



American
Association of
Neurological
Surgeons

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Back to School Means Football and Cheerleading: Injury Prevention Tips from the AANS

ROLLING MEADOWS, Ill. – With kids going back to school soon and football practice already underway in many communities, the American Association of Neurological Surgeons (AANS) is issuing an injury prevention message about football and cheerleading. “We decided to focus on this topic for Neurosurgery Outreach Month because there needs to be greater awareness about the potentially devastating consequences of head and spinal cord injuries associated with these sports,” said Gail L. Rosseau, a Chicago-area neurosurgeon and AANS spokesperson.

“The annual incidence of football-related concussion in the United States is estimated at 300,000 and nearly 45,000 football-related head injuries were serious enough to be treated at U.S. hospital emergency rooms in 2009,” remarked Dr. Rosseau.

Although head injuries and concussions associated with football have been well publicized and subject to recent Congressional hearings, there is less public awareness about the neurological injuries associated with cheerleading, which are certainly less prevalent, but can be just as devastating. Cheerleading, which once meant cheering on athletes – has changed drastically in the last 20 years and has become a highly acrobatic sport. A number of schools at the high school and college level have limited the types of stunts that can be attempted by their cheerleaders. Rules and safety guidelines now apply to both practice and competition.

“While football is a collision sport with inevitable risks, most serious neurological injuries can be prevented if players, parents and coaches take injury prevention and concussions seriously,” stated Mitchel S. Berger, MD, AANS vice president and a member of the NFL Head, Neck and Spine Medical Committee.

“Football players who have sustained a concussion need to be withheld from play until all physical and neuropsychological symptoms and signs related to that concussion have resolved and they are cleared to return to play through an independent healthcare professional,” said Dr. Berger.

The National Center for Catastrophic Sport Injury Research tracks a number of head and neck injury statistics related to football and cheerleading annually.

Football Head and Neck Injury Statistics at a Glance

- During the 2009 football season there were nine brain injuries which resulted in incomplete recovery. All nine were at the high school level.
- At the high school level, studies show that while 10 to 15 percent of athletes playing contact sports sustain concussions each year, only a fraction receive proper treatment.
- A majority of catastrophic spinal cord injuries (SCIs) occur in games. During the 2009 season, five injuries took place in games, two in practice, and two in scrimmage games.
- Both past and present data show that the football helmet does not cause cervical spine injuries; rather it is poorly executed tackling and blocking techniques that are the major problem.

Football-Related Head and Neck Injury Prevention Tips

- All players should receive preseason physical exams and those with a history of prior brain or spinal injuries, including concussions, should be identified.

- Football players should receive adequate preconditioning and strengthening of the head and neck muscles.
- Coaches and officials should discourage players from using the top of their football helmets as battering rams when blocking, hitting, tackling, and ball carrying.
- Coaches, physicians and trainers should ensure that the players' equipment is properly fitted, especially the helmet, and that straps are always locked.
- Coaches must be prepared for a possible catastrophic SCI. The entire staff must know what to do in such a case, because being prepared and well informed might make all the difference in preventing permanent disability.
- The rules prohibiting spearing should be enforced in practice and games.
- Ball carriers should be taught to not lower their heads when making contact with the tackler to avoid helmet-to-helmet collisions.

Cheerleading Head and Neck Injuries and Cases at a Glance

- The majority (96 percent) of the reported concussions and closed-head injuries were preceded by the cheerleader performing a stunt.
- Nearly 90 percent of the most serious fall-related injuries were sustained while the cheerleaders were performing on artificial turf, grass, traditional foam floors or wood floors.
- A 14-year-old female high school cheerleader suffered a fractured skull when her teammates did not catch her during a stunt. She has recovered.
- A female high school cheerleader fractured her skull during a basket toss in the school cafeteria. She landed on her head and was taken to the hospital. She has recovered.
- A 17-year-old girl suffered a compression neck fracture at C-5 when her cheerleading teammate fell off the pyramid on top of her.

Cheerleading-Related Head and Neck Injury Prevention Tips

- Restrictions have been placed on stunts ranging from height restrictions in human pyramids, to the thrower-flyer ratio, to the number of spotters that must be present for each person lifted above shoulder level. These rules must be enforced at all times.
- Cheerleaders must be given proper training with supervision provided during all stunts.
- Mats should be used during practice sessions and as much as possible during competitions.
- Cheerleaders should not attempt a stunt if they are tired, injured, or ill or outside during inclement weather.
- After sustaining an injury, a healthcare professional must clear a cheerleader for return to activity.

The AANS offers more in-depth information on sports-related injuries and prevention on its website at: <http://www.aans.org/en/Patient%20Information.aspx>. Click on Conditions and Treatments and Patient Safety Tips.

Founded in 1931 as the Harvey Cushing Society, the American Association of Neurological Surgeons (AANS) is a scientific and educational association with more than 8,000 members worldwide. The AANS is dedicated to advancing the specialty of neurological surgery in order to provide the highest quality of neurosurgical care to the public. All active members of the AANS are certified by the American Board of Neurological Surgery, the Royal College of Physicians and Surgeons (Neurosurgery) of Canada or the Mexican Council of Neurological Surgery, AC. Neurological surgery is the medical specialty concerned with the prevention, diagnosis, treatment and rehabilitation of disorders that affect the entire nervous system, including the spinal column, spinal cord, brain and peripheral nerves.