

SportsNutrition

Nancy Clark MS, RD, CSSD
www.nancyclarkrd.com

The Athlete's Kitchen

Winter athletes—skiers, skaters, hikers, bikers, runners, etc.—should pay careful attention to their sports diets. Otherwise, lack of food and fluids can take the fun out of outdoor activities. These tips can help you fuel wisely.

Winter hydration: Failing to drink enough fluids is a major mistake made by winter athletes. A study comparing hydration status of athletes who skied vs. played football or soccer, reported the skiers had the highest rate of dehydration.

- Some winter athletes purposefully skimp on fluids to minimize their need to urinate. No doubt, undoing layers of winter clothing (ski suit, hockey gear, etc.) can be a hassle. But dehydration hurts performance, is one cause of failed mountaineering adventures, and takes its toll—low energy.

- Cold blunts the thirst mechanism. You'll feel less thirsty despite significant sweat loss and may not "think to drink."

- Winter athletes (especially those skiing at high altitude) need to consciously consume fluids to replace the water vapor that gets exhaled via breathing. When you breathe in cold dry air, your body warms and humidifies that air. As you exhale, you lose significant amounts of water. You can see this vapor ("steam") when you breathe.

- Unless you feel warm, you do not want to drink icy water (i.e., from a water bottle kept on your bike or outside pocket of your back pack). Chugging cold water will cool you off and give you the chills. The better bet is to have an insulated water bottle or a bottle filled with hot sports drink and covered with a wool sock to help retain the heat.

- Be sure to dress in layers, so you sweat less. Sweaty clothing drains body heat. As the weather becomes "tropical" inside your exercise outfit, make the effort to strip down. You'll stay drier and warmer. Simply taking off a hat is cooling; 30% to 40% of body heat gets lost through the head.

Winter fuel: Plan to fuel-up before you embark on winter exercise, particularly before you ski, run outside, or embark on any outside activity in extreme cold. You need adequate pre-exercise fuel to generate body heat and stay warm.

- Food's overall warming effect is known as thermogenesis (that is, "heat making"). Thirty to sixty minutes after you eat, your body generates about 10% more heat than when you have an empty stomach. Hence, eating not only provides fuel but also increases heat production (warmth).

- Exercise is an excellent way to warm yourself up in the winter! Aerobic workouts can increase your metabolism by 7 to 10 times above resting level. In the winter, this warmth helps you survive in the cold. In the summer, your body sweats heavily to dissipate the body heat. (If you were unable to dissipate heat, you would cook yourself to death!)

- If you become chilled during winter exercise (or even when swimming, for that matter), you'll likely find yourself searching for food. A drop in body temperature stimulates the appetite and you experience hunger. Your body wants fuel to "stoke the furnace" so it can generate heat.

- For safety sake, you should always carry some source of emergency food (energy bar) with you in case you slip on the ice or experience some incident that leaves you static in a frigid environment. Winter campers, for example, com-

Winter Nutrition: Fueling for Cold Weather Exercise

monly keep a supply of dried fruit, chocolate, or cookies within reach, in case they wake up cold at 3:00 a.m..

Energy needs: Cold weather itself does not increase energy needs, but you will burn extra calories if your body temperature drops and you start to shiver. Shivering is involuntary muscle tensing that generates heat. When you first become slightly chilled (such as when watching a football game), you'll find yourself doing an isometric type of muscle tensing that can increase your metabolic rate two to four times. As you get further chilled, you'll find yourself hopping from foot to foot and jumping around. This is Nature's way to get you to generate heat and warm your body. If you become so cold that you start to shiver, these vigorous muscular contractions produce lots of heat—perhaps 400 calories per hour. Such intense shivering quickly depletes your muscle glycogen stores and drains your energy. This is when you'll be glad you have emergency food with you!

- Your body uses a considerable amount of energy to warm and humidify the air you breathe when you exercise in the cold. For example, if you were to burn 600 calories while cross-country skiing for an hour in 0° F weather, you might use about 150 of those calories to warm the inspired air. In summer, you would have dissipated that heat via sweat.

- If you wear heavy clothes, you will burn a few more calories carrying the extra weight of skis, boots, heavy parka, snow shoes, etc.. The Army allows 10% more calories for heavily clad troops who exercise in the cold. If you are a runner, however, the weight of your extra clothing is minimal. Think twice before chowing down!

Winter recovery foods: To chase away chills, replenish depleted glycogen stores, and rehydrate your body, enjoy warm carbohydrates with a little protein, such as hot cocoa made with milk, oatmeal + nuts, lentil soup, chili, and pasta with meatballs. The warm food, added to the thermogenic effect of eating, contributes to rapid recovery.

- In comparison, eating cold foods and frozen fluids can chill your body. That is, save the slushie (ice slurry) for summer workouts; it will cool you off. In winter, you want warm foods to fuel your workouts. Bring out the mulled cider or thermos of soup!

Winter weight gain: Many athletes bemoan winter weight gain. Some simply eat too much food; they are bored and less active. Others experience Seasonal Affective Disorder (SAD); the darkness of winter has a marked affect upon their mood. Their brain chemistry changes; they start craving carbohydrates, and desire larger portions. Temptations with winter holiday foods can also add to weight gain.

- To limit winter weight gain, stay active! Exercise helps manage health, weight, and the winter blues. The tricks are to invest in proper clothing, fuel wisely, and prevent dehydration so you can stay warm and enjoy the experience.

Nancy Clark, MS RD offers nutrition consultations to casual exercisers and competitive athletes at her private practice located at Healthworks, the premier fitness center in Chestnut Hill MA (617-795-1875). Her popular *Sports Nutrition Guidebook* and food guides for runners, cyclists, and soccer players are available at www.nancyclarkrd.com. See also www.sportsnutritionworkshop.com.

ACSM 2010 Study comparing football, vs soccer vs skiers == and the skiers were the ones who got most dehydrated (ACSM 2010) 1149