NEW JERSEY STATE INTERSCHOLASTIC ATHLETIC ASSOCIATION
1161 Route 130 North, Robbinsville, NJ 08691
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Heat Participation Policy

Introduction

History shows that most exertional heat stroke deaths occur during August; however, athletes will be at risk whenever in the presence of elevated ambient temperatures with high humidity. For many years, coaches have utilized the Heat Index to determine safe conditions for exercise in a hot environment. Evidence-based research, first initiated with the military, proves that Wet Bulb Globe Temperature (WBGT) should be the environmental monitoring measure during athletic participation in the heat.

The Heat Index was developed as a measurement of ambient temperatures and relative humidity while resting in the shade. It is intended to provide outdoor restrictions for the elderly and adolescents during times of elevated temperatures. It is not relevant to a athletic activity settings. However; the WBGT is a measurement of ambient temperature, relative humidity, radiant heat from the sun and wind speed. When outdoor activities are conducted in the direct sun, the WBGT is the most pertinent to use. Although read in degrees, the WBGT does not reflect degrees of air temperature. A WBGT reading of 92 F may equate to a Heat Index reading of 104-105 degrees F.

Method

The *NJSIAA Heat Participation Policy* will be utilized in conjunction with the *NJSIAA PreSeason Heat Acclimatization Policy*. Monitoring the environmental conditions through the WBGT and making the appropriate activity modifications is an effective preventative measure in reducing the risk of exertional heat stroke. The athletic trainer, certified designee or individual (e.g. coach) appointed by the athletic director must use a scientifically-reliable WBGT measuring device and take an on-site reading 30 minutes prior to activity and a minimum of every hour during activity. Readings must be recorded on the *NJSIAA Heat Participation Policy Record Chart*. All corresponding modifications must also be recorded on the chart.

References:

https://ksi.uconn.edu/prevention/wet-bulb-globe-temperature-monitoring/#

http://ksi.uconn.edu/high-school-state-policies/wbgt-policies/

https://ksi.uconn.edu/prevention/heat-acclimatization/

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NJSIAA Heat Participation Activity Guidelines

Schools must follow this best practice policy when conducting outdoor practices and games in all sports. The policy follows modified guidelines of the American College of Sports Medicine, and is specific to New Jersey, in regard to:

1. The scheduling of practices during times of various Wet Bulb Globe Temperature (WBGT) levels
2. The ratio of workout time to time allotted for rest and hydration during times of various WBGT levels
3. The WBGT levels which will result in practices and contests being modified or terminated.

An instrument scientifically approved to measure WBGT must be utilized at each practice and game. WBGT readings must be taken on the practice and game site a minimum of every hour, beginning 30 minutes before the beginning of practice and game. All readings must be recorded, or data logged (e.g. written or electronic form). In the event that a modification or cancellation was required, documentation using the WBGT *NJSIAA Heat Participation Policy Record Chart* must be completed.

WBGT READING	Flag	Risk for Heat Illness	ACTIVITY GUIDELINES AND REST BREAK GUIDELINES
Under 80.0 Degrees Fahrenheit	**Green**	**Very Low**	Normal activities – Provide at least three separate rest breaks each hour of minimum duration of 3 minutes each during workout.
80.0 - 85.0 Degrees Fahrenheit	**Yellow**	**Low**	Use discretion for intense or prolonged exercise; watch atrisk players carefully; Provide at least three separate rest breaks each hour with a minimum duration of 4 minutes each.
85.1 - 88.0 Degrees Fahrenheit	**Orange**	**Moderate**	Maximum practice time is 2 hours, For Football, Lacrosse and Field Hockey: All helmets and shoulder pads must be removed for practice and conditioning activities. If the WBGT rises to this level **during** practice, football players may continue to work out wearing football pants without changing into shorts. For All Sports: provide at least four separate rest breaks each hour with a minimum duration of 4 minutes each.
88.1 - 90.0 Degrees Fahrenheit	**Red**	**High**	Maximum length of practice is 1 hour. For Football, Lacrosse and Field Hockey: No protective equipment may be worn during practice and there may be no conditioning activities. For All Sports: there must be 20 minutes of rest breaks distributed throughout the hour of practice.
Over 90 Degrees Fahrenheit	**Black**	**Very High**	**NO OUTDOOR WORKOUTS.** Delay practice until a cooler WBGT level is reached.

