

TITLE: Guidelines for Preventing Heat Stress

NUMBER: BUL-963.3

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POLICY: To counteract heat stress, District personnel must pay attention to weather conditions and use good judgment for modifying activities and/or school days. This policy applies to all school-sponsored activities.

MAJOR CHANGES: This bulletin replaces BUL-963.2 with the same subject, issued by Student Health and Human Services, dated August 18, 2014. The content has been updated according to the most recent information available, including references.

PURPOSE: The purpose of this bulletin is to provide updated guidelines and protocols to prevent, identify, and respond to heat stress among students, staff, and participants in school-sponsored activities. It aims to ensure the health and safety of all individuals by outlining preventive measures, activity modifications, and emergency responses to reduce the risk of heat-related illnesses. This bulletin aligns with best practices, scientific recommendations, and state and federal requirements to create a safer environment in extreme heat conditions.

BACKGROUND: Heat stress poses a significant risk to individuals participating in outdoor and indoor activities during periods of elevated temperatures and high humidity. The effects of excessive heat on the human body can lead to a range of heat-related illnesses, including dehydration, heat exhaustion, and heat stroke, which can have severe or life-threatening consequences if not properly managed.

Advancements in environmental heat assessment tools, such as Wet Bulb Globe Temperature (WBGT), and updated recommendations from organizations such as the Occupational Safety and Health Administration (OSHA) and the National Athletic Trainers' Association (NATA) have become more readily available to

ROUTING
All Employees
All Locations

schools. In addition, new requirements from the California Interscholastic Federation (CIF) mandate the use of WBGT measurements for high school athletics.

This bulletin reflects these advancements and provides comprehensive strategies for modifying activities and implementing preventive measures to protect students and staff from heat-related risks. It also emphasizes collaboration among school administrators, coaches, teachers, and health professionals to promote a cohesive response to heat stress challenges.

GUIDELINES:**I. INTRODUCTION:**

- A. **Heat stress** is the overall effect of excessive heat on the human body. The body dissipates heat in various ways: by increasing blood circulation, by losing water through sweating, and as a last resort, by panting or altering breathing. When heat gain exceeds the level the body can remove, body temperature begins to rise and heat related illnesses and disorders may develop.
1. Those at highest risk are the very young, the elderly, people with acute or chronic health problems, people using certain medications or taking illicit drugs, athletes, outdoor workers, and pregnant women. For various reasons, not all people tolerate heat to the same extent.
- B. There are two primary methods for determining safe environmental conditions for activities in heat: the Heat Index and WBGT. **Heat Index is a measure of how hot it really feels when relative humidity is factored with the actual air temperature.** High relative humidity slows evaporation of water and therefore counteracts the cooling mechanism of sweating. Most heat alert procedures are based on the Heat Index, rather than just temperature. To estimate the Heat Index using temperature and relative humidity, refer to the Heat Index Chart ([Attachment A](#)). The National Oceanic and Atmospheric Administration (NOAA) is a federal agency focused on the condition of the oceans and the atmosphere. For local and forecasted temperature and humidity, go to the NOAA website at <https://www.weather.gov> and type in the local zip code. Local news reports on radio and television also carry this information.
1. OSHA-National Institute for Occupational Safety and Health (NIOSH) provides the [Heat Safety Tool App](#) that is available for IOS and Android Devices.
 2. WBGT is a measure of heat stress in direct sunlight, which takes into account: temperature, humidity, wind speed, sun angle, and cloud cover (solar radiation). In 2017, OSHA incorporated WBGT into their Technical Manual as an essential indicator of heat-

- related stress on the human body during work or recreational activities in direct sunlight. While accurate WBGT measurements necessitate specialized devices, currently available at all LAUSD secondary schools with interscholastic athletic programs, NOAA has initiated an experimental page <https://www.weather.gov/tsa/wbgt> to assist in predicting local WBGT measurements.
3. The California Interscholastic Federation requires High School Athletics to use a WBGT. Please refer to the related California Interscholastic Federation—Wet Bulb Globe Temperature: <https://www.weather.gov/tsa/wbgt> resource.
- C. To counteract heat stress, District personnel should pay attention to these contributing factors:
- * air temperature
 - * humidity
 - * air circulation
 - * radiant heat
 - * air pollution
 - * classroom temperature and classroom location
 - * length of exposure
 - * protective measures
 - * medical problems and use of medications
 - * fluid intake
 - * appropriate clothing
 - * physical conditioning
 - * acclimation to heat
 - * intensity, type and duration of exercise
- D. All staff supervising physical activities, including Beyond the Bell (BTB) and other District-contracted after school program personnel, should actively monitor students during activity periods and implement activity modifications in accordance with Attachment B. For students with known health conditions or documented disabilities, including those with Section 504 Plans or Individualized Education Programs (IEPs), modifications or restrictions must be implemented as specified in their plans to ensure equal access and prevent disability-based discrimination.

II. WEATHER CONDITIONS FOR MODIFYING CLASSROOM ACTIVITIES OR SCHOOL DAY

- A. The Office of Environmental Health and Safety (OEHS) will provide advisories upon receipt of heat alert notices from the local public health department and may send additional information during periods of inclement weather; however, all schools and offices must comply with this guidance regardless of an issued advisory.

