

EXERCISING IN HOT WEATHER

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When you engage in vigorous exercise, your body generates a great deal of heat, and your body temperature can rise from 98.6°F up to 101°F. (A body temperature of 105°F is life threatening.) High ambient temperatures are an obvious cooling problem, but high levels of humidity also cause cooling difficulties by hindering evaporation of perspiration. As a result, on days when it is both hot and humid it is even more difficult to transfer heat from your body to the surrounding ambient air. This combination can cause your body temperature to rise to dangerous levels. **On hot humid days you must guard against overdoing it.**

Category	Heat Index		Heat-Related Risks
	(°F)	(°C)	
Caution	80 to 90°F	27 to 32°C	Unexpected fatigue possible with prolonged exposure and/or physical activity.
Extreme Caution	90 to 105°F	32 to 41°C	Muscle cramps and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Danger	105 to 129°F	41 to 54°C	Muscle cramps and/or heat exhaustion likely. Heat stroke possible with long exposure and/or physical activity.
Extreme Danger	130°F or higher	54°C or higher	Heat stroke likely.

Table 1. Health Risks vs. Heat Index (Hot Weather Conditions)

Heat Index: Adopted by the U.S. National Weather Service, the Heat Index, or apparent temperature, combines the effects of air (dry bulb) temperature and relative humidity. Heat index values are expressed in either degrees Fahrenheit or Celsius. As expected, the Table 1 shows that when the Heat Index rises, so do health risks. In hot weather, the major health threats are heat stroke, heat exhaustion and dehydration.

Heat Exhaustion: As described in Table 1, when Heat Index values reach 90 to 105°F, you could suffer muscle cramps, particularly in your legs and heat exhaustion. The symptoms of heat exhaustion are pale clammy skin, dizziness or fainting, a rapid pulse, fast breathing, and nausea. If you experience any of these problems, get to a cool place, lie down and sip water. You may also need to seek medical attention.

Heat Stroke: Much more dangerous is heat stroke, which results when extremely hot weather triggers a malfunction of the body's thermostat, causing the body temperature to rise to 104°F or higher. Symptoms of heat stroke are confusion or loss of consciousness, flushed, hot and dry skin, a strong and rapid pulse. **Heat stroke is a medical emergency.** Move the person to the coolest accessible place and call 911. Some first aid measures include removing some of the person's clothing and sponging with cool water.

Dehydration: Everyone knows drinking water is important for good health, but it's even more important on hot days while you are exercising. During vigorous exercise, you can lose one to two quarts of water per hour in sweat, so it's essential to use common sense and stay hydrated. And in hot weather, drink plenty of water and fruit juice even if you don't feel thirsty.

Chafing: Another annoying problem in hot weather is chafing. Skin irritation can happen anywhere clothing touches your skin. If you are bothered by this troubling condition try different clothing styles, fabrics, or simply coat the affected area with petroleum jelly.

Before exercising outdoors in hot weather, check your latest local weather forecast. If the forecast does not incorporate the Heat Index, use Table 2 and the forecasted air temperature and relative humidity to determine the Heat Index value. (Note the

Heat Index values in Table 2 are in degrees Fahrenheit and the colors in the table correspond to those in the risk categories shown in Table 1.)

Relative Humidity (%)	Air Temperature (°F)									
	80	85	90	95	100	105	110	115	120	125
10	78	82	86	90	95	100	105	110	116	122
15	78	82	86	91	96	102	108	115	122	130
20	79	82	86	92	98	104	112	121	130	140
25	79	82	87	93	100	108	117	127	139	151
30	79	83	88	94	102	112	122	135	148	
35	80	84	89	97	106	116	129	143		
40	80	84	91	99	109	122	136	152		
45	80	85	93	102	114	127	143			
50	81	87	95	105	118	134	152			
55	81	88	97	109	124	141				
60	82	89	100	113	130	149				
65	82	91	103	118	136					
70	83	93	105	123	143					
75	84	95	109	128	150					
80	84	97	113	134			Note: Exposure to full sun can increase the Heat Index by 15°F.			
85	85	99	117	140						
90	86	102	122	147						
95	86	104	127	154						
100	87	107	132							

Table 2. Heat Index for Temperature-Humidity Combinations

Frankly, unless you are relatively young and in very good physical condition, it's not a good idea to engage in vigorous outdoor exercise when the Heat Index is over 90°F. Despite

this advice, if you persist on exercising on very hot days, make sure you wear loose-fitting, light-colored clothes; avoid the blazing sun (which can increase the heat index by 15°F) by working out early in the morning or in the evening; wear a hat and use sun screen; reduce the intensity of your workout; and drink plenty of water. In addition, be aware that the temperature of paved roadways can easily exceed 100°F even when the ambient air temperature is only 80°F. Therefore, if you are intent on jogging on hot days it's best to jog in a shaded park. Finally if you workout in very hot weather always let someone know when and where you will be exercising and what time you plan to return.

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