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The NJSIAA WBGT Guidelines are region-specific to New Jersey and are based upon evidence-based practice and a collaborative effort between the Korey Stringer Institute and the NJSIAA; therefore, should not be compared with any other WBGT guidelines or templates.

GUIDELINES FOR HYDRATION AND REST BREAKS

1. Rest time must involve unrestricted access to fluids (e.g. water or electrolyte beverages).
2. With sports requiring helmets (e.g. football, lacrosse, field hockey), the helmets must be removed during rest time.
3. The site of the rest time must be a in a shaded area.
4. When the WBGT reading is >85.0°F
    a. Ice towels, spray bottles filled with ice water or equivalent must be available to aid in the cooling process within the shaded area.

Definitions

1. Game: any NJSIAA sanctioned event.
2. Practice: the period of time that a participant engages in coach-supervised, school-approved sport or conditioning-related activity. Practices are timed from the time the players report to the field until they leave.
3. Walk through: this period of time shall last no more than one hour and 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.

Implementation Note to be included in NJSIAA Handbook:

The aforementioned policy must be carried out by the athletic trainer, certified designee or individual as appointed by the athletic director which includes a coach or any individual responsible or sharing duties for making decisions concerning the implementation of modifications or cancellation of practices and games based on WBGT.

Compliance note to be included in NJSIAA Handbook:

In accordance with the current school compliance checks, the compliance monitors checklist will include items specific to:

- Presence of a WBGT device
- Documentation of all practices and games requiring modification on the NJSIAA Heat Participation Policy Record Chart
- Proof of written and signed off Heat Participation Policy document

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Heat Participation Policy
Frequently Asked Questions

Is the *NJSIAA Heat Participation Policy* just for football in the fall preseason?
The *NJSIAA Heat Participation Policy* must be followed by all sports and has no specific ending date. Athletic trainers and coaches must follow the policy anytime the Wet Bulb Globe Temperature (WBGT) readings are at an elevated level. During this time, practices and games must be held in accordance with the *NJSIAA Heat Participation Activity Guidelines.*

What does the Wet Bulb Globe Temperature (WBGT) mean and how is this different from the heat index?
The Heat Index is a measurement of ambient temperatures and relative humidity while resting in the shade. It is intended to provide outdoor restrictions for the elderly and adolescents during times of elevated temperatures. It is not relevant to an athletic practice setting.

The Wet Bulb Globe Temperature (WBGT) is a measurement of ambient temperature, relative humidity, radiant heat from the sun and wind speed. When outdoor activities are conducted in the direct sun, the WBGT is the most pertinent to use. Although read in degrees, it does not reflect degrees of air temperature. A WBGT reading of 92 F may equate to a Heat Index reading of 104 – 105 degrees F.

How frequently should WBGT readings be taken during practice?
WBGT readings must be taken on the practice site a minimum of every hour, beginning 30 minutes before the beginning of practice. All readings must be recorded on the *NJSIAA Heat Participation Policy Record Chart*.

Why does the *NJSIAA Heat Participation Policy* apply to practices and not games? The *NJSIAA Heat Participation Policy* applies to both practices and games. At least 30 minutes prior to the start of a game, the officials must be informed of the on-site WBGT reading and the recommended modifications (e.g. built-in water breaks). Keep in mind that scrimmages take place during the preseason acclimatization period and are considered practices; therefore, must also follow the *Heat Participation Activity Guidelines*.

NJSIAA Heat Participation Policy Record Chart

School:_____ **Sport:**_____

DATE	TIME	TEMPERATURE	HUMIDITY	WBGT READING	ACTIVITY REVISION	SIGNATURE

WBGT READING	ACTIVITY GUIDELINES AND REST BREAK GUIDELINES
Under 80.0 F	Normal activities – Provide at least three separate rest breaks each hour of minimum duration of 3 minutes each during workout.
80.0 F – 85.0 F	Use discretion for intense or prolonged exercise; watch at-risk players carefully; Provide at least three separate rest breaks each hour with a minimum duration of 4 minutes each.
85.1 F – 88.0 F	Maximum practice time is 2 hours, For Football: no protective equipment may be worn during practice. All protective equipment must be removed for conditioning activities. If the WBGT rises to this level **during** practice, players may continue to work out wearing football pants without changing into shorts. For Field Hockey Goalies: All protective equipment must be removed for conditioning activities. For All Sports: provide at least four separate rest breaks each hour with a minimum duration of 4 minutes each.
88.1 F – 90.0 F	Maximum length of practice is 1 hour. For Football: no protective equipment may be worn during practice and there may be no conditioning activities. For All Sports: there must be 20 minutes of rest breaks distributed throughout the hour of practice.
Over 90.0 F	**NO OUTDOOR WORKOUTS.** Delay practice until a cooler WBGT level is reached.

GUIDELINES FOR HYDRATION AND REST BREAKS

1. Rest time must involve both unlimited hydration intake (water or electrolyte drinks) and rest without any activity involved.
2. For Football: helmets must be removed during rest time. For Field Hockey: goalie helmets must be removed during rest time.
3. The site of the rest time must be a “cooling zone” and not in direct sunlight.
4. When the WBGT reading is over 85.0:
    a. A cold-water immersion tub or tarp (taco/burrito method) must be available for practices and games for the benefit of any player showing early signs of heat illness.
    b. Ice towels, spray bottles filled with ice water or their equivalent must be available at the “cooling zone” to aid in the cooling process.

WBGT CHART

In some instances when a WBGT monitoring device is unavailable, a chart like the one shown below can be used to estimate WBGT. It must be noted that these are estimates and are derived only from using temperature and relative humidity and the chart accounts for *full* sunshine and *light* wind conditions. Thus, depending on the radiant heat load from the sun and the wind, the actual WBGT reading could be different from what is on the chart.

Wet Bulb Globe Temperature (WBGT) from Temperature and Relative Humidity

Relative Humidity (%) \ Temperature (°C)	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
0	15	16	16	17	18	18	19	19	20	20	21	22	22	23	23	24	24	25	25	26	27	27	28	28	29	29	30	31	31	32	32
5	16	16	17	18	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	27	28	29	29	30	31	31	32	33	33	34	35
10	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29	30	30	31	32	32	33	34	35	36	36	37
15	17	17	18	19	19	20	21	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	33	33	34	35	36	37	38	39	
20	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	37	38	39			
25	18	18	19	20	20	21	22	23	24	24	25	26	27	28	28	29	30	31	32	33	34	35	36	37	38	39					
30	18	19	20	20	21	22	23	23	24	25	26	27	28	29	29	30	31	32	33	34	35	36	37	39							
35	18	19	20	21	22	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39								
40	19	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39									
45	19	20	21	22	23	24	25	26	27	27	28	29	30	32	33	34	35	36	37	38											
50	20	21	22	23	23	24	25	26	27	28	29	30	31	33	34	35	36	37	39												
55	20	21	22	23	24	25	26	27	28	29	30	31	32	34	35	36	37	38													
60	21	22	23	24	25	26	27	28	29	30	31	32	33	35	36	37	38														
65	21	22	23	24	25	26	27	28	29	31	32	33	34	36	37	38															
70	22	23	24	25	26	27	28	29	30	31	33	34	35	36	38	39															
75	22	23	24	25	26	27	29	30	31	32	33	35	36	37	39																
80	23	24	25	26	27	28	29	30	32	33	34	36	37	38																	
85	23	24	25	26	28	29	30	31	32	34	35	37	38	39																	
90	24	25	26	27	28	29	31	32	33	35	36	37	39																		
95	24	25	26	27	29	30	31	33	34	35	37	38																			
100	24	26	27	28	29	31	32	33	35	36	38	39																			

WBGT > 40

Note: This table is compiled from an approximate formula which only depends on temperature and humidity. The formula is valid for full sunshine and a light wind

Reference: The Korey Stringer Institute. https://ksi.uconn.edu/prevention/wet-bulb-globe-temperature-monitoring/