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- B. The decision to modify school activities will be made by the school principal after consulting with the Regional Administrator of Operations who may consult with the Chief of School Operations.
 - C. Refer to [Attachment B](#) for guidance when modifying instructional programs, physical activity, and school schedules based on the Heat Index. Please Note:
 - 1. Students with certain health problems may require more attention. If students complain about the heat, allow them to rest and inform the school nurse who may want to have their health status clarified by a parent or guardian.
 - 2. Employees with specific health problems making them more sensitive to heat should alert the site administrator.
 - D. On very hot, humid days, administrators, teachers, and other staff should be aware of the following procedures to help minimize possible heat stress:
 - 1. Faculty and staff must be informed at the beginning of each semester, and as needed thereafter, about the school's program for preventing heat stress, and the most efficient methods for reducing heat and maximizing ventilation in classrooms.
 - 2. Doors and windows must be closed in air-conditioned rooms, and any air-conditioning equipment malfunction should be reported at once.
 - 3. When possible, air-conditioned rooms should be used as classrooms.
 - E. Non-air-conditioned classrooms should be surveyed by the teacher or principal's designee when temperatures require that maximum cooling efforts be instituted, including:
 - 1. Windows, doors, casements, and blinds should be adjusted for maximum ventilation and air circulation.
 - 2. Electric fans, where available, should be placed to bring in fresh air and exhaust stale air rather than just blowing it around the room. Fans should be placed in or next to an open window at one end of the room to bring in air, and a window or door (not one that opens into a hall) at the opposite end of the room should be opened to exhaust air. For rooms with heat problems, installing an electric fan in one window or casement and covering the opening with a security screen should be considered. Fans should be turned on as early as possible.
 - 3. Adjusting custodial hours should be considered to permit early entry into classrooms to open doors, windows, and casements, and to turn on fans.

4. Precautions should be taken to ensure that when fans, coolers, or other devices are used, they meet safety standards, and that cooling strategies do not place an overload on existing electrical systems.
- F. When classroom temperatures exceed 91° F, consideration should be given to moving students to cooler rooms or other appropriate areas, such as the auditorium, multipurpose room, library, or shaded outdoor areas. When possible, classes should be combined in air-conditioned rooms not to exceed the occupancy load.
- G. Teachers, especially at the elementary level, may adjust their programs to use the cooler early hours for physical activity.
- H. Water must be available. Personal water containers are recommended for use when heat is excessive to prevent dehydration. Use at other times is at the school's discretion. School sites and secondary physical education departments should establish policies for the use of water containers and inform students and parents.
- I. A personal water container is a firm, non-breakable plastic or metal receptacle which is no more than 9" high and 4" wide that will hold no more than 32 ounces of water. The container may have a pressure seal, screw or pop-up cap, or a straw drink device on its top. The use of all other types of personal water containers is prohibited.
The following are recommended precautions:
 1. For health reasons, water containers should not be shared.
 2. For safety reasons:
 - a. Students should not run with straws or containers in their mouths.
 - b. Containers may not be used while riding District buses.
 3. Students should follow the physical education teacher's guidance on when it is appropriate to bring personal water containers to physical education activity areas.

III. WEATHER CONDITIONS FOR MODIFYING OUTDOOR PHYSICAL ACTIVITIES

During times of excessive heat, the following precautions need to be taken for outdoor physical activity which includes recess, physical education, recreation, and competitive sports:

- A. Modifying Activity based on Heat Index (see [Attachment B](#) for guidance.)
 1. When the Heat Index measurement falls between 80-90, prolonged exposure or engaging in physical activity could lead to fatigue. Caution is advised during such conditions, and individuals are encouraged to take necessary precautions to prevent heat-related issues.

2. The intensity of exercise activities must be limited and/or modified whenever the Heat Index is above 91°.
- B. Modifying Activity based on WGBT:
1. Modifications will be made depending on the Region and in accordance with the best practices guidelines. LAUSD Regions East, West and South are considered category 1; Region North, category 2.
 2. The table on [Attachment C](#) shows the specific modifications that will be made for each flag zone (green, yellow, orange, red, black).
 3. Modifications are meant to be fluid, meaning if the environment gets more oppressive, the modifications get stricter. However, if environmental conditions improve, the modifications will be in line with the new environmental conditions.
 4. Refer to [Attachment D](#) for the difference between Exercise Associated Muscle Cramps (EAMC) and Exertional Sickling.
 5. In accordance with CIF Bylaw 503.K (1) all CIF member schools must adhere to the CIF Heat Illness Prevention and Heat Acclimatization Policies outlined in the Gold Book.
- C. Air Quality Advisories issued by the South Coast Air Quality Management District (SCAQMD) or other public health agency must be followed.
1. The OEHS will actively monitor these agencies' directives and provide advisories in accordance with [REF-886.4 Air Quality, Weather and Wildfire Advisory Procedures](#). Please contact OEHS for more information.
 2. In accordance with CIF Bylaw 503.K.(2) Air Quality Index Protocol - All CIF member schools must refrain from outdoor practice and/or competition when the Air Quality Index is 151 or higher.
- D. Adequate water must be available. If adequate water is not available, physical activity must be modified. Prior to prolonged physical activity, a person should be fully hydrated. During the activity, periodic drinking of water should be carried out based on the guidelines in [Attachment B](#) and [Attachment E](#). Use of commercially available replacement fluids for athletes is not usually necessary unless the heat index risk level is high, or practice/competition is lengthy. Sugary and caffeinated beverages can cause dehydration. Carbonated beverages may cause abdominal pain. Salt tablets are not advised.
1. If water fountains are not located near the place of activity, large coolers from the cafeteria may be filled with water and placed in strategic locations.
 2. Do not use irrigation systems for drinking water such as hose bibs and quick coupler valves.

- E. Proper clothing should reflect heat, permit freedom of movement, and allow free perspiration. Clothing should be light colored, lightweight, loose, and limited to one layer of absorbent material to facilitate evaporation of sweat and expose as much skin as possible yet still be appropriate for the school environment.
 - 1. Sweat-saturated garments should be replaced by dry ones.
 - 2. Rubberized sweat suits should not be used for weight loss.
 - 3. Sunscreen, proper clothing, and hats should be used to prevent sunburn.
- F. Staff and all personnel supervising physical activities, including BTB personnel, should observe students during activity periods and modify activities as recommended in [Attachment B](#). Students who are known to have health problems should be closely observed and their activity should be modified or restricted.
- G. Teachers should observe students closely and know signs and symptoms of heat stress, emergency first aid, and how to obtain medical help. See [Attachment E](#).
- H. Marked differences between indoor and outdoor temperatures may precipitate physical problems.
- I. Rest periods should be provided during the activity.
- J. Activities must be followed by the proper cool-down (e.g. jogging should be followed by walking) and rest.
- K. For CIF and high school sports, the intensity and duration of a strenuous exercise program should be adjusted initially for students who may not be acclimated to the climate. The intensity and duration of the program can then be gradually increased over a period of 14 days to allow the students to adapt to the heat.
 - 1. As part of the CIF Extreme Heat and Air Quality Policy, there is now a Five-Day Acclimatization Period for Fall Outdoor Sports.
 - 2. Preseason practice shall begin with a five-day acclimatization period for all Fall student-athletes.
 - 3. All student athletes, including those who arrive at preseason practice after the first day of practice, are required to undergo a five-day acclimatization period.
 - 4. The five-day acclimatization period shall be conducted as follows:
 - a. Participants shall not engage in more than one on-field practice per day during the five-day acclimatization period.
 - b. On-field practices shall last no longer than two hours.
 - c. For Football Only:
 - i. During the first three days of practice or testing activity, helmets shall be the only protective equipment student athletes may wear.

- ii. During the next two days of practice or testing activity, helmets and shoulder pads shall be the only protective equipment student athletes may wear.
 - iii. Student-athletes may practice in full pads on the sixth day of practice or testing activity.
- L. Athletes engaging in competitive sports must have their activities observed for all the above considerations.

IV. STRATEGIES FOR PREVENTING HEAT STRESS DURING THE SCHOOL DAY

- A. Each school should review this bulletin with their staff annually. Teachers should explain precautions to students.
- B. A “cool room” should be established for use by students showing early signs of heat stress. This room should provide the maximum coolness possible. During an emergency, if an air-conditioned classroom is to be used as a “cool room” and is occupied by students, the students should be moved to another location. During excessive heat the “cool room” should always be available for use during the school day.

If possible, the “cool room” should be located near restrooms and should be equipped with chairs, cots, or mats; running water or adequate amounts of cool dispensed water; telephone or functioning communication with the main office; refrigerator or ice chest with ice and cold compresses; and basic first aid supplies. It should be supervised by staff trained to recognize signs and symptoms of heat stress and administer first aid. Students showing signs of heat stress should be cared for using the guidelines in [Attachment E](#).

- C. Elementary, Secondary and adapted physical education teachers should modify the type, duration, and intensity of exercise. For suggestions, refer to the appropriate Elementary and Secondary Physical Education Curriculum guide.
- D. Prior to boarding buses, traveling students should be encouraged to drink water and be given time to drink cool water located near the pickup areas. Personal water containers may be carried on the bus but for safety reasons cannot be used while riding District buses. When the Heat Index is 91° or greater, schools may consider providing large moist towelettes for use by students.
- E. When planning an outdoor event such as graduation, educational fairs, health fairs, or other events that cannot take place indoors, certain precautions need to be addressed:
 - 1. If possible, plan outdoor events around the coolest part of the day. For example, plan outdoor graduations in the early morning or early evening.

2. Adequate shaded areas should be available to prevent heat exhaustion or heat stroke. This can be met by providing canopies, preferably near a restroom.
3. Under the shaded area: chairs, cots, an adequate water supply, an ice chest with ice and cold compresses, and first aid supplies must be available.
4. This area should be supervised by staff trained to recognize symptoms of heat exhaustion and heat stroke and administer first aid.
5. Participants in these activities should be notified to wear appropriate clothing, hats, and sunglasses and to bring liquids and snacks as appropriate.

V. STRATEGIES FOR PREVENTING HEAT STRESS DURING ATHLETIC PRACTICE AND COMPETITION

- A. Conditioning period: It is recommended that all sports have an acclimatization period of pre-practice progressive conditioning prior to more strenuous and sport specific practices to develop the level of conditioning necessary for more strenuous and stressful workouts. Pre-conditioning workouts should incorporate strength, endurance, speed, plyometric, agility, and flexibility training in a progressive and structured program.
- B. Progressive build up to acclimate to extreme heat conditions should include:
 1. Shorter workouts
 2. Reduce pace of workout
 3. Reduce required equipment
 4. Modify drills
 5. Increase breaks between work periods
 6. Plenty of ice water available during practice
 7. Cooling areas
 8. Educate students and coaches on pre-hydration and adequate hydration during activity.
 9. Postpone or schedule practice session during the cooler period of day.
 10. LAUSD does not allow two practices per day.
- C. Include information and strategies for preventing heat-related injuries at the annual coaches meeting. This presentation should include:
 1. Definitions and causes of heat related injuries
 2. Heat Illness Procedures: Prevention, Monitoring, Treatment and Return to Activity
 3. Using the Heat Index and WGBT ranges to identify activity recommendations and modification strategies

- D. Use current medical health history and the student's completed Pre-Participation Physical Evaluation form to identify students who are susceptible to or at high risk for heat related injuries. Students identified as high risk should be removed from participation until conditions are safer. These would include:
1. Students with a history of previous heat illness.
 2. Students with current illnesses and/or health sensitive medical conditions.
 3. Students who have experienced recent injuries.

AUTHORITY: This is a policy of the Los Angeles Unified School District California Education Code sections 35179.4, 35179.8
California Interscholastic Federation: CIF Bylaw 503.K

**RELATED
RESOURCES:**

[BUL-4948.2 Medical Clearance and Return-to-Learn \(RTL\)/Return-to-Play \(RTP\) Guidelines for Students Participating in Interscholastic Athletics and Select Auxiliary Units.](#)

[REF-886.4 Air Quality, Weather and Wildfire Advisory Procedures.](#)

American Academy of Pediatrics (2011). Policy Statement—Climatic Heat Stress and Exercising Children and Adolescents. *Pediatrics*. 128 (3) 741-7. (Reaffirmed in November 2019).

California Department of Public Health (CDPH)—Guidance for Schools on Sports and Strenuous Activities During Extreme Heat:

<https://www.cdph.ca.gov/Programs/EPO/Pages/Extreme%20Heat%20Pages/extreme-heat-guidance-for-schools.aspx>.

California Interscholastic Federation: EXTREME HEAT AND AIR QUALITY POLICY: <https://cifss.org/wp-content/uploads/2024/07/Acclimatization-23-24.pdf>.

California Interscholastic Federation—Wet Bulb Globe Temperature:

<https://cadanews.org/1067/news/the-new-cif-rule-for-california-2024/#:~:text=The%20WBG%20measures%20heat%20stress,risk%20of%20heat%2Drelated%20illnesses>.

Casa D.J., Csillan D. (2009). Inter-Association Task Force for Preseason Secondary School Athletics: Preseason Heat-acclimatization Guidelines for Secondary School Athletics. *Journal of Athletic Training*. 44 (3)332-333.

Casa, D.J., Szymanski, M.R., Jardine, J.F., Stearns, R.L., Eason, C.M., Hosokawa, Y., Huggins, R.A., Lopez, R.M., McDermott, B.P., Miller, K.C., Nolan, J.K., Pryor, R.R., Scarneo-Miller, S.E., Vandermark, L.W. (2023). Letter on the 2023 ACSM expert consensus statement on exertional heat illness.

Current Sports Medicine Reports. 22(9):336-337.

doi:10.1249/JSR.0000000000001100

[Heat Safety Tool App](#) (OSHA-NIOSH).

Hosokawa Y, Adams WM, Casa DJ, Vanos JK, Cooper ER, Grundstein AJ, Jay O, McDermott BP, Otani H, Raukar NP, Stearns RL, Tripp BL. Roundtable on Preseason Heat Safety in Secondary School Athletics: Environmental Monitoring During Activities in the Heat. J Athl Train. 2021 Apr 1;56(4):362-371.

doi: 10.4085/1062-6050-0067.20. PMID: 33400785; PMCID:

PMC8063664. National Collegiate Athletic Association (NCAA); Guideline 2c, "Prevention of Heat Illness," Revised June 2010.

Korey Stringer Institute - <https://koreystringer.institute.uconn.edu/>.

National Federation of State High School Associations. April 2022; "Heat Acclimatization and Heat Illness Prevention Position Statement."

- ATTACHMENTS:** [ATTACHMENT A](#) – NOAA’s National Weather Service Heat Index Chart
[ATTACHMENT B](#) – Precaution and Modification Guidelines for Classroom and Physical Activity Based on the Heat Index
[ATTACHMENT C](#) – Precaution and Modification Guidelines for Classroom and Physical Activity Based on WBGT
[ATTACHMENT D](#) – Exercise Associated Muscle Cramps (EAMC) vs. Exertional Sickling?
[ATTACHMENT E](#) – Progression of Heat Related Illness, Signs/Symptoms and Treatment

ASSISTANCE: For assistance or further information, please contact:

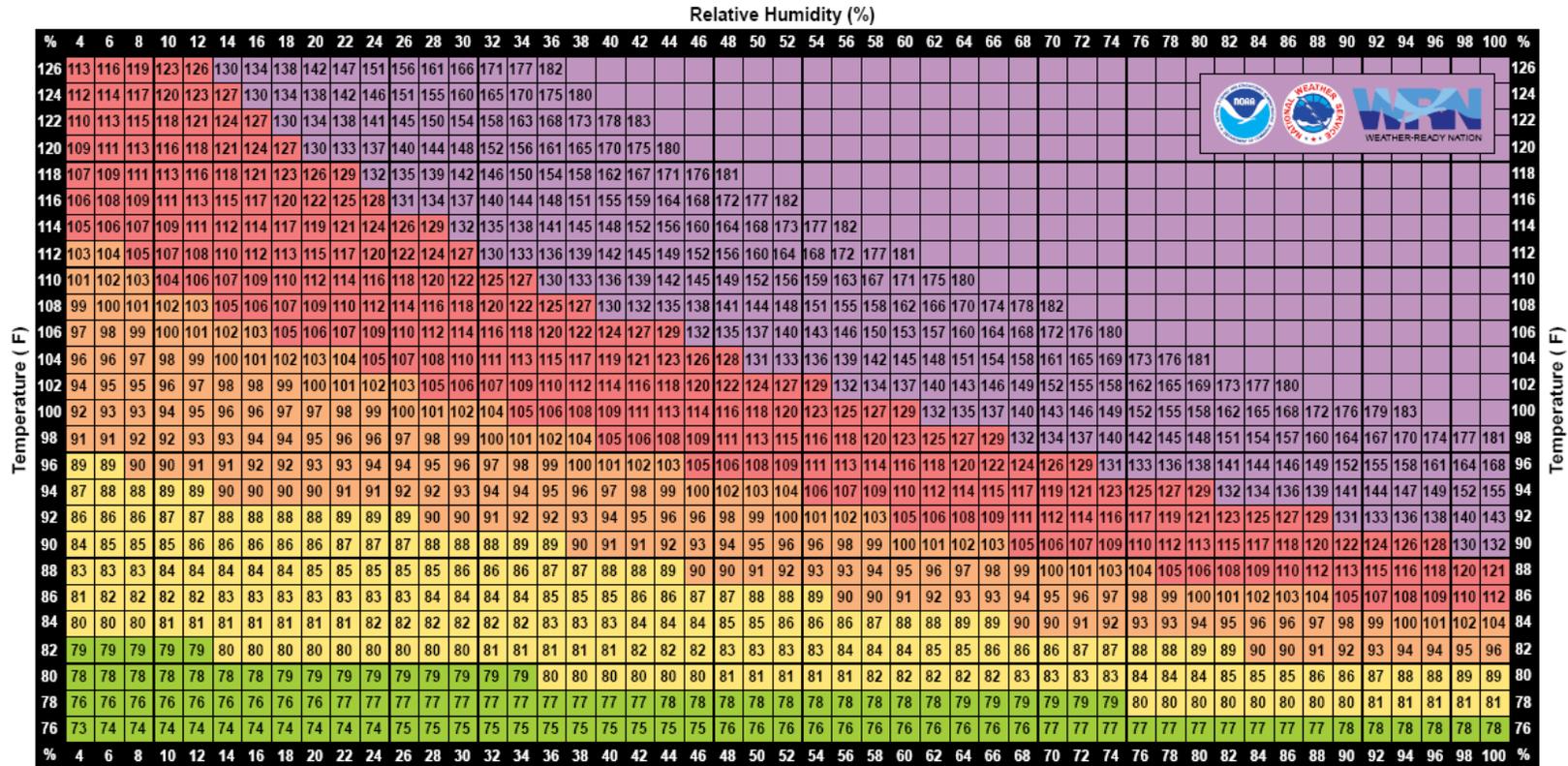
District Nursing Services Branch.....(213) 202-7580
Interscholastic Athletics Department(213) 241-5847
Office of Environmental Health and Safety(213) 241-3199

Heat Index Chart

The 'Heat Index' is a measure of how hot weather "feels" to the body. This table uses relative humidity and air temperature to produce the "apparent temperature" or the temperature the body "feels". These values are for shady locations only. Exposure to full sunshine can increase heat index values by up to 15°F. Also, strong winds, particularly with very hot, dry air, can be extremely hazardous as the wind adds heat to the body.

Temperature & Relative Humidity

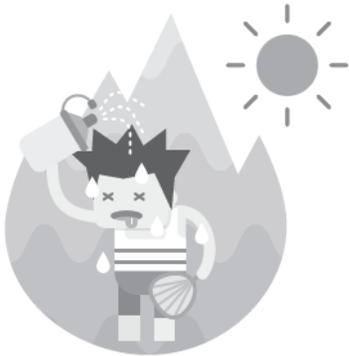
Classification	Heat Index/Apparent Temperature	General Affect on People In High Risk Groups
Extremely Hot	≥130°F	Heat/Sunstroke HIGHLY LIKELY with continued exposure
Very Hot	105°F - 129°F	Sunstroke, heat cramps, or heat exhaustion LIKELY, and heatstroke POSSIBLE with prolonged exposure and/or physical activity
Hot	90°F - 104°F	Sunstroke, heat cramps, or heat exhaustion POSSIBLE with prolonged exposure and/or physical activity
Very Warm	80°F - 89°F	Fatigue POSSIBLE with prolonged exposure and/or physical activity



www.weather.gov/jetstream/hi

Relative Humidity (%)

Excessive Heat



WHO IS AT RISK



PREVENTION



Too much heat? What does it look like?

HEAT EXHAUSTION	OR	HEAT STROKE
Faint or dizzy		Throbbing headache
Excessive sweating		No sweating
Cool, pale, clammy skin		Body temperature above 103°F Red, hot, dry skin
Nausea or vomiting		Nausea or vomiting
Rapid, weak pulse		Rapid, strong pulse
Muscle cramps		May lose consciousness
<ul style="list-style-type: none"> • Get to a cooler, air conditioned place • Drink water if fully conscious • Take a cool shower or use cold compression 		<h1>CALL 9-1-1</h1> <ul style="list-style-type: none"> • Take immediate action to cool the person until help arrives

Precaution and Modification Guidelines for Classroom and Physical Activity Based on the Heat Index

****Please note: Heat Index temperature IS NOT the same as regular (thermometer) temperature.**

For definition of Heat Index and/or more information, please go to www.noaa.gov.

HEAT INDEX RISK LEVEL	Outdoor Instructional Activities and Protective Measures	After School Activity and Athletic Modifications	Suggested Fluid Intake
<p>Under 91°F (Lower - Caution)</p>	<ul style="list-style-type: none"> • Conduct heat safety training for staff annually. • Have an emergency action plan in place. • Learning skills decrease with long exposure to Heat Index above 91°. • Monitor students for signs of exertional heat illness. • Adjust activity levels based on risk factors. • Educate students on heat preparation. • Ensure easy access to drinking water. 	<ul style="list-style-type: none"> • All modifications from the column to the left. • Allow athletes to carry water bottles or hydration systems when practical. • Use discretion for intense or prolonged exercise. • Provide at least 3 separate rest breaks each hour for a minimum of 4 minutes, preferably in the shade and off on any synthetic field. 	<ul style="list-style-type: none"> • Encourage regular fluid intake, especially during physical activity. • Fluid replacement beverages should be readily available.
<p>91 to 103°F (Moderate)</p>	<ul style="list-style-type: none"> • All of the above protective measures. • Wear suitable clothing for outdoor activities. • Increase ventilation and provide cooling options. • Monitor students closely during physical activities. • Adjust physical activity levels and limit outdoor activities during peak heat. • Encourage breaks in shaded areas. • Implement a buddy system for monitoring. • Emphasize the importance of hydration. 	<ul style="list-style-type: none"> • All modifications from the column to the left. • Gradual acclimatization of athletes to heat. • Maximum practice time of 2 hours. Re-check temperature and humidity every 30 minutes to monitor for increased Heat Index. • Means for cooling athletes should be available: cold immersion tubs, ice towels, water sprinklers, fans, shade etc. • Watch/monitor athletes carefully for necessary action. • Additionally, Football Players are restricted to helmets, shoulder pads and shorts during practice. 	<ul style="list-style-type: none"> • Athletes should consume water before, during, and after exercise. • Mandatory water breaks every 15 minutes for 4 minutes in duration, preferably in a shaded area and not on a synthetic field.

HEAT INDEX RISK LEVEL	Outdoor Instructional Activities and Protective Measures	After School Activity, and Athletic Modifications	Suggested Fluid Intake
<p>103° to 115°F (High)</p>	<ul style="list-style-type: none"> • All of the above protective measures. • Alert staff to high-risk conditions. Move students to cooler areas to avoid prolonged exposure. • Limit physical exertion and use cooling techniques. • Ensure trained staff for heat illness monitoring. • Consider rescheduling or delaying activities. • Recheck Heat Index every 30 minutes. • Unrestricted access to water/hydration. 	<ul style="list-style-type: none"> • All modifications from the column to the left. • Activity will be suspended, postponed until later in the evening, or held indoors at the coach’s discretion. • Stop all indoor activity unless air conditioning is available. • Activity could also be rescheduled or postponed, when the heat index has reached an acceptable level. • No activity may begin until conditions are acceptable, meaning the heat index is below 104°. • All appropriate guidelines should be followed based on the reading at the time. 	<ul style="list-style-type: none"> • Optimize fluid intake, including sports drinks with carbohydrates and sodium during prolonged activities.
<p>Greater than 115°F (Very High to Extreme)</p>	<ul style="list-style-type: none"> • All of the above protective measures. • Immediately move students to cooler areas. • Contact environmental health and safety in extreme conditions. • Determine necessary actions, including possible dismissal. • Alert students to Extreme Heat Hazard Risk. • No Activity. • Recheck the Heat Index every 30 minutes. • Ensure all students have water readily available. • Unrestricted access to water/hydration. 	<ul style="list-style-type: none"> • N/A (No Practice under Extreme conditions). 	<ul style="list-style-type: none"> • Unrestricted access to water/ Hydration.

Precaution and Modification Guidelines for Classroom and Physical Activity Based on WBGT

According to the National Weather Service, a Wet Bulb Globe Temperature (WBGT) is a measure of the heat stress direct sunlight, which considers temperature, humidity, wind speed, sun angle, and cloud cover (solar radiation). This differs from the heat index, which takes into consideration temperature and humidity and is calculated for shady areas.

Using a WBGT monitor on-site provides more accurate data than that from the National Weather Service and can help athletic programs to dictate modifications in activity (work/rest ratios, hydration breaks, equipment work, length of practice) that make sports safer for all participants. For more information: <https://ksi.uconn.edu/wet-bulb-globe-temperature-monitoring/>

Cat 3	Cat 2	Cat 1	Activity Guidelines
<82.0°F <27.8°C	< 79.7°F <26.5°C	< 76.1°F <24.5°C	Normal Activities - Provide at least three separate rest breaks each hour with a minimum duration of 3 minutes each during the workout.
82.2 - 86.9°F 27.9-30.5°C	79.9 - 84.6°F 26.6-29.2°C	76.3 - 81.0°F 24.6-27.2°C	Use discretion for intense or prolonged exercise; Provide at least three separate rest breaks each hour with a minimum duration of 4 minutes each.
87.1 - 90.0°F 30.6-32.2°C	84.7 - 87.6°F 29.3-30.9°C	81.1 - 84.0°F 27.3-28.9°C	Maximum practice time is 2 hours. <u>For Football:</u> players are restricted to helmet, shoulder pads, and shorts during practice. If the WBGT rises to this level during practice, players may continue to work out wearing football pants without changing to shorts. <u>For All Sports:</u> Provide at least four separate rest breaks each hour with a minimum duration of 4 minutes each.
90.1 - 91.9°F 32.2-33.3°C	87.8 - 89.6°F 31.0-32.0°C	84.2 - 86.0°F 29.0-30.0°C	Maximum practice time is 1 hour. <u>For Football:</u> No protective equipment may be worn during practice, and there may be no conditioning activities. <u>For All Sports:</u> There must be 20 minutes of rest breaks.
≥92.1°F ≥33.C	≥ 89.8°F ≥32.1°C	≥86.2°F ≥30.1°C	No outdoor workouts. Delay practice until a cooler WBGT is reached.

Exercise Associated Muscle Cramps (EAMC) vs. Exertional Sickling?

EAMC is often confused with exertional sickling, but this may be differentiated by the following ways:

Symptom/Factor	EAMC	Exertional Sickling
Pain Factor	More excruciating pain; can be pinpointed to a location	Pain is strong, however, is more generalized over body
State of Muscles	Muscles “lock-up”; sustained and visibly contracted and rock hard; athletes hobble to a halt or fall	Muscles are weak; athletes slump, push through instances of collapse
Physical Symptoms	Athletes may writhe or yell in pain	Sickling athletes lie fairly still without yelling
Prodrome of Muscle Twinges	Yes	None
Occurrence during Workout/Session	Occurs during or after intense workouts (after 30 minutes)	Generally occurs within the first half hour during intense workouts
Body Temperature	Athlete’s core temperature is elevated	Athlete’s core temperature is not greatly elevated

Progression of Heat Related Illnesses, Signs/Symptoms and Treatment
(this section is broken down into four (4) categories)

HEAT ILLNESS	Definition/Description	Signs/Symptoms	First Aid / What to Do	When should an individual return to activity
<p align="center">#1 Heat Cramps</p>	<p>Painful cramps involving abdominal muscles and extremities caused by intense, prolonged exercise in the heat and depletion of salt and water due to sweating.</p>	<ul style="list-style-type: none"> ● Dehydration ● Thirst ● Fatigue ● Sweating ● Muscle cramps 	<ul style="list-style-type: none"> ● Remove the athletes from exercise session and have them rest in the shade or an air-conditioned room. ● Stretch, massage and knead the muscles that are cramping in their full-length or stretched position (joints should be extended). ● Provide the athlete with fluids, such as water and an electrolyte sports drink to replace those lost during sweating. ● Provide food high in salt content to replenish the electrolytes lost from sweat. If this is not available, consider providing a solution of 1/2 teaspoon salt dissolved in 16-20 ounces of water prior to or post cramping. ● In cases of heat cramps that persist, use ice massage on the affected muscle. 	<p>Once an athlete has rested and replenished the fluids and electrolytes lost from their sweat, they can usually return to play during that same exercise session or practice. It is likely for the athlete to experience persistent cramping if fluid and electrolytes have not been adequately replaced.</p>

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<p>#2 Heat Syncope</p>	<p>Weakness, fatigue and fainting due to loss of salt and water in sweat and exercise in the heat. Typically occurs during the first 5 days of acclimation to physical activity in the heat.</p> <p>May also occur after a long period of standing after physical activity.</p>	<ul style="list-style-type: none"> ● Dizziness (Vertigo) ● Fainting ● Lightheadedness ● Tunnel Vision ● Pale or sweaty skin ● Loss of consciousness ● Weakness 	<ul style="list-style-type: none"> ● Move the person to shaded/cool area to decrease body temperature. ● Sit or lie down as soon as the patient begins to feel symptoms. ● Monitor vital signs to ensure the person does not also acquire another medical condition. ● Elevate legs to promote blood returning to the heart. ● Rehydrate with water or a sports beverage. ● Seek medical attention if symptoms persist or are severe, the athlete has existing heart problems or high blood pressure. 	<p>An athlete may return to play once his/her symptoms have resolved, and any other medical conditions have been ruled out. The athlete should rehydrate as necessary and seek medical clearance before returning to practice.</p>

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<p>#3 Heat Exhaustion</p>	<p>Heat exhaustion is the most common heat-related condition observed in active populations. It is defined as the inability to continue exercise in the heat due to cardiovascular insufficiency (not enough blood pumped to the heart) and energy depletion that may or may not be associated with physical collapse.</p>	<ul style="list-style-type: none"> ● Fatigue ● Nausea ● Fainting ● Weakness ● Vomiting ● Dizziness / Light-headedness ● Pale ● Chills ● Diarrhea ● Heavy Sweating ● Decreased Urine Output / Dehydration ● Irritability ● Headache ● Sodium Loss ● Decreased Blood Pressure ● Decreased Muscle Coordination ● Hyperventilation ● Core body temperature between 36-40.5°C (96.8-105°F) 	<ul style="list-style-type: none"> ● Move the individual to a cool/shaded area and remove excess clothing. ● Elevate legs to promote venous return. ● Cool the individual with fans, rotating ice towels, or ice bags. ● Provide oral fluids for rehydration. ● Seek medical attention if symptoms persist or are severe, the athlete has existing heart problems or high blood pressure. 	<p>Returning to activity the same day of an episode is not prudent or advised. Individuals should wait at least 24-48 hrs. before returning to activity and should gradually increase intensity and volume of exercise, and clothing and equipment. Medical clearance is recommended to rule out other conditions.</p>

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<p>#4 Heat Stroke (continued next page)</p>	<p>Heat stroke is a severe heat illness that occurs when an athlete’s body creates more heat than it can release, due to the strain of exercising in the heat. This results in a rapid increase in core body temperature, which can lead to permanent disability or even death if left untreated. An acute medical emergency related to thermo-regulatory failure, associated with nausea, seizures, disorientation, and possible unconsciousness or coma. It may occur suddenly without being preceded by any other clinical signs. The individual is usually unconscious with a high body temperature and hot dry skin, (heatstroke victims, contrary to popular belief, may sweat profusely).</p>	<ul style="list-style-type: none"> ● Irrational behavior, irritability, emotional instability ● Altered consciousness, coma ● Disorientation or dizziness ● Headache ● Confusion or just look “out of it” ● Nausea or vomiting ● Diarrhea ● Muscle cramps, loss of muscle function/balance, inability to walk ● Collapse, staggering or sluggish feeling ● Profuse sweating ● Decreasing performance or weakness ● Dehydration, dry mouth, thirst Rapid pulse, low blood pressure, quick breathing 	<p>Follow these steps to initiate emergency treatment: Heat stroke is a severe medical emergency. Summon emergency medical assistance or take the victim to a hospital immediately. Delay can be fatal. CALL 911. If medical attention is delayed, call the emergency room for further instructions.</p> <ul style="list-style-type: none"> ● Remove all equipment and excess clothing. ● Cool the athlete as quickly as possible within 30 minutes via whole body ice water immersion (place them in a tub/stock tank with ice and water approximately 35–58°F); stir water and add ice throughout cooling process. ● If immersion is not possible (no tub or no water supply), take the athlete to a shaded, cool area and use rotating cold, wet towels to cover as much of the body surface as possible. ● Maintain airway, breathing and circulation. ● After cooling has been initiated, activate emergency medical system by calling 911. ● Monitor vital signs. 	<p>Physician clearance prior to return to physical activity. The athlete must be asymptomatic and lab tests must be normal.</p> <p>The length of recovery time is primarily dictated by the severity of the incident.</p> <p>The athlete should avoid exercise for at least one (1) week after the incident.</p> <p>The athlete should begin a gradual RTP protocol in which they are under the direct supervision of an appropriate health-care professional such as an athletic trainer or physician.</p> <p>The type and length of the RTP program may vary among individuals, but a general program may include:</p> <ul style="list-style-type: none"> ● Easy-to-moderate exercise in a climate-controlled environment for several days, followed by strenuous exercise in a climate-controlled environment for several days.

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<p>#4 Heat Stroke (continued from previous page)</p>		<ul style="list-style-type: none"> • Other outside factors may include: <ul style="list-style-type: none"> * They are out of shape or obese. * It is a hot and humid day. * Practice is near the start of the season, and near the end of practice. * It is the first day in full pads and equipment. 	<p>Oral, tympanic, axillary, forehead sticker, etc. temperature devices are not always accurate and extreme caution should be used when heat stroke is suspected.</p> <p>Exertional heat stroke has had a 100% survival rate when immediate cooling (via cold water immersion or aggressive whole-body cold-water dousing) was initiated within 10 minutes of collapse.</p>	<ul style="list-style-type: none"> • Easy-to-moderate exercise in the heat for several days, followed by strenuous exercise in the heat for several days. • If applicable to the individual sport: easy-to-moderate exercise in the heat with equipment for several days, followed by strenuous exercise in the heat with equipment for several days.