



PEARLAND ISD

ATHLETIC WEATHER PROTOCOL

Pearland ISD Athletic Weather Protocol

HEAT AND HYDRATION GUIDELINES

The following is the heat and hydration guidelines for PISD Athletics. Guidelines determining practice status will be based on Ozone levels and the Wet Bulb Global Temperature (WBGT), WBGT is a calculated by integrating the influences of sun exposure, air temperature, humidity, and wind speed, as a metric for heat intensity. The WBGT is computed as a weighted average of the wet-bulb temperature (WB), the dry-bulb temperature (DB), and the globe temperature (GT). ($WBGT = 0.7 \cdot WB + 0.2 \cdot GT + 0.1 \cdot DB$) Based on the WBGT, specific recommendations on the length, intensity, and duration of activities along with suggestions about hydration and rest breaks are followed.

PISD guidelines recommend that intense exercise should be limited for acclimatized, fit, and healthy athletes beginning at 82.2°F WBGT and progressively decrease intensity, duration and increase break frequency and duration as the heat index increases. Unfortunately, a “one size fits all” approach does not account for regional variations in acclimatization to heat. Heat acclimatization involves the physiological adaptations that occur after repeated exposures to hot environments. Careful monitoring of athletes and collaborating with the Athletic Trainers and their assessment of all these factors is critical in preventing a heat emergency and ensuring a safe practice environment.

All Pearland ISD coaches are required to be certified in CPR/First Aid/Automated External Defibrillators. Our Athletic Trainers are certified instructors for the Emergency Care and Safety Institute and annually certify our coaching staffs according to their guidelines. This training includes a module that deals with heat related illnesses and their signs/symptoms.

Practice or competition in hot and humid environmental conditions poses special problems for student-athletes. Heat stress and resulting heat illness is a primary concern in these conditions. Although deaths from heat illness are rare, constant surveillance and education are necessary to prevent heat-related problems. The following practices should be observed.

General Considerations for Risk Reductions:

1. Encourage proper education regarding heat illnesses (for athletes, coaches, parents, medical staff, etc.) Education about risk factors should focus on hydration needs; acclimatization, work/rest ratio, signs and symptoms of exertional heat illnesses, treatment, dietary supplements, nutritional issues, and fitness status.
2. Assure that onsite **medical staff** has authority to alter work/rest ratios, practice schedules, amount of equipment, and withdrawal of individuals from participation based on environment and/or athlete’s medical condition.

General Guidelines:

1. A complete medical history and physical exam for the current school year on file.
2. Gradual acclimatization of the athlete to hot/humid conditions is a must. We advise that student-athletes should gradually increase exposure to hot and/or humid environmental conditions over a recommended period of 5 to 7 days to achieve acclimatization.
 - a. Marching band should encourage acclimatization well in advance of their start date to their students. Proper nutrition and hydration should be encouraged before, during and after all practices/competitions. Band directors should also take care during the first few days of activities to ensure their students are prepared for the heat and physical activity.
3. Clothing and protective gear can increase heat stress. Dark colors absorb solar radiation. Clothing and protective gear interfere with the evaporation of sweat and other avenues of heat loss. During acclimatization process, student athlete should practice in T-shirts, shorts, socks, and shoes. Rubberized suits should never be worn.
4. To identify heat stress conditions, regular measurements of environmental conditions will be taken daily. Pearland ISD will use the measurements from Perry Weather’s weather station at Magnolia Elementary every day and follow district guidelines accordingly. The high school athletic trainers will notify personnel when a practice modification need arises.

PROCEDURE

Normal Precautions will be made on all hot days for outdoor activities.

1. Unlimited water available always.
2. Ice towels/sponges available.
3. Shaded rest area for individuals to take breaks.

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Perry Weather readings from Magnolia Elementary Weather Station will be used in the effort of a more accurate reading at each location. Outside activities will be monitored by each of the campus athletic trainers to establish which of the Heat Categories will be followed for that day. (See chart below) The campus athletic trainer and the head coaches of each activity will collaborate to determine breaks, hydration, and conditioning criteria as the temperature changes. High risk students, such as those with asthma, respiratory conditions, or sickle cell trait should especially be monitored and not penalized for any adjustments they might need to their participation.

For Junior High School teams and organizations, modified practices may continue up to the 92.1°F level as long as the JH Athletic Trainer and coach of the activity are in collaboration with each other, and the safety of the students is maintained. If extreme conditions are reached, a message will go out from the JH Athletic Trainer to signify activity ceasing until favorable conditions. High school teams and organizations will collaborate with the athletic trainer for practice modification/adjustments in each of the heat categories (see chart below).

