

Quick Facts >

1. ALWAYS remove athletes immediately after suspecting a concussion. Do NOT allow return to play the same day with a concussion.
2. Athletes do NOT have to be knocked out to have a concussion. 90% of concussions occur without a loss of consciousness.
3. CT scans don't diagnose concussions. Everyone with a concussion has a normal CT scan.
4. It is OK to let someone fall asleep after being hit in the head. With careful monitoring, rest and sleep will be helpful.
5. "Warm Up for Return" is a graded process that requires a minimum of five days.
6. 9 out of 10 athletes will be back to normal within two weeks. They may miss a few games.
7. Kansas law requires a physician's signature (MD/DO) to "Return to Play."
8. Athletes who return to full contact too early risk Second Impact Syndrome, a rare but devastating brain injury that may result in death.
9. Concussions can affect driving, school work, sleep, emotions, relationships and self worth.
10. The "game plan" is not just about returning an athlete to their sport; it is about returning the person back to their life.

Recognition >

SIGNS OBSERVED BY OTHERS

- Appears dazed or stunned
- Is confused about assignment
- Forgets plays
- Is unsure of game, score or opponent
- Moves clumsily or has slurred speech
- Answers questions slowly
- Loses consciousness
- Shows behavior or personality changes
- Cannot recall events prior to hit
- Cannot recall events after hit

SYMPTOMS REPORTED BY ATHLETE

- Headache
- Nausea or vomiting
- Balance problems or dizziness
- Double or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish or drowsy
- Feeling foggy or groggy
- Concentration or memory problems
- Confusion

Definition >

A **concussion** is the most common form of head injury suffered by athletes. It is a form of traumatic brain injury that occurs when the brain is violently jarred back and forth or rotated inside the skull as a result of a blow to the head or body. This can "stun" the brain cells or even result in their death. You **do not** need to lose consciousness to suffer a concussion.

Any athlete in motion is at risk for a concussion. This may occur in any sport, to boys and girls alike. Symptoms may appear immediately or develop over several days. They may last a few days to several months and interfere with schoolwork and social life.

Management >

Who is involved in monitoring the student athlete's recovery after a concussion?

Any student athlete suspected of sustaining a concussion should be immediately pulled out of practice or the game to avoid further aggravating the injury. The student should be closely monitored by the coach, athletic trainer and/or a physician (MD/DO) until his/her symptoms return to baseline.

Parents are asked to monitor the student for increasing symptoms. They also are asked to alter the student's environment to allow as much rest as possible and to decrease exposure to loud noises or bright lights and external stimuli, such as television, texting, reading and computer use, while the brain is healing.

Symptoms can affect the student's emotions, sleep and ability to concentrate. Therefore, adequate healing time is imperative. Once the student returns to classes, school personnel play an important role in monitoring the student's recovery.

Which school personnel should be involved?

The student's teachers along with the school nurse, school counselor, school psychologist and administrators as needed should be informed about the student's concussion. In addition, they should be aware of the types of symptoms related to a concussion (see "Recognition" section) and look for any cognitive deficits the student may experience.

What symptoms may impact school performance?

Headaches, fatigue, irritability and decreased tolerance of stress are potential symptoms. Cognitive deficits, including difficulty paying attention without distraction, slowed speed of cognitive processing and difficulty learning and remembering information, could impact an injured student's schoolwork.

What accommodations may help the student return to school?

Initially, the student may require accommodations to allow for healing and to facilitate learning and adequate performance in the classroom. A plan aimed at the student's particular symptoms and rate of recovery should be developed in consultation with school personnel, coach, trainer, parents and the student.

- The student may need to stay home for a few days to rest and to allow for maximal healing.
- Upon returning to school, the student may need to initially attend partial days if he/she fatigues easily and develops headaches that require physical and cognitive rest. This can be done with partial days or shortened classes with rest breaks between classes.
- If the student has difficulty focusing and maintaining attention and/or slowed speed of processing, he/she may benefit from extended time to complete coursework and tests.
- If the student struggles to complete coursework with extra time allowed, the amount of coursework and homework may need to be reduced.

