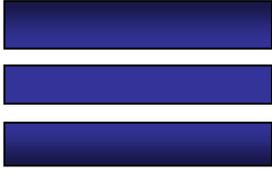


**UPDATE**



# neurosurgery

**FOR IMMEDIATE RELEASE**

May 20, 2010

**Contact:** Susanne Hartman

(202) 446-2028, [shartman@neurosurgery.org](mailto:shartman@neurosurgery.org)

## **Congress Investigates the Impact of Concussions on High School Athletes Neurosurgeons Weigh-In on this Important Topic**

(Washington, DC) – On Thursday, May 20, 2010, the **U.S. House of Representatives Committee on Education and Labor** held a [hearing](#) to learn more about the impact of concussions on high school athletes and how the injury can impact academic achievement. A concussion is an injury to the brain that results in loss of normal brain function and is usually temporary. The nation's neurosurgeons, represented by the [American Association of Neurological Surgeons](#) and the [Congress of Neurological Surgeons](#), have issued this statement:

### *What we already know...*

“Concussions are tough to diagnose because they produce a wide variety of symptoms that are not immediately recognizable as a brain injury unless people are educated about the condition. Most athletes don't want to be taken out of play so they downplay these symptoms. Therefore, education about the symptoms and serious risks needs to reach the athletes, their families, trainers, coaches and front-line physicians. In most cases, there are no external signs of trauma, and imaging of the brain with a CT scan will be normal, leading people to think everything is okay. However, several groups are now investigating the role of MRI to look at fiber tracts in the brain after concussion, because concussions are really injury at a cellular level. Neurosurgeons emphasize that although some concussions are less serious than others, there is no such thing as a ‘minor concussion.’ While one concussion may not cause permanent damage, there is increasing data that the effects are cumulative, and that a second concussion soon after the first one can lead to serious and irreparable brain damage, and even death.” -- **Alex B. Valadka, MD, FACS, AANS/CNS Washington Committee Chair**

### *What we're doing about it...*

“There is a real need for a scientific approach to issues like concussions in high school athletes. The field of sports-related head injury is exploding with new scientific data as well as public awareness. The nation's neurosurgeons have led the efforts in defining and grading concussions, and formulating guidelines for treatment and return to play, and we created the ThinkFirst National Injury Prevention Foundation. We strongly believe that prevention is the only cure, and that neurosurgeons have a role in preventing traumatic brain injuries.” – **Mark Proctor, MD, Chairman, Board of Directors, ThinkFirst Foundation**

### *What still needs to be done...*

“We need additional data in this area. We need to be asking, ‘Are there ways of decreasing the incidence of concussion? How many athletes go on to experience long-term or permanent problems after concussion? And why is this subgroup so susceptible (genes, environment, cumulative effects, biomechanics of injury, too short of an interval between repeated concussions, etc.)?’ We need to get beyond anecdotes and get solid information.” -- **Alex B. Valadka, MD, FACS, AANS/CNS Washington Committee Chair**

For more information about sports-related head injuries, visit:

- [http://www.neurosurgerytoday.org/what/patient\\_e/sports.asp](http://www.neurosurgerytoday.org/what/patient_e/sports.asp)
- <http://www.aans.org/Library/Article.aspx?ArticleId=62483>
- Listen to the AANS podcast on sports-related head trauma at: <http://www.aans.org/podcast/>
- Learn more about the ThinkFirst Foundation at: <http://www.thinkfirst.org/>.

# Impact of Concussions on High School Athletes: The Neurosurgical Viewpoint

American Association of Neurological Surgeons  
Congress of Neurological Surgeons

## Why This Area of Medicine Matters:

Concussion is highly prevalent in our society and the **long-term impact of concussions on the public health is really unknown**. Post-concussive problems, including headache, imbalance, attention and mood problems, excessive daytime sleepiness, etc., result in decreased school performance in the adolescent and poor work performance in the adult. **Long-term effects on health and productivity** on those individuals who do end up having chronic problems need to be better elucidated.

## Advances in the Field:

- **Neurosurgeons**, including Drs. Julian Bailes, Robert Cantu, Arthur Day, Joseph Maroon and others, have greatly advanced the field of concussion, both via the creation of the original definitions and grading scales, and vis-à-vis their work with adolescent and **professional athletes**. The recent appointment of H. Hunt Batjer, MD, FACS, Richard Ellenbogen, MD, and AANS Vice President Mitchel S. Berger, MD, FACS, to the new NFL Head, Neck and Spine Medical Committee will further neurosurgery's involvement in this crucial issue. Neurosurgery has been instrumental in bringing much of this information into the public arena, including the need for sideline assessment, post-injury testing, and informing the lay and medical public.
- **Prevention** programs are important in educating the public. The ThinkFirst National Injury Prevention Foundation, formed by neurosurgery, is now in its 24<sup>th</sup> year reaching nearly one million students every year.
- Pathology **brain banks of athletes** help researchers explore the chronic changes from concussion.

## Where We Fall Short:

- There needs to be more **patient education**. Too many patients are unaware that they've suffered a concussion. Often they downplay their symptoms, and are told by trainers and medical professionals that they are fine, with little instruction on how to re-integrate into school, work, driving, etc. This lack of appropriate up-front treatment is known to exacerbate the symptoms and prolong the recovery. It is important to educate the patients and their families, as well as the coaches, trainers, and medical practitioners including primary care and emergency medicine specialists.
- We need more advanced **data collection systems** to understand the true prevalence of concussion. Many surveillance systems only include mandatory reporting of those individuals seen in emergency rooms. Public awareness and education is a huge part of this as state laws -- such as the Zackery Lystedt law in Washington -- mandate education and "return to play" criteria.
- We are beginning to understand the importance of obtaining **additional types of assessments**, such as advanced neuroimaging, neuropsych/cognitive testing, etc., but these kinds of assessments only address certain features of traumatic brain injury (TBI) outcome. The tendency to overuse these modalities must be avoided, but we must also use them when appropriate and further study the utility of each one.
- We also need more information on the incidence of **individual post-concussion symptoms** and time to recovery for each, (e.g., positional vertigo, short-term memory problems, headache, feeling "fuzzy" or slow, moodiness/irritability, etc., all tend to have different time courses for resolution), and then we can better identify the most effective **interventions and treatments**.

-More-

### What We Need to Tackle Next:

- **Science** - We need more data on incidence and prevalence, longitudinal studies on outcome (to understand the time to recovery), more information on functional outcome (to understand the impact), more attention to the socioeconomic consequences (e.g., lost productivity, relationships to subsequent injuries, interpersonal problems, etc.), and information on the impact on long-term cognitive functioning, especially in students whose brains are still early in development.
- **Public education** - We need to help the public understand what concussions are, what the potential ramifications are, and what they should do if they or a loved one suffers from one. Ongoing and additional support for **prevention** and educational programs is critical.

###

**Editor's Note:** Drs. Valadka and Proctor, as well as other neurosurgical leaders in the area of sports-related head trauma, are available for interviews.

*The American Association of Neurological Surgeons (AANS), founded in 1931, and the Congress of Neurological Surgeons (CNS), founded in 1951, are the two largest scientific and educational associations for neurosurgical professionals in the world. These groups represent approximately 8,000 neurosurgeons worldwide. 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. For more information, please visit [www.aans.org](http://www.aans.org) or [www.cns.org](http://www.cns.org).*