**Perry Weather will alert when we enter the different Heat Categories and will resend alerts when we are cleared. These must be followed for the safety of our students and athletics personnel.*

*****REMINDER: HEAT ILLNESS CAN OCCUR IN TEMPERATURES MUCH LOWER THAN THESE GUIDELINES. PLEASE REMEMBER THE WARNING SIGNS, SYMPTOMS AND WHAT TO DO IF THOSE ARE PRESENT. YOUNGER, NON-CONDITIONED, OVER-WEIGHT, AND STUDENTS WITH ASTHMA/RESPIRATORY DISODERS AND SICKLE CELL TRAIT ARE MORE PRONE TO THIS ILLNESS.**

Easy Work	Moderate Work	Hard Work
<ul style="list-style-type: none"> Walk throughs. Warm-ups Teaching techniques Any event allowing consistent rest time between activities. 	<ul style="list-style-type: none"> Light - moderate jogging workouts. Individual and Team related drills Game Related Events 	<ul style="list-style-type: none"> All conditioning related workouts Constant hard running Rotating speed agility stations

Heat Category	WBGT Index °F Temperature	Easy Work		Moderate Work		Hard Work	
		Work/Rest (min)	Water Intake (qt/hr)	Work/Rest (min)	Water Intake (qt/hr)	Work/Rest (min)	Water Intake (qt/hr)
1	WBGT < 82.0°F	NL	½	NL	¾	40/20 min	¾
2	WBGT 82.2°F to 87°F	NL	½	50/10 min	¾	30/30 min	¾
3	WBGT 87.1°F to 90.0°F	NL	½	50/10 min	¾	30/30 min	1
4	WBGT 90.1°F to 92.0°F	NL	¾	30/30 min	¾	20/40 min	1
5	WBGT >92.1°F	50/10 min	1	20/40 min	1	10/50 min	1
6	WBGT 94.0°F	CEASE ALL ACTIVITY UNTIL FAVORABLE CONDITIONS ARE MET					

***** Scrimmages/Games: All weather conditions will be monitored throughout the event. Adjustments to the event will be made upon the discretion of the athletic trainers, coaches, officials at the event, and athletic directors (if applicable).**

*** Heat Category 3, 4, and especially 5 it is imperative that all participants be monitored closely, are acclimatized, and are given ample time to cool off and hydrate. Collaboration among the staff is critical to provide a safe practice environment. A Licensed Athletic Trainer (LAT) has received extensive training on heat safety and illnesses and should be utilized for all high school and junior high outdoor activities in the heat.

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Hot Weather Guidelines

High temperatures put student athletes at increased risk of heat illness. There are several types of heat illness. They range in severity, from heat cramps and heat exhaustion, which are common but not severe, to heat stroke, which can be deadly. Although heat illnesses can be fatal, death is preventable if they're quickly recognized and properly treated.

When players are practicing or competing, coaches should follow the following steps to help prevent heat-related illnesses:

- Allow 10-14 days for adjusting to warmer climate/temperatures per UIL requirements.
- Reduce intensity and/or length of training with high temperatures and/or humidity.
- Schedule practice during cooler times of day
- Schedule and enforce frequent drink breaks and rest periods.
- Remove pads and practice in T-shirts and shorts.

HEAT CATEGORY 1 & 2: NORMAL ACTIVITIES

- **Junior High** - Provide at least 3 separate rest breaks each hour for at least 3 min each during the workout.
- **High School** – Provide rest breaks based upon need for light workouts, 10 min per hour for moderate workouts and 20-30 min per hour for intense/hard workouts. Breaks will be dispersed throughout the course of the workout. Water intake should range from ½ qt – 1 qt per hour depending on intensity of workout.

HEAT CATEGORY 3: USE DISCRETION FOR INTENSE OR PROLONGED EXERCISE. BE COGNIZANT OF HEAT SENSITIVE GROUPS.

- **Indoor Sports** – Cease ALL activities outside.
- **Junior High** - Max practice time is 2 hours. Provide at least 4 separate rest breaks each hour for at least 4 min. No conditioning.
- **High School** – Provide rest breaks based upon need for light workouts, 20 min per hour for moderate workouts, and 30 min per hour for intense/hard workouts. Breaks will be dispersed throughout the course of the workout. Water intake should range between ¾ and 1 qt per hour depending on intensity of workouts. No conditioning.

HEAT CATEGORY 4: AVOID INTENSE AND PROLONGED EXERCISE: HEAT SENSITIVE GROUPS NOT RECOMMENDED TO BE ACTIVE PARTICIPANTS

- **Junior High** – Max practice time outside is 1 hour with 20 min of rest breaks distributed throughout the hour of practice. No conditioning.
- **Junior High football** - Players are restricted to helmet, shoulder pads, and shorts during practice. Completing all position specific drills without shoulder pads. No conditioning.
- **High School** – Provide rest breaks based upon need for light workouts, 30 min per hour for moderate workouts, and 40 min per hour for intense/hard workouts. Breaks will be dispersed throughout the course of the workout. No conditioning.
- **High school football** – Restricted to helmets, shoulder pads, and shorts. Water intake should range between ¾ and 1 qt per hour depending on intensity of workouts. No conditioning.

