Patients often ask about treatment with PRP after hearing about Tiger Woods, Raphael Nadal, Hines Ward, Alex Rodriguez, and other players' responses to their treatments. Unfortunately, there is little information on exactly what treatment these individuals received or what was done prior to or after the PRP treatment.

Unlike pharmaceuticals, PRP preparations, contents, concentration, and potency are not regulated, monitored, or standardized. Each vendor has a different process or technique for preparation and no two give the same final product. There are even substantial differences with the same technique with different individuals or even with the same individual from day to day.

In the normal healing process, the body utilizes a variety of pieces to help itself heal after an injury (white blood cells, platelets, etc.). The premise of PRP therapy is to inject a massive concentration of platelets and supporting proteins (and in some preparations white blood cells) directly into damaged tissue. While the marketing demonstrations lead the consumer to believe this can get them back on the field,

there is little research to support the effectiveness of its use for most conditions.

The use of PRP in soft tissue injury is limited and no long-term data has confirmed that PRP is more effective than a saline injection. There are several studies that have been produced in the past five years looking at PRP with Achilles tendon injury, rotator cuff repair, and meniscal repair.

These studies often find varying results or have little long-term data. Despite this lack of definitive evidence there is an ongoing effort to scientifically evaluate the benefits of PRP therapy.

However, there is some hope that PRP can help certain injuries. For example, PRP has been shown to be more effective than placebo in patients with chronic tennis elbow. The good news is that PRP therapy is very safe with little chance of making an injury worse. There is also still substantial potential for future research to demonstrate a clear benefit for treatment. The bad news is that currently there is no data to support the use of PRP therapy in day-to-day patient care.



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# In Motion

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## Get Your Head on Straight and Make Sure You Have a Properly Fitted Helmet

By Robert Gray, ATC

Since there is very little evidence that a football helmet will prevent a concussion, the proper fitting of a football helmet is one of the most important tasks for a coach or supervising adult to perform for their athlete. Because athletes come in all shapes and sizes, it is imperative that the team purchase more than one style of helmet. This practice alone will allow the team to optimally ensure that all their athletes are fitted properly.

There are several steps that need to be followed when fitting a football helmet, including the following:

- **Step 1**—Inspect all the helmets, both inside and out. Make sure that all the helmets have an up-to-date NOCSAE (National Operating Committee on Standards for Athletic Equipment) sticker — this includes both new and reconditioned helmets.
- **Step 2**—Update your athlete's medical history and look for any physical abnormalities on their head. Measure the athlete's head with a tape measure:  
**Medium** — 20–22.5 inches  
**Large** — 21.5–23.25 inches  
**X-Large** — 23–25.5 inches
- **Step 3**—Select and fit the athlete, making sure you follow the manufacturer's fitting instructions.
- **Step 4**—Attach the chinstrap and snug it down equally from both sides. Check the fit in three specific areas: crown of the head, lateral aspect, and vertical grip.

- **Step 5**—All helmets should be inspected weekly. This weekly inspection will ensure that the helmet is still properly fitted, doesn't have any cracks, and that the metal parts of the facemask are rust-free. If the athlete has an air bladder, it needs weekly inspection and/or inflation.

There are several manufacturers of football helmets. Each of these vendors will have their own specific fitting instructions. It is imperative that the individual designated as the "helmet fitter" be familiar with these instructions so the athlete gets the best fit.

Also remember, when coaching a youth football team, purchase youth football helmets. These helmets are specifically designed for the younger athlete in mind.

Finally, the athlete, along with their parents should read the NOCSAE warning on the helmet. Along with the NOCSAE warning, all helmets should be properly fitted, never modified, and should not have the manufacturer's label removed. Play safe and have fun!



## Heading Not the Main Safety Concern for Soccer Players

By Robert Brophy, MD

With the end of summer and return to school, many college, high school, and youth soccer players prepare to return to competition. One of the unique aspects of soccer—heading—raises concerns about its safety and risk for injury. Fortunately, most of the data suggest that heading is not a major safety risk.

