This is a collection of the best practices collected from resources throughout the country and is not intended to be construed as policy, but is intended to serve as an educational tool and reference material for coaches.
THANK YOU TO THE CHSAA SPORTS MEDICINE ADVISORY COMMITTEE MEMBERS FOR THEIR DEDICATION AND EXPERTISE ON THE SPORTS MEDICINE HANDBOOK

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COLORADO HIGH SCHOOL ACTIVITIES ASSOCIATION
SPORTS MEDICINE ADVISORY COMMITTEE

PURPOSE

The CHSAA Sports Medicine Advisory Committee is a collective group of medical and educational professionals whose expertise provides current information to the association membership. It is designed to reflect and evaluate information provided throughout several resources.

MISSION

The mission of the Sports Medicine Advisory Committee (SMAC) is to provide information, vision, and guidance to the Colorado High School Activities Association (CHSAA), while emphasizing the health and safety of students participating in interscholastic sports and activities.

Goals of the Committee

☐ Advise the Colorado High School Activities Association member schools on medical and safety issues, as well as conditions as they relate to interscholastic sports and activities rules writing and guidelines, as well as other programs and services the CHSAA administers.
☐ Monitor, evaluate and disseminate current sports medicine information to the member schools and CHSAA.
☐ Work cooperatively with the CHSAA sports committees to address sports medicine issues as they impact high school rules and the health and risk management of its participating students.
☐ Provide the CHSAA leadership and membership current information on sports medicine issues and injury prevention through the CHSAA Sports Advisory Handbook.

Updated: 11/5/18
• Air Quality and Exercise
• Anaphylaxis Protocol
• Asthma Protocol
• Athlete Hygiene and Equipment/Facility Cleaning Recommendations
• Coaches Sports Medicine Kit – Suggested First Aid Supplies
• Cold Weather Protocols
• Head Trauma & Concussions
• Concussion Management
• Diabetic Emergency Protocol
• Emergency Protocol
• Heat Acclimatization and Heat Illness Prevention Position Statement
• Heat Acclimatization and Safety Priorities
• Heat Illness
• Hydration/Energy Drinks/Sports Drinks
• CHSAA Lightning and Tornado Protocols
• Mental Health
• Seizure Protocol
• Sickle Cell Trait Protocol
• Spin Injury
AIR QUALITY & EXERCISE

Information provided by Michael C. Koester M.D., ATC-Taken from NFHS Sports Medicine Handbook 4th Edition

- Athletes are at special risk of inhaling air pollutants during exercise.
- The two key pollutants that may exacerbate asthma or affect lungs during exercise are ozone and particle pollution.
- Smoke for late summer forest and grass fires is a special concern in Colorado, often causing severe air pollution with the beginning of fall sports season.
- Increase in respirations during exercise result in the intake of 10 to 20 times the normal volume of air per minute.
- A larger fraction of air is inhaled through the mouth during exercise, bypassing nasal filtration.
- Increased velocity of respiration forces air deeper into the lungs.

Suggestions guidelines for managing potential air quality problems-

- Distance runners should avoid running next to busy roadways.
- Ozone exposure can be lessened by early morning work outs.
- Athletes with asthma must be carefully monitored when AQI is above 100 and have a rescue inhaler should be readily available. Asthma symptoms may not worsen until the following day after exposure to air pollution.
- Practices and contest should be modified or moved indoors when AQI is above 100 and consideration given to rescheduling or moving them when AQI is greater than 200.

Information and Charts provided by Colorado Department of Health and Environment

To check Air Quality in your area, go to https://www.colorado.gov/airquality/advisory.aspx

The AQI is an index for reporting daily air quality. It tells you how clean or polluted your air is, and what associated health effects might be a concern for you. The AQI focuses on health effects you may experience within a few hours or days after breathing polluted air. EPA calculates the AQI for five major air pollutants regulated by the Clean Air Act: ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. For each of these pollutants, EPA has established national air quality standards to protect public health. Ground level ozone and airborne particles are the two pollutants that pose the greatest threat to human health in this country.

How Does the AQI Work?

Think of the AQI as a yardstick that runs from 0 to 500. The higher the AQI value, the greater the level of air pollution and the greater the health concern. For example, an AQI value of 50 represents good air quality with little potential to affect public health, while an AQI value over 500 represents hazardous air quality.

An AQI value of 100 generally corresponds to the national air quality standard for the pollutant, which is the level EPA has set to protect public health. AQI values below 100 are generally thought of as satisfactory. When AQI values are above 100, air quality is considered to be unhealthy-at first for certain sensitive groups of people, then for everyone as AQI values get higher.
ANAPHYLAXIS PROTOCOL

DEFINITION:
The result of a severe allergic reaction caused by foods, insect stings, medications or by inhaling dust, pollens or other substances.

SYMPTOMS AND PRESENTATION:
Recognition of anaphylaxis can include any or all of the following symptoms:

• Difficulty breathing, blue discoloration of extremities or oral area, respiratory arrest
• Chest tightness
• Wheezing
• Hoarseness or stridor (harsh, high pitched sound when breathing in)
• Swelling of eyelids, tongue, lips
• Nausea, vomiting, abdominal cramps, diarrhea
• Flushed appearance, itchy skin, hives

GUIDELINES FOR MANAGEMENT:
Management of anaphylaxis in athletes:

• If triggered by environmental factor, remove athlete from the area
• Activate EMS by calling 911
• If they have trouble breathing, allow patient to sit up and assume a “position of comfort”. Lay patient down only if they are losing consciousness.
• Maintain open airway if patient loses consciousness
• Administer Epi-Pen if available (Use instructions: https://www.epipen.com/-/media/files/epipen/howtousepipenautoinjector.pdf)
• Monitor vitals until EMS arrives
ASTHMA PROTOCOL

DEFINITIONS:
Asthma is a pulmonary disorder characterized by reversible airway obstruction that results from hyperactivity in the lungs. Asthma generally has two components that lead to obstruction: inflammation and spasm. Inflammation characterized by swelling and increased secretions along with bronchospasm, results in an increase in airway resistance and decreased airflow. Exercise Induced Asthma presents exclusive of other asthma precipitators and is stimulated by exercise.

SYMPTOMS AND PRESENTATION:
Recognition of asthma can include any or all of the following symptoms:
• Difficulty breathing, breathlessness or hyperventilation
• Dizziness
• Dry coughing
• Wheezing, shortness of breath or chest tightness
• Increased respiratory and/or heart rate
• Nausea
• Unusual fatigue
• Headaches
• Redness of skin

GUIDELINES FOR MANAGEMENT:
Management of asthma in athletes:
Acute Asthma Attack
• If triggered by environmental factor, remove athlete from the area
• Attempt to relax and reassure athlete
  - Perform controlled, slow, deep breathing and relaxation exercises
• If medication has been cleared by physician, administer
• Encourage athlete to drink water unless there is severe difficulty breathing
• If no reduction in symptoms or other signs of respiratory distress refer for immediate medical attention or call 911

LONG TERM PREVENTATIVE THERAPY
• If athlete is not being treated for asthma, encourage further evaluation
• When prescribed by a physician, medication may be used to help manage symptoms
• Regular exercise program is demonstrated to be beneficial with proper warm-up and cool down
ATHLETE HYGIENE AND EQUIPMENT/FACILITY CLEANING RECOMMENDATIONS

GENERAL GUIDELINES FOR SPORTS HYGIENE, SKIN INFECTIONS AND COMMUNICABLE DISEASES

National Federation of State High School Associations (NFHS) Sports Medicine Advisory Committee (SMAC)

Proper precautions are needed to minimize the potential risk of the spread of communicable disease and skin infections during athletic competition. These conditions include skin infections that occur due to skin contact with competitors and equipment. The transmission of infections such as Methicillin-Resistant Staphylococcus aureus (MRSA) and Herpes Gladiatorium, blood-borne pathogens such as HIV and Hepatitis B, and other infectious diseases such as Influenza can often be greatly reduced through proper hygiene. The NFHS SMAC has outlined and listed below some general guidelines for the prevention of the spread of these diseases.

Universal Hygiene Protocol for All Sports:
• Shower immediately after every competition and practice, using liquid soap and not a shared bar soap.
• Wash all workout clothing after each practice, washing in hot water and drying on a high heat setting.
• Clean and/or wash all personal gear (knee pads, head gear, braces, etc.) and gym bags at least weekly.
• Do not share towels or personal hygiene products (razors) with others.
• Refrain from full body and/or cosmetic shaving of head, chest, arms, legs, abdomen and groin.

Viral Skin Infections
- Herpes gladiatorum and herpes labialis (cold sores)
  - caused by Herpes Simplex Virus
  - initial outbreak can cause fever, sore throat, swollen lymph nodes
  - infected athletes must be removed from contact activity
  - initial outbreaks treated for minimum 10 days with anti-viral medication before return to contact activity
  - recurrent outbreaks treated for 5 days with anti-viral medication before return to contact activity
  - lesions must be scabbed over before return to contact activity
  - no new lesion formation in the preceding 48 hours prior to return to contact activity
  - strong consideration should be given to placing previously infected athletes on prophylactic anti-viral medication during the season

- Molluscum and warts
  - not considered to be highly contagious
  - no required treatment or restrictions
  - cover if prone to bleeding when abraded
• **Fungal Skin Infections**
  o Tinea corporis (ringworm), tinea capitis, tinea pedis, tinea cruris
    ▪ highly contagious
    ▪ must be treated with topical antifungal medication for minimum 72 hours prior to return to contact activity
    ▪ scalp involvement requires 2 weeks’ oral antifungal medication prior to return to contact activity
    ▪ lesions should be covered with bio occlusive dressing when returning to contact activity

• **Bacterial Skin Infections**
  o Impetigo, Folliculitis, Furuncle, Carbuncle
    ▪ usually caused by staph (including MRSA) and strep
    ▪ should be removed from competition immediately
    ▪ refer to health care provider for possible drainage and culture of wound
    ▪ must be treated with antibiotics for at least 72 hours prior to return to competition
    ▪ lesions must be dry, scabbed and not weeping prior to return to competition
    ▪ lesion should be covered with bio occlusive dressing when returning to contact activity

**References:**
NFHS

**Infectious Skin Diseases**

Strategies for reducing the potential exposure to these infectious agents include:

• Athletes must notify a parent/guardian and coach of any skin lesion prior to any competition or practice. An appropriate health-care professional shall evaluate all skin lesions before returning to practices or competition.

• If an outbreak occurs on a team, especially in a contact sport, all team members should be evaluated to help prevent the potential spread of the infection. All shared equipment shall be properly cleaned/disinfected prior to use.

• Coaches, officials, and appropriate health-care professionals must follow NFHS or state/local guidelines on “time until return to competition.” Participation with a covered lesion may be considered if in accordance with NFHS, state or local guidelines and the lesion is no longer contagious.

**Blood-borne Infectious Diseases**

Strategies for reducing the potential exposure to these agents include following Universal Precautions such as:

• An athlete who is bleeding, has an open wound, has any amount of blood on his/her uniform, or has blood on his/her person, shall be directed to leave the activity (game or practice) until the bleeding is stopped, the wound is covered, the uniform and/or body is appropriately cleaned, and/or the uniform is changed before returning to activity.

• Athletic trainers or other caregivers must wear gloves and use Universal Precautions to prevent blood or body fluid-splash from contaminating themselves or others.

• In the event of a blood or body fluid-splash, immediately wash contaminated skin or mucous membranes with soap and water.

• Clean all contaminated surfaces and equipment with disinfectant before returning to competition. Be sure to use gloves when cleaning.

• Any blood exposure or bites to the skin that break the surface must be reported and immediately evaluated by an appropriate health-care professional.
Other Communicable Diseases

Means of reducing the potential exposure to these agents include:

- Appropriate vaccination of athletes, coaches, officials and staff as recommended by the Centers for Disease Control (CDC).
- During times of outbreaks, follow the guidelines set forth by the CDC as well as State and local Health Departments.

For more detailed information, refer to the "Blood-Borne Pathogens," "Infectious Mononucleosis" and “Skin Conditions and Infections” sections contained in the NFHS Sports Medicine Handbook.

Revised and Approved in October 2015

DISCLAIMER – NFHS Position Statements and Guidelines

The NFHS regularly distributes position statements and guidelines to promote public awareness of certain health and safety-related issues. Such information is neither exhaustive nor necessarily applicable to all circumstances or individuals, and is no substitute for consultation with appropriate health-care professionals. Statutes, codes or environmental conditions may be relevant. NFHS position statements or guidelines should be considered in conjunction with other pertinent materials when taking action or planning care. The NFHS reserves the right to rescind or modify any such document at any time.
Skin Infection Guidelines

General:
- Majority of infections are caused by skin-to-skin contact
- Some infections are caused by shared equipment, towels, and/or poor hygiene
- Wrestling, football and basketball have the highest risk of transmission
- Must protect participants in situations where skin-to-skin contact may occur
- Discourage athletes from hiding or disguising skin lesions
- Athletes with skin lesions should be evaluated by appropriate healthcare provider prior to return to competition

Prevention – Universal Hygiene Protocol
- Shower immediately after every competition and practice
- Wash all workout clothes after each practice
- Wash all personal gear (knee pads and braces) weekly
- Do not share towels or razors with others
- Refrain from whole body (chest, arms, trunk) cosmetic shaving
* This checklist should be used to create a VEAP for every venue utilized by your school for practice and/or games*

❖ CRITICAL/REQUIRED ELEMENTS

☐ Venue specific information
  ▪ Name
  ▪ Address
  ▪ Phone number
  ▪ Nearest hospital

☐ Event specific information
  ▪ Date
  ▪ Time
  ▪ Previous issues
  ▪ *Anticipated attendance*
    o While not a priority of this EAP checklist, anticipated attendance should be discussed with on-site personnel

☐ Emergency personnel contact information and number of personnel
  ▪ Ambulance
  ▪ Fire
  ▪ Police
  ▪ Third-party security
  ▪ Supervisors
  ▪ First aid
  ▪ Athletic trainer
  ▪ Physician

☐ Venue specific personnel contact information
  ▪ Coaches
  ▪ Administrators
  ▪ Facility director(s)
  ▪ Other team staff

☐ Roles of emergency personnel when plan is activated

☐ Roles of venue specific personnel when plan is activated
☐ **Internal & External site map**

- Identify:
  - Facility access points for emergency personnel
  - Parking for emergency services
  - Medical/first aid center inside facility
  - AED locations

☐ **Chain of command (include at least three personnel)**

☐ **Emergency procedures**

- Who is responsible for:
  - Assessing the scene?
  - Leading the response?
  - Immediate care?
  - Calling 911?
  - Directing emergency personnel to the scene?
  - Securing the area?
  - Controlling crowd?
  - Retrieving supplies?

☐ **Equipment and supplies**

  - Identify any and all equipment and supplies that may need to be on-site
  - Identify the location within venue of all equipment and supplies

☐ **Designate an individual to complete all post EAP documentation**

☐ **Rehearsal information**

- Who is responsible?
- How often?
- How will it take place?