HEAT CATEGORY 5:

- **Junior High** – Once a WBGT of 92.1 °F or greater no outside practices may be conducted, if 92.1°F has been reached consistently, activities will be monitored/discussed by the Junior High Athletic Trainer and will be determined by their call. If the conditions are deemed unsafe, practice will cease until favorable conditions are reached again.
- **High School** - Provide 10 min of rest breaks distributed throughout the hour for light workouts, 40 min of rest per hour for moderate workouts, and 50 min or rest per hour for intense/hard workouts. Breaks will be dispersed throughout the course of the workout. No conditioning.
- **High school football** - Players are restricted to shirt and shorts during practice. No conditioning.

HEAT CATEGORY 6:

- If conditions reach unsafe measures at WBGT 94.0°F or higher, play will cease until favorable conditions are met to continue.

Modification of Athletic Activities-

The decision to modify and/or terminate a Pearland ISD athletic activity in the event of excessive heat and/or poor air quality should be made by a member of the PISD Sports Medicine Department in consultation with the Team Physician and/or the head coach or his/her designee.

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HEAT-RELATED ILLNESSES

WHAT TO LOOK FOR

WHAT TO DO

HEAT STROKE

- High body temperature (103°F or higher)
 - Hot, red, dry, or damp skin
 - Fast, strong pulse
 - Headache
 - Dizziness
 - Nausea
 - Confusion
 - Losing consciousness (passing out)
- Call 911 right away-heat stroke is a medical emergency
 - Move the person to a cooler place
 - Help lower the person's temperature with cool cloths or a cool bath
 - Do not give the person anything to drink

HEAT EXHAUSTION

- Heavy sweating
 - Cold, pale, and clammy skin
 - Fast, weak pulse
 - Nausea or vomiting
 - Muscle cramps
 - Tiredness or weakness
 - Dizziness
 - Headache
 - Fainting (passing out)
- Move to a cool place
 - Loosen your clothes
 - Put cool, wet cloths on your body or take a cool bath
 - Sip water
- Get medical help right away if:**
- You are throwing up
 - Your symptoms get worse
 - Your symptoms last longer than 1 hour

HEAT CRAMPS

- Heavy sweating during intense exercise
 - Muscle pain or spasms
- Stop physical activity and move to a cool place
 - Drink water or a sports drink
 - Wait for cramps to go away before you do any more physical activity
- Get medical help right away if:**
- Cramps last longer than 1 hour
 - You're on a low-sodium diet
 - You have heart problems

SUNBURN

- Painful, red, and warm skin
 - Blisters on the skin
- Stay out of the sun until your sunburn heals
 - Put cool cloths on sunburned areas or take a cool bath
 - Put moisturizing lotion on sunburned areas
 - Do not break blisters

HEAT RASH

- Red clusters of small blisters that look like pimples on the skin (usually on the neck, chest, groin, or in elbow creases)
- Stay in a cool, dry place
 - Keep the rash dry
 - Use powder (like baby powder) to soothe the rash



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Cold Weather Guidelines

Cold exposure can be uncomfortable, impair performance and even become life threatening. Conditions created by cold exposure include frostbite and hypothermia. Wind chill can make activity uncomfortable and can impair performance when muscle temperature declines. Frostbite is the freezing of superficial tissues, usually of the face, ears, fingers, and toes. Hypothermia, a significant drop in body temperature, occurs with rapid cooling, exhaustion, and energy depletion. The resulting failure to the temperature-regulating mechanisms constitutes a medical emergency.

Hypothermia frequently occurs at temperatures above freezing. A wet and windy 30 — 50-degree exposure may be as serious as a subzero exposure. For this reason, Pearland ISD has developed a cold policy using the wind chill factor not the ambient temperature. Wind speed interacts with ambient temperature to significantly increase body cooling. When the body and clothing are wet (whether from sweat, rain, snow, or immersion), the cooling is even more pronounced due to evaporation of the water held close to the skin by the wet clothing.

Clothing is one of the most important parts of keeping the athlete's body warm. Athletes should dress in layers and try and stay dry. Athletes should layer themselves with wicking fabric next to the body, followed by light weight pile or wool layers for warmth. Athletes should use a wind block garment to aid in preventing wind chill during workouts. Heat loss from the head and neck may be as such as 50% of total heat loss; therefore, the head and neck should be covered during cold conditions. Other extremities should be covered at all times to protect from the wind chill.

