

THE FACTS

- All concussions are *serious*.
- Most concussions occur *without* loss of consciousness.
- Recognition and proper response to concussions when they *first occur* can help prevent further injury or even death.

There's no doubt about it: sports are a great way for kids and teens to stay healthy while learning important team-building skills. But there are risks to pushing the limits of speed, strength, and endurance. And athletes who push the limits sometimes don't recognize their own *limitations*—especially when they've had a concussion.

That's where you come in. It's up to you, as a coach, to help recognize concussion and make the call to pull an athlete off of the field if you think an athlete might have one. Playing with a concussion can lead to long-term problems. It can even be *fatal*.

What Is a Concussion?

A bump, blow, or jolt to the head can cause a concussion, a type of traumatic brain injury. Concussions can also occur from a blow to the body that causes the head and brain to move rapidly back and forth—literally causing the brain to bounce around or twist within the skull. This sudden movement of the brain causes stretching, damaging the cells and creating chemical changes in the brain. Once these changes occur, the brain is more vulnerable to further injury and sensitive to any increased stress until it fully recovers.



Unlike a broken ankle, or other injuries you can feel with your hands, or see on an x-ray, a concussion is a disruption of how the brain works. It is **not** a "bruise to the brain."



How Can I Recognize a Possible Concussion?

On the football field, concussions can result from a fall or from players colliding with each other, the ground, or an obstacle, such as a goalpost. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

As a coach you are on the front line in identifying an athlete with a suspected concussion. You know your athletes well and can recognize when something is off—even when the player doesn't know it or doesn't want to admit it.

Sometimes people wrongly believe that it shows strength and courage to play while injured. Discourage others from pressuring injured athletes to play. Some athletes may also try to hide their symptoms. Don't let your athlete convince you that he is "just fine" or that he can "tough it out." Emphasize to athletes and parents that playing with a concussion is dangerous.

Remember, you can't see a concussion, like you can see a broken ankle, and there is no one single indicator for concussion. Recognizing a concussion requires watching for different types of signs or symptoms.

So to help recognize a concussion, you should watch for and ask others to report the following two things among your athletes:

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

What Are the Signs and Symptoms of Concussion?

Athletes who experience **one or more** of the signs and symptoms listed below, or who report that they just “don't feel right,” after a bump, blow, or jolt to the head or body may have a concussion.

SIGNS OBSERVED BY COACHING STAFF	SYMPTOMS REPORTED BY ATHLETE
<ul style="list-style-type: none"> • Appears dazed or stunned (such as glassy eyes) • Is confused about assignment or position • Forgets an instruction or play • Is unsure of score or opponent • Moves clumsily or poor balance • Answers questions slowly • Loses consciousness (<i>even briefly</i>) • Shows mood, behavior, or personality changes • Can't recall events <i>prior</i> to hit or fall • Can't recall events <i>after</i> hit or fall 	<ul style="list-style-type: none"> • Headache or “pressure” in head • Nausea or vomiting • Balance problems or dizziness • Double or blurry vision • Sensitivity to light or noise • Feeling sluggish, hazy, foggy, or groggy • Concentration or memory problems • Confusion • Does not “feel right” or is “feeling down”

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 they can't recall coming to the practice or game.



So assess the player, then assess the player again, then re-assess the player even later. Make sure that the athlete is supervised for at least one or two hours after you suspect a concussion. Any worsening of concussion signs or symptoms indicates a medical emergency.

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.

So why is it so important for you to remove an athlete from play?

If an athlete has a concussion, his 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. They can even be *fatal*.

Did You Know?

- Athletes who have ever had a concussion are at increased risk for another concussion.
- Young children and teens are more likely to get a concussion and take longer to recover than adults.

What Are Concussion Danger Signs?

In rare cases, a dangerous blood clot may form on the brain of 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 he 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 (a brief loss of consciousness should be taken seriously)

What Should I Do If a Concussion Is Suspected?

You know that one of the keys to being a good coach is keeping your athletes safe and preparing them for the future—whether it is learning good teamwork or honing their athletic skills. But you also know that there are *unacceptable risks in sports*, especially when it comes to the brain.



So 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 if you suspect that an athlete has a concussion:

- 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 about the possible concussion and give them information on concussion.** This fact sheet can help parents monitor the athlete for sign or symptoms that appear or get worse once the athlete is at home or returns to school.
- 4. Keep the athlete out of 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 when to return to practice or play is a medical decision.

How Can I Help Athletes to Return to Play Gradually?

Rest is very important after a concussion because it helps the brain to heal. After a concussion the torn or stretched brain cells need the body’s energy to heal. So the more energy an athlete uses doing activities, the less energy that goes to help the brain heal.

That’s why ignoring concussion symptoms and trying to “tough it out” often makes symptoms worse. For example, exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse. So only when an athlete’s symptoms have reduced significantly, in consultation with their health care professional, should he slowly and gradually return to daily activities, such as school. Physical **and** cognitive activities—such as concentration and learning—should be carefully managed and monitored by a health care professional.



Progressive Return to Activity Program:

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.

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 weight lifting (reduced time and/or reduced weight from the athlete's typical routine).

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

Step 4: Athlete may return to practice and full contact in controlled practice.

Step 5: Athlete may return to football competition.

As a coach, you should pay careful attention to an athlete's symptoms, as well as the athlete's thinking and concentration skills at each stage of activity. Any symptoms should be reported to their health care provider. If an athlete's symptoms come back or he gets new symptoms as he becomes more active at any stage, this is a sign that the athlete is pushing himself too hard. An athlete should only move to the next level of activity if he does not experience any symptoms at each level. If an athlete's symptoms return, he should stop these activities and the athlete's health care provider should be contacted. After more rest and an okay from his health care provider, the athlete should return to the first level and he should then restart the program gradually.

How Can I Help Prevent and Prepare for Concussions?

Insist that safety comes first. No one technique or piece of safety equipment is 100 percent effective in preventing concussion, but there are things you can do to help minimize the risks for concussion and other injuries. For example, to help prevent injuries, ensure that athletes:

- Practice "Heads Up" football—never lower your head during a hit.
- Use proper techniques in blocking and tackling. Learn and apply the fundamentals.
- Follow the rules of play and practice good sportsmanship and self-control at all times.
- Wear properly-fitted helmets and protective equipment. Helmets and other protective equipment should be well-maintained and be worn consistently and correctly. This includes buckling the chin strap on helmets at all times.
- Understand that helmets can help protect their head and brain, but they are not 100 percent effective in preventing concussions.

Check with your league, school, or district about

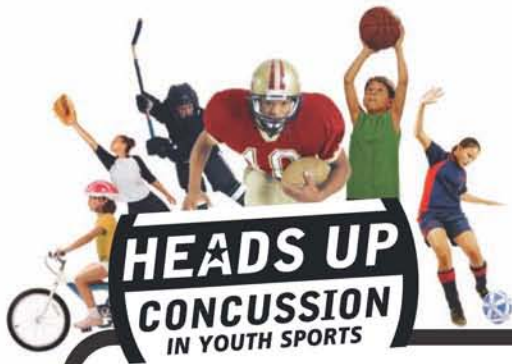
concussion policies. Concussion policy statements can be developed to include the school or league's commitment to safety, a brief description of concussion, and information on when athletes can safely return to play. Parents and athletes should sign the concussion policy statement at the beginning of the football season.

Involve and get support from other school or league officials—such as principals, certified athletic trainers, other coaches, school nurses, and parent-teacher associations—to help ensure that school or league rules and concussion policies are in place before the first football practice.



WHEN IN DOUBT, SIT THEM OUT

For more information and safety resources, visit:
www.cdc.gov/Concussion or www.usafootball.com.



HEADS UP CONCUSSION IN YOUTH SPORTS

A Fact Sheet for PARENTS

WHAT IS A CONCUSSION?

A concussion is a brain injury. Concussions are caused by a bump or blow to the head. Even a “ding,” “getting your bell rung,” or what seems to be a mild bump or blow to the head can be serious.

You can’t see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

WHAT ARE THE SIGNS AND SYMPTOMS OF A CONCUSSION?

Signs Observed by Parents or Guardians

If your child has experienced a bump or blow to the head during a game or practice, look for any of the following signs and symptoms of a concussion:

- 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 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
- Does not “feel right”

HOW CAN YOU HELP YOUR CHILD PREVENT A CONCUSSION?

Every sport is different, but there are steps your children can take to protect themselves from concussion.

- Ensure that they follow their coach’s rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Make sure they wear the right protective equipment for their activity (such as helmets, padding, shin guards, and eye and mouth guards). Protective equipment should fit properly, be well maintained, and be worn consistently and correctly.
- Learn the signs and symptoms of a concussion.

WHAT SHOULD YOU DO IF YOU THINK YOUR CHILD HAS A CONCUSSION?

- 1. Seek medical attention right away.** A health care professional will be able to decide how serious the concussion is and when it is safe for your child to return to sports.
- 2. Keep your child out of play.** Concussions take time to heal. Don’t let your child return to play until a health care professional says it’s OK. Children who return to play too soon—while the brain is still healing—risk a greater chance of having a second concussion. Second or later concussions can be very serious. They can cause permanent brain damage, affecting your child for a lifetime.
- 3. Tell your child’s coach about any recent concussion.** Coaches should know if your child had a recent concussion in ANY sport. Your child’s coach may not know about a concussion your child received in another sport or activity unless you tell the coach.

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

If you think your athlete has sustained a concussion:

- Take him/her out of play
- Contact your physician

CALL 202-476-2429



www.childrensnational.org/score

SIGNS OBSERVED BY COACH/PARENT

- Appears dazed or stunned
- Is confused about assignments or position
- Forgets sports plays
- 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 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
- Balances problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Does not "feel right"



202-476-2429



Concussion

RECOGNITION & RESPONSE™
COACH & PARENT VERSION

Suspect a Concussion?

Let the Concussion Recognition & Response™ App help you decide how to proceed . . .

Assess whether an individual is exhibiting/reporting signs and symptoms of a suspected concussion with the Concussion Recognition & Response app. In less than 5 minutes, coaches and parents can go through a checklist of possible signs/symptoms to determine whether to remove the child from play and the need for further medical examination. The app also provides home symptom monitoring for post-injury follow up.

Developed by concussion experts Gerard A. Gioia, PhD, and Jason Mihalik, PhD, the app is based on information from the CDC's "Heads Up: Concussion in Youth Sports" program. Guiding the user through a list of possible symptoms, the app helps coaches and parents make informed decisions about next steps following a suspected concussion.

Concussion Recognition and Response. Guided questions help determine the likelihood of a suspected concussion based on observations by the parent or coach and/or symptoms reported by the athlete. A GPS records where the incident took place; a camera enables you to photograph the injured party; email allows you to forward accurate information and documentation to a health care provider.

Home Symptom Monitoring (HSM). After follow-up with health care providers, the app enables a parent or caregiver to record a child's symptoms through periodic evaluations, which are tracked during the hours, days, or weeks following an injury. This information can be emailed to the health care professionals, providing an update on the athlete's recovery.

Return-to-Play Guide. Based on information provided by the CDC, the Return-to-Play Guide helps to protect children and athletes from further injury by guiding them through a daily exercise routine that assists in their ability to return to play. Through a five-step, tiered workout routine and in collaboration with the child's health care provider, parents and coaches can ensure that the child is able to handle added exercise without further injury or discomfort.

ACE Post-Concussion Home/School Instructions. The app's concussion information section provides general information about concussions along with targeted answers to Frequently Asked Questions for parents and coaches.

Customized themes. Through an in-app purchase, you can customize the look-and-feel of the app with sport-related themes. Currently available for purchase are hockey, football, and lacrosse—with more coming soon!

For your iPhone®, iPad®, iPod® Touch, Android device or tablet!

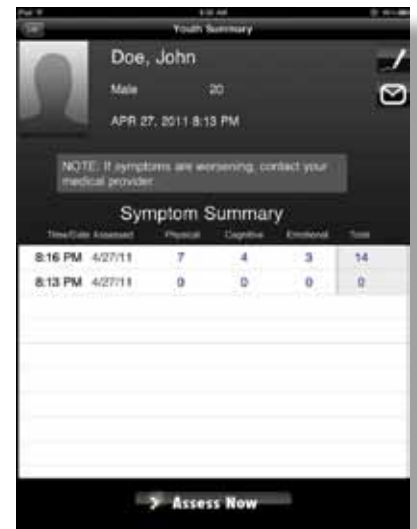
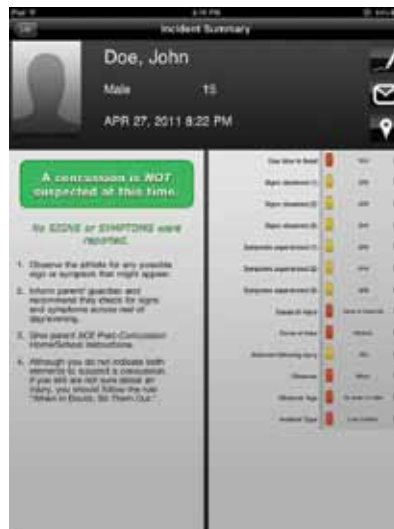
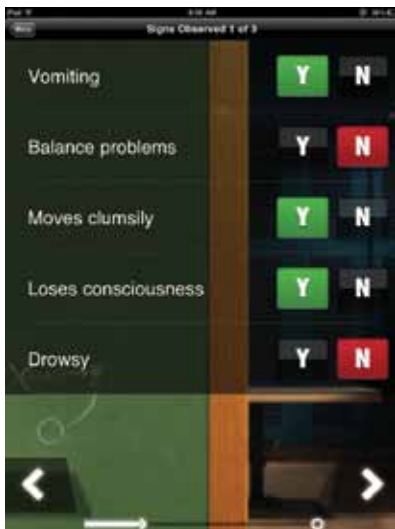
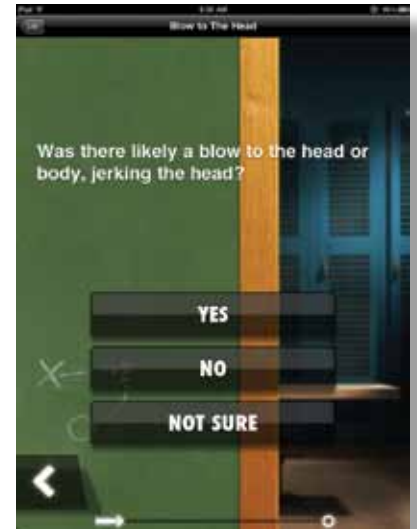
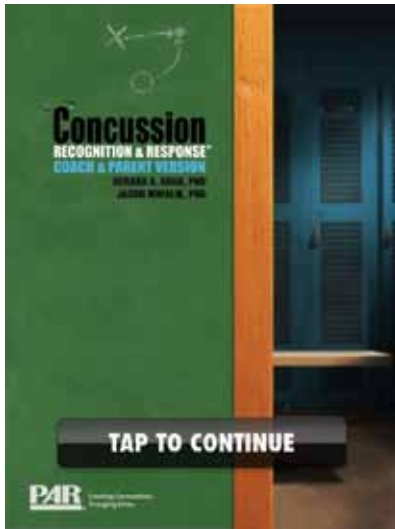
Must have iOS version 4.0 or higher on your iPod® Touch, iPhone®, iPad® or Android version 2.1 or higher for your mobile device or tablet.

