Risk of Injury during Participation in Interscholastic Athletics

Participation in interscholastic athletics is not without risk of injury. Injuries may and do occur. Sports injuries can be severe and in some cases may result in permanent disability or even death. When injuries do occur, athletes will be medically evaluated and treated. Return to participation will occur when medical staff determines the athlete can safely engage in activity. Pitt County Schools does not encourage participation of injured athletes. Decades-old beliefs about sports injuries (e.g., “rub dirt on it,” “play through pain,” “win at all cost,” “take one for the team,” “football is not for wimps”) have been debunked as athletes of the 21st century are better protected by established medical evidence and legal statutes.

In compliance with national recommendations by organizations including the Youth Sports Safety Alliance and the National Athletic Trainers’ Association, Pitt County Schools strives to best protect its athletes by: supporting a comprehensive athletic health care team and administrative program; assuring safe practice and play facilities; providing a proper evaluation area for injured athletes; supplying appropriate and well-fitting athletic equipment; implementing injury prevention and management protocols and strategies; and educating coaches, parents, athletes and the community about the risks in sports and injury identification.

Parents are strongly encouraged to review this material that overviews common causes of fatal injuries associated with sports participation. Other causes of fatal injuries of high school athletes include asthma, cervical spine injuries, sugar-related conditions such as diabetes, exertional hyponatremia, and exertional sickling. Parents and athletes should discuss the risks associated with athletic participation and should direct concerns and questions to coaches, school officials, Athletic Trainers, and family physicians.
Traumatic Brain Injury

A concussion is an injury to the brain caused by a direct or indirect blow to the head. It can result from a fall, a hit to the head, or a hit to the body that causes your head and your brain to move quickly back and forth.

Many signs and symptoms are possible following a concussion. Common signs and symptoms include:

- Headache
- Pressure in head
- Neck pain
- Nausea and vomiting
- Dizziness
- Blurred vision
- Balance problems
- Confusion
- Drowsiness
- Irritability
- Sadness
- Sensitivity to light
- Sensitivity to noise
- Feeling “run down”
- Feeling “in a fog”
- “Not feeling right”
- Difficulty concentrating
- Difficulty remembering
- Trouble falling asleep
- Feeling more emotional
- Nervousness or anxiousness
- Fatigue or low energy

Any signs and symptoms should be reported to the coach, Athletic Trainer, School Nurse or responsible adult. Athletes with any signs or symptoms should not engage in physical activity. Pitt County Schools has a policy in place to best evaluate and manage concussions and to provide for athletes’ safest return-to-play. Athletes should not return to play or practice on the same day of experiencing a suspected concussion. After reporting signs or symptoms of a concussion, athletes must be evaluated by a doctor trained in helping people with concussions. The recommendation to clear an athlete to return to physical activity will be determined by the school’s athletic trainer, the treating physician, and other members of the Athletic Health Care Team. No athlete should be cleared if he/she is still experiencing any signs or symptoms.

Following a concussion, some individuals have trouble in classes at school or even with activities at home. Others may long-term difficulty remembering things or paying attention, or experience recurring headaches or personality changes. The Athletic Health Care Team will work with teachers and school staff during the recovery process to help achieve athletes’ optimum return to the classroom and to the playing field.

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Sudden Cardiac Arrest

Sudden cardiac arrest (SCA) is a condition in which the heart experiences an abrupt disruption and may stop beating normally. The disruption would most likely result from a condition your child is born with but could also result from other factors, including trauma or a sudden blow to the chest. SCA is the leading cause of death in exercising young athletes. The incidence of sudden cardiac death in high school athletes is estimated to be approximately 1:100,000 to 1:200,000.

SCA can affect seemingly healthy athletes and unfortunately, the immediate collapse of the athlete can be the first indication. Signs or symptoms such as chest pain, shortness of breath, fainting, or abnormal beating of the heart may indicate a heart condition that should be evaluated by a family physician or a pediatric cardiologist.

All athletes should be screened during a pre-participation examination by a physician approximately 45 days prior to beginning a sports season. Athletes should report a family history of sudden death and heart problems. During this examination, the physician usually listens to the athlete’s heart sounds. Additional cardiac screening is not routinely conducted unless the athlete has a medical or family history of heart problems. Even the most thorough cardiac examinations and testing may not detect abnormalities that could cause SCA.

Athletes who collapse with suspected SCA must be treated as medical emergencies. The school’s Athletic Trainer or a trained coach or bystander may attach an automated external defibrillator (AED) to the chest of an athlete who collapses from SCA. The AED will analyze the patient’s heart rhythm and deliver a life-saving shock, if necessary. This shock must be delivered within minutes of collapse to be effective. Not all conditions can be treated using an AED so athletes will need immediate treatment at an emergency department. Cardiopulmonary resuscitation (CPR) should be administered until EMS arrives to transport the patient.

