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# Concussions: Tips for Sideline Management

By Dev K. Mishra, M.D.

Concussion is a controversial and tricky medical topic, but any coach or parent who works with soccer players needs to know what to do if you are faced with a situation in which you suspect a player has had a concussion.

Let me first define what a concussion is: it's an alteration in brain function that occurs from a direct blow to the head. If a player takes direct contact to the head, the most common complaint after a concussion is confusion, and other very common problems include a short-term inability to recall events just prior and just after the moment of contact, headache, or light-headedness.



In more severe incidents there may be loss of consciousness (the player is "knocked out").

There seems to be a tendency to minimize the potential severity of a concussion -- we've all heard an announcer make an off-handed comment along the lines of "wow, he got his bell rung and I bet he's really going to have a headache tomorrow." Well, there is a growing base of very solid scientific evidence that even so-called "mild" concussions can be serious injuries.

## Some New Research on Concussions

A two-year study done in the men's and women's soccer programs from the Atlantic Coast Conference showed concussions happening the following ways: contact with an opponent's head (28%), elbow (14%), knee (3%), or foot (3%); the ball (24%); the ground (10%); concrete sidelines (3%); goalpost (3%); or a combination of objects (10%). Sixty-nine percent occurred in games; none resulted from intentional heading of the ball. In fact, there is no evidence at all that intentional heading of the ball results in any alterations in brain function.

Concussions are probably under-reported, in that many athletes will get a very mild concussion and not report it to the coach or trainer.

One Canadian study of youth soccer players ages 12-17 reported an amazing 48% of their athletes with symptoms of concussion at least one time during only one season. The ACC study reported about one concussion per team per season. The "real" number of concussions is still subject to debate.

Whether headgear reduces the number of concussions is also controversial. The Canadian study showed that the number of concussions was much less in the players wearing headgear, but there are not many other studies showing a reduction with headgear. We don't have consensus on headgear.

The most interesting new facts about concussion involve gender differences. It appears that female athletes do "worse" than males with concussions. An excellent study from the University of Pittsburgh showed that females reported more symptoms from concussions, they did worse on tests of reaction times, and there was a trend toward females doing worse on tests of memory and visual motor skills. These trends are supported by other scientific studies.

Findings reported at the 2nd International Symposium on Concussion in Sport are changing the way we treat

concussions. Among their findings are that with even simple concussions, the player should not return to play the same day, the player should be evaluated by a physician, and that return to play follows a stepwise process over 7 to 10 days.

### **What Team Physicians Do**

For trained team physicians, we look for responsiveness if the athlete is "down," then we assess their airway (whether there is any obstruction to breathing), whether they are able to breathe, and their circulation or heartbeat (these fundamentals are known as the "ABCs").

I then assess for any potential spine injury, and if it is suspected, we properly immobilize the athlete's spine to protect them from injury during movement. If there is no suspicion of a spine injury and the athlete is responsive enough to walk, we will go to the sideline where a thorough assessment is performed.

For me, the most critical part is being able to tell whether this is the same athlete I've known in practice -- are they at the baseline I've come to know. There are also several tests for orientation, memory, and concentration that we will typically perform.

### **What You Should Do on Your Field**

I believe that the new evidence we have points to even "mild" concussions as potentially serious injuries that demand great care. With that in mind, and also given that most coaches or parents are not medically trained, I recommend the following:

\*Look at the "ABCs" first -- if you have any question, call 911 immediately.

\*If you are concerned for a spine injury, do not move the athlete, call 911.

\*If the athlete is responsive but appears to be confused, you should suspect a concussion, remove the player from the game or practice and DO NOT let him or her return to the game or practice that day.

\*Someone should observe the player on the sideline for symptoms of confusion, headache, or light-headedness.

\*If those symptoms do not return to normal in 15 minutes, the player should be transported to the nearest Emergency Room.

\*For players whose symptoms return to normal in less than 15 minutes, I believe they should still be evaluated by a physician in the next day or two.

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