Available soon at the Apple® App StoreSM or Android Marketplace!

See screenshots →

15% of all proceeds from the sale of this app will be donated to support concussion research!

(Donations go directly to the Children's National Medical Center and the Matthew A. Gfeller Sport-Related Traumatic Brain Injury Research Center.)





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Concussion Resources for Coaches & Parents

The following resources are aimed at helping and educating coaches and parents of youth and high school level athletes about concussions. Other useful and informative resources can be found on the **SCORE website**: <http://childrensnational.org/score/>.

CDC Concussion Resources: <http://cdc.gov/concussion/>

Heads Up: Youth Sports: <http://www.cdc.gov/concussion/HeadsUp/youth.html>

Heads Up: High School Sports: http://www.cdc.gov/concussion/HeadsUp/high_school.html

Video Resources:

Name:	Organization	Sports Orientation	Video Length	Link:
Heads Up Online Training Course	CDC	Youth Sports- includes variety of sports	~ 40 min (total with tests)	http://cdc.gov/concussion/HeadsUp/online_training.html
Concussion Awareness	USA Football, CDC	Football	12 min	http://videos.usafootball.com/video/Concussion-Safety
Concussions in Football: Signs, Symptoms and Playing Safe	NAN, NATA, NFL	Football	12 min	http://www.nanonline.org/NAN/Home/Home/FootballVideo.aspx
Concussions in Hockey: Signs, Symptoms and Playing Safe	NAN, NATA, NHL, NHLPA	Hockey	12 min	http://www.nanonline.org/NAN/Home/Home/HockeyVideo.aspx
Concussions in Lacrosse: Signs, Symptoms and Playing Safe	NAN, NATA, US Lacrosse	Lacrosse	12 min	http://www.uslacrosse.org/UtilityNav/AboutTheSport/HealthSafety/ConcussionAwareness/Video.aspx
ACTIVE: Athletic Concussion Training for Coaches	Oregon Center for Applied Science	Youth: Multiple sports	20 min	http://activecoach.orcasinc.com/
Youth Sports- Head Injury Guidelines and Procedures	WIAA, Harborview Medical Center, UW Medicine, Seattle Children's, BIAWA	Youth: Multiple sports	14 min	http://www.mywiaa.org/lystedt/default.htm
Concussion in Sports- What you Need to Know	NFHS, CDC	High School; multiple sports	~25 min	http://www.nfhslearn.com/electiveDetail.aspx?courseID=15000
Play Smart; Understanding Sports Concussion	Brain Injury Assoc- Massachusetts	Multiple sports	2 separate videos (Students and Adults): 12 min each	http://www.biama.org/playsmart.html

If you think your athlete has sustained a concussion...don't assess it yourself.

Take him/her out of play, and seek the advice of a health care professional.

WHEN IN DOUBT, SIT THEM OUT!