Client Name: Date:

RDN/NDTR: Email: Phone:

Fuel for Volleyball Players

Volleyball players need a nutrition plan that limits fatigue and supports fast reactions, active court movement, energy to keep the ball in play, powerful jumps and dives, and hand-eye coordination.

Enough fuel is essential to cover your calorie needs and get through lengthy practices and strength sessions. Fuel needs during competition depend on how many sets you play to finish a match.

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 10 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 choose the carbohydrate intake suited to 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 and support healthy growth and development. Estimated daily protein needs range from 1.2 to 2.0 grams per kilogram of body weight, depending on training status, training phase, and individual circumstances. Your sports RDN can explain the protein intake suited to 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 bed.
  - Protein beyond the recommended amount neither speeds muscle growth nor increases 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 olives, olive oil, nuts and nut butters, avocado, and plant oils, including canola oil.

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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

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Hydration

Adequate hydration supports performance and health. The number of sets in a match affects how much fluid you need to help avoid fatigue and cramps. Longer matches require more fluid to replace sweat losses.

Water suits most athletes best. Keep a full water bottle nearby.

Hydration Tips

- Before training or matches: Aim for at least 2 cups (16 ounces) of water 1 to 2 hours before starting. Sodium-containing drinks and/or salty snacks encourage thirst and help retain fluid.
- Before taking the court: Have 1 cup (8 ounces) of water 10 to 20 minutes beforehand, as tolerated.
- During competition: Prevent excessive dehydration, which occurs when sweat-related weight loss reaches 2% or more of your starting body weight. Weighing before and after practice can show the percentage of body weight lost and whether you drink enough during training and competition. Remember that weight lost in a training session is water, not muscle or fat tissue.
  - Drink enough to keep total body fluid losses below 2% of your body weight.
  - Your sports RDN will set personal hydration goals based on sweat rate, training status, temperature, humidity, and the intensity and length of play.
- On a hot, humid court: Consider adding sodium-containing electrolytes to your water, or drink sports drinks to help prevent excessive dehydration and muscle cramps.

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.

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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

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FAQs

How can I prevent dizziness in morning practice when I dislike breakfast?

Practicing without food can leave you dizzy and low on energy. Eat and drink something beforehand. Try a liquid breakfast, such as a smoothie or prepared meal replacement, or an energy bar with at least 250 calories, around 10 grams protein, and at least 30 grams total carbohydrate per bar. Have water or a 16-ounce sports drink, too.

What can I eat during a short break between matches?

Use the break between matches to replenish fuel and fluids. A sports drink supplies carbohydrate and electrolytes such as sodium and potassium. Carbohydrate snacks provide energy for the second half. Options include orange slices, bananas, dried fruit, or a granola bar made mainly of carbohydrate.

Notes

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