



Fueling Strength & Power Sports

1.17

Nutrition & Hydration Keys

- Eat 5-6 times every day, including within 30 minutes of finishing workouts
- Consume enough protein through foods, drinks, and use protein-containing bars & shakes if needed
- Get plenty of creatine from "muscle foods" like beef, lamb, salmon, pork and cod
- Include antioxidants (brightly colored fruits & veggies, fish, nuts, oils) for health & protection

WARNING Most athletes can achieve optimal protein intake from "real" foods and beverages if eating for muscle strength and power is prioritized. If extra protein supplements (bars, shakes, or powders) are needed, be careful not to go overboard with the amount you use. Research does not support regular intake of greater than 1 gram of protein for every pound you weigh. Remember that all dietary supplements you take should be monitored by your sports medicine team.

What you need to know

A sound nutrition plan is the foundation of enhancing strength & power, reducing muscle soreness, boosting energy stores during workouts, and maximizing overall performance.

WHEN to Eat and Drink

The timing of the foods and fluids you eat and drink should be a major focus of your nutrition plan. Too many athletes skip meals and miss critical fueling opportunities. Follow this eating schedule:

BREAKFAST →

LUNCH →

DINNER

+ 2 or more snacks

- 1 REFUELING snack within 30 minutes of finishing exercise
- At least 1 snack between meals during the day

(If your goal is weight gain, have 3 snacks)

WHAT to Eat and Drink

Protein

Protein is important for maintaining and developing muscle, recovering after workouts, and healing. Eat 5 quality servings of protein each day. Incorporate protein into each of your meals and snacks, especially your recovery snack (which should include 10 to 20 grams of protein).

Quality protein sources: Lean and non-fried meat/poultry/seafood/fish, eggs or egg whites, skim or reduced fat milk or dairy, nuts/seeds/peanut butter, beans, soy/tofu products, sports bars.

Portable Protein

Suggestions for protein-containing snacks you can easily carry with you:

- Nuts, sunflower seeds, soy nuts, or trail mix
- Yogurt cups or yogurt shakes
- Peanut butter and jelly or deli meat sandwiches
- Canned tuna, chicken, or salmon and crackers
- Drinkable soups or dehydrated bean/rice packages
- Sports bars
- String cheese or reduced fat cheese slices
- Individual cartons of lowfat milk or chocolate milk
- Bagel with cheese or peanut butter
- Beef jerky
- Leftover cold pizza
- Meal replacement shakes

Carbohydrates

Although you may not burn as many carbohydrates as athletes in some other sports, carbohydrates are still a critical component of your diet, especially before training. Remember that carbohydrates are needed not only for energy, but also for developing new muscle. Select more nutritious forms of carbohydrates, such as whole grain breads and cereals, fruits, and veggies rather than foods high in added sugar (desserts, candy, sugary cereals, sodas, or fruit drinks). When you increase conditioning and aerobic work, be sure to add to your carbohydrate intake to accommodate the extra fuel your muscles are burning.

➔ **Recovery snacks** (within 30 minutes of completing workouts) should contain both protein AND carbohydrates. Carbs help your muscles use protein more effectively.

Fat

Excess fat can cause negative effects on body composition and health. Limiting fat is often an important step in losing body fat and staying lean. In general, reduce saturated and trans fats. Limit fried foods and fatty meats such as sausage, bacon, hot dogs, and bologna. When selecting beef, choose at least 90% lean ground beef and steak cuts which end in "round" or "loin" such as tenderloin or top round. Limit creamy soups and sauces. Select condiments wisely as mayonnaise, tartar sauce, blue cheese and ranch dressings can be very high in fat. Better choices are mustard, ketchup, barbeque sauce, or oil-based salad dressings. Some athletes like reduced-fat or even fat-free versions of these products. Limit chips, desserts, pastries, and snack foods.

Hydration

Poor hydration habits can not only cause significant safety risks, but also decrease performance, increase risk of injury, hamper concentration, and slow recovery.

Tips and Guidelines:

- Begin drinking water when you wake up in the morning to start hydrating your body.
- Carry a fluid bottle with you all day so you can “pre-hydrate” for workouts.
- Drink at least 2 cups of water or sports drinks 1-2 hours before and 1 cup 15 minutes before training sessions.
- Drink on a schedule and plan ahead to have plenty of fluids available.
- Increase quality fluids like skim and lowfat milk and 100% fruit juices at meals and snacks.
- Eat foods high in fluids such as fresh or canned fruits, yogurt, and soups.
- Select drinks that taste good to you...otherwise you'll have a hard time drinking enough of them.

Other Important Issues for Strength & Power Athletes:

Creatine: Muscle creatine stores play an important role in speed and strength production. Maximize the amount of creatine in foods you eat through eating plenty of beef, cod, salmon, pork, and lamb every day. Remember that chicken and turkey are NOT high-creatine meats, so it's helpful to choose a variety of meat sources. Taking creatine supplements may or may not be appropriate for you; talk with your sports medicine team for further recommendations.

Antioxidants: Vitamins & minerals classified as antioxidants play a role in combating the cellular damage caused by exercise. Eating enough Vitamin C, Vitamin E, beta-carotene (Vitamin A), and selenium-rich foods helps combat muscle soreness and enhance recovery. Good sources of these nutrients include oranges and citrus fruits, and juices, berries, potatoes, leafy green veggies, carrots, peppers, nuts, fish, and oils (especially olive oil).

Weight gain: Achieve body weight goals through increasing muscle mass. Important steps include eating 6 times/day, increasing calories, eating adequate protein, and practicing good recovery nutrition.

BONUS POINT

Homemade Smