

## NORCAL Crew Nutrition Basics for the Athlete

### FLUID

Dehydration can cause fatigue and decreased performance. At rest, you need at least 2 quarts of fluid daily; thirst is not an adequate guide to replace fluids. Most people replace only 50% of their fluid losses during exercise, so regulate your fluid intake by drinking according to a time schedule rather than in response to thirst. For regattas and during exercise, remember to drink fluids throughout the day; (5-10 oz. water or sport drink every 15-20 minutes) to replace sweat. Drink 2 to 3 hours before training and competition, at least 2 cups (16 ounces), but don't overdrink. Learn how much fluid your body requires and use sweat rate as a guide. This can vary depending on the weather, the intensity of exercise and the individual. To determine your fluid requirements, weigh yourself before and after exercise to find out how much fluid you're losing. Drink 16 oz of fluid for every pound of body weight lost.

You can consume water or a sports drink to replace fluid losses. Sports drinks containing carbohydrate and sodium are absorbed as quickly as water. The presence of glucose and sodium in sports drinks increases fluid uptake in the small intestine.

### CARBOHYDRATE

Carbohydrate fuels muscles for training and is essential to building glycogen stores and providing the long-haul energy that is so important in endurance events. Carbohydrate is broken down into glucose, which is carried by the blood to muscles to burn for energy. Any glucose that doesn't get used immediately is stored in the muscle and liver as glycogen, which can be used for energy later. Glycogen is the preferred fuel for muscles and the brain.

Good pre-race carbohydrate fuels help to replenish glycogen stores in the liver, such as grains, vegetables and fruits. The vitamins and minerals in fruits and vegetables along with protein help stimulate the conversion of carbohydrate into muscle glycogen.

Delaying carbohydrate intake for too long after exercise, reduces muscle glycogen stores and impairs recovery. By eating or drinking as little as 100 calories of carbohydrate-containing foods within the first 30 minutes after a race, muscle glycogen stores can be replenished. During this time, muscles will convert carbohydrates into glycogen up to three times faster than if an athlete waits until two hours later to eat. Choose lots of fluids and a carbohydrate-rich snack that also has some protein value (fresh fruit, crackers/rice cakes or whole grain bread/bagels and cheese/yogurt).

Although sugar is a form of carbohydrate, most products made with lots of sugar generally contain little protein, fiber, vitamins, minerals or water (ie cookies, donuts, candy). Complex carbohydrates found in whole grains, breads,

pastas, and vegetables provide more of what an athlete needs for competition and recovery. An athlete who is not fueled is a tired athlete who can't perform at his or her best.

Eating healthy doesn't have to mean never eating donuts, cookies, or chips. Balance out low nutrient foods and use moderation of portion size and the number of times you indulge to keep the "junk food" from taking over your healthy diet.

## ENERGY REQUIREMENTS

Rowing is one of the most physically demanding endurance-type sports. *Collegiate heavyweight* rowers may require as much as 3000-6000 kilocalories per day to meet high energy needs. Calorie needs for Nor-Cal junior crew team may be more in the area of 2300-3300 kilocalories per day. To calculate your energy requirements for training 5 hours or more per week:

Convert your weight in pounds to kilograms and multiply by 45 kilocalories per kilogram.

ie: 160 lb.

$$2.2 \text{ lb/kg.} = 72.5 \text{ kg} \times 45 \text{ kcal/kg.} = 3262 \text{ kcal/day}$$

115 lb.

$$2.2 \text{ lb/kg.} = 52.2 \text{ kg} \times 45 \text{ kcal/kg} = 2352 \text{ kcal/day}$$

Without adequate calories for your body to burn for energy, you may find yourself too weak or exhausted to fully benefit from your workout. Worse yet, during competition, lack of energy can make a difference in how well you can compete.

During non-competition times or when training less than 5 hours per week, 35 kilocalories per kilogram for your energy needs can help avoid unwanted weight gain. A 500 kilocalories per day deficit will lead to one pound of weight loss per week.

from "Feeding the Young Athlete" by Cynthia Lair and "Nutrition for Sport and Exercise" by Jacqueline Berning and Suzanne Nelson Steen; Eating for Endurance, 3<sup>rd</sup> ed. by Ellen Coleman; and Gatorade Sports Science Institute "The Clipboard" 2002.