

Recovery from Hard Exercise

To meet the demands of strenuous exercise, you should not only fuel-up your muscles with high carbohydrate foods 2 hours *prior* to strenuous exercise, but also refuel *afterwards*. By choosing carbohydrate-rich foods and fluids *after* rigorous training and competitions, you will recover faster and minimize chronic fatigue.

Optimal Recovery Diet

#1. Focus your recovery meal on carbohydrate-rich foods, since your muscles rely upon carbohydrates for glycogen. For example, choose pancakes (carbs) rather than eggs (protein/fat) for a post-marathon breakfast, since your muscles can't store the protein and fat in eggs as glycogen.

#2. Eat at least 200-400 calories (50-100 grams) of carbohydrates within two hours of the hard workout. Your muscles are most



receptive to replacing glycogen within the first two hours post-exercise. Suggestions: a bowl of cereal with fruit for breakfast, or two cups of orange juice and a banana; a dinner with double servings of rice and vegetables, single serving of chicken. If you have no desire to eat after a workout, simply drink some juice. The fruit sugars will replace the carbohydrates as well as quench your thirst. Repeat this dose two hours later.

#3. Eat wholesome fruits, vegetables and juices that contain potassium, a mineral (electrolyte) that you lose as you sweat. Some excellent potassium *and* carbohydrate-rich choices include oranges or orange juice, bananas, raisins, dried apricots, potatoes and winter squash.

#4. If you crave salt, sprinkle a little on your food or select a salty food such as soup, pretzels or salted crackers. Although you lose a little bit of salt when you sweat, you are unlikely to totally deplete your body's supply unless you exercise hard under extremely hot conditions for more than 4-6 hours. Typically, American foods contain 6-12 times the amount of needed salt. Typically hungry athletes consume far more!



#5. Drink enough fluids to quench your thirst - and then more. If you've become very

dehydrated (as indicated by inability to urinate), you may need 24-48 hours to totally replace this fluid. Since thirst is a poor indicator of whether or not you've had enough to drink, you should keep sipping fluids until your urine is clear-colored and of significant amount. Dark colored urine is still concentrated with metabolic wastes and indicates that you are not yet in water balance.

#6. Drink natural juices more often than commercial fluid replacers. Natural juices are rich in potassium, vitamins and carbohydrates- all nutrients that enhance recovery. In comparison, fluid replacement drinks are more dilute (because they are designed for use *during* exercise). Orange juice, for example, contains 20 times more potassium than an equal amount of many popular fluid replacers. Post-exercise juices of all types tend to have more nutritional value as well as more carbohydrates.

#7. Keep eating carbohydrate-rich foods for *at least two days* after exhaustive endurance exercise to adequately replace depleted glycogen stores. Your muscles need time to carbo-reload.

#8. Rest your muscles, to allow them the opportunity to store (rather than burn) glycogen. Rest is an important part of both the training and recovery program. You aren't "being lazy" if you take a day off. You are investing in your future performance.

Food Items to Avoid

- *Too much protein* such as extra steak rather than extra potato, rolls, and other carbohydrates at the recovery dinner.
- *Too many greasy, fatty foods* such as burgers, hot dogs, mayonnaise-filled tuna subs, French fries, or chips.
- *Too many simple carbohydrates* such as potato chips, ice cream, cookies, candy bars, and other handy high fat goodies.
- *Too few total calories* such as salads, vegetables, fruits, and rice cakes which generally offer too few carbohydrates to replace depleted glycogen stores.

Adapted from "Recovery After Hard Exercise" Nancy Clark, MS, Rd; Sports Medicine Brookline, Brookline, MA 02167

