Concussions are traumatic brain injuries that must be taken seriously. Concussions can occur in any sport or recreational activity. That is why all coaches, parents, and athletes need to learn concussion signs and symptoms and what to do if a concussion occurs. Below you will find information detailing concussion recognition, management and prevention. For more information please visit the Centers for Disease Control and Prevention's Concussion in Sports website at: http://www.cdc.gov/concussion/sports/index.html

1. What is a concussion?

A concussion is a brain injury. Concussions are caused by a bump, blow, or jolt to the head or body. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.¹ An athlete does not have to lose consciousness or be "knocked out" to receive a concussion.² It is estimated that over 140,000 high school athletes across the United States suffer a concussion each year.³

2. What signs should I look for?

- 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 fall⁴

³NFHS 2009-10 High School Sports-Related Injury Surveillance Study. Quote available at: http://www.cdc.gov/concussion/pdf/parents_Eng.pdf. ⁴Centers for Disease Control and Prevention (CDC), "Heads Up: Concussion in Youth Sports", A Fact Sheet for Parents. Available at: http://www.cdc.gov/concussion/pdf/parents_Eng.pdf.

¹Centers for Disease Control and Prevention (CDC), "Heads Up: Concussion in Youth Sports", A Fact Sheet for Parents. Available at: http://www.cdc.gov/concussion/pdf/parents_Eng.pdf.

²National Federation of State High School Associations (NFHS), "A Parent's Guide to Concussion in Youth Sports" April 2010. Available at: http://www.chsaa.org/sports/medicine/A%20parents%20guide.pdf.

3. What should I do if I think my child has had a concussion?

"When in doubt, sit them out." If an athlete is suspected of having a concussion, he or she must be immediately removed from play, be it a game or practice. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death. Parents and coaches are not expected to be able to "diagnose" a concussion, as that is the job of a medical professional. However, you must be aware of the signs and symptoms of a concussion and if you are suspicious, then your child must stop playing.

All athletes who sustain a concussion need to be evaluated by a health care professional who is familiar with sports concussions. You should call your child's physician and explain what has happened and follow your physician's instructions. If your child is vomiting, has a severe headache, is having difficulty staying awake or answering simple questions he or she should be taken to the emergency department immediately.⁵

4. How long do the symptoms of a concussion usually last?

The symptoms of a concussion will usually go away within one week of the initial injury. You should anticipate that your child will likely be out of sports for about two weeks following a concussion. However, in some cases symptoms may last for several weeks, or even months. Symptoms such as headache, memory problems, poor concentration, and mood changes can interfere with school, work, and social interactions. The potential for such long-term symptoms indicates the need for careful management of all concussions.⁶

5. How many concussions can an athlete have before he or she should stop playing sports?

There is no "magic number" of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances surrounding each individual injury, such as how the injury happened and the length of the symptoms following the concussion, are very important and must be considered when assessing an athlete's risk for further and potentially more serious concussions. The decision to "retire" from sports is a decision best reached following a complete evaluation by your child's primary care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussion.⁷

- ⁶ National Federation of State High School Associations, "A Parent's Guide to Concussion in Sports", April 2010. Available at: http://www.chsaa.org/sports/medicine/A%20parents%20guide.pdf.
- ⁷ National Federation of State High School Associations, "A Parent's Guide to Concussion in Sports", April 2010. Available at: http://www.chsaa.org/sports/medicine/A%20parents%20guide.pdf.

⁵ National Federation of State High School Associations, "A Parent's Guide to Concussion in Sports", April 2010. Available at: http://www.chsaa.org/sports/medicine/A%20parents%20guide.pdf.

6. Is a "CAT scan" or MRI needed to diagnose a concussion? should I do if I think my child has had a concussion?

Diagnostic testing, which includes CT ("CAT") and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening brain injuries (e.g. skull fracture, bleeding, swelling), they are not normally utilized, even by athletes who have sustained severe concussions. A concussion is diagnosed based upon the athlete's story of the injury and the health care provider's physical examination.⁸

7. What is the best treatment to help my child recover more quickly from a concussion?

The best treatment for a concussion is rest. There are no medications that can speed the recovery from a concussion. Exposure to loud noises, bright lights, computers, video games, television and phones (including text messaging) all may worsen the symptoms of a concussion. You should allow your child to rest as much as possible in the days following a concussion. As the symptoms lessen, you can allow increased use of computers, phone, video games, etc., but the access must be lessened if symptoms worsen.⁹

8. Can helmets prevent concussions?

No technique or piece of 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:

- A Practice "Heads Up" football—never lower your head during a hit.
- Guller 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.¹⁰

http://www.chsaa.org/sports/medicine/A%20parents%20guide.pdf.

⁸ National Federation of State High School Associations, "A Parent's Guide to Concussion in Sports", April 2010. Available at: http://www.chsaa.org/sports/medicine/A%20parents%20guide.pdf.

⁹ National Federation of State High School Associations, "A Parent's Guide to Concussion in Sports", April 2010. Available at:

¹⁰ USA Football and Centers for Disease Control and Prevention "Heads Up: Concussion in Football" Fact Sheet for Coaches. Available at: http://www.cdc.gov/concussion/HeadsUp/pdf/Football_Fact_Sheet_Coaches-a.pdf.

9. How do I know if the helmet is properly fitted?

It's crucial that athletes have comfortable, reliable, high quality protective equipment, and the helmet is probably the most important piece of gear they wear on the field. A helmet should fit snugly and securely, and be well-maintained. The three keys to properly fitting a helmet are:

- 1) Proper head measurement;
- 2) Adjustment as needed through inflation, if applicable, and;
- 3) Confirmation of fit through helmet checks

Begin the fit process by placing a measuring tape around the athlete's head at the widest point. The tape should be 1 inch above the evebrow in front and on the Occipital lobe in the back. The tape should be over the hair, but check to make certain it is not over the ears. Pull the tape snug and take the measurement. To be certain of what snug is, first pull the tape verifiably tight then back off just a little without letting it become loose. Record the measurement on a permanent record for the athlete, which you'll use to confirm which size helmet the athlete requires.

Next, the athlete should put the helmet on and confirm the front of the helmet is one inch above the eye brow. Use your fingers to feel just under the posterior rim of the helmet. The padding should be in firm. but in comfortable contact with the head. Then, ensure proper fit through helmet and jaw pad inflation. If there are any gaps or if the helmet is too tight. follow the manufacturer's quidelines to make any necessary adjustments.

Finally, conduct checks to test for head movement as the helmet should never be moving independently of the head. The chin strap should also be snug and in place. A properly fit helmet optimizes the helmet's protective benefits and helps build the player's confidence by maximizing visibility, comfort and hearing. It's important to regularly check for proper fit and conduct mid-season equipment checks, both of which advance the protective benefits of the helmet.

10. What can I do as a parent?

- Both you and your child should learn to recognize the "Signs and Symptoms" of concussion as listed above.
- Teach your child to tell the coaching staff if he or she experiences such symptoms.
- Emphasize to administrators, coaches, teachers, and other parents your concerns and expectations about concussion and safe play.
- Teach your child to tell the coaching staff if he or she suspects that a teammate has a concussion.
- Monitor sports equipment for safety, fit, and maintenance.
- Ask teachers to monitor any decrease in grades or changes in behavior that could indicate concussion.
- Report concussions that occurred during the school year to appropriate school staff. This will help in monitoring injured athletes as they move to the next season's sports.¹¹