

# OFF 'N' RUNNING

JPL Running Club Newsletter (Edited by Jim Ulvestad, 298-700, 4-6794)

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## CLUB AND LOCAL NEWS

Congratulations to Barbara Basta on finishing a hot Western States 100-mile run in 28:48. Also, congratulations to local mountain runner Herb Tanzer, whose overall victory at Western States was part of an impressive string of races over the last year. In other ultra news, Booth Hartley covered 101 miles in the Orange 24-hour run in May.

Several JPL Running Club members competed in the Long Beach Marathon in early May. Among the finishers were Elaine Hemenway, Kathy O'Hara, and Jim Ulvestad.

Don't forget, the Manufacturer's Hanover Corporate Challenge 3.5-mile race is coming up on September 15. Last year, a JPL/Caltech team finished first in the women's division, and later won the national title in New York. Another JPL team was fourth in the co-ed category in the local competition.

For those of you who ran Fiesta Days 10K in La Cañada Flintridge this year or in previous years, don't believe your fast times. The editor didn't believe his. A course measurement 2 days after the race, using a frequently calibrated car, gave a distance of about 6.05 miles. That's about 1/6 of a mile short.

In the last newsletter, Joseph Chelelgo was reported to be the winner of the steeplechase at Mt. Sac, when the actual winner was Patrick Sang. Sorry about that.

## RUNNING AND RACING IN THE HEAT

The local running conditions so far this summer have been relatively mild, but that can't last indefinitely. Therefore, we won't be well-acclimated to the heat when it suddenly hits. This article passes along some pointers about dealing with the heat and describes some symptoms of heat injury. The editor is not a medical doctor, but the information included here can be found in many books on running and training; several references are given below.

The primary tip for dealing with heat is this: *Be sensible!* At temperatures above 70° F (21° C), especially for races or runs longer than 10 km, you simply won't be able to run as fast as in cooler weather. The muscles generate more heat, which cannot be transported effectively to the skin's surface for cooling. For a given pace, glycogen demands are greater. Perspiration provides cooling in the short and medium term, but prolonged activity will cause a decrease in body fluid volume. High humidity is much worse than low humidity, because the high water content of the air prevents the cooling evaporation of sweat; instead, perspiration just drips off the runner. The fluid loss eventually leads to a decrease in blood volume and an increase in the body core temperature.

Ignoring heat cramps, which may be unpleasant but are not usually life-threatening, there are two major stages of heat injury. These are *heat exhaustion* and *heatstroke*. Although the terms are often used interchangeably, they are different phenomena. Heat exhaustion is the less serious occurrence, but can progress into heatstroke if activity is not stopped. The dominant signs of heat exhaustion are extreme fatigue, nausea, headache, and some dizziness or disorientation. Profuse sweating is normally present. The rectal temperature is about 39-40° C, or 102-104° F. Skin may be cold, with "goose bumps" and chills being common.

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Fluid ingestion and cessation of activity are recommended at the onset of such symptoms.

Heatstroke has many of the same symptoms as heat exhaustion, only worse. It is possible to progress directly into heatstroke without passing through the stage of heat exhaustion. Extreme disorientation and unconsciousness may occur. The skin may be hot and dry; sweating often stops completely. This is a sign that the body's temperature regulation mechanism has stopped working, and usually indicates a core temperature well above 104° F. The immediate treatment for saving the victim from permanent damage and from possible death is to use all means available to lower the body temperature as rapidly as possible. These methods include getting the victim out of the sun, removing his clothing, drenching him with cool or cold water, and covering or massaging him with ice. Drenching with cool water and fanning with towels or shirts may help promote evaporative cooling. Transportation to a medical facility as soon as possible is *mandatory*.

Chronic dehydration is a common problem during the summer, and can put the runner on the road to heat problems before exercise even begins. Fluid replacement throughout the day (not just while running) and frequent monitoring of body weight are both important for maintaining adequate hydration. Reduce the amount of running done during the day (e.g., at lunchtime) and substitute running in the cool of the morning or evening. If it seems necessary to race during the summer, some running during the day *should* be done to accustom the runner's body to some of the demands placed on it by heat. Fluids should be ingested prior to and during any lengthy daytime runs.

Of course, the most important attribute is common sense. During hot weather, slow down, don't run as far, drink fluids, and don't let unrealistic competitiveness dominate. Don't try to beat your boss in a training run or race just to prove that you can do it. Don't train by running two miles every third morning, and then try to race 10 km when the temperature is 85° F and the humidity is high. At any race, *including* JPL Running Club races, *don't* count on the race sponsors and directors to supply enough fluid and ice. Taking in fluid *before* the start of hot weather races is quite important. Race directors usually do not have sufficient fluid available at the start of a race, so the runner must be responsible for taking care of himself. Race officials are often inexperienced volunteers, and they make mistakes. Don't compound them with your own.

Recommended reading:

1. Costill, David L. *A Scientific Approach to Distance Running*, Track and Field News Press, 1979, pp. 61-69, 90-95.
2. Mangi, R., Jokl, P., and Dayton, O. W. *The Runner's Complete Medical Guide*, Summit Books, 1979, pp. 266-279.
3. Morris, Alfred F. *Sports Medicine: Prevention of Athletic Injuries*, Wm. C. Brown Publishers, 1984, pp. 249-255, 351-353.

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*Next issue: A review of Don Kardong's recently published book, Thirty Phone Booths to Boston.*

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