

# **HEAD INJURIES AND CONCUSSION IN CONTACT SPORTS**

**R. STEPHEN LUCIE, M.D.**

*Former Head Team Physician, Jacksonville Jaguars*

Head injuries are familiar to NFL players and fans. Cowboy great Roger Staubach cited recurrent head injuries as one of the reasons for his retirement. Last season two of the NFL's top quarterbacks, Troy Aikman and Steve Young, went down during critical games because of head injuries. And this year, Falcon's Chris Miller has missed time because of head injury. So far the Jaguars have been lucky with only two episodes of "bell ringers" and no significant concussions.

Knowing how quick to recognize head injuries is important, because a seemingly benign injury can quickly deteriorate into a life-threatening situation. Traumatic brain injury, or concussion syndrome, is common in contact sports. It is estimated that 250,000 concussions and an average of eight deaths occur every year due to head injuries in football.

Twenty percent of high school football players suffer concussions during their high school football career, some more than once. Repeated concussions can lead to brain damage and neuropsychological deficits. Repeated concussions within a short period of time can be fatal.

Recently the problem of repeated concussions has received more attention because of its increasing frequency among NFL quarterbacks and catastrophic events with high school and college football players. The following case in Colorado prompted the development of guidelines for the treatment of concussion in sports. (See sidebar for proper treatment of sports concussions.)

During a varsity football game, a seventeen year old high school running back sustained a concussion without the loss of consciousness. The following week he complained of headaches during practice, but did not seek medical attention. In the next game, a week after his concussion, he collided head-to-head with another player's helmet. He appeared stunned yet remained in the game. On the next play, after only light contact with one of several tacklers, he fell unconscious into the arms of a fellow teammate. He was transported to the hospital and received intensive medical treatment. After losing consciousness, he was pronounced dead fifteen hours later. This player rapidly succumbed to the effects of severe brain swelling.

This condition is called Second Impact Syndrome. Second Impact Syndrome occurs when an athlete who sustains a head injury, often a concussion or a more serious brain contusion, endures a second head injury before the symptoms associated with the first injury have cleared.

Typically, the athlete suffers post-concussion symptoms after the first injury. Symptoms include visual, motor or sensory changes and difficulty with thought and memory

process. It may take days or weeks before the symptoms disappear. If an athlete returns to play before the symptoms are resolved and receives a second blow to the head, no matter how minor, rapid, excessive brain swelling is triggered and the athlete loses consciousness.

### **Prevention Is Primary**

For a catastrophic condition such as Second Impact Syndrome, prevention is of the utmost importance. An athlete who is symptomatic from a head injury **MUST NOT** participate in contact sports for at least one week after all cerebral symptoms have subsided. Whether it takes day, weeks or months to reach an asymptomatic state, the athlete *must never* be allowed to practice or compete while experiencing post concussion symptoms. Players, parents and coaches must understand this.

Records of the National Center of Catastrophic Sports Injury Research include cases of young athletes who did not report their cerebral symptoms, fearing they would not be allowed to compete. Not knowing they were jeopardizing their lives, they played with post-concussion symptoms and tragically developed Second Impact Syndrome.

Second Impact Syndrome is more common than previously thought and it is not confined to football. Parents should be aware of this deadly syndrome in sports like skateboarding, roller-blading or any other sports activity where head injury is at risk.

*Note: Vic, please place in highlight bar as it appears:*

*Duval County*  
**Guidelines for the  
Management of  
Concussion in Sports**

<b>Grade 1</b>	<b>Confusion without loss of consciousness, with or without brief amnesia.</b> Removal from contest; frequent examinations by a physician; may return to play after at least 20 minutes if all symptoms have disappeared.
<b>Grade 2</b>	<b>Concussion---brief loss of consciousness less than one minute; confusion or amnesia for greater than twenty minutes.</b> Remove from an event; medical evaluation by a physician; return to play one week after the athlete is asymptomatic at rest and during exertion.
<b>Grade 3</b>	<b>Concussion---prolonged unconsciousness greater than one minute; persistent mental status alterations or abnormal neurological examinations.</b> Athlete is removed from event and is transported to a hospital Or medical facility; CT, MRI scan when needed; may return To practice only after 2-4 weeks without symptoms.

