



CONCUSSION/HEAD INJURY AND HEAT ILLNESS GUIDELINES

WHAT IS A CONCUSSION?

A concussion is a type of traumatic brain injury caused by a bump, blow, or jolt to the head, or by a blow to the body with the force transmitted to the head. **All concussions are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly.**

WHAT ARE THE SYMPTOMS?

You can't see a concussion and most sports concussions occur without loss of consciousness. Signs and symptoms of a concussion are typically noticed immediately after the injury; however, some might not be recognized until hours or days after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms or signs of concussion yourself, seek medical attention right away.

Symptoms or observed signs may include one or more of the following:

Headaches	Loss of consciousness	Nervousness or anxiety
"Pressure in the head"	No recall of events prior to/after hit	Answers questions slowly
Nausea or vomiting	Behavior or personality changes	Irritability
Neck pain	Unsure of game/score/opponent	More emotional
Balance problems or dizziness	Feeling dazed, foggy or groggy	Confusion
Blurred, double, or fuzzy vision	Drowsiness	Concentration or memory problems (forgetting game plays)
Sensitivity to light or noise	Change in sleep patterns	Repeating the same question/comment
Vacant facial expression	Amnesia	Slurred speech
Moves clumsily	Sluggish, fatigue or low energy	
Seizures or convulsions	Sadness	

WHAT SHOULD I DO IF A CONCUSSION IS SUSPECTED?

Students who may have suffered a concussion should be removed from the athletic practice or game immediately. No athlete may return to activity after sustaining a concussion, regardless of how mild it seems or how quickly symptoms clear, without written medical clearance from a Medical Doctor (MD) or Doctor of Osteopathic Medicine (DO). Close observation of the athlete should continue for several hours. You should also inform your child's coach, athletic trainer, and/or school administrator if you think that your child/player may have a concussion. **When in doubt, the athlete sits out!**

WHAT IF MY CHILD KEEPS PLAYING WITH A CONCUSSION?

Athletes with the signs and symptoms of concussion should be removed from play immediately. Continuing to play with the signs and symptoms of a concussion leaves the young athlete especially vulnerable to greater injury. There is an increased risk of significant damage from a concussion for a period of time after that concussion occurs, particularly if the athlete suffers another concussion before completely recovering from the first one (second impact syndrome). This can lead to prolonged recovery, or even to severe brain swelling with devastating and even fatal consequences. It is well known that adolescent or teenage athletes will often under report symptoms of injuries. Concussions are no different. As a result, education of administrators, coaches, parents and students is the key for student-athlete's safety.

CONCUSSION MANAGEMENT

The first step to concussion recovery is cognitive rest, which is essential for the brain to heal. Activities that require concentration and attention (trying to meet academic requirements, use of electronic devices: computers, tablets, video games, texting, etc.) and exposure to loud noises may worsen symptoms and delay recovery. Students may need their academic workload modified while initially recovering from a concussion. Decreasing stress on the brain early on after a concussion may lessen symptoms and shorten recovery time. This may involve staying home from school for a few days, followed by a lightened school schedule, gradually increasing to normal. Any academic modifications should be coordinated jointly between the student's medical providers and school personnel. No consideration should be given to returning to physical activity until the student is fully integrated back into the classroom setting and is symptom free. Rarely, a student will be diagnosed with post-concussive syndrome and have symptoms that last weeks to months. In these cases, a student may be recommended to start a non-contact physical activity regimen, but this will only be done under the direct supervision of a healthcare provider.

In the event a student athlete is suspected of a concussion the student will be:

- 1. Removed from athletic participation immediately.**
- 2. Evaluated by a Licensed Physician and Athletic Trainer.**
- 3. Administered Post-Concussion Impact Test.**
- 4. Progressed through return to play protocol under the direction of a Licensed Physician.**
- 5. Released to athletic participation with written clearance from Physician and Athletic Trainer.**

RETURN TO PLAY PRACTICE AND COMPETITION

The Kansas School Sports Head Injury Prevention Act provides that if an athlete suffers, or is suspected of having suffered, a concussion or head injury during a competition or practice, the athlete must be immediately removed from competition or practice and cannot return to practice or competition until a Health Care Professional has evaluated the athlete and provided a written authorization to return to practice and competition. The KSHSAA recommends that an athlete not return to practice or competition the same day the athlete suffers or is suspected of suffering a concussion. The KSHSAA also recommends that an athlete's return to practice and competition should follow a graduated protocol under the supervision of the health care provider (MD or DO).

For current and up-to-date information on concussions, go to the following sites:

<http://www.edc.gov/concussion/HeadsUp/youth.html>

<http://www.kansasconcussion.org/>

For concussion information and educational resources collected by the KSHSAA, go to:

<http://www.kshsaa.org/Public/General/ConcussionGuidelines.cfm>

NEUROCOGNITIVE TESTING (IMMEDIATE POST-CONCUSSION ASSESSMENT & COGNITIVE TESTING)

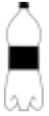
ImpACT is the most scientifically validated computerized concussion evaluation system. FSHS will utilize pre-season baseline testing and post-injury testing as a tool in the concussion management protocol. It is suggested that every athlete complete baseline testing prior to participation in any athletic activities (practices or games).

