

## HEAT MODIFICATION POLICY

Adapted from VHSL SMAC Heat Guide

Physical Therapy@acac is dedicated to providing exceptional care for our area athletes.

Heat injuries cause multiple deaths each year in high school sports. Heat illness and injury can range from a simple muscle cramp to life threatening heat stroke. Catastrophic heat injuries are preventable. The most important components in preventing heat injury are the prevention of dehydration and limiting activity when temperature and humidity make it near impossible for the body to cool through evaporation of sweat. The following recommendations are meant to significantly reduce athlete's exposure risk of heat illness and injury.

Ambient air temperature and relative humidity should be assessed by the Athletic Trainer on-site prior to and during each practice or competition where heat may be a factor. Assessment should be performed with a digital psychomotor used in accordance to manufacture instructions. Should a psychomotor not be available the Athletic Trainer on-site should make modification decisions using OSAA Heat Index Calculator, [www.osaa.org/heatindex](http://www.osaa.org/heatindex).

When the air temperature is above 90, and/or the relative humidity is high, the body is at a higher risk to not effectively stay cool, which may be compounded by the level of dehydration of the body's fluids. The following chart is a simple method to determine the amount of increased risk with variations of heat and humidity, and subsequent suggestions to modify participation in physical activities. Simply cross-reference the relative humidity (top row) with the temperature (first column) to determine the humiture. Follow guidelines outlined below.

Humiture or Apparent Temperature Chart (After R.G.Steadman, 1979)

### RELATIVE HUMIDITY (%)

TEMP↓	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
105°	100	105	113	123	135	149				
104°	98	104	110	120	132	143				
102°	97	101	108	117	125	139				
100°	95	99	105	110	120	132	144			
98°	93	97	101	106	110	125	132			
96°	91	95	98	104	108	120	128			
94°	89	93	95	100	105	111	122	128		
92°	87	90	92	96	100	106	115	122		
90°	85	88	90	92	93	100	106	114	122	130
88°	82	86	87	89	93	95	100	106	115	125
86°	80	84	85	87	90	92	96	100	109	111
84°	78	81	83	85	86	89	91	95	99	105
82°	77	79	80	81	84	86	89	91	95	96
80°	75	77	78	79	81	83	85	86	89	91
78°	72	75	77	78	79	80	81	83	85	86
76°	70	72	75	76	77	77	77	78	79	80

### HUMITURE

105° and up:

95° to 104°:

90° to 94°:

Below 89°

### RECOMMENDATION

Recommend no outside activity

Recommend no equipment (helmets, pads, etc.) be used during activity

Recommend equipment is removed as often as possible. Careful monitoring of all athletes for signs of heat illness.

Recommend adequate water supply at all practices and competitions with breaks every 20-30 minutes for rehydration.

## HEAT MODIFICATION POLICY USING WET BULB THERMOMETER

It should be noted that wet bulb reading represents the temperature including the effect of evaporative cooling. The use of these devices allows for a more accurate monitoring of actual conditions present at each individual athletic facility.

Level	FWBT	Duration	Attire	Fluid Consumption	Comments
1	Less than 60°	3 hours maximum	Full gear	Insist that adequate fluid be consumed	Never restrict water consumption
2	60.1-65.9	3 hours maximum	Full gear	Insist that adequate fluid be consumed	Provide a minimum of 2 water breaks per hour
3	66-74.9	3 hours maximum	Full gear	Insist that 4-6oz minimum be ingested every 20 minutes	Provide a minimum of 3 water breaks per hour
4	75-76.9	3 hours maximum	Remove helmets unless active in drill	Insist that 6-8oz minimum be ingested every 20 minutes	Monitor athletes, rest as needed.
5	77-78.9	3 hours maximum, 15 minutes of rest for every 45 minutes of practice	Protective equipment removed for all non-contact drills	Insist that 8-10oz minimum be ingested every 15 minutes	Removal of helmets unless active in drill, removal of pads when teaching or non-contact portions of practice exceed 10 minutes in length
6	79-80.9	3 hours maximum, 15 minutes of rest for every 45 minutes of practice	Shirt, shorts only. No helmets or equipment	Insist that 8-10oz minimum be ingested every 15 minutes	Reduce intensity of activity, no equipment or helmets.
7	81 and up	NO OUTDOOR PRACTICE		Re-hydrate 24oz for every pound of body weight lost per day.	Practices conducted indoors must follow the Heat Modification Policy

### RECOMMENDATIONS:

**Fluid replacement should be at a rate of 24 oz for every pound of body weight lost after exercise.**

- Light colored, loose clothing is suggested during activity in hot weather.
- Adequate fluid supply should be readily available at all times during activity in hot weather.
- Individuals poorly acclimatized, or poorly conditioned are at increased risk for heat related illness/injury and should be monitored closely or placed on a modified participation schedule.
- Athletes having a pre-existing dehydrated state (recent fever or gastro-intestinal illness) or pre-existing heat injury are at a much higher risk for heat related illness/injury and should be monitored closely or placed on a modified participation schedule.
- Medications including diuretics, antihistamines, beta blockers and anti-cholinergics increase the risk of heat illness/injury.
- Overweight athletes are at increased risk for heat illness/injury and should be monitored closely.
- Energy, ergogenic, and dietary supplements such as Creatine may cause an increase in dehydration and heat related illness and/or injury.