

# Sports Safety Guidelines: Heat & Hydration

## Washington County Schools Athletic Training

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1. Prior to the start of any practice or event conducted during the warmer months, the Heat Index at that particular practice or event location must be measured. Conditions are subject to change during the practice/event; therefore, measurements should be taken at regular intervals throughout the practice/event. Readings for the area from the National Weather Service via the internet or phone are accepted measurements if no onsite psychrometer is available.

2. Practice and games should be held early in the morning and later in the evening to avoid times when environmental conditions are generally more severe. The hottest portion of the day is between 4:00-6:00 pm.

3. An unlimited supply of cold water shall be available to participants during practices and games.

a) Athletes will be advised on drinking recommendations

b) Athletes shall be informed by the coaching staff that cold water is always available or accessible.

4. Give adequate rest periods. Remove equipment or clothing when possible. Exposed skin cools more efficiently. Football players should be allowed to remove helmets and/or shoulder pads if conditions warrant.

5. Gradually acclimatize participants to the heat. Some research indicates 80% acclimatization may be achieved in 7-10 days, but can take up to 14 days.

6. Athletic participants should weigh in before practice and weigh out after to monitor water loss to identify those who are becoming dehydrated. (Rehydration guidelines are included below)

7. Participants should wear clothes that are light in color and preferably not 100% cotton.

8. Students who need careful monitoring include, but are not limited to: overweight students, those with weight fluctuations, those taking over the counter and prescription medicine or supplements, those with a history of heat related illness, and students who have done absolutely no exercise at all prior to reporting to practice.

9. During the first five days, it is recommended that athletes participate in one practice session per day. A one-hour walk through is permitted during this time as long as an adequate rest period is allowed between the walk through and practice or vice versa. No single practice session should last longer than 3 hours.

10. Be familiar with all heat related symptoms and corresponding treatments. (See Chart)

11. Be familiar with any emergency and 911 procedures. Coaches must have Emergency Contact Information for each athlete present at every practice and contest.

12. Be familiar with the temperature and humidity chart and utilize guidelines to determine the length of practice and rest periods. (See Chart)

### **Fluid Replacement**

<b>Weight Loss During Workout</b>	<b>Fluid Amount Needed to Restore</b>
2 pounds	32 oz – 4 cups or 1 sports bottle
4 pounds	64 oz – 8 cups or 2 sports bottles
6 pounds	96 oz - 12 cups or 3 sports bottles
8 pounds	128 oz – 16 cups or 4 sports bottles

### **Recommendations for Hydration During Exercise**

- 1.) Drink 16-24 oz of water or sports drink 1-2 hours before.
- 2.) Drink 8-10 oz of water or low sugar sports drink every 20 minutes of exercise.
- 3.) Drink before you feel thirsty!

### **Selecting a Sports Drink**

- 1.) The carbohydrate (sugar) content should be between 6-8%.
- 2.) Sports drinks with a carbohydrate concentration greater than 10% contribute to dehydration and slow gastric emptying. Drink these in combination with water.
- 3.) Avoid caffeine as in tea and soda, high sugar drinks like fruit juices and Kool-Aid.
- 4.) Vegetable Juice is an ideal option for replenishing sodium and potassium without consuming excessive sugar.
- 5.) One that contains approximately 6 grams of protein is excellent for post-exercise recovery, especially in combination with water.

### Heat Index Chart

This heat index chart provides general guidelines for assessing the potential severity of heat stress. Individual reactions to heat will vary. It should be noted that heat illness can occur at lower temperatures than indicated on the chart.

1. Across the top of the chart, locate the “Environmental Temperature,” (i.e. ambient air temperature.)
2. Down the left side of the chart, locate the “Relative Humidity.”
3. Follow across and down to find the “Apparent Temperature.” Apparent temperature is the combined index of heat and humidity. It is an index of the body’s sensation of heat caused by the temperature and humidity.

Environmental Temperature (Air)

Relative Humidity	70°F	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F
10%	65	70	75	80	85	90	95	100	105
20%	66	72	77	82	87	93	99	105	112
30%	67	73	78	84	90	96	104	113	123
40%	68	74	79	86	93	101	110	123	137
50%	69	75	81	88	96	107	120	135	150
60%	70	76	82	90	100	114	132	149	
70%	70	77	85	93	106	124	144		
80%	71	78	86	97	113	136			
90%	71	79	88	102	122				
100%	72	80	91	108					

Source: National Oceanic & Atmospheric Administration

### Practice Guidelines

(Applies to both indoor and outdoor activities)

Apparent Temperature	Heat Stress Risk	Practice Status
<87°	Minimal Risk	Normal Practice
87°- 89°F	Low Risk Heat Issues Possible	Normal practice with 5-10 minute hydration breaks every 20-30 minutes
90°- 94°F	Heat Cramps or Heat Exhaustion Possible	Remove Helmets frequently. Protective Equipment worn only during Contact Drills Hydration breaks every 15-20 minutes
95°- 104°F	Heat Exhaustion Likely. Heat Stroke Possible.	No Equipment Hydration breaks every 10 minutes. Total practice time outside must be <90 minutes per session
>105°F	Heat Stroke Highly Likely	No Practice

## Heat Illness Symptoms and Treatment

	<b>Symptoms</b>	<b>Treatments</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 and dizziness</li> <li>• Rapid pulse, nausea, and 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>• Ice packs near major arteries such as neck, armpits, and groin</li> <li>• If needed, 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, can cause damage to internal organs and even death</li> <li>• Sweating stops</li> <li>• Shallow breathing and rapid pulse</li> <li>• Possible disorientation or loss of consciousness</li> <li>• Possible irregular heartbeat and cardiac arrest</li> </ul>	<ul style="list-style-type: none"> <li>• Call 911 immediately</li> <li>• Immediately immerse in cold bath</li> <li>• Replenish fluids by drinking</li> </ul>

\*As recommended by the National Athletic Trainers' Association