

# Carroll County Schools Extreme Weather Guidelines Grades 6-12

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The following guidelines for heat related illness, extreme cold temperatures, and lightning safety are suggested, though each student and situation is unique, and may not require every step listed or may call for different or additional measures:

The Carroll County School System through its Principals or designee will hold a meeting with the coaches whose sport begins prior to the school year to distribute and/or review the material concerning heat related illness and to review the system guidelines with respect to outdoor practices during the summer months.

Information that must be reviewed is attached. It is important that all coaches sign in for the local school meeting as a record that they have received the heat related in-service. A copy of the sign-in sheet must be kept on file at the local school.

Any coach who does not attend the meeting must be in-serviced at a make-up session before the start of the fall sports season.

If you have any questions, please do not hesitate to contact me.

attachment



## **GHSA HEAT POLICY – FREQUENTLY ASKED QUESTIONS**

### **WHEN DOES THE HEAT POLICY STOP?**

Some aspects of the heat policy are always in effect regardless of the sport. The limitations in By-law 2.67 (Institutional Heat Policy) are in effect anytime the Wet Bulb Globe Temperature (WBGT) reading registers in an elevated level. The limitation on activities that are on the published chart must be followed.

The Football Preseason Heat Guidelines are in effect from the beginning of the acclimatization activities (five consecutive weekdays before the first practice in full pads) until the first game of the season.

### **WHAT IS THE WBGT?**

The Wet Bulb Globe Temperature reading is a composite temperature used to estimate the effect of air temperature, humidity, and solar radiation on the human body. The reading is expressed in degrees, but should not be equated with degrees of air temperature. For example: A WBGT reading of 92 is somewhat comparable to a Heat Index reading of 104-105 degrees.

A Heat index reading merely reflects the combination of heat and humidity as “how hot it feels” on a person who is normally dressed and not involved in strenuous activity. Therefore, the Heat Index has little relevance to a football practice setting.

### **HOW FREQUENTLY SHOULD WBGT READINGS BE TAKEN IN PRACTICE?**

Obviously, the reading should be taken just before the scheduled starting time for the practice to determine what levels of activity are permissible – or if the practice will need to be postponed until the WBGT reading gets to an acceptable level. The frequency of readings during the practice will likely depend on when the practice is scheduled. An early practice with temperatures increasing during the practice time may require several readings being taken. A late afternoon or evening practice with temperatures decreasing during the practice time should not require as many readings. The important thing is that the risks to the players are being monitored appropriately.

### **WHY DOES THE HEAT POLICY APPLY TO PRACTICES AND NOT TO GAMES?**

The researchers who conducted the 3-year study on heat illness agreed with the GHSA administrators that there are enough built-in opportunities for players to get rest and hydration breaks during the course of a game. Everyone on the team is not participating intensely at one time. Officials and coaches are available to monitor 22 players in a game setting, while coaches may have 100 or more players to monitor during a practice setting.

It is important to remember that scrimmages are practices and they do fall under the heat policy guidelines. These interscholastic contests often occur early in the acclimatization process and extra attention needs to be given to player well-being.

### **WHAT CONSTITUTES A “CONDITIONING ACTIVITY”?**

Conditioning activities involve weight-training, distance running, “gassers”, “running the stadium”, and other such things. Whether these activities are done before or after a practice, they are considered to be a part of the practice and must be figured into the time restrictions. The heat policy should be in effect for “voluntary conditioning” programs since statistics at both high school and collegiate levels indicate that a large percentage of serious heat illness episodes occur during these activities.

### **WHAT ARE “WALK-THROUGHS”, WHEN MAY THEY BE HELD?**

Walk-throughs are not considered a part of a practice since they have so many limitations placed on them. A walk-through session may last no longer than one hour. During a walk-through period, players may not wear protective equipment so no contact drills may be held. No conditioning activities may held during a walk-through period. A walk-through may not be held on a day when there are two practices being held. These session are designed to work on offensive and defensive schemes and techniques without being involved in contact work.