☐ **Table of contents for plan to ease use during activation**

☐ **Plan log**

- Document changes
- Document plan rehearsals

*See athletic director for venue specific emergency action plan (VEAP) template on Arbiter Athlete (arbiterathlete.com)
SUGGESTED FIRST AID SUPPLIES

- Adhesive white tape (1”, 1 ½”, 2”) 8 rolls
- Alcohol pads 1 box
- Analgesic Balm 1 tube
- Antiseptic spray 1 canister
- Adhesive band aids assorted sizes FFF
- Cotton tip applicators 1 box
- Crutches 1 pair (adult)
- Disinfectant spray 1 canister
- Elastic tape (1”, 2”, 3”) 1 each
- Elastic wraps (2”, 4”, 6”) 1 each
- Elastic wrap (double length 6”, 4”) 1 each
- Emergency Identification Forms/Cards
  Important Emergency Contact #’s
  (i.e. Principal, AD, Ems, Asst. Coaches, weather app. – Athlete Injury Report/Incident form)
- Eye wash solvent 1 bottle
- Face mask cutters 1
- Gauze pads (3x3, 4x4) sterile and non-sterile 1 box each
- Ice bags 1 box Ziploc gallon size
- Lite Flex Tape 4 rolls 2”
- Mirror 1 small
- Moleskin 1 sheet 6 x 10”
- Penlight 1
- Pen and paper (injury report forms) multiple copies
- Pocket Mask (CPR) 1
- Latex gloves 4 pair
- Shoulder Sling 1
- Skin Lubricant 1 tube
- Splints 1 SAM splint
- Tape Adherent (Tuf Skin) 1 canister
- Tape cutters 1 pair
- Telfa Pads (non-adherent) 1 box
- Thermometer (heat illness) 1
- Triple Antibiotic Ointment 1 tube
- Tongue Depressors 12
- Towels 2
- Under-wrap/Pro Flex 2 rolls each
- Waste container/bag (blood-stained items) 1
COLD WEATHER PROTOCOLS

DEFINITION:

Cold weather is defined as any temperature that can negatively affect the body’s regulatory system. It is important to remember that temperatures do not have to be freezing to have this effect.

- Individuals engaged in sports activities in cold, wet or windy conditions are at risk for environmental cold injuries.
- The Wind Chill is the temperature your body feels when the air temperature is combined with the wind speed. It is based on the rate of heat loss from exposed skin caused by the effects of wind and cold. As the speed of the wind increases, it can carry heat away from your body much more quickly, causing skin temperature to drop.

SYMPTOMS AND PRESENTATION:

Recognition of cold injuries

Hypothermia: Body Core Temperature below 95°F
- Shivering
- Lethargy, amnesia
- Impaired motor control
- Pale, cold face and extremities
- Decreased heart rate
- Slurred speech
- Impaired mental function

Treatment: remove wet clothing, warm with dry insulating blankets, cover the head, and get to a warm environment. Provide warm beverages, avoid friction, avoid warming extremities initially

Frostnip/Frostbite: Frostnip is superficial cooling of body tissues. Frostbite is actual freezing of body tissues which can result in cellular destruction. Most susceptible are fingers, toes, earlobes, and nose.
- Dry, waxy skin
- Swelling
- Burning, tingling
- Limited movement
- White/blue/gray patches
- Aching, throbbing, shooting pain

Treatment: rework slowly in warm water (not hot); avoid friction/rubbing tissue

Chilblain: an exaggerated or uncharacteristic inflammatory response to cold exposure
- Red or blue lesions
- Swelling
- Tenderness
- Itching, numbness, burning
- Increased temperature

Treatment: wash, dry area, elevate, cover with loose clothing/blankets, and avoid friction and applying lotion
Recommended Preventative Strategies:

Know and Recognize General Signs/ Symptoms of Cold Stress:

- Uncontrollable shivering
- Fatigue
- Swollen Extremities
- Confusion
- Blurred Vision
- Slurred Speech
- Headache, dizziness
- Red or Painful extremities
- Numbness/tingling of skin

Competition/Practice Modifications

- Coach’s should be vigilant and monitor player’s physical condition and mental status
- Consider abbreviated introductions/Consider extended half-times to allow for rewarming
- Provide access to a warm building
- Ensure/mandate proper clothing (hats, gloves, pants)

Safety Tips

- Cold exposure/activity requires more energy from the body. Additional calorie intake may be required.
- Cold exposure/activity requires similar hydration to room temperature; however, the thirst reflex is not activated. Conscious efforts before and after practice to hydrate should be initiated.
- Never train alone. A simple ankle sprain in cold weather may become life threatening
- Appropriate clothing must be closely monitored and mandated (see below)

Clothing:

In cold weather conditions appropriate clothing should be worn to prevent cold exposure. Both the Athletic Trainer(s) and coaches should require the student-athletes to implement the following:

- Wear several layers around the core of the body (especially those who are not very active).
  - The first layer should wick moisture away from the body
  - The top layers should trap heat, block the wind (fleece, wind block)
  - No cotton as inside layer.
  - Outside layer should be water resistant/waterproof
- Long pants designed to insulate.
  - Fleece or synthetic pants are a good choice.
  - On cold/and or windy days wind pants/nylon shell should be worn on the surface layer to break the wind.

Head/Feet

- Gloves, Hat or helmet to protect the ears/break wind
- Face protection
- Moisture wicking socks (preferably wool blend) - It is important that athletes avoid wearing multiple layers of cotton. When the body sweats the cotton will become dense and permeated with sweat.

Updated: 11/5/18
STEPS FOR MONITORING COLD WEATHER:

▪ Wind and moisture (rain) dramatically increase heat loss from the body.
▪ Weather should be monitored by designated athletic department personnel (if a Certified Athletic Trainer is not present) and an advisory should be issued to school coaching staff when applicable.
▪ Temperature, wind speed, and wind chill will be monitored.

The Wind Chill Index considers effects of temperature and wind speed (see below)
  o The chart is available at: http://www.noaa.gov/om/winter/windchill.shtml
  o Based on information from the National Weather Service, local weather stations and local/on-site Cold Index measurements, determine the risk of potential danger to participants.

RISK
Temp/Wind- chill

<table>
<thead>
<tr>
<th>MODIFICATIONS#</th>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
<th>Extreme Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30°F &amp; above</td>
<td>29°F – 20°F</td>
<td>19°F – 10°F</td>
<td>9°F or below</td>
</tr>
<tr>
<td></td>
<td>Outside participation allowed w/appropriate clothing</td>
<td>Mandate additional protective clothing (hat, gloves) Provide re-warming facilities</td>
<td>Outside participation limited to 45 minutes* All participants must have appropriate clothing Provide re-warming facilities</td>
<td>Termination of all outside activities #</td>
</tr>
</tbody>
</table>

*Frostbite can occur in 30 minutes.

References:
Provided by the National Weather Service

Updated: 11/5/18
HEAD TRAUMA & CONCUSSIONS

Please visit our CHSAA Sports Medicine page (https://chsaanow.com/sports-medicine/) for more information and resources.

The Role of the Coach

1620.5 BYLAW: All athletic coaches must annually complete one of the following: The online NFHS Concussion Course or a school organized sports medicine review that includes a head trauma/concussion component and emergency evacuation procedures. If you suspect that an athlete has a concussion, you should remove the athlete from play, ensure the athlete is evaluated by a health care professional experienced in evaluating for concussions, inform the athlete’s parents about the possible concussion, and keep the athlete out of participation the day of injury and until the athlete obtains a written release from a licensed practitioner.

