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Dear Reader,

In this second issue of our NCAA Sport Science Institute Newsletter, we are taking a more detailed look into concussion. This is a universal concern for all student-athletes and their healthcare team. I believe that concussion is so important that we will devote a special column to concussion each month for the foreseeable future. This will include up-to-date references for new articles, as well as a summary column. We hope you enjoy this part of our newsletter, along with the other gems we offer to you.

Sincerely,

Brian Hainline, M.D.  
NCAA Chief Medical Officer

## NCAA Concussion Task Force Review

In April 2013, the NCAA Sport Science Institute hosted a Concussion Task Force comprised of concussion experts (scientists, physicians and clinicians) whose charge was to study concussion in college sports and to develop a consensus, when possible, on concussion definition, epidemiology, pathophysiology, management and long-term ramifications. When a consensus was not possible, the NCAA Concussion Task Force members made recommendations for further study that could provide a pathway for consensus. Because the definition of concussion is not uniform and because there are no clearly defined genetic predispositions, serum/brain biomarkers, or definitive neuroimaging classifications of concussion, it is critical to be well versed in clinical manifestations of concussion. Unlike many other medical conditions (e.g. breast cancer, myocardial infarction) in which there are numerous identified predispositions, biomarkers, and imaging criteria, concussion remains largely defined by its clinical presentation, which can be varied, subtle and easily overlooked. [Read more ...](#)

## Men's Soccer Injuries

In 2008-09 seasons, there were 777 NCAA member institution teams and 21,601 participants. The average squad size was 28 players.

- The overall injury rate in NCAA men's soccer is 7.7 per 1,000 athlete exposures.\*
- There were more than 55,000 injuries and 7.1 million athlete exposures from 2004-2009.
- Soccer players are more than three times more likely to be injured in a game

## Historical Challenges in the Surveillance of Offseason Injuries

As early as 400 BC, Sun Tzu identified that there was increased incidence of disease amid his warriors when his army camped in swamps as compared to camping in open, dry fields. Greek and Roman

physicians documented and developed measures to prevent injuries suffered by their warriors, athletes and gladiators (as evidenced by the protective equipment they wore). However, it was not until the early 20th century that we began to see the underpinnings of modern athletic injury epidemiology with surveillance serving as a key part in the injury prevention





(16.9 injuries per 1,000 athlete exposures) than in practice (5.1 injuries per 1,000 athlete exposures).

- Preseason has the highest overall injury rate (8.7 per 1,000 athlete exposures) as compared to the in-season injury rate of 7.5 injuries per 1,000 athlete exposures.
- The most common types of injuries in NCAA men's soccer are muscle strains (25.8 percent), followed by ligament sprains (25.3 percent), contusions (20.3 percent) and concussions (5.5 percent).
- Ligament sprains of the lateral ankle (12.2 percent), hamstring muscle strains (7.5 percent), concussions (5.5 percent), and adductor (groin) muscle strains (5.5 percent) are the most common specific types of injury in men's soccer.
- The action of heading the ball ranks fifth as the most common activity at the time of injury during competition and ninth during practice.

Click [here](#) to view the men's soccer injuries fact sheet and other sports injury fact sheets.

\*Data from the 2004/05-2008/09 seasons

process. Since the formation of the NCAA and the onset of surveillance of both catastrophic and non-catastrophic injuries, fatalities and injuries of all severity have decreased over the years. Despite vast improvements in student-athlete safety, however, injuries and fatalities continue to occur, requiring sustained injury surveillance. [Read more ...](#)

## Fueling the Extra Mile: Proper Nutrition for Endurance Athletes



Student athletes participating in endurance activities require year-round training and a nutritional plan to match. As the training cycle transitions through the various phases – preparation, pre-race, race and active recovery – so does the

nutritional prescription. The overall energy needs for endurance athletes are high, and adjustments to general recommendations should be individualized to each athlete based on intensity, level of training, body size and gender.

[Read more](#)

## Fueling During Exercise

When you are under-fueled, you can expect a poor return on your training efforts, and a higher risk of colds and other illnesses.

Click the image to find out what happens physiologically as your body becomes weak.





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