Environmental Conditions

The environment can have a substantial impact on athletes’ safety and performance. Because athletics are regularly played outdoors, it is important to be aware of the risks that the environment can pose.

**Heat-related illnesses** can be quite common in sports, particularly in the hot, humid summertime months. The effects of hyperthermia, or an increase in internal body temperature, can be relatively minor, such as heat cramps and heat exhaustion, or they can be potentially fatal, such as in the case of heat stroke or severe dehydration. **Heat cramps** can be recognized by painful spasm or cramping of a muscle, and are usually attributed to dehydration and the loss of electrolytes. **Heat exhaustion** is associated with the loss of water and electrolytes through sweating, and can be characterized by excessive sweating, vomiting, fatigue, and weakness. If left untreated, heat exhaustion can lead to heat stroke, the most catastrophic heat illness. **Heat stroke** is characterized by an internal temperature of 104°F. Athletic trainers utilize a rectal thermometer to determine an athlete’s internal (core) temperature when they suspect an athlete is experiencing a heat stroke. Measuring temperature using a rectal thermometer is the gold standard approach to assessing core temperature; oral temperature assessments are unreliable, particularly as core temperature rises. Other signs and symptoms of heat stroke include hot, red skin, dizziness, confusion/disorientation, irrational or unusual behavior, nausea, vomiting, and diarrhea. It is imperative to cool athletes suspected of potential heat stroke by submerging them in a cold tub immediately. Prevention is best when it comes to heat illnesses. Check the temperature and humidity before and during exercising to be sure it is safe to be outside. The National Weather Service’s heat index chart is a useful tool that can be used to inform decisions such as practice times. Also, drink water early and often! Pitt County Schools’ athletics teams comply with national, state, and local recommendations related to preventing heat illness and heat emergencies.

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**NOAA’s National Weather Service**

**Heat Index**

### Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

- **Cautions**: 0-0.9
- **Extreme Cautions**: 1-2.9
- **Dangers**: 3-5.9
- **Extreme Dangers**: 6-9.9

- **0-0.9**: Cautions
- **1-2.9**: Extreme Cautions
- **3-5.9**: Dangers
- **6-9.9**: Extreme Dangers
Athletes competing in a cold, wet, windy environment are susceptible to **cold-related injuries**. Cold injuries can occur from hypothermia (decreased core temperature), or exposure to freezing or subfreezing temperatures. **Hypothermia** can be defined as the cooling of the core temperature below 95°F. Hypothermia’s severity increases as the core temperature continues to drop. Common signs and symptoms of hypothermia include shivering and a lack of energy, and if severe enough symptoms can progress to impaired mental function, cyanosis (blue skin and lips), slurred speech, loss of motor control and consciousness, and cardiac arrhythmias. **Frostbite** is freezing of the body’s tissues. It occurs when body parts are exposed to subfreezing temperatures. Frostbite is classified as superficial or deep. Superficial frostbite presents as dry, waxy, red skin that may burn or tingle. If left to progress to deep frostbite, the skin becomes hard, cold, and may turn gray, black, or purple as the tissues die. The best way to prevent cold injuries is to use common sense strategies. Competition in extreme cold conditions should be limited, and athletes should be allowed opportunities to rewarm as needed. In addition, multiple layers of clothing should be worn as it provides better protection from the outside environment. The layer closest to the body should allow the evaporation of sweat with minimal absorption, the middle layer should provide insulation, and the outermost layer should be wind and water resistant. Any wet clothing should be removed and replaced as needed. The National Weather Service’s windchill chart is a useful tool to inform decisions such as practice times. Pitt County Schools’ athletics teams adhere to a cold illness prevention policy in an effort to protect athletes.

![NWS Windchill Chart](image)

Worldwide, **lightning** is estimated to cause 24,000 deaths a year. It is imperative to respect lightning and know what to do and where to go should lightning affect your athletic competition. A common mantra that is easily remembered regarding lightning and thunderstorms is **“Hear it, clear it! See it, flee it!”** This catchy phrase instructs outdoor competition to stop and for individuals to move to a safe location if a clap of thunder is heard or if a flash of lightning is seen. Safe locations during a thunderstorm include any fully enclosed building with wiring and plumbing such as a school, house, or school gym. Dugouts, storage sheds, porches, press boxes, and tents are NOT safe locations! All activities will be suspended for 30 minutes after the last sound of thunder is heard or the last strike of lightning is seen. Pitt County Schools’ athletics programs are guided by a lightning safety policy in an effort to best protect athletes.