Although it is a relatively safe sport, soccer athletes are at risk for injury. Head injuries, including concussions, eye injuries, face cuts, and fractures, are four to 22 percent of soccer injuries.<sup>1</sup> Concussions appear to be more common in higher and more competitive play, usually from contact with other players. Concussions do not result from heading the ball in older players,<sup>2</sup> and rarely occur from heading in younger players.<sup>1</sup> Female soccer players are more likely to suffer concussions than their male counterparts.<sup>1</sup> Enforcing rules to minimize player to player contact when heading may help decrease the risk for concussion.

There have been numerous studies looking at the potential long-term effects of heading on cognition and brain health, with the general consensus being that there is not a link.<sup>1</sup> One recent study did not find any relationship between soccer heading and computerized neurocognitive performance and symptoms.<sup>3</sup> However, a recently presented study did raise the possibility that frequent heading could be associated in changes on brain MRIs.<sup>4</sup> While the majority of the evidence suggests that heading is safe, investigation is ongoing and there may be some subsets of athletes at greater risk from this activity.

Finally, there have been numerous studies looking at the effect of headgear on risk of injury during soccer.<sup>1</sup> Headgear does not appear to alter the impact of head to ball contact but may be helpful in reducing the risk of injury from player to player contact. However, there is some concern that use of headgear could give soccer players a false sense of security and make them more likely to risk collisions, thus negating any protective effect from the gear itself.



**Enforcing rules to minimize player to player contact when heading may help decrease the risk for concussion.**



Heading a soccer ball does appear to be safe as an isolated activity but associated contact during competitive play does put players at some risk of injury. Proper heading technique and rule enforcement help minimize that risk. For younger players, proper technique and appropriately sized soccer balls can also help minimize the risk of injury when heading. Aerial play should not be encouraged in the very young players for safety reasons and the benefit of focusing on developing their ball skills and footwork.

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## Keep Your Child Safe on a Team Trip

Get Details, Ask Questions and Openly Talk to Your Child

By Daniel Solomon, MD

Several recent events highlight sexual abuse of children in sports. There has been national and international publicity surrounding Jerry Sandusky and Penn State football with the long-term failure to report his ongoing and persistent abuse of a number of boys. Kayla Harrison, the 2012 Olympic judo gold medalist, faced years of sexual abuse from age 13 to 16 by her former coach.

Both of these cases eventually went to court and the offenders were jailed, but identification and prosecution is unusual in sexual abuse cases in youth sports. According to the Rape, Abuse and Incest National Network, there are more than 200,000 sexual assaults in the U.S. annually and more than 50 percent are never reported to police.

The annual rate of known cases is 8.6 per 10,000 children. Lifelong dangerous and deleterious effects can ensue. Unwanted and illegal contact can erode family, community, and athletic relationships, academic and athletic performance, and can have long-lasting effects.

### What can you do to help your child be safe?

- Talk to your child about appropriate relationships with adults and appropriate boundaries.
- Make sure they can talk to a parent or safe adult if they feel uncomfortable with someone or if they are in an uncomfortable situation.
- Ensure your team completes background checks on all coaches and has rules for team trips.



Some examples for consideration include:

- Athletes should not ride in a coach's vehicle without another adult present who is the same gender as the athlete.
- During overnight team travel, athletes should only be paired with other athletes of the same gender and similar age.
- When only one athlete and one coach travel to a competition, establish a "buddy" club where other athletes or coaches are always present at the competition and at any other activities.
- No male athletes in female athlete rooms, no female athletes in male athlete's rooms.
- Establish a "team" area with an open door for appropriate team interactions.

### Questions to ask your team administrator or head coach

- What training do coaches receive about preventing child sexual abuse?

- Is there a policy or code of conduct concerning interactions between coaches, employees, volunteers, and children?
- Do team policies minimize opportunities for children to be unsupervised?

### What should be included in a coach's or official's background check?

For example, USA Swimming utilizes Acxiom Information Security Services, a member of the National Association of Professional Background Screeners.

Any background check should include a local and national search for any felony; any misdemeanor involving any sexual crime, drug use or possession, other drug related crime, child endangerment, neglect or abuse. Other considerations should include violence, destruction of property, animal abuse, or neglect.