

CONCUSSION IN YOUTH SPORTS: A FACT SHEET FOR COACHES

MARLA SHAPIRO, PhD, NCSP
WWW.MBSHAPIRO.COM

CHILD & ADOLESCENT NEUROPSYCHOLOGY
SPORTS-CONCUSSION MANAGEMENT

FACTS:

- A concussion is a **brain injury**.
- Bell-ringers and dings are **concussions**.
- All concussions are **serious**.
- Concussions can occur without **loss of consciousness**.
- Concussions can occur without **memory loss**.
- Recognition and proper management of concussions when they **first occur** can prevent **further injury** or even **death**.
- Most athletes can **safely return to play** after recovery.
- Everyone recovers at their **own rate**.
- In general, the **younger** the athlete, the **longer** the recovery.
- Both **cognitive** and **physical** rest are the key to recovery.
- U.S. annual rate of sports/rec related concussions: **3.8 million**.

A **CONCUSSION** is caused by a bump or blow (usually to the head) that is hard enough to disrupt the metabolic functioning of the brain. A fall or collision with another player can cause a concussion.

It is important for athletes to report concussions because the cumulative effects of repeated concussions can result in permanent intellectual and cognitive changes.

We also know that youth appear to be more vulnerable to the effects of concussion, and that the amount of time needed to recover from concussion varies across individuals and is related to a number of factors, including age.

It is also known that REST is the best treatment after a concussion and helps the brain heal faster. If the athlete is still symptomatic, forcing him or her to exert either physically or mentally will likely lengthen the recovery period. This means abstaining from sports – including recess and PE – as well as any other activities that require sustained mental exertion, from test-taking to playing video games. Once an athlete is 100% symptom free at rest, a gradual return-to-play protocol is implemented to be sure that symptoms do not resurface with exertion. No athlete should ever return to play if concussion symptoms recur.

Management of concussion in youth is very important to prevent a rare but often fatal brain injury called **Second Impact Syndrome**. This Syndrome may occur when an athlete suffers a mild concussion and then within a short period of time (usually within one week) receives a second blow to the head. Rapid brain swelling can occur as the brain has not yet healed from the first hit. Increased intracranial pressure, if uncontrolled, can lead to death or severe neurological damage.

RECOGNIZING A CONCUSSION

To recognize a possible concussion, coaches should watch for:

A forceful blow to the head of an athlete that results in rapid movement of the head, **AND**

Any change in the athlete's behavior, thinking, and/or physical functioning

SIGNS AND SYMPTOMS

SIGNS OBSERVED BY COACHES & TEAMMATES

- Appears dazed or stunned
- Is confused about their position or the play
- Winces when heading the ball
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness, even briefly
- Shows behavior or personality changes
- Can't recall events before hit or fall
- Can't recall events after hit or fall

SYMPTOMS REPORTED BY ATHLETES

- Headache or "pressure" in head
- Nausea or vomiting
- Double or blurry vision
- Sensitive to lights or noises
- Dizziness, clumsiness, sleepiness
- Feels sluggish, hazy, foggy, groggy
- Attention, concentration problems
- Memory loss
- Confusion
- Just doesn't feel "right"

EDUCATION AND PREVENTION

As a coach, you can play a key role in preventing concussions by teaching safe playing techniques and encouraging your players to follow the rules of play. **Educate athletes and parents** regarding the signs, symptoms, dangers and potential long-term consequences of concussions. Explain your concerns about concussion and your expectations of safe play and symptom-reporting to athletes, parents, and assistant coaches. Encourage athletes to look out for teammates and to report suspected symptoms. Be sure players understand that **IT'S BETTER TO MISS ONE GAME THAN THE WHOLE SEASON!**

BASELINE PRE-SEASON TESTING and **POST-CONCUSSION NEUROCOGNITIVE TESTING** are also recommended to facilitate concussion management and return-to-play decisions in the event that an athlete sustains a concussion during the season. By obtaining pre-injury measures of skills that are sensitive to a concussion (such as verbal and non-verbal memory, reaction time, and processing speed), concussion specialists are able to determine more precisely when an athlete has recovered from the concussion and may be ready to return to play. Ongoing post-injury neurocognitive testing helps guide school-related planning and accommodations, in addition to general recovery management.

WHAT SHOULD YOU DO WHEN A CONCUSSION IS SUSPECTED?

1. Immediately **remove the athlete from play**. Look for the signs and symptoms of a concussion if your athlete has had a bump or blow to the head. Athletes who experience signs or symptoms of concussion should not be allowed to return to play that day. When in doubt, keep the athlete out of play, and even if symptoms resolve while the game is ongoing.
2. **Ensure that the athlete is evaluated right away by an appropriate health care professional**. Do not try to judge the severity of the injury yourself. Health care professionals have a number of methods that they can use to assess the severity of concussions. Immediate medical evaluation can help to rule out more serious injury. Neurocognitive testing by a neuropsychologist can evaluate the severity of the symptoms and facilitate management of daily activities (particularly school) while the athlete is recovering.
3. **Inform the athlete's parents or guardians about the possible concussion**. Make sure they know that the athlete should be seen by health care professionals experienced in evaluating concussions, and that both cognitive and physical rest will facilitate recovery.
4. **Allow the athlete to return to play only with permission from a health care professional with experience in evaluating concussions**. Recovery times vary across individuals, so you should be wary when permission is based on the amount of time spent "resting," rather than measures of the athlete's current symptoms and neurocognitive status. A repeat concussion that occurs before the brain recovers from the first can slow recovery or increase the likelihood of having long-term problems. Prevent common long-term problems and the rare **second impact syndrome** by delaying the athlete's return to activity until the player receives appropriate medical evaluation and approval for return to play.
5. Once cleared – when 100% symptom free – be sure that the athlete follows a **gradual return-to-play protocol**, with activity level gradually increased over a minimum of 5-7 days to be sure that symptoms do not recur or worsen with exertion and that recovery is complete.

For more information, see www.mbshapiro.com and www.cdc.gov/injury.

Dr. Shapiro is a licensed psychologist and Credentialed ImPACT Consultant in private practice in Rockville, MD. She will work with an athlete's primary care physician, allied health care professionals and coaches as needed in order to evaluate the effects of a concussion, develop a comprehensive concussion management plan, and determine when it is safe for the athlete to return to sports. Dr. Shapiro is available to work with schools, teams and leagues to provide concussion education to coaches, parents and athletes, and to implement baseline testing programs. In addition to concussion management, Dr. Shapiro's practice also provides comprehensive neuropsychological evaluations, advocacy, consultation, and intervention. Contact Dr. Shapiro at (301) 926-1210 or mbs@mbshapiro.com.

*Information in this handout was adapted from **Heads Up: Concussion in Youth Sports**, published by the CDC.*