## 1. BY-LAW 2.67 – “Practice Policy for Heat and Humidity

Schools must follow the statewide policy for conducting practices and voluntary conditioning workouts in all sports during times of extremely high heat and/or humidity that will be signed by each head coach at the beginning of each season and distributed to all players and their parents or guardians. The policy shall follow modified guidelines of the American College of Sports Medicine in regard to:

1. The scheduling of practices at various heat/humidity levels
2. The ratio of workout time to time allotted for rest and hydration at various heat/humidity levels
3. The heat/humidity level that will result in practice being terminated

A scientifically approved instrument that measures Wet Bulb Globe Temperature (WBGT) reading must be utilized at each practice to ensure that the written policy is being followed properly.

<b>WBGT READING</b>	<b>ACTIVITY GUIDELINES &amp; REST BREAK GUIDELINES</b>
<b>UNDER 82.0</b>	Normal activities --Provide at least three separate rest breaks each hour of minimum duration of 3 minutes each during workout
<b>82.0 -86.9</b>	Use discretion for intense or prolonged exercise; watch at-risk players carefully; Provide at least three separate rest breaks each hour of a minimum of four minutes duration each.
<b>87.0 – 89.9</b>	Maximum practice time is two hours. For Football: players restricted to helmet, shoulder pads, and shorts during practice. All protective equipment must be removed for conditioning activities. For all sports: Provide at least four separate rest breaks each hour of a minimum of four minutes each
<b>90.0--92.0</b>	Maximum length of practice is one hour, no protective equipment may be worn during practice and there may be no conditioning activities. There must be 20 minutes of rest breaks provided during the hour of practice.
<b>OVER 92</b>	No outdoor workouts; Cancel exercise; delay practices until a cooler WBGT reading occurs

### GUIDELINES FOR HYDRATION AND REST BREAKS

1. Rest time should involve both unlimited hydration intake (water or electrolyte drinks) and rest without any activity involved
2. For football, helmets should be removed during rest time
3. The site of the rest time should be a “cooling zone” and not in direct sunlight.
4. When the WBGT reading is over 86:
  - a. ice towels and spray bottles filled with ice water should be available at the “cooling zone” to aid the cooling process.
  - b. Cold immersion tubs must be available for practices for the benefit of any player showing early signs of heat illness.

### DEFINITIONS

1. **PRACTICE:** the period of time that a participant engages in a coach-supervised, school-approved sport or conditioning-related activity. Practices are timed from the time the players report to the field until they leave.
2. **WALK THROUGH:** this period of time shall last no more than one hour, is not considered to be a part of the practice time regulation, and may not involve conditioning or weight-room activities. Players may not wear protective equipment.

**PENALTIES:** Schools violating the heat policy shall be fined a minimum of \$500.00 and a maximum of \$1,000.00.

## INFORMATION ON WET BULB GLOBE TEMPERATURE DEVICES

The GHSA has deliberately avoided specifying any particular manufacturer or retailer of Wet Bulb Globe Temperature devices, but there have been an increasing number of inquiries about what devices to buy. The GHSA is sensitive to directing schools to instruments that are portable and that are within the \$150.00 - \$300.00 price range.

The following list of instruments and web sites is being put together with several caveats. First, this is not an exhaustive list – there are other units on the market that are functional and affordable. Secondly, there should not be any assumption that the GHSA is recommending or endorsing any particular instrument. Finally, there is no guarantee that any device listed will be sold within the price range cited above.

