

Nutrition Guidelines for Swimmers

MEAL COMPOSITION

1. Carbohydrates

a. Sources

1. Starchy: can be whole or refined
2. Sugar: can be natural or refined

b. **How much?** calculate carb needs according to body weight instead of using a percentage of total calories. Needs are 9 g per kilogram per day. For example: a weight of 150 lbs is equal to 68 kg. and $9 \times 68 = 612$ grams per day.

2. Protein:

a. **Sources:** meat, eggs, nuts, peanut butter, legumes

b. **How much?** intakes ranging from 1.2 to 1.7 g/kg per day with intakes on the high end during the initial training weeks will provide optimal amino acids for growth, maintenance and repair of all tissue. For example $1.5 \times 68 = 102$ g of protein.

3. Fat

a. **Sources:** oil, butter, margarine, mayo, dressings, cream/cream soup

b. **How much?** 20-25% of calories regardless of body weight

4. **Snack healthfully.** Snacks can make or break the diet. Choose fresh fruit and vegetables with low or nonfat dairy products for a healthy carbohydrate and protein balance. Examples of good snacks are part-skim mozzarella string cheese or plain, nonfat yogurt with raw vegetables, flavored non or low-fat yogurt topped with slivered almonds and seeds, fresh fruit and non or low-fat cottage cheese, whole wheat crackers with natural peanut butter, pita bread with hummus, or energy bars

that are not very high in carbohydrates or protein, but rather have a balance of carbohydrate, protein and fats.

5. Fluid

a. Sources

b. How much? The greatest risk to a swimmer's performance is fluid loss. Dehydration can occur within 30 minutes of swimming. Poor environmental condition, such as warm pool water, warm air temperatures, or high humidity, can add further add to the risk of dehydration and can be detrimental to the performance of even the fittest and fastest swimmers. Dehydration of as little as 2% of body weight can impair performance. Sports drinks are beneficial for swimming bouts lasting longer than 1 hour and for shorter practices at high intensity. Sports drinks increase the drive to drink as well as the body's ability to absorb fluid.

- Drink at least 2 cups of fluid for every pound of weight lost. Weigh in immediately before and after training. If weight loss occurs during practice, aim to replace weight within 24 hours.
- Check urine color. Darker-colored urine may indicate dehydration. Drink more fluids.
- Keep a log of how many cups you drink until it becomes a habit. Carry a fluid bottle to work, to class and to the pool.
- Keep a fluid bottle at the pool and drink between sets and immediately before and after practice. Drink 4-8 oz every 20 min.
- Choose a sports drink that contains 6-8% carbohydrate with a flavor to you liking, and use it during practices.
- Avoid alcohol. It contributes to fluid loss. Avoid excessive caffeinated beverages (< 2 cups per day).

6. Supplements - Savvy or stupid? High-intensity endurance training, as occurs with swimming, may suppress the immune system and place athletes at risk for more frequent infectious diseases. The United States Olympic Committee, back up by researchers, have recommended additional intakes of some of the antioxidant vitamins, including vitamin C, vitamin E and beta-carotene.

Doses??

TIMING OF MEALS

- 1. Overall, eat frequently.** Try to eat small meals but more frequently throughout the day (not more than 4 hours without eating). This will help prevent overeating at meals. Avoid both "picking" at food or eating too much in one sitting. This will keep you feeling full all day. It will also keep your blood sugars more stable, thereby avoiding hunger pangs that cause cravings, irritability, low energy and headaches.
- 2. Pre-Exercise Sports Meal.** Choose slow or fibrous carbohydrates the night before you exercise or 3-4 hours before your train (if you do so in the afternoon) for sustained, steady fuel. Examples of "slow" or complex carbohydrates are whole wheat pasta, brown rice and sweet potatoes before you train. Try to keep this meal low fat to avoid feeling sluggish while training.
- 3. During Exercise:** Although eating during practice is not always an option, some athletes can tolerate energy bars, gels, or sports drinks in between sets.
- 4. Post Exercise:** Glycogen repletion after exercise is critical. At least 1.5 g/kg of fast or simple carbs within 15-60 min after a workout is recommended followed by an additional 1.5g/kg for every 2 hours thereafter. Besides the carbohydrates being critical to replace after a workout, the protein is important,

not only for nutrient balance but because after a workout your body is most optimally ready for protein intake to repair and rebuild muscle tissue. A protein shake with fresh and frozen fruit (i.e. bananas and frozen mixed berries) is a very good choice.

Eating during Swim Meets

- Eat high-carbohydrate, easy-to-digest foods that are familiar when there is a short time between races (less than 1 hour). Try bananas, crackers, or sports drinks.
- Add more carbs (500 to 1000 calories) for longer times between races (2 to 4 hours). Choose bagels, English muffins, jelly, high-carbohydrate energy bars, gels, or raisins.
- Add small amounts of protein with the added carbs such as low-fat yogurt, low-fat milk with graham crackers, peanut butter crackers, turkey or chicken sandwiches, or energy bars containing 7 to 14 g. of protein if greater than 4 hours between events.
- Maintain adequate fluids. Air temps during swim meets can be warm and humid. A conscious effort should be made to increase fluid consumption throughout the day to maintain a pale urine color.