The Role of the Official

The contest official can look for signs, symptoms and conditions of head trauma and if observed shall send the player to the sideline for assessment by school personnel and/or a licensed practitioner. At that time the role of the contest official ceases.

The Role of the Licensed Practitioner & ATC

If at any time during participation, a student-athlete is removed from participation due to head trauma with concerns for concussion, the student-athlete must obtain a written release from a licensed practitioner (as defined in the CHSAA By-laws) before participating again. The athlete may then begin a graduated return-to-sport as determined by the school’s athletic trainer (where applicable)

Colorado’s Concussion Law (Senate Bill 11-040)

1. Requires annual concussion recognition education to coaches of public, private, middle school, high school, recreational and club leagues (supervising athletes between the ages of 11 to 19 years)
2. Removal from play for "suspicion" of concussion.
3. If an athlete has been removed from play for signs and symptoms not readily explained by a condition other than concussion athlete cannot return to play until receiving written clearance from a:
   ▪ Doctor of Medicine
   ▪ Doctor of Osteopathic Medicine
   ▪ Licensed Nurse Practitioner
   ▪ Licensed Physician Assistant
   ▪ Licensed Doctor of Psychology with training in neuropsychology or concussion evaluation/management A doctor with chiropractic training may only clear an athlete who is part of the US Olympic Training Program.

After a concussed athlete has been evaluated and received clearance to return to play from one of the approved health care providers, a registered athletic trainer with specific knowledge of the athlete’s condition may manage the athlete’s graduated return-to-sport.

To see the full Senate Bill:
http://www.leg.state.co.us/clics/clics2011a/csl.nsf/fsbillcont2/A9CE9CEE12645CAA872578080800D80/$FILE/040_01.pdf

Updated: 11/5/18
CONCUSSION MANAGEMENT

Definition:

▪ A concussion is a type of traumatic brain injury, or TBI, caused by a bump, blow, or jolt to the head that can change the way your brain normally works. Concussions can also occur from a blow to the body that causes the head to move rapidly back and forth. Even a “ding,” “getting your bell rung,” or what seems to be mild bump or blow to the head can be serious.

▪ A concussion cannot be seen on a CT scan or on an MRI.

▪ Most athletes do not have loss of consciousness with a concussion. If an athlete sustains a jolt to the head or body and then experiences signs or symptoms, a concussion has occurred.

▪ Signs and symptoms can be evident in four areas: Physical, Cognitive/Thinking, Emotions/Mood and Energy/Sleep.

<table>
<thead>
<tr>
<th>Physical</th>
<th>Cognitive</th>
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<tbody>
<tr>
<td>Headache</td>
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<td>Vomiting</td>
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<td>Dizziness</td>
<td>Numbness/Tingling</td>
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<td>Sensitivity to Light</td>
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<td>Ringing in Ears</td>
<td>Sensitivity to Noise</td>
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<td>Disorientation</td>
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<td>Neck Pain</td>
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<td>Feel in a “fog”</td>
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<td>Feel “slowed down”</td>
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<td></td>
<td>Difficulty remembering</td>
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<td></td>
<td>Difficulty concentrating/easily distracted</td>
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<td></td>
<td>Slowed speech</td>
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<td>Easily confused</td>
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<td>Emotional</td>
<td>Sleep/Energy</td>
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<td>Irritability</td>
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<td>Sadness</td>
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<td>Lack of motivation</td>
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<td>Excess sleep</td>
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<td></td>
<td>Trouble falling asleep</td>
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<td></td>
<td>Sleeping less than usual</td>
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Assessment:

Know your athletes at “baseline”. Know their pre-concussion level of symptoms, know their learning and attentional style, know their balance pre-concussion, know their headache and medical history, know their past concussion history and know their personality. Consider a concussion if there is a jolt/hit to body or head and there is 1 sign or 1 symptom, assess your athlete in the areas of symptoms, balance and mental status.

Best practice:

▪ Do not return athlete to play on the day of injury.

▪ Transport athlete immediately to nearest hospital for loss of consciousness, persistent vomiting, deteriorating mental status, seizure activity or concerns for cervical spine injury.

▪ If not transported, keep a close eye on athlete until safely turned over to parent/guardian.

▪ Do not allow athlete to sit alone on bus or locker room.

▪ Do not allow athlete to drive him/herself home after game.

▪ Give precise and clear symptom report and details of incident to parent/guardian with recommendations for what to watch for overnight and support parent/guardian being in touch (even by phone) to athlete’s PCP.

▪ Encourage every family with a concussed athlete to seek out medical evaluation for treatment and clearance of the concussion.

▪ Check with your school district on their specific Concussion Evaluation and Notification protocol. It is best practice to notify a “point person” in the school so the athlete can also be removed from PE, physical play at recess and can have academic demands lessened in order to promote recovery.
Return to School:

- Students may need to stay home from school for a few days until symptoms calm down but can usually return to school within 2-3 days. Activities of daily living and being up and about can be resumed as soon as tolerated. Strict bed rest or mandatory “cocooning” is no longer recommended.
- When student’s symptoms are tolerable and manageable, and they can concentrate for 30 to 45 minutes, they can be back at school with support from the school.
- School should have an internal process for academic adjustments. Reduction in extracurricular and academic demands for 1 to 4 weeks can help concussion recovery. Athletic trainer, school nurse, mental health professional, counselor, teacher and administrator should be involved in the concussion protocol when appropriate. School staff should communicate and work closely together to support recovery.

Return to Sport:

- An athlete should be symptom-free and functioning 100% at pre-concussion level both academically and at home before starting return to sport. Parents/guardians and school staff should communicate to assure that the student is not showing signs of concussion in either the home or school environment prior to return to sport.
- All athletes should be put through a progressive and graduated return-to-sport protocol per the International Zurich Guidelines. To read the full guidelines: https://bjsm.bmj.com/content/early/2017/04/26/bjsports-2017-097699
- Returning an athlete who is still symptomatic to play increases the risk of reinjury at a time when the brain is still vulnerable. Reinjury before concussion is fully resolved increases risk of prolonged recovery, long-term or permanent symptoms and very rarely “Second Impact Syndrome” (SIS). SIS is the rare phenomenon in which an athlete still suffering from a concussion has severe brain swelling from a second injury, typically resulting in death or severe disability.

REFERENCES
DIABETIC EMERGENCY PROTOCOL

DEFINITION:
A Diabetic Emergency can be defined as either hyper or hypoglycemia. Hyperglycemia (high) is a potentially life-threatening condition in which an excessive amount of glucose is present in the blood. Hypoglycemia (low) is a medical emergency that involves an abnormally diminished amount of glucose in the blood. Coaches should know if one of their athletes has diabetes.

