Client Name: Date:

RDN/NDTR: Email: Phone:

Fuel for Swimmers

Swimming for competition or recreation uses all major muscle groups, providing a whole-body workout. Its low impact places less strain on the hips and knees. Competitive swimmers train for long periods both in the pool and on land. Up to 4 hours of daily practice alongside other activities leaves limited time to eat well. Pack nutritious foods and drinks for before, during, and after workouts to help cover the sport's high calorie and nutrient needs.

Tips

- Have 5 to 6 nutrient-rich meals each day to support performance and reach your body composition goals.
- Eat at least 5 daily servings of fruit and vegetables to supply vitamins and minerals.
- Make carbohydrate the main part of your diet. The amount needed ranges from 3 to 12 grams per kilogram of body weight, depending on your sport, position, daily training load, and overall goals. Your sports registered dietitian nutritionist (RDN) can help identify the right carbohydrate intake for you.
  - Select quality carbohydrate sources, including whole grain cereals and breads, pasta, rice, starchy vegetables, dried or whole fruit, and low-fat yogurt and milk.
  - Limit refined carbohydrates and sweets, such as cookies, pastries, cakes, candy, sugary soft drinks, fruit drinks, sweetened tea, and specialty coffee drinks.
- Protein supplies the materials to build muscle mass for healthy growth and development.
  - Estimated daily protein needs range from 1.2 to 2.0 grams per kilogram of body weight, based on training status, training phase, and individual circumstances. Your sports RDN can explain the protein intake that meets your needs.
  - Protein timing matters when building muscle. Within 1 hour after training, eat protein with carbohydrate to supply amino acids, the building blocks of protein, for muscle growth and repair.
  - Try to have protein about every 3 hours in the day, including 1 hour before bedtime. Exceeding recommended protein amounts neither speeds muscle growth nor adds muscle mass.
- Include healthy fats to provide enough energy for training and help your body absorb vitamins. Fat should supply 20% to 35% of total calories. As training volume rises, your need for dietary fat also grows. Very high or very low fat intakes offer no performance advantage. Your sports RDN can help you determine the fat intake that meets your needs.
  - Healthy choices include olive oil, olives, nuts and nut butters, avocado, and plant oils, including canola oil.

eat right. SNCM Sports Nutrition Care Manual™

COPYRIGHT © ACADEMY OF NUTRITION AND DIETETICS. THIS HANDOUT MAY BE DUPLICATED FOR CLIENT EDUCATION.
Fuel for Swimmers (2022)

Carbohydrate and Protein Portions

Using serving sizes for carbohydrate and protein foods can make it easier to choose enough fuel before, during, and after training, and at meals and snacks. Your sports RDN can guide food portions and eating times to support your best sport performance.

Carbohydrate sources	Portion (1 serving = 15 grams carbohydrate)
Bread	1 slice
Tortilla	1, 6 inches
Corn	½ cup
Mashed potatoes	½ cup
Baked or sweet potato	½, medium
Rice	1/3 cup
Popcorn	3 cups
Apple	1, small
Grapes	15
Tangerine	2
Raisins	2 tablespoons
Orange juice	½ cup
Milk or yogurt	1¼ cups

Protein sources	Portion (1 serving = 7 grams protein)
Cheese	1 ounce
2% milk	1 cup
Plain yogurt	1 cup
Cottage cheese	¼ cup
Egg	1 whole
Beef, pork, chicken, turkey, or fish	1 ounce
Tofu	¼ cup
Nuts, seeds	2 tablespoons
Peanut butter	2 tablespoons
Black beans or kidney beans	½ cup, cooked

eat right. SNCM Sports Nutrition Care Manual®

COPYRIGHT © ACADEMY OF NUTRITION AND DIETETICS. THIS HANDOUT MAY BE DUPLICATED FOR CLIENT EDUCATION.
Fuel for Swimmers (2022)

Hydration

Being in water does not prevent dehydration, which can develop after 30 minutes of swimming. Warm pool water and warm, humid air contribute to dehydration and can raise your fluid needs.

Water suits most athletes best. Keep a full water bottle within reach.

Hydration Tips

- Before practice or a meet: Aim for about 2 cups (16 ounces) of water 2 to 3 hours before a workout or swim meet. Sodium-containing drinks and/or salty snacks increase sodium intake and help retain fluid. These drinks are recommended when sweating is heavy or salty.
- Before entering the pool: Have 1 cup (8 ounces) of water 10 to 20 minutes before you dive in.
- During competition: Swimming workouts are usually long and strenuous. Prevent excessive dehydration by drinking about 1 cup of fluid every 10 to 20 minutes of your workout.
  - Dehydration occurs when sweat-related weight loss reaches 2% or more of starting body weight.
    - Try weighing before and after practice to find the percentage of body weight lost in training and assess whether you drink enough for training and competition. Remember that weight lost during a training session is water, not muscle or fat tissue.
  - Your sports RDN will set personal hydration goals based on sweat rate, training status, temperature, humidity, and the intensity and length of play.
- In hot, humid conditions: Keep a full water bottle at poolside within easy reach.