- The student also may benefit from information repeated and/or supplied in a written form to compensate for a slowed ability to follow along in class.
- The student should not participate in any strenuous activity such as physical education class. Return to PE should coincide with the medical authorization for the progression back to play.
- The student should not complete any standardized testing or significant examinations during recovery as results may be skewed and not reflect the student's true abilities.
- For more information, consult KSCP's Return to Learn Safe Progression guide.
- Use KSCP's **Return to Learn Classroom Rx** ③ in coordination with the athlete's physician.
- Develop a school concussion Emergency Action Plan or a School Concussion Management Plan so you are prepared before a concussion occurs. An excellent guide to developing a School Concussion Management Plan can be found at: www.nationwidechildrens.org/academic-concussion-management

What should school personnel look for that could require additional medical evaluation?

The student's symptoms should gradually improve, though each individual improves at a different rate. School personnel should look for any increase in symptoms and any new symptoms that occur when the student returns to classroom participation, as these may represent complications in recovery. If these occur, the student's parents should be alerted along with the treating physician.

Concerns >

What are possible complications from a concussion?

While 90% of athletes are back to their baseline within 7-10 days, there are 10% of athletes who will experience prolonged symptoms or other complications.

This is called **Post-Concussive Syndrome** and occurs when symptoms from a concussion are prolonged. Difficulty with concentration, memory and persistent headaches are common symptoms.

Talk with the physician if symptoms last longer than a couple of weeks. A referral to a specialist for further evaluation and treatment may be required.

What might happen if the athlete returns to his/her sport too soon?

If an athlete receives another blow while still recovering from a first concussion, he/she could develop **Second Impact Syndrome**. This syndrome can cause serious life-long health difficulties or, in rare situations, even result in death.

This possibility is a major reason why health care professionals are concerned about carefully treating any concussion. While the brain is still healing, it may not be able to compensate and protect itself from a new injury.

SCORE Card >

The first health care professional that evaluates the student athlete will fill out a concussion evaluation tool called **SCORE Card** ①. This contains important information that the treating physician will use to determine how to care for the student's concussion and monitor his/her progression from the injury.

Return to Play >

When can the student athlete start playing his/her sport again?

Only consider starting the Warm-up to Play progression once your student athlete is fully participating in school again without any symptoms. The student's return to sports will be a step-by-step process. Once he/she has no symptoms or signs of concussion and is doing well in school and daily activities, a medical authorization will start a **Warm-up for Return** ④. This process should be monitored by an athletic trainer, coach or designated school official.

Encourage the student to tell you, their parents, the athletic staff or physician immediately if he/she does not feel quite right at any time.

After the athlete is symptom-free, what is the progression back to play?

Think of this progression as a warm up for the athlete to return to his/her sport. Each step takes at least 24 hours before moving on to the next step.

If any symptoms recur, the student should report this right away and stop for the day and rest. Before starting the progression again, the athlete must be completely symptom-free.

- Step 1.** Light aerobic exercise, including walking or riding an exercise bike. No weightlifting.
- Step 2.** Running in a gym or on the field. No helmet or equipment should be used.
- Step 3.** Non-contact training drills and full equipment. Start light resistance training or light weight training.
- Step 4.** Full contact training under supervision of coach/athletic trainer.
- Step 5.** Return to competition or game play.

The athlete must be seen by a physician (MD/DO) during the warm up progression to be legally released for return to competition or practice.

Better to miss a game or two than
the whole season or your whole life!

Other Resources >

Kansas Law: www.kslegislature.org/li/b2011_12/year1/measures/hb2182/

KSHSAA Guidelines: www.kshsaa.org/Public/General/ConcussionGuidelines.cfm

Centers for Disease Control and Prevention: www.cdc.gov/concussion/HeadsUp/youth.html

Kansas Sports Concussion Partnership: www.kansasconcussion.org

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