[www.scientificgear.com](http://www.scientificgear.com)

Delta OHM HD 32.2

Kyoto KEM – WBGT-103 Heat Stroke Checker

[www.quest-technologies.com](http://www.quest-technologies.com)

QUESTemp 32,34,36,44,46,48

[www.nkhome.com/kestrel-4400/](http://www.nkhome.com/kestrel-4400/)

Kestrel 4400

[www.medco-athletics.com](http://www.medco-athletics.com)

General Reed -- WBGT meter 8778

[www.testequipmentdepot.com](http://www.testequipmentdepot.com)

Reed – SD-2010

[www.schoolhealth.com](http://www.schoolhealth.com)

EBGT Model #13099

## **ADDITIONAL INFORMATION FOR INSTITUTIONAL HEAT POLICY**

The GHSA Executive Committee specified that each head coach must publish a document outlining the GHSA Heat Policy and then sign that document before distributing it to parents and guardians of all players at the beginning of each season. It is important that coaches go over this information with their players in addition to sending the signed policy statement home to the parents/guardians. There will be no standardized document created by the GHSA, because many schools intend to add other information for distribution at the same time.

The following information **MUST** be included to accurately describe the GHSA Institutional Heat Policy:

1. **FOR ALL SPORTS:** The information found under the title of “Practice Policy for Heat and Humidity” that is found on both the GHSA Home Page (upper left margin) and on the Sports Medicine Page.
2. **FOR FOOTBALL:** Information found under the title of “Football Preseason Practice Regulations” and this is found on the Football page

The information that is specified above may not be modified in any way; however, additional information about school procedures may be added.

**Carroll County Schools**  
**GUIDELINES FOR OUTDOOR EXTRACURRICULAR ACTIVITIES**  
**DURING EXTREME HOT AND HUMID WEATHER**

1. Each school shall have and use a digital heat index monitor, a device for measuring environmental factors. The digital monitor is used to measure the Heat Index (HI) temperature which is derived by evaluating the combined dry air temperature, humidity, ground radiated heat, and the wind speed at that particular location. Conditions are subject to change during the practice/activity; therefore, measurements should be taken at regular intervals throughout the practice activity. Measurements should be taken at the practice/activity site.
  - a. All Activities: Monitor and follow all guidelines.
  - b. Football Only: Will be required to measure and document the Heat Index Monitor prior to outdoor practice through the months of July and August, and during spring practice in May, and other times when conditions warrant. This can be done by the school Athletic Director, First Aid-Facilitator, or a football coach.
2. Practices and games should be held early in the morning and later in the evening to avoid times when environmental conditions are generally more severe.
3. An unlimited supply of cold water shall be available to participants during practice games.
  - a. Coaches/Supervisors shall inform all students participating that cold water is always available or accessible and they will be given permission anytime he/she asks for water.
  - b. Hydration and fluid replacement is a daily process. Students should hydrate themselves before, during, and after practice. Meals should include an appropriate amount of fluid intake in addition to a healthy diet.
4. Give adequate rest periods. Remove appropriate equipment or clothing when possible. Exposed skin cools more efficiently.
  - a. Football players shall be allowed to remove helmets.
  - b. Shoulder pads should be removed if conditions warrant.
5. Gradually acclimatize participants to the heat.
  - a. Research indicates 80% acclimatization may be achieved in 7-10 days, but could take up to 14 days. In some cases, it may take several weeks to become fully acclimated.
  - b. The length and intensity of practice should be adjusted according to the Heat Index until acclimatization occurs.
6. Athletic participants should weigh in before practice and weigh out after to monitor water loss to identify those who are becoming dehydrated.
7. Participants should wear clothes that are light in weight and color.
8. Students who need careful monitoring include:
  - a. Overweight students
  - b. Weight control problems (fluctuation)
  - c. Those taking over-the-counter and prescription medication
  - d. Students who have done absolutely no exercise at all
9. Be familiar with all heat related symptoms and corresponding treatments.
10. Be familiar with the Heat Index Temperature Chart and utilize guidelines determining length and rest periods.

