Heat-Related Illnesses

Coaches must watch student-athletes carefully for signs of trouble, particularly athletes who lose too much weight, overweight student-athletes, and the eager student-athletes who constantly competes at top capacity. Be aware of trouble signs such as nausea, incoherence, fatigue, weakness, vomiting, cramps, weak/rapid pulse, visual disturbances and unsteadiness.

Coaches must know what to do in case of an emergency. They should be familiar with immediate first aid practices and prearrange procedures for obtaining medical care, including ambulance service.

The coach must know both the temperature and humidity of the activity location. The greater the humidity the more difficult it is for the body to cool itself.

If any athlete is noted to having difficulties in the heat. Activity should be closely monitored or cancelled because others are likely also to have difficulties.

Signs and Symptoms of Heat Illness:

- Headache
- Dizziness
- Rapid pulse
- Nausea/Vomiting/Diarrhea
- Skin is flushed/cool and pale
- Disoriented/confusion
- Shallow breathing
- Muscle cramping
- Red, dry skin
- Seizures
- Loss of consciousness/Collapse
- Unusual behavior/Irritability

Any athlete who collapses or demonstrates multiple signs and symptoms should have core body temperature checked by a rectal thermometer. Oral, skin, and ear thermometers are unacceptable . These athletes should be sent to the emergency room for evaluation.

Exertional Heat Stroke: Defined as core body temperature > 104 degrees F Delay in recognition/treatment could be fatal. Initiate cooling and Emergency Action Plan immediately.

Exertional Heat Exhaustion: Defined as an elevated core body temperature between 102-104 degrees F. This condition is not as severe as heatstroke but if left untreated it can progress to heat stroke. Initiate cooling procedure immediately. No return to activity.

Basic 1st Aid for Heat Illness- Cooling Procedures

1. Move the athlete to a shaded area. Air condition room if available.
2. Remove equipment and unnecessary clothing.
3. Lay athlete on his back with legs elevated.
4. Massage ice water soaked towels on athletes head and legs.
5. Ice packs to the neck, arm pits, and groins.
6. Have athlete drink fluids if able.

* Ice water bath is the fastest way to cool an athlete with exertional heat illness, if available.

* Stop Cooling procedure after core body temperature reaches < 102 degrees (F).

Returning to Activity Following Exertional Heat Stroke or Exhaustion

Heat Stroke: After episode of heat stroke refrain from exercise for 1 week and then gradual return as tolerated. Consult your treating physician.

Heat Exhaustion: Return to activity gradually over 24-48 hours if tolerated. Consult your treating physician.

Wet Bulb Globe Temperature (Heat Index) Recommendations

The following precautions are recommended when using the WBGT Index: (ACSM's Position Statement: Exertional Heat Illness during Training and Competition, 2007)

Below 82% – Gradual increase in activity for unfit individuals
82% - 86% - Limit intense exercise of unfit individuals
86% - 90% - Limit intense exercise for all individuals
90% plus – Cancel exercise for all individuals

Heat Index Calculations

(RELATIVE HUMIDITY)

	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
105	99	105	113	122	134					
104	98	103	111	120	130					
103	97	102	109	117	127					
102	96	100	107	115	124	135				
100	93	98	103	110	118	128				
98	91	95	100	106	113	122	132			
96	89	92	97	102	108	115	124	134		
94	87	90	94	98	103	110	117	126	136	
92	85	88	91	95	99	104	111	118	127	136
90	83	86	88	91	95	99	105	111	118	126
88	81	83	86	88	91	95	99	104	110	117
86	80	82	84	86	88	91	94	99	103	109
84	78	80	82	83	85	88	90	93	97	102
82	76	78	80	81	83	84	86	89	92	96
80	74	76	78	79	81	82	83	87	87	90

Web site that will calculate the heat index for you:
http://www.erh.noaa.gov/box/calculate2.html

Thirty (30) minutes prior to the start of activity, temperature and humidity readings should be taken at the practice/competition site.

If a reading is determined whereby activity is to be decreased (above 95 degrees Heat Index), then re-readings would be required every 30 minutes to determine if further activity should be eliminated or preventative steps taken, of if an increased level of activity can resume. Using the following scale, activity must be altered and/or eliminated based on this Heat Index as determined

HEAT POLICY

HEAT INDEX	88-95	96-99	100-104	Above 104
Provide ample amounts of water	*	*	*	
10 min Mandatory water breaks every 30 min	*	*	*	
Ice-Down towels for cooling	*	*	*	
Watch/Monitor athletes carefully for necessary action	*	*	*	
Alter uniform by removing items if possible			*	
Allow for changes to dry t-shirts and shorts			*	
Recommend moving practices before 10:00 am or after 5:00 pm			*	
Reduce time of outside activity as well as indoor activity if air condition is unavailable			*	
NO OUTDOOR ACTIVITIES				*

******Special considerations for contact sports and activities with additional equipment.*

Heat Index greater than 95:

1. Helmets and other possible equipment removed while not involved in contact.
2. Re-check temperature and humidity every 30 minutes to monitor for increased Heat Index.

Heat Index greater than 100:

1. Helmets and other possible equipment removed if not involved in contact or necessary for safety.
2. If necessary for safety, suspend activity.
3. Re-check temperature and humidity every 30 minutes to monitor for increased Heat Index.