SYMPTOMS AND PRESENTATION:

Recognizing Hyperglycemia:
Signs and symptoms may include any of the following:
• Dry, hot skin
• Breath odor “fruity”
• Nausea, vomiting or abdominal pain
• Dry mouth
• Excessive thirst and frequent urination
• Restlessness
• Loss of consciousness or confusion
• Rapid deep breathing

GUIDELINES FOR MANAGEMENT of hyperglycemia in athletes:
• All exercise should be ceased
• Hydration
• Document blood glucose level with glucometer if available.
• If blood glucose is consistently higher than 300, activate EMS by calling 911
• If the patient is alert and cooperative, have them administer their insulin

Recognizing Hypoglycemia:
Signs and symptoms may include any of the following:
• Moist skin, sweaty appearance
• Irritability
• Trembling, shakiness
• Hunger, headache
• Confusion
• Pale
• Loss of consciousness, seizure
• Rapid heart rate

GUIDELINES FOR MANAGEMENT of hypoglycemia in conscious athletes:
• All exercise should be ceased
• Look for rapid breathing or fast hear beat
• Document blood glucose level with glucometer if available
• Glucose in tablet form if available (Diabetic athletes should have glucose sources readily available at every practice/game)
• If glucose tablet no available, give 6 ounces fruit juice, 6 ounces of non-diet soda, or 1 tablespoon of honey or table sugar. Repeat in 10-15 minutes if needed.
• If hypoglycemia does not improve within 10-15 minutes of treatment, activate EMS by calling 911

Management of hypoglycemia in unconscious athletes:
• Look for rapid breathing or fast heart beat
• Document blood glucose level with glucometer
• Activate EMS by calling 911
EMERGENCY PROTOCOLS

EAPs (Emergency Action Plans):
An EAP is a written document to effectively facilitate athletic emergencies. A well-developed emergency action plan and proper training will result in fewer and less severe athletic injuries. A poorly prepared plan will likely lead to a disorganized evacuation or emergency response, resulting in confusion and increased severity of injury.

- An EAP should be developed for each athletic venue and included in the school district’s policies and procedures manual.
- It is encouraged that EAPs be practiced with the appropriate personnel (athletic trainers, stadium managers, EMTs and physicians) prior to the beginning of the academic year.
- EAPs should include logistics (access to the field by Emergency Medical Services) for expedited removal of athletes from the venue. Having the appropriate keys to unlock entry gates to the field of play is a necessity.
- EAPs should include an effective communication system, training of personnel in CPR and AEDs, presence of necessary emergency equipment, chain of command and a coordinated response plan.
- Assign personnel (school administrator/Athletic Director/school staff/police officer/stadium managers) for crowd control if needed.
- Emergency cards should be easily accessible and parents of athlete should be contacted ASAP.

CPR (Cardiopulmonary Resuscitation):
CPR is a lifesaving technique useful in many emergencies, including heart attack or near drowning, in which someone’s breathing or heart has stopped. The American Heart Association recommends that everyone, including untrained bystanders and medical personnel alike, begin CPR with chest compressions. (Hand’s – Only CPR). It's far better to do something than to do nothing at all if you're fearful that your knowledge or abilities aren't 100 percent complete. Remember, the difference between you’re doing something and doing nothing could be someone's life.

- Check to make sure CPR can be performed in a safe environment.
- Check for responsiveness with vocal and physical stimuli.
- Determine if athlete is unconscious, not breathing normally or there is absence of a pulse.
- AHA recommends no pulse check for layperson, just start CPR if no breathing or only gasping
- Call 911
- After EMS is enacted, position the athlete on their back, and deliver high quality chest compressions.
- Hands-Only CPR is now recommended for all non-medical personnel, for teen and adult patients.
- If an AED is present, stop chest compression only for rhythm analysis and shock delivery.
- Restart CPR after shock is delivered.
- Continue CPR until EMS arrives and takes over or athlete regains a pulse, is adequately breathing, and regains consciousness.
- Alternate personnel every 2 minutes for chest compressions to prevent fatigue.
AED (Automated Electronic Defibrillator):

An AED is a portable electronic device that automatically diagnoses the life-threatening cardiac rhythms in a patient. The device stops the arrhythmia through defibrillation, allowing the heart to reestablish an effective rhythm.

- An AED is used to treat athletes who experience sudden cardiac arrest.
- The AED should be used only after calling 911.
- An AED is only applicable to athletes who are unconscious, not breathing normally and have absence of a pulse.
- The AED pads should be placed on the athlete’s chest as directed by pictures included with the AED unit.
- Pads should be placed directly onto the athlete’s skin and the AED should be turned on.
- Do not place pads over pacemaker.
- All medicine patches should be removed.
- The AED will analyze the heart rhythm and advise the operator if a shockable rhythm is detected.
- If a shockable rhythm is detected, the AED will charge to the appropriate energy level and advise the operator to deliver a shock.
- Athletes should be removed from a wet surface or metal conducting surface prior to shock delivery.
- All personnel should be clear of the athlete when the shock is being delivered.
- CPR should continue immediately after the shock is delivered.
HEAT ACCLIMATIZATION AND HEAT ILLNESS PREVENTION POSITION STATEMENT
National Federation of State High School Associations
(NFHS) Sports Medicine Advisory Committee (SMAC)

Exertional Heatstroke (EHS) is the leading cause of preventable death in high school athletics. Students participating in high-intensity, long-duration or repeated same-day sports practices and training activities during the summer months or other hot-weather days are at greatest risk. Football has received the most attention because of the number and severity of exertional heat illnesses. Notably, the National Center for Catastrophic Sports Injury Research reports that 35 high school football players died of EHS between 1995 and 2010. EHS also results in thousands of emergency room visits and hospitalizations throughout the nation each year.

This NFHS Sports Medicine Advisory Committee (SMAC) position statement is the companion piece to the NFHS’s online course “A Guide to Heat Acclimatization and Heat Illness Prevention.” This position statement provides an outline of “Fundamentals” and should be used as a guiding document by member state associations. Further and more detailed information can be found within the NFHS on-line course, the 4th Edition of the NFHs Sports Medicine Handbook, the NFHS SMAC “Position Statement and Recommendations for Hydration to Minimize the Risk for Dehydration and Heat Illness” and the resources listed below.

Following the recommended guidelines in this position statement a “A Guide to Heat Acclimatization and Heat Illness Prevention” can reduce the risk and incidence of EHS and the resulting deaths and injuries in high school athletes. The NFHS recognizes that various states and regions of the country have unique climates and variable resources, and that there is no “one-size-fits-all” optimal acclimatization plan. However, the NFHS and NFHS SMAC strongly encourage member state associations to incorporate all of the “Fundamentals” into any heat acclimatization plan to improve athlete safety. In addition, “A Guide to Heat Acclimatization and Heat Illness Prevention” should be required viewing for all coaches.
HEAT ILLNESS

DEFINITIONS: Heat illness is a spectrum of disorders occurring in athletes exposed to excessive environmental heat.

PREVENTION IS KEY:
1. Monitor environment
2. Adjust workload/equipment in dangerous conditions
3. Acclimatization of athletes
4. Mandate scheduled rest/breaks/hydration during practices for participants
5. Proper diet and hydration methods

HEAT CRAMPS:
Heat cramps present a mild form of heat-illness that can be easily treated. These intense muscle spasms usually develop after prolonged, intense exercises in the heat. The cramps are thought to result from fluid and electrolyte loss from sweating

SYMPTOMS AND PRESENTATION:
▪ Intense pain (not associated with a pulling or strained muscle)
▪ Persistent muscle contractions that continue during or after exercise

GUIDELINES FOR TREATMENT:
▪ Remove athlete from heat
▪ The individual should be given sports drink to help replace fluid and electrolyte losses. Provide water if no sports drinks are available
▪ Light stretching, relaxation and massage of the cramped muscles

HEAT EXHAUSTION:
Heat exhaustion is a moderate heat illness that occurs along a spectrum of severity and is associated with symptoms that may require medical attention.