For lengthy practices, games, or events, sports drinks are a useful option. They supply carbohydrate, sodium, and potassium in a balance that helps replace losses. Use the same drinking schedule as for water and pay attention to your body. Drink when thirsty, and watch urine frequency and color. Frequent urination throughout the day with light-straw-colored urine usually indicates adequate fluid intake.

COPYRIGHT © ACADEMY OF NUTRITION AND DIETETICS. THIS HANDOUT MAY BE DUPLICATED FOR CLIENT EDUCATION.
Fuel for Swimmers (2022)

Meals Before, During, and After Training or Competition

These examples show how to time fuel around training or competition. Try the suggestions in training first to check that your stomach tolerates the schedule before competition day. Your sports RDN can tailor food choices and amounts to your needs.

When to Fuel	Suggested Fuel
	Fuel for Training and Competition
3-4 hours before an event **3-4 hours between events**	A meal 3-4 hours before training or competition, or between events, gives you time to digest. Choose plenty of carbohydrate, little fat, and moderate protein. ■ 6-inch turkey sub, 1 ounce tortilla chips, 1 piece of fruit, and 1 cup 2% milk OR ■ 1 grilled shrimp wrap in a flour tortilla, 1 ounce pretzels, 1 cup berries, and 1 cup soy milk
1-2 hours before an event **1-2 hours between events**	Choose a snack high in carbohydrate, low in fat, and moderate in protein 1-2 hours before training or competition, especially if you could not eat earlier. Between events, snack as tolerated to restore muscle fuel and prepare for the next event. Larger snacks are generally easier to tolerate when you have 2 hours. ■ 1 bagel with 1 tablespoon peanut butter OR ■ 1 granola bar providing 30-40 grams carbohydrate and 8-10 grams protein OR ■ 5-10 crackers plus 1 ounce cheese OR ■ 1 cup cereal, 1 cup 2% milk or soy milk, and 1 banana OR ■ ¾ cup yogurt plus ½ cup fruit OR ■ 12-16 ounces fruit smoothie containing no more than 8 grams protein OR ■ 8-12 ounces 2% chocolate milk plus 1 banana OR ■ 2 hard-boiled eggs and a low-protein/high-carbohydrate granola bar
Under 1 hour before an event or with 1 hour between events	Choose carbohydrate foods or drinks that digest quickly and easily. ■ Sports drinks (drink as tolerated; no set amount is suggested) OR ■ 1 piece of fruit such as a banana or orange
	During Training or Competition
Events lasting over 1 hour	During training or competition, have a snack with 30 to 60 grams carbohydrate each hour. ■ Sports drinks or sports foods, such as gel packets, gum packets, energy chews, or sport beans OR ■ 1 piece of fruit OR ■ 1 cup pretzels
	After Training or Competition
30 minutes after the event if another event follows the next day **Include recovery foods at your next meal if tomorrow is a rest day.**	Have a snack rich in carbohydrate and protein. Protein supports muscle repair; carbohydrate replenishes glycogen, the carbohydrate stored in muscle, used during training or competition. Aim for about 15 to 30 grams protein and 1.0 to 1.2 grams carbohydrate per kilogram of body weight. Your sports RDN can help select the right amounts. ■ 6-inch turkey sub OR ■ 1 grilled chicken sandwich OR ■ 12-16 ounces 2% chocolate milk or soy milk OR ■ 1 cup cottage cheese plus 1 piece of fruit OR ■ 10-15 crackers with 1-2 ounces cheese

eat right. SNCM Sports Nutrition Care Manual®

COPYRIGHT © ACADEMY OF NUTRITION AND DIETETICS. THIS HANDOUT MAY BE DUPLICATED FOR CLIENT EDUCATION.

FAQs

What body fat percentage is best for swimmers?

Swimmers often have a higher body fat percentage than endurance athletes such as distance runners or soccer players, despite burning many calories in a workout. They report strong hunger after long sessions and may eat more after training than other athletes. There is no ideal body fat percentage for swimming. Fuel your body to perform, rather than to achieve a certain appearance.

Which nutritious foods can boost my calorie intake?

- Healthy-fat foods, including peanut butter or almond butter, guacamole, sliced avocado on salads or sandwiches, nuts, and seeds.
- 100% juice, such as apple, cranberry, or grape, or plain or chocolate milk with meals to add calories.
- A bedtime snack, such as cereal with milk, a peanut butter sandwich, or a homemade smoothie.

Notes

COPYRIGHT © ACADEMY OF NUTRITION AND DIETETICS. THIS HANDOUT MAY BE DUPLICATED FOR CLIENT EDUCATION.