

Heat Disorders In Athletes

Athletes exercising in heat can experience heat illness. Coaches, trainers, athletes, and parents must be aware that an athlete, particularly a young athlete, may develop a potentially fatal heat stroke without being aware of any of the early symptoms of heat illness. Heat illness is usually categorized into three disorders:

Heat cramps

- ② Painful, sustained muscle contractions
- ② Faintness, dizziness, exhaustion

Treatment:

- ② STOP exercising
- ② Follow a more gradual acclimatization and conditioning program
- ② Cooling and fluid replacement

Heat Exhaustion

- ② Headache, muscle weakness, dizziness
- ② Extreme fatigue, clammy skin, profuse sweating, flushed skin
- ② Nausea, no appetite, vomiting
- ② Pupils dilated, visual disturbances

Treatment:

- ② GET OUT OF THE SUN and into the shade, cease all exercise
- ② Loosen/remove clothing, douse the skin with water and fan to cool
- ② Drink water steadily

Heat Stroke

- ② Hot, pale, dry skin or may still be sweating profusely
- ② Loss of coordination, stumbling, fainting or collapse
- ② Disorientation, irritability, confusion, emotional instability, or inappropriate behavior
- ② Breathing and pulse rates strong and rapid
- ② Pupils constricted, high body temperature

Treatment:

LIFE THREATENING — CALL AMBULANCE IMMEDIATELY

While waiting for ambulance

- ② Move patient out of the sun into shady, cool area.
- ② Remove clothing, cool body with water and fan
- ② Apply ice packs or wet towels around neck, underarms, groin wrist, and ankle areas.
- ② Transport to emergency facility

PREVENTION OF HEAT ILLNESS

Acclimatization/Conditioning:

- ② Acclimatization means gradual exposure to the heat and humidity in your area. This is achieved by exercising in the heat for short periods, gradually increasing over time. The process takes 10-14 days.
- ② Conditioning means improving the cardiovascular system by participating in aerobic exercise for 30 minutes 3-4 times/week. Start with light, short practice sessions without equipment/pads.

Environmental Conditions:

- ② Heat stress is affected by air temperature, humidity, and direct sunshine. Use heat index as guide for workouts or competitions
- ② Modify workouts and competitions in response to the conditions

Hydration:

- ② Begin workouts or competition well hydrated
- ② Drink extra water two hours before exercise
- ② 8 to 17 ounces of cold water 10-15 minutes before workout or competition
- ② 8-17 oz of fluid every 20-30 minutes during exercise
- ② Rate of sweating is relative to body mass — heavy at a more risk to heat illness
- ② Rehydrate after exercise(weigh yourself prior and after workouts and drink one pint of fluid for each pound lost)

Appropriate Clothing

- ② Lightweight, moisture wicking, loose fitting, light colored clothing
- ② Expose as much skin as possible to facilitate sweat evaporation(use sunscreen)
- ② Wear a light colored hat moisture wicking

HEAT INDEX CHART

The "Heat Index Chart" is a guideline which measures heat and humidity. Direct sunshine increases the index by up to 15°F.

RELATIVE HUMIDITY (%)	100	72	80	91	108					
	90	71	79	88	102	122				
	80	71	78	86	97	113	136			
	70	70	77	85	93	106	124	144		
	60	70	76	82	90	100	114	132	149	
	50	69	75	81	88	96	107	120	135	150
	40	68	74	79	86	93	101	110	123	137
	30	67	73	78	84	90	96	104	113	123
	20	66	72	77	82	87	93	99	105	112
	10	65	70	75	80	85	90	95	100	105
	0	64	69	73	78	83	87	91	95	99
	70	75	80	85	90	95	100	105	110	

AIR TEMPERATURE (DEGREES FARENHEIT)

Heat Index	Heat disorders possible with prolonged exposure and/or activity
80-89	Fatigue
90-94	Sunstroke, heat cramps, and heat exhaustion
105-129	Sunstroke, heat cramps or heat exhaustion likely, and heat stroke possible
130 or higher	Heatstroke/ sunstroke highly likely

This information was obtained from the Kendrick Fincher Memorial Foundation Brochure "Beat the Heat"