HYDRATION STRATEGIES TO PREVENT HEAT ILLNESS

Proper **HYDRATION** and **ACCLIMATIZATION** practices stand out as the two primary prevention methods for decreasing the risk of heat illness. The following are some basic hydration principles to follow:

Appropriate hydration before, during and after exercise is important for maintaining peak athletic performance. Fluid losses of as little as 2% of body weight (less than 4 pounds in a 200-pound athlete) can impair performance by increasing fatigue. This is important because it's common for some athletes to lose between 5-8 pounds of sweat during a game or intense practice. So it's easy for athletes to become dehydrated if they don't drink enough to replace what is lost in sweat.

- Recognize and respond to early warning signs of dehydration.
- **DRINK EARLY** and **DRINK OFTEN** during activity. Do not let athletes rely on thirst. Schedule frequent fluid breaks for re-hydrating. If athletes wait until they are thirsty it may be too late.
- Athletes should be weighed before and after warm weather practices. They need to drink appropriate amounts of fluid for the amount of weight lost. **An athlete should not be allowed to participate if they are at a 2% or greater weight deficit from the beginning of their previous practice.** Also, use a urine color chart (see back page) to determine hydration levels before activity.
- Encourage GOOD hydration choices: **water, sport drinks with low sodium and carbohydrates,** *AVOID: energy drinks, soda, fruit juices, carbonated beverage, and caffeine.*
- Encourage drinking fluids, not pouring them. Dumping fluid over the head won't help restore body fluids or lower body temperature.
- Provide easily accessible fluids.

Before Exercise	Drink 16 oz. of fluid before activity/exercise (2 hours) Drink another 8-16 oz. of fluid 10-15 minutes before exercise
During Exercise	Drink 4 – 8 oz. of fluid every 15-20 minutes
After Exercise	Drink 16-20 oz. of fluid for every (one) pound lost during exercise to achieve a normal fluid state and not begin the next practice dehydrated. Rehydration should take place over a safe and comfortable period of time. Excessive fluid intake over a short amount of time can be dangerous (see hyponatremia information below).
Fluid Counter	 <ul style="list-style-type: none"> 24 oz. of fluid = 1½ of water bottle 16 oz. of fluid = 1 full water bottle 7 oz. of fluid = 1/2 full water bottle or 10 BIG gulps of water 4 oz. of fluid = 1/4 full water bottle or 5 BIG gulps of water

Hyponatremia is a rare, but potentially deadly disorder resulting from the over-consumption of water or other low-sodium fluid (including most sports drinks). It is most commonly seen during endurance events, such as marathons, when participants consume large amounts of water or other beverages over several hours, far exceeding fluid lost through sweating. The water in the blood and the sodium content of the blood is consequently diluted to dangerous levels. Affected individuals may exhibit disorientation, altered mental status, headache, lethargy and seizures. A confirmed diagnosis can only be made by testing blood sodium levels. Suspected hyponatremia is a medical emergency and EMS (Emergency Medical Services) must be activated. It is treated by administering intravenous fluids containing high levels of sodium.

HEAT ILLNESS SIGNS, SYMPTOMS & MANAGEMENT

The signs and symptoms of heat illness shown below do NOT necessarily run on a continuum. This means that a person could suffer from heat stroke without showing less severe heat illness conditions such as heat cramps.

HEAT CRAMPS – SIGNS & SYMPTOMS

- Cramping in active muscles
- Most common in abdominals and legs

MANAGEMENT

- Rest in the cooling area
- Drink **WATER** or a sports drink
- Gentle stretching and massage

HEAT SYNCOPE – SIGNS & SYMPTOMS

- Fainting
- Weakness and fatigue

MANAGEMENT

- Instruct athlete to drink WATER or a sports drink.
- Athlete should NOT be allowed back to activity until cleared by a physician.
- Move athlete to cooling area and immerse in cold tub (45-60 deg.) for 15 min. Rotate wet ice towels over the entire body or douse with cold water if a cold tub is not available.

HEAT EXHAUSTION – SIGNS & SYMPTOMS

- Rapid weight loss (water)
- Reduced sweating (clammy skin)
- Muscle cramps
- Dizziness/fainting
- Headache/nausea/vomiting
- Fatigue/weakness

- Treat as an **emergency**, call 911.
- If conscious give WATER or a sports drink slowly.
- Move athlete to cooling area and immerse in cold tub (45-60 deg.) for 15 min. Rotate wet ice towels over the entire body or douse with cold water if a cold tub is not available.

HEAT STROKE – SIGNS & SYMPTOMS

- Loss of consciousness
- Hot, dry skin – no sweating
- Nausea/vomiting
- Seizures
- Disorientation

- Heatstroke is **life-threatening**, call 911.
- Do **NOT** give WATER (fluids)!
- Move athlete to cooling area and immerse in cold tub (45-60 deg.) for 15 min. Rotate wet ice towels over the entire body or douse with cold water if a cold tub is not available.

Athlete's Name (print) _____

Athlete's Signature _____ Date _____

Parent/Guardian's Name (print) _____

Parent/Guardian's Signature _____ Date _____

I have read and understand the Concussion and Heat Illness Guidelines.