SYMPTOMS AND PRESENTATION:
▪ Elevated core temperature
▪ Individual finds it hard or impossible to keep playing
▪ Headache
▪ Weakness/Loss of coordination
▪ Dehydration
▪ Profuse sweating or pale skin
▪ Nausea, vomiting, stomach cramps or diarrhea
GUIDELINES FOR MANAGEMENT:
- Move the athlete to a shaded or air-conditioned area
- Have individual lie down comfortably with legs above heart level
- Remove any extra clothing and equipment
- Cool the individual rapidly with cold water, fans or cold towels (replace towel frequently).
- If the individual is not nauseated or vomiting, have them drink chilled water or sports drink
- The athlete may need to be transported if symptoms progress or there is a slow response to interventions

Exertional Heat Stroke:
Heat Stroke is severe heat illness and represents a medical emergency that requires immediate action. Heat stroke can lead to permanent disability or even death if left untreated.

SYMPTOMS AND PRESENTATION:
- Elevated core body temperature (104 degrees or above)
- Key feature is the central nervous system dysfunction, such as altered consciousness, seizures, confusion, emotional instability, irrational behavior or decreased mental acuity
- Heat stroke can occur abruptly

Other possible indicators include:
- Nausea, vomiting or diarrhea
- Headache, dizziness or weakness
- Hot and wet or dry skin
- Increased heart rate, decreased blood pressure or fast breathing
- Dehydration
- Combativeness

GUIDELINES FOR MANAGEMENT:
- Call 911
- “Cool first, transport second”
- Remove extra clothing
- Begin aggressive whole-body cooling by immersing in tub of cold water. If a tub is not available, use alternative methods such as cold water, fans, ice or cold towels (replaced frequently) placed over body as much as possible
- When EMT arrives transport to emergency medical facility
HEAT ACCLIMATIZATION AND SAFETY PRIORITIES

- Recognize the Exertional Heatstroke (EHS) is the leading preventable cause of death among high school athletes.

- Know the importance of a formal pre-season heat acclimatization plan.

- Know the importance of having and implementing a specific hydration plan, keeping your athletes well-hydrated, and encouraging and providing ample opportunities for regular fluid replacement.

- Know the importance of appropriately modifying activities in relation to the environmental heat stress and contributing individual risk factors (e.g., illness, obesity) to keep your athletes safe and performing well.

- Know the importance for all members of the coaching staff to closely monitor all athletes during practice and training in the heat and recognize the signs and symptoms of developing heat illnesses.

- Know the importance of, and resources for, establishing an emergency action plan and promptly implementing it in case of suspected Exertional Heatstroke (EHS) or other medical emergencies.

Fundamentals of a Heat Acclimatization Program

1. **Physical exertion and training activities should begin slowly and continue progressively. An athlete cannot be “conditioned” in a period of only two to three weeks.**

   A. Begin with shorter, less intense practices and training activities, with longer recovery intervals between bouts of activity.

   B. Minimize protective gear (helmets only, no shoulder pads) during first several practices, and introduce additional uniform and protective gear progressively over successive days.

   C. Emphasize instruction over conditioning during the first several practices.

   **Rationale:** The majority of heat-related deaths happen during the first few days of practice, usually prompted by doing too much, too soon, and in some cases with too much protective gear on too early in the season (wearing helmet, shoulder pads, pants and other protective gear). Players must be allowed the time to adapt safely to the environment, intensity, duration, and uniform/equipment.

2. **Keep each athlete’s individual level of conditioning and medical status in mind and adjust activity accordingly. These factors directly affect exertional heat illness risk.**

   **Rationale:** Athletes begin each season’s practices and training activities at varying levels of physical fitness and varying level of risk for exertional heat illness. For example, there is an increased risk if the athlete is obese, unfit, has been recently ill, has a previous history of exertional heat illness, or has Sickle Cell Trait.

3. **Adjust intensity (lower) and rest breaks (increase frequency/duration), and consider reducing uniform and protective equipment, while being sure to monitor all players more closely as conditions are increasingly warm/humid, especially if there is a change in weather from the previous few days.**
Rationale: Coaches must be prepared to immediately adjust for changing weather conditions, while recognizing that tolerance to physical activity decreases and exertional heat illness risk increases, as the heat and/or humidity rise. Accordingly, it is imperative to adjust practices to maintain safety and performance.

4. **Athletes must begin practices and training activities adequately hydrated.**

**Rationale:** While proper hydration alone will not necessarily prevent exertional heat illness, it will decrease risk.

5. **Recognize early signs of distress and developing exertional heat illness, and promptly adjust activity and treat appropriately. First aid should not be delayed!**

**Rationale:** An athlete will often show early signs and/or symptoms of developing exertional heat illness. If these signs and symptoms are promptly recognized and the athlete is appropriately treated, serious injury can be averted and the athlete can often be treated, rested and returned to activity when the signs and symptoms have resolved.

6. **Recognize more serious signs of exertional heat illness (clumsiness, stumbling, collapse, obvious behavioral changes and/or other central nervous system problems), immediately stop activity and promptly seek medical attention by activating the Emergency Medical System. On-site rapid cooling should begin immediately.**

**Rationale:** Immediate medical treatment and prompt rapid cooling can prevent death or minimize further injury in the athlete with EHS. Ideally, pools or tubs of ice water to be used for rapid cooling of athletes should be available on-site and personnel should be trained and practiced in using these facilities for rapid cooling. Ice water baths are the preferred method for rapid cooling, however, if ice water pools or tubs are not available, then applying ice packs to the neck, axillae, and groin and rotating ice water-soaked towels to all other areas of the body can be effective in cooling an affected athlete.

7. **An Emergency Action Plan with clearly defined written and practiced protocols should be developed and in place ahead of time.**

**Rationale:** An effective emergency action plan (EAP) should be in place in case of any emergency, as a prompt and appropriate response in any emergency situation can save a life. The EAP should be designed and practiced to address all teams (freshman, junior varsity, varsity) and all practice and games sites.

**References:**
HYDRATION/ENERGY DRINKS/SPORTS DRINKS

DEFINITIONS:

Energy Drinks:
Energy drinks contain substances not found in sports drinks that act as stimulants, such as caffeine, guarana and taurine. Caffeine has been linked to a number of harmful health effects in children, including effects on the developing neurologic and cardiovascular systems. Caffeine can be lethal at toxic doses. Energy drinks are never appropriate for children or adolescents.

• The supplement industry is not regulated by the FDA
• Marketing promotes youth consumption
• 30% of 12-17 year olds are regular consumers of these products
• Typically energy drinks contain significant amount of caffeine (same amount as 2-5 sodas)
• Energy drinks are America’s #1 stimulant drug by far
• Most contain a significant amount of simple sugars with high calories per serving
• The American Academy of Pediatrics recommends no use in kids < 18 yrs. old
• Side effects include: Jitters, Anxiety, Increased Heart Rate, Insomnia and GI distress

Sports Drinks/Hydration:
Sports drinks and energy drinks are different products. Sports drinks, which contain carbohydrates, minerals, electrolytes and flavoring, are intended to replace water and electrolytes lost through sweating during exercise. Sports drinks can be helpful for young athletes engaged in prolonged, vigorous physical activities, but in most cases they are unnecessary on the sports field or the school lunchroom.

Water
Water is the most essential component of the human body as it provides an important role in the function of cells. Important functions of water include transportation of nutrients, elimination of waste products, regulation and maintenance of body temperature through sweating, maintenance of blood circulation and pressure, lubrication of joints and body tissues, and facilitation of digestion.

PREVENTION:

• Water is all young athletes need prior to exercise
• Stay hydrated throughout the 24 hrs. before exercise
• Consume 16-20 fluid ounces of water at least four hours before exercise
• Consume 8-12 fluid ounces of water 10-15 minutes before exercise
• Consume 3-8 fluid ounces of water every 15-20 minutes when exercising for < 1 hour
• Consume 3-8 fluid ounces of a sports drink every 15-20 minutes when exercising > 1 hour
• Do not drink > 1 quart per hour during exercise
• Young athletes should continue to hydrate 2-3 hours after event
• Consume 20-24 fluid ounces of water or sports drink for every pound lost during exercise
**Fluid replacers**
- Examples: Water, Gatorade, 10K, Quickick, Max
- These drinks are absorbed as quickly as water and typically are used for activities lasting less than 2 hours.

**Carbohydrate loaders**
- Examples: Gatorade, Exceed High, Carboplex
- These drinks replace more muscle glycogen to enhance greater endurance.

**Nutrition supplements**
- Examples: Gatorpro, Exceed Sports, Ultra Energy
- These supplements are fortified with vitamins and minerals and they help athletes maintain a balanced diet.
- They can be used as a meal replacement supplement for athletes who wish to skip a high fat meal, or as extra calories for athletes who wish to gain weight.

**What not to drink**
- Drinks with Carbohydrate (CHO) concentrations of greater than eight percent should be avoided.
- Fruit juices, CHO gels, sodas, and sport drinks that have a CHO greater than six to eight percent are not recommended during exercise as sole beverages.
- Beverages containing caffeine, alcohol, and carbonation are not to be used because of the high risk of dehydration associated with excess urine production or decreased voluntary fluid intake.

References:
American College of Sports Medicine
American Academy of Pediatrics: Council on Fitness and Sports Medicine
DEHYDRATION, ITS EFFECTS ON PERFORMANCE, AND ITS RELATIONSHIP TO HEAT ILLNESS

- Dehydration can affect an athlete’s performance in less than an hour of exercise – sooner if the athlete begins the session dehydrated
- Dehydration of just one to two percent of body weight (only 1.5-3 lb. For a 150-pound athlete) can negatively influence performance.
- Dehydration of greater than three percent of body weight increases an athlete’s risk of heat illness (heat cramps, heat exhaustion, heat stroke)
- High-body-fat athletes can have a harder time with exercise and can become dehydrated faster than lower-body-fat athletes working out under the same environmental conditions.
- Poor acclimatization/fitness levels can greatly contribute to an athlete’s dehydration problems.
- Medications/fevers greatly affect an athlete’s dehydration problems.
- Environmental temperature and humidity both contribute to dehydration and heat illnesses.
- Clothing, such as dark, bulky, or rubber protective equipment can drastically increase the chance of heat illness and dehydration.

DEHYDRATION DEFINITION:
Individuals get dehydrated if they do not replace body fluids lost by sweating. Dehydration also puts individuals at risk for more dangerous heat illnesses.

SYMPTOMS AND PRESENTATION:
- Dry mouth
- Thirst
- Being irritable or cranky
- Headache
- Dizziness
- Cramps
- Excessive fatigue
- Individual not able to run as fast or play as well as usual

GUIDELINES FOR MANAGEMENT:
- Move individual to a shaded or air-conditioned area
- Provide cold fluids/sports drink
**CHSAA LIGHTNING AND TORNADO POLICY AND PROCEDURES**

**Weather Apps**
- It is strongly recommended that an independent and objectively verified weather app (such as the WeatherBug® Spark™ App, Storm by Weather Underground, or the National Weather Service app) be available at all outdoor activities, including practices and contests. This should be part of your venue-specific emergency action plan.
- Acceptable alternatives to the verified weather apps include but are not limited to: immediate contact with the local weather services, local television or radio. Access to these sources can be through the Internet, cellular telephone and/or any other means that provides the information needed for real time decisions to be made.

**Proactive Planning for Lightning**

In your venue-specific emergency action plan, you must:

1. Assign a staff member to monitor local weather conditions before and during practices and contests. This staff member is designated to make the final call on suspending and resuming the game.
2. Develop an evacuation plan, including identification of appropriate nearby safer areas and determine the amount of time needed to get everyone to a designated safer area:
   a. Utilize announcements/public address announcer to help guide teams and fans to the appropriate shelter and identifying safe places as noted below.
   b. Safe locations need to be identified and shared with teams, spectators and workers prior to the start of the activity or athletic event.
   c. A designated safer place is a substantial building with plumbing and wiring where people live or work, such as a school, gymnasium, locker rooms or buses/cars. An alternate safer place from the threat of lightning is a fully enclosed (not convertible or soft top) metal car or school bus.
   d. Unsafe locations include but are not limited to: Picnic areas, parks, open sided shelters (dugouts), storage sheds, open garages, tents, press boxes, areas close to open water, tall objects such as trees, poles, towers, and elevated areas.
3. When a thunderstorm seems imminent, lightning is seen or heard, or the weather app indicates that lightning is within 8-10 miles, the outdoor venue (small or large) needs to be evacuated. Proceed to a lighting safe area.
4. Activities shall be suspended, and all personnel are directed to move to safe locations. The call to suspend activity due to close lightning should be based on how fast the storm is approaching and the amount of time it will take for event participants to take appropriate safe shelter. At a minimum, by the time the lightning storm has reached 8 miles away from the location of the outdoor activity, all individuals should have left the outdoor athletic site and reached a safe location. Weather monitoring subscriptions should be set at an 8-10 mile radius from the center of the sporting event (venue specific).
5. Criteria for suspension and resumption of play:
   a. When thunder is heard or lightning is seen*, the leading edge of the thunderstorm is close enough to strike your location with lightning. Suspend play for at least 30 minutes and vacate the outdoor activity to the previously designated safer location immediately.
   b. 30-minute rule. Once play has been suspended, wait at least 30 minutes after the last thunder is heard or lightning is witnessed* prior to resuming play.
   c. Any subsequent thunder or lightning* after the beginning of the 30-minute count will reset the clock and another 30-minute count should begin.
   d. When lightning-detection devices or mobile phone apps are available, this technology could be used to assist in making a decision to suspend play if a lightning strike is noted to be within 10 miles of the event location. However, you should never depend on the reliability of these devices and, thus, hearing thunder or seeing lightning* should always take precedence over information from a mobile app or lightning-detection device.

* – **PER NFHS** At night, under certain atmospheric conditions, lightning flashes may be seen from distant storms. In these cases, it may be safe to continue an event. If no thunder can be heard and the flashes are low on the horizon, the storm may not pose a threat. Independently...
verified lightning detection information would help eliminate any uncertainty.

6. Review the lightning safety policy annually with all administrators, coaches and game personnel and train all personnel.

7. Inform student-athletes and their parents of the lightning policy at start of the season in your pre-season meeting.

**No App Available- Use NFHS Guidelines**

When a weather app is not available, the default NFHS policy that appears in the Rules Book of each sport shall be followed. In brief, that policy requires suspension of all activity when cloud-to-ground lightning is observed, or thunder is heard. If thunder is heard, lightning is assumed to be striking within 10 miles. Implement the Thirty Minute Rule as noted in the NFHS Policy.

When activities are suspended, the following individuals shall be responsible for the safety of personnel:

- The head coach for players and other team personnel.
- Game management guiding spectators and personnel to safe areas
- The senior official for the officiating crew.
- All game management personnel, administrators, coaches and officials must be thoroughly familiar with the NFHS default policy as well as this policy.

**A Person Struck by Lightning**

People who have been struck by lightning do not carry an electrical charge and are safe to be touched by others.

- Call 911
- Cardiopulmonary resuscitation (CPR) is safe for the first responder.
- If possible, an injured person should be moved to a safer location before starting CPR.
- Lightning-strike victims with signs of cardiac or respiratory arrest need immediate emergency help.
- Activate the local emergency management system and utilize an AED if available. Prompt, effective CPR has been highly successful for the survival of lightning strike victims.

