A Fact Sheet for **COACHES**

To download the coaches fact sheet in Spanish, please visit **www.cdc.gov/ConcussionInYouthSports**

Para descargar la hoja informativa para los entrenadores en español, por favor visite **www.cdc.gov/ConcussionInYouthSports**

THE FACTS

- A concussion is a **brain injury**.
- All concussions are **serious**.
- Concussions can occur **without** loss of consciousness.
- Concussions can occur **in any sport**.
- Recognition and proper management of concussions when they **first occur** can help prevent further injury or even death.

WHAT IS A CONCUSSION?

Concussion, a type of traumatic brain injury, is caused by a bump, blow, or jolt to the head. Concussions can also occur from a blow to the body that causes the head and brain to move quickly back and forth—causing the brain to bounce around or twist within the skull.

This sudden movement of the brain can cause stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain.

HOW CAN I RECOGNIZE A POSSIBLE CONCUSSION?

To help spot a concussion, you should watch for and ask others to report the following two things:

1. A forceful bump, blow, or jolt to the head or body that results in rapid movement of the head.
2. Any concussion signs or symptoms, such as a change in the athlete's behavior, thinking, or physical functioning.

Signs and symptoms of concussion generally show up soon after the injury. But the full effect of the injury may not be noticeable at first. For example, in the first few minutes the athlete might be slightly confused or appear a little bit dazed, but an hour later he or she can't recall coming to the practice or game.

You should repeatedly check for signs of concussion and also tell parents what to watch out for at home. Any worsening of concussion signs or symptoms indicates a medical emergency.

April 2013

It's better to miss one game than the whole season.

SIGNS AND SYMPTOMS[1]

SIGNS OBSERVED BY COACHING STAFF

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior, or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

SYMPTOMS REPORTED BY ATHLETE

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Just "not feeling right" or "feeling down"

Adapted from Lovell et al. 2004

WHAT ARE CONCUSSION DANGER SIGNS?

In rare cases, a dangerous blood clot may form on the brain in an athlete with a concussion and crowd the brain against the skull. Call 9-1-1 or take the athlete to the emergency department right away if after a bump, blow, or jolt to the head or body the athlete exhibits one or more of the following danger signs:

- One pupil larger than the other
- Is drowsy or cannot be awakened
- A headache that gets worse
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Cannot recognize people or places
- Becomes increasingly confused, restless, or agitated
- Has unusual behavior
- Loses consciousness (even a brief loss of consciousness should be taken seriously)

WHY SHOULD I BE CONCERNED ABOUT CONCUSSIONS?

Most athletes with a concussion will recover quickly and fully. But for some athletes, signs and symptoms of concussion can last for days, weeks, or longer.

If an athlete has a concussion, his or her brain needs time to heal. A repeat concussion that occurs before the brain recovers from the first—usually within a short time period (hours, days, weeks)—can slow recovery or increase the chances for long-term problems. In rare cases, repeat concussions can result in brain swelling or permanent brain damage. It can even be fatal.[2,3]

HOW CAN I HELP ATHLETES TO RETURN TO PLAY GRADUALLY?

An athlete should return to sports practices under the supervision of an appropriate health care professional. When available, be sure to work closely with your team's certified athletic trainer.

Below are five gradual steps that you and the health care professional should follow to help safely return an athlete to play. Remember, this is a gradual process. These steps should not be completed in one day, but instead over days, weeks, or months.

BASELINE: Athletes should not have any concussion symptoms. Athletes should only progress to the next step if they do not have any symptoms at the current step.

STEP 1: Begin with light aerobic exercise only to increase an athlete's heart rate. This means about 5 to 10 minutes on an exercise bike, walking, or light jogging. No weight lifting at this point.

STEP 2: Continue with activities to increase an athlete's heart rate with body or head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting (reduced time and/or reduced weight from your typical routine).

STEP 3: Add heavy non-contact physical activity, such as sprinting/running, high-intensity stationary biking, regular weightlifting routine, non-contact sport-specific drills (in 3 planes of movement).

STEP 4: Athlete may return to practice and full contact (if appropriate for the sport) in controlled practice.

STEP 5: Athlete may return to competition.

If an athlete's symptoms come back or she or he gets new symptoms when becoming more active at any step, this is a sign that the athlete is pushing him or herself too hard. The athlete should stop these activities and the athlete's health care provider should be contacted. After more rest and no concussion symptoms, the athlete should begin at the previous step.

PREVENTION AND PREPARATION

Insist that safety comes first. To help minimize the risks for concussion or other serious brain injuries:

- Ensure that athletes follow the rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Wearing a helmet is a must to reduce the risk of severe brain injury and skull fracture.
  - However, helmets are not designed to prevent concussions. There is no "concussion-proof" helmet. So, even with a helmet, it is important for kids and teens to avoid hits to the head.

Check with your league, school, or district about concussion policies. Concussion policy statements can be developed to include:

- The school or league's commitment to safety
- A brief description of concussion
- Information on when athletes can safely return to school and play.

Parents and athletes should sign the concussion policy statement at the beginning of the season.

ACTION PLAN

WHAT SHOULD I DO WHEN A CONCUSSION IS SUSPECTED?

No matter whether the athlete is a key member of the team or the game is about to end, an athlete with a suspected concussion should be immediately removed from play. To help you know how to respond, follow the Heads Up four-step action plan:

1. **REMOVE THE ATHLETE FROM PLAY.** Look for signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head or body. When in doubt, sit them out!

2. **ENSURE THAT THE ATHLETE IS EVALUATED 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. As a coach, recording the following information can help health care professionals in assessing the athlete after the injury:

   - Cause of the injury and force of the hit or blow to the head or body
   - Any loss of consciousness (passed out/knocked out) and if so, for how long
   - Any memory loss immediately following the injury
   - Any seizures immediately following the injury
   - Number of previous concussions (if any)

3. **INFORM THE ATHLETE'S PARENTS OR GUARDIANS.** Let them know about the possible concussion and give them the Heads Up fact sheet for parents. This fact sheet can help parents monitor the athlete for signs or symptoms that appear or get worse once the athlete is at home or returns to school.

4. **KEEP THE ATHLETE OUT OF PLAY.** An athlete should be removed from play the day of the injury and until an appropriate health care professional says they are symptom-free and it's OK to return to play. After you remove an athlete with a suspected concussion from practice or play, the decision about return to practice or play is a medical decision.

REFERENCES

1. Lovell MR, Collins MW, Iverson GL, Johnston KM, Bradley JP. Grade 1 or "ding" concussions in high school athletes. *The American Journal of Sports Medicine* 2004; 32(1):47-54.

2. Institute of Medicine (US). Is soccer bad for children's heads? Summary of the IOM Workshop on Neuropsychological Consequences of Head Impact in Youth Soccer. Washington (DC): National Academies Press; 2002.

3. Centers for Disease Control and Prevention (CDC). Sports-related recurrent brain injuries-United States. *Morbidity and Mortality Weekly Report* 1997; 46(10):224-227. Available at: www.cdc.gov/mmwr/preview/mmwrhtml/00046702.htm.

If you think your athlete has a concussion...
take him/her out of play and seek the advice of a health care professional experienced in evaluating for concussion.

For more information, visit **www.cdc.gov/Concussion**.