# **FLUID REPLACEMENT**

(From the NATA)

## **Weight Lost During Workout**

2 pounds  
4 pounds  
6 pounds  
8 pounds

## **Fluid Amount Needed to Refuel**

32 oz. (4 cups or one sports drink bottle)  
64 oz. (8 cups or two bottles)  
96 oz. (12 cups or three bottles)  
128 oz. (16 cups or four bottles)

# **GUIDELINES FOR HYDRATION DURING EXERCISE**

(From the NATA)

1. Drink 16-24 oz. of fluid 1 to 2 hours before the workout or competition.
2. Drink 4-8 oz. of water or sports drink during every 20 minutes of exercise.
3. Drink before you feel thirsty. When you feel thirsty, you have already lost needed fluids

# HEAT ILLNESS SYMPTOMS AND TREATMENTS

(As Recommended by the National Athletic Trainers Association, (NATA) July 1999)

Heat illness is used to define several types of afflictions suffered when an individual experiences a rising body temperature and dehydration. Following are the different forms identified by the NATA.

	<b>Symptoms</b>	<b>Treatment</b>
<b>Heat Cramps</b>	<ul style="list-style-type: none"> <li>- Muscle spasms caused by an imbalance of water and electrolytes in muscles</li> <li>- Usually affects the legs and abdominal muscles</li> </ul>	<ul style="list-style-type: none"> <li>- Rest in a cool place</li> <li>- Drink plenty of fluids</li> <li>- Proper stretching and massaging</li> <li>- Application of ice in some cases</li> </ul>
<b>Heat Exhaustion</b>	<ul style="list-style-type: none"> <li>- Can be a precursor to heat stroke</li> <li>- Normal to high temperature</li> <li>- Heavy sweating</li> <li>- Skin is flushed or cool and pale</li> <li>- Headaches, dizziness</li> <li>- Rapid pulse, nausea, weakness</li> <li>- Physical collapse may occur</li> <li>- Can occur without prior symptoms, such as cramps</li> </ul>	<ul style="list-style-type: none"> <li>- Get to a cool place immediately and out of the heat</li> <li>- Drink plenty of fluids</li> <li>- Remove excess clothing</li> <li>- In some cases, immerse body in cool water</li> </ul>
<b>Heat Stroke</b>	<ul style="list-style-type: none"> <li>- Body's cooling system shuts down</li> <li>- Increased core temperature of 104° F or greater</li> <li>- If untreated it can cause brain damage, internal organ damage, and even death</li> <li>- Sweating stops</li> <li>- Shallow breathing and rapid pulse</li> <li>- Possible disorientation or lose of consciousness</li> <li>- Possible irregular heartbeat and cardiac arrest</li> </ul>	<ul style="list-style-type: none"> <li>- Call 911 immediately</li> <li>- Cool bath with ice packs near large arteries, such as neck, armpits, groin</li> <li>- Replenish fluids by drinking or intravenously, if needed</li> </ul>

# GUIDELINES FOR EXTREME COLD TEMPERATURES

1. The local school principal, or designee, will make the final decision as to whether outdoor practice will be allowed. The health, safety, and welfare of the students should be the determining factors.
2. The wind chill factor should be used to determine the severity of the cold temperature, NOT just the temperature alone.
3. Warm-up and stretch properly up until immediately before the competition or practice.
4. Clothing should be selected for comfort. Do not overdress. Multiple layers provide good insulation.
5. Properly cover the head, neck, legs, and hands. Much of your body heat is lost through these areas.
6. Extreme cold blocks some sensations of pain. Thus, frostbite can easily affect the fingers, toes, ears, and facial areas. Check these areas regularly.
7. Hypothermia is a dangerous and severe level that can occur in cold temperatures. Add extra clothing and move to a warm environment immediately after exercising or practice. Drink warm fluids if possible. Hypothermia has occurred in air temperatures of 50° - 65° F.
8. Early signs and symptoms of hypothermia include shivering, euphoria, confusion, and behavior similar to intoxication. Severe signs include lethargy, muscular weakness, disorientation, depression, hallucinations, and even combative behavior.

