EXERCISING IN HOT WEATHER
Metric Version

When you engage in vigorous exercise, your body generates a great deal of heat, and your body temperature can rise from 37°C up to 38.5°C. (A body temperature of 40.5°C 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
Caution	27 to 32°C	Unexpected fatigue possible with prolonged exposure and/or physical activity.
Extreme Caution	32 to 41°C	Muscle cramps and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Danger	41 to 54°C	Muscle cramps and/or heat exhaustion likely. Heat stroke possible with long exposure and/or physical activity.
Extreme Danger	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 32 to 41°C, 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 40°C 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 your local emergency phone number. 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 liters 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 Celsius and the

colors in the table correspond to those in the risk categories shown in Table 1.)

Relative Humidity (%)	Air Temperature (°C)											
	28	30	32	34	36	38	40	42	44	46	48	50
10	27	28	30	32	33	35	37	39	41	43	45	48
15	27	28	30	32	34	36	38	41	43	46	49	52
20	27	28	30	32	34	37	39	42	46	49	53	57
25	27	28	30	33	35	38	41	45	48	53	57	62
30	27	29	31	33	36	39	43	47	52	57	62	
35	27	29	32	34	38	41	46	50	56	61		
40	28	30	32	35	39	43	48	54	60	66		
45	28	30	33	37	41	46	51	58	64			
50	28	31	34	38	43	49	55	62				
55	29	32	36	40	46	52	59	66				
60	30	33	37	42	48	55	63					
65	30	34	39	44	51	59	67					
70	31	35	40	47	54	63						
75	31	36	42	49	58	67						
80	32	38	44	52	61				Note: Exposure to full sun can increase heat index by 8°C.			
85	33	39	47	55	65							
90	34	41	49	58								
95	35	42	52	62								
100	36	44	54									

Table 2. Heat Index for Temperature-Humidity Combinations

Frankly, unless you are relatively young and in very good physical condition, it is not a good idea to engage in vigorous outdoor exercise when the heat index is over 33°C. 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 8°C) by working out early in the morning or 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 38°C even when the ambient air temperature is only 26°C. Therefore, if you are intent on jogging on hot days it is best to do so in a shaded park. Finally when you workout in very hot weather always let someone know when and where you will be exercising and what time you plan to return.

The preceding excerpt is from:

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