**Tornado Specific EAP**

**Definitions:**

- Tornado Watch - indicates tornadoes are possible
- Tornado Warning - tornado siren sounds signaling tornado sighted or tornado indicated by radar

**Emergency Action Plan:**

- Develop a tornado specific EAP for each venue or event.
- Designated weather watcher (above) notifies site or athletic director of approaching storm and communicates direction and speed of storm.
- If a tornado warning is initiated, immediate event delay should be implemented, and all participants, spectators and athletic staff should SEEK SHELTER IMMEDIATELY. Once inside a secure location, tune to local weather alert radio to be informed of storm location, path and duration of tornado warning.
- Warning may be extended, or a new warning issued at any time, so continued monitoring is needed. During tornado warning, sirens will sound for 3 minutes at a time. Depending on duration of warning, sirens may re-sound multiple times.
- Safe shelter from tornado = inside lowest building level, away from exterior walls/windows, with windows closed. If outside, lie flat in a ditch or depression and cover head with hands or stay in a car with seatbelt on. Be aware of potential flooding. DO NOT take cover under an overpass or bridge. Never try to outrun a tornado in urban or congested areas. Be aware of flying debris.

All clear - tornado warning will expire after duration specified by National Weather Service and weather watcher notifies site director that warning has ended and event can resume.
MENTAL HEALTH

Colorado Crisis Services
1-844-493-TALK (8255)

Colorado Crisis Services is a 24/7 hotline that directs people to resources for mental health, substance use and emotional help.
Worried about Suicide? Learn the FACTS!

Are you concerned that someone you know may be at risk for suicide? Your first step in helping may be as simple as learning the FACTS or warning signs. The following signs may mean that a youth is at risk for suicide, particularly if that person attempted suicide in the past.

**FEELINGS**
- Expressing hopelessness about the future.

**ACTIONS**
- Displaying severe/overwhelming pain or distress.

**CHANGES**
- Showing worrisome behavioral cues or marked changes in behavior, including: withdrawal from friends or changes in social activities; anger or hostility; or changes in sleep.

**THREATS**
- Talking about, writing about, or making plans for suicide.

**SITUATIONS**
- Experiencing stressful situations including those that involve loss, change, create personal humiliation, or involve getting into trouble at home, in school or with the law. These kinds of situations can serve as triggers for suicide.

If you notice any of these warning signs, you can help!

1. Express your concern about what you are observing in their behavior
2. Ask directly about suicide
3. Encourage them to call the National Suicide Prevention Lifeline at 800-273-TALK (8255)
4. Involve an adult they trust

Remember, if you have **IMMEDIATE** concern about someone’s safety, call 911 right away!

Suicide is a preventable problem.

By taking the time to notice and reach out to a peer, you can be the beginning of a positive solution.

Don't Forget -
Youth Suicide Prevention is Everyone's Business!

*This is an updated version of the FACTS handout available in the Lifelines Curriculum and "Making Educators Partners"
SEIZURE PROTOCOL

DEFINITION:
A disorder of brain function characterized by sudden, brief attacks of altered conscious, motor activity, sensory phenomena or inappropriate behavior caused by an abnormal excessive discharge from the brain.

SYMPTOMS AND PRESENTATION:
Recognition of seizures can include any or all of the following symptoms:
- Blank stare, dazed, unresponsive
- Unaware of surroundings
- Clumsy
- Rapid blinking or chewing movements
- Rigidity, followed by muscle jerks
- Shallow breathing
- Possible loss of bladder or bowel control
- Generalized shaking of entire body

GUIDELINES FOR MANAGEMENT:
Management of seizures in athletes:
- Protect patient from further injury
- Do not forcibly restrain
- Maintain airway
- Roll patient to the side to avoid choking on vomit, “rescue position”
- No blind sweep of oral cavity with finger
- Do not put anything in the mouth
- Activate EMS by calling 911 if seizure lasts more than 5 minutes, patient has difficulty breathing or waking after the seizure, or there is an injury from the seizure
- Once seizure has subsided:
  - Check vitals
  - Check for injuries
  - Referral to advanced medical care immediately
  - Obtain history
SICKLE CELL TRAIT PROTOCOL

DEFINITION:

Sickle Cell Trait (SCT) is a genetic condition that occurs when a person inherits one sickle cell gene and one normal gene. SCT generally does not present problems with daily activities. The majority of athletes with the SCT compete without complications or symptoms. During periods of intense or prolonged exertion or with low oxygen levels (high altitude), the blood cells can change shape (sickle), causing a blockage of blood vessels and a rapid breakdown of muscle. When this occurs, the athlete may collapse and in rare cases fatality can occur. Schools need to be particularly careful when acclimatizing students during preseason conditioning and sports activities especially during the warmer months. SCT should not preclude an individual from participating in sports.

Basic precautions can greatly reduce the risk of a sickling crisis. Signs and symptoms of sickling must be recognized early by the athlete, coaches or medical staff to prevent complications. Asthma, viral illness, dehydration, and heat stress can predispose an athlete with SCT into a sickling crisis during intense physical exertion. Though caution must be taken with these athletes, they should always be allowed to compete in all sports.

SYMPTOMS AND PRESENTATION:

Recognition of sickling crisis can include any or all of the following symptoms:

• Appears dazed or confused
• Appears weak
• Not keeping up with other teammates
• Difficulty breathing
• Muscle pain, weakness or cramping
• Mild exertional distress

GUIDELINES FOR MANAGEMENT:

Prevention of SCT in athletes:

• Set own pace
• Stay well hydrated with frequent breaks
• Adequate rest and recovery between intense drills
• Slow and gradual preseason conditioning regimen
• Athlete should not run timed, sustained 100-yard sprints or timed, sustained shuttle runs
• Rest breaks MUST be given between sprints or sustained maximal efforts
**SPINE INJURY**

**Equipment Removal in Suspected Spine Injury:**

Serious spinal injuries can have devastating effects. Sport participation constitutes the 4th most common cause of these injuries overall but is the 2nd most common cause for those younger than 30 years of age. The purpose of this statement is to provide coaches and emergency responders with recommendations and considerations for initial management of suspected spine injuries.

- If helmet and shoulder pads are in place and properly fitted securing the head and neck in neutral alignment, then the helmet and shoulder pads should remain in place until an athletic trainer or experienced medical team (3 or more personnel with proper training in equipment removal) arrives.
- The athletic trainer or EMS may remove the facemask using the appropriate tools while maintaining the head and neck in a neutral position. Removing the facemask allows access to the airway.
- The athlete’s helmet and shoulder pads may be removed as a unit by an experienced medical team prior to being transported to the local emergency department by ambulance.
- Emergency cards should be easily accessible and parents of athlete should be contacted ASAP.
- It is the responsibility of the school to contact their local EMS services and to have a protocol in place for management of suspected spine injuries. It is encouraged that schools perform annual training of emergency action plans with their local EMS.
- Once EMS arrives they will assume responsibility of the situation and may add or remove equipment as they see necessary.

**When a student athlete is injured on the field/Court and no AT and/or EMS personnel are available carry out the following steps:**

- Ensure scene is safe
- Do not move the athlete
- If unconscious and/or suspected head/neck injury - stabilize cervical spine and call 911
- Assess respiratory status (if in cardiac arrest initiate CPR/AED)
- Notify family and appropriate school administration
- Document/record your actions – athlete injury/incident report

References:
- Mayo Clinic
- American Heart Association
- National Athletic Trainers Association