**WIND CHILL CHART**  
**Wind Speed in MPH**

		0	10	20	30
<b>Temperature</b>	30° F	30	16	4	2
<b>Reading</b>	20° F	20	4	-10	-18
	10° F	10	-9	-25	-33
	0° F	0	-24	-39	-48
	-10° F	-10	-33	-53	-63
	-20° F	-20	-46	-67	-79

# LIGHTNING SAFETY FOR ATHLETIC EVENTS

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The National Lightning Safety Institute (NLSI) recommends that all organizations prepare a Lightning Safety Plan and inform all personnel of its contents. Lightning safety is “anticipating a high-risk situation and moving to a low risk location.” Just as practice and training increase athletic performances, similarly preparedness can reduce the risk of the lightning hazard. Lightning is the most frequent weather hazard impacting athletic events. All outdoor sports have been visited by lightning. That is why education is the single most important means to achieve lightning safety. Lightning Safety Plans should be site-specific, but they all share a common outline:

**1. Advance warning of hazard:**

- a) “If you can see it, flee it. If you can hear it, clear it”.
- b) TV Weather Channel; Weather Radio
- c) Lightning detectors

**2. Make a decision to suspend activities and notify people.**

- a) Notify people via radio, siren or other means.

**3. Move to safe location:**

- a) A large permanent building.
- b) **Unsafe** places are near metal or water; under trees; on hills; near electrical/electronic equipment.
- c) The 30/30 Rule says to shut down when lightning is six miles away. Use a “flash to bang” (lightning to thunder) count of five seconds equals one mile (10 = 2 miles; 20 = 4 miles; 30 = 6 miles).

**4. Reassess the hazard.**

It is usually safe after no thunder and no lightning have been observed for thirty minutes. Be conservative here.

**5. Inform people to resume activities.**

# NATA Lightning Safety Guidelines

Due to the alarming rise in lightning casualties in recreational and sports settings in recent decades, the National Athletic Trainers' Association (NATA) has released the following guidelines to follow when participating in outside athletic or recreational activities.

- 1) Establish a chain of command that identifies who is to make the call to remove individuals from the field.
- 2) Name a designated weather watcher. (A person who actively looks for the signs of threatening weather and notifies the chain of command if severe weather becomes dangerous.)
- 3) Have a means of monitoring local weather forecasts and warnings. (Know weather definitions – **Watch** indicates conditions are favorable for severe weather; **Warning** means severe weather has been detected in the area, and all persons should take the necessary precautions.)
- 4) Designate a safe shelter for each venue.
- 5) Use the Flash-to-Bang count to determine when to go to safety. By the time the flash-to-bang count approaches thirty seconds all individuals should be already inside a safe structure.
  - a) Once activities have been suspended, wait at least thirty minutes following the last sound of thunder or lightning flash prior to resuming an activity or returning outdoors.
  - b) Avoid being the highest point in an open field, in contact with, or proximity to the highest point, as well as being on the open water. Do not take shelter under or near trees, flagpoles, or light poles.
  - c) Assume the lightning safe position (i.e. crouched on the ground, weight on the balls of the feet, feet together, head lowered, and ears covered) for individuals who feel their hair stand on end, skin tingle, or hear “crackling” noises. Do not lie flat on the ground.
- 6) Observe the following basic first aid procedures in managing victims of a lightning strike:
  - Survey the scene for safety.
  - Activate local EMS.
  - Lightning victims do not ‘carry a charge’ and are safe to touch.
  - If necessary, move the victim with care to a safer location.
  - Evaluate airway, breathing, and circulation, and begin **CPR** if necessary.
  - Evaluate and treat for hypothermia, shock, fractures and/or burns.
- 7) All individuals have the right to leave an athletic site in order to seek a safe structure if the person feels in danger of impending lightning activity without fear of repercussions or penalty from anyone.