

BEAT THE HEAT BEFORE IT BEATS YOU

It's summertime and you head out for a run. Before you even finish the first mile, your body feels as though it might ignite from the heat. It's not your imagination. Fifteen minutes into your run and your body temperature could be as high as 5° F above normal. If you were to continue at this pace, fatigue and heat illness would no doubt take over.

Strategies to Protect Yourself From Heat Illness

The above scenario doesn't have to happen. Drinking enough fluid, whether water or a sports drink, is imperative for exercising in hot or humid weather.

Maintenance of body fluids is essential to maintaining proper body temperature. Sweat cools your body by evaporating off your skin. Visible beads of sweat that don't evaporate only dehydrate you without the beneficial cooling effect. If you let your body become dehydrated, you'll find it much more difficult to perform even the lightest of workouts.

But don't wait until you're thirsty to start replenishing those fluids. Chances are, by the time you actually feel thirsty, your body is well on its way to becoming severely dehydrated.

The following strategies will help you protect yourself from the onset of heat illness:

1. Hydration

Fluid replenishment before, during and after exercise is essential to avoid progressive dehydration. Always strive to drink 7 to 10 ounces of fluid every 15 to 20 minutes during exercise. Water isn't the only thing your body loses in sweat. Electrolytes such as sodium, potassium and chloride are also lost in sweat. It is equally important to replace these with a sports drink during continuous exercise lasting longer than one or two hours.

2. Exercise Intensity

You should probably reduce the intensity of your workout, particularly the first few times you are exposed to higher temperatures.

3. Temperature

High humidity prevents sweat from evaporating, and remember that sweat that does not evaporate does not cool the body. Use the heat stress index to determine the risk of exercising at various combinations of temperature and humidity. While a 90° F outdoor temperature is relatively safe at 10% humidity, the heat stress

of 90° F at 50% humidity is the equivalent of 96° F. When the heat stress index rises above 90° F, you may want to consider postponing your exercise session until later in the day. Or, plan ahead and beat the day's heat by working out early in the morning.

4. Heat Stress Index

When you go outside to exercise, refer to the heat stress index and consider the associated risks:

- Below 80° F (27° C): Little or no danger under normal circumstances
- 80–90° F (27–32° C): Fatigue possible with prolonged exposure
- 90–105° F (32–41° C): Heat cramps and heat exhaustion are possible
- 105–130° F (41–54° C): Heat cramps and heat exhaustion likely, heatstroke is possible
- Over 130° F (54° C): Heatstroke is imminent

5. Fitness

Physical training and heat acclimation can increase your blood volume, helping to regulate body temperature more effectively. Interestingly, the acclimatization process can be completed in seven to 14 days of repeated heat exposure. However, you must always continue to drink fluids before, during and after exercise.

6. Clothing

Wear minimal clothing to provide a greater skin surface area for heat dissipation. Your clothing should be lightweight, loose-fitting, light-colored to reflect the sun's rays and of a material that absorbs water, such as cotton.

7. Rest

Know when to say "no" to exercise. Using common sense is your best bet for preventing heat stress when Mother Nature turns up the heat.

Additional Resources

National Institutes of Health—Heat Illness: www.health.nih.gov/topic/HeatIllness

WebMD—Exercising in the Heat: www.webmd.com/fitness-exercise/features/exercising-in-the-heat

If you are interested in information on other health and fitness topics, contact: American Council on Exercise, 4851 Paramount Drive, San Diego, CA 92123, 800-825-3636; or, go online at www.acefitness.org and access the complete list of ACE Fit Facts™

		HEAT STRESS INDEX					
		Air Temperature °F					
		70°	80°	90°	100°	110°	120°
Relative Humidity	0%	64°	73°	83°	91°	99°	107°
	10%	65°	75°	85°	95°	105°	116°
	20%	66°	77°	87°	99°	112°	130°
	30%	67°	78°	90°	104°	123°	148°
	40%	68°	79°	93°	110°	137°	
	50%	69°	81°	96°	120°	150°	
	60%	70°	82°	100°	132°		
	70%	70°	85°	106°	144°		
	80%	71°	86°	113°			
	90%	71°	88°	122°			
100%	72°	91°					

Heat Sensation	Risk of Heat Injury
90° - 105°	Possibility of heat cramps
105° - 130°	Heat cramps or heat exhaustion likely; Heat stroke possible
130°+	Heat stroke a definite risk



©2009 American Council on Exercise®

Reprinted with permission from the American Council on Exercise®