Athletic Practices – Extracurricular Activities - *Extra-Curricular Activities include, but are not limited to – All sports, Band, Drill Team, Cheer, ROTC, Etc...*

Notification of temperature will come through use of our online weather system. Coaches will have access to temperature and inclement weather updates via Perry Weather alert message system.

The Athletic Training Staff will also inform Coaching Staffs of weather concerns and instruction for each occasion.

Enforcement of policy:

- Staff Athletic Trainers/Coaches will monitor time of exposure
- Staff Athletic Trainers will report any violations to the District Athletic Director – Campus Coordinator.
- Head Athletic Trainer will meet with the Head Coach
- Violations of policies will be reported to the Athletic Administration

The listed temperatures and wind-chill factors are designated figures for terminating outdoor activities.

High School Athletics and Extra Curricular Activities	Wind chill 32 degree w/rain Wind chill 25 degree without rain
Middle School Athletics and Extra Curricular Activities	Wind chill 38 degree w/rain Wind chill 30 degree without rain

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High School Athletic Cold Weather Protocol

Wind Chill Factor 33° - 35° **with rain:**

- 35 minutes outside followed by 20 minutes inside

Wind Chill Factor 32° or less **with rain:**

- All practices will be inside

Wind Chill under 31° - 32° **without rain:**

- 45 minutes outside followed by 15 minutes inside
- Athletes must be in warm-ups with extremities covered

Wind Chill Factor 25° - 30° **without rain:**

- 35 Minutes outside followed by 20 minutes inside
- Athletes must be in warm-ups with extremities covered

Wind Chill Factor of 25° or less **without rain:**

- All practices will be inside

Junior High Athletic Cold Weather Protocol

Wind Chill Factor under 39° - 45° **with rain:**

- 35 minutes outside followed by 20 minutes inside
- Athletes must be in warm-ups with extremities covered

Wind Chill Factor 38° or less **with rain:**

- All practices will be inside

Wind Chill Factor 36° - 45° **without rain:**

- 45 minutes outside followed by 15 minutes inside
- Athletes must be in warm-ups with extremities covered

Wind Chill Factor of 31° - 35° **without rain:**

- 30 Minutes outside followed by 15 minutes inside
- Athletes must be in warm-ups with extremities covered

Wind Chill Factor of 30° or less **without rain:**

- All practices will be inside

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Lightning Safety Policy

Lightning is the most consistent and significant weather hazard that may affect interscholastic athletes. Within the United States, the National Severe Storms Laboratory (NSSL) estimates more than 100 fatalities and 400-500 injuries requiring medical treatment occur from lightning strikes every year. While the probability of being struck by lightning is extremely low, the odds are significantly greater when a storm is in the area and the proper safety precautions are not followed.

Perry Weather – An internet-based weather reporting system that utilizes GPS to record active lightning strikes.

- When a suspicious cloud/storm approaches, the athletic trainer/ head coach, assistant coach or administrator will monitor Perry Weather.
- Once lightning strikes within 8 – 15 miles, coaches will be alerted and can continue outside activities but monitor nearby lightning.
- Once lightning strikes within 8 miles, all outdoor activities will be suspended, and everyone will seek shelter immediately.

Flash to Bang – In the absence of weather monitoring technologies, such as Perry Weather, flash to bang method will be used. This method estimates the distance of lightning by counting the seconds upon seeing the “flash” of lightning and hearing the “bang” from the thunder. The number of seconds should be divided by 5 to determine the distance of lightning in miles.

- When a suspicious cloud/storm approaches, the athletic trainer/head coach, assistant coach, or administrator will monitor the approaching storm using the Flash to Bang Method.
- Once the flash to bang count reaches 40 seconds or less, all outdoor activities will be suspended, and everyone will seek shelter immediately.

Evacuation Procedures – The students should be evacuated to a safe shelter. Staying away from tall or individual trees, loan objects (light or flag poles), metal objects, and open fields. Examples of safe shelters include buses, dressing rooms, or other buildings with 4 walls with electrical wiring and/or plumbing. A dug out or awning are not considered safe shelters. Administrators should evacuate spectators from the stadium.

Resuming Practice and/or Competitions – Once a game or practice has been suspended, the storms should continue to be monitored. No contest or practice should be resumed until:

- The lightning has moved out of the 8-mile radius from 30 minutes on the Perry Weather system.
- No lightning strike has been detected within 8-miles for 30 consecutive minutes using the Flash to Bang method.

Although the home team is responsible for each game and/or match, it should be noted that the athletic trainer, head coach, and/or administrator is wholly responsible for the safety and well-being of adults and students in their care. If no policy is in effect at the out-of-town site or the out-of-town site has lesser guidelines than Pearland ISD, it is recommended that the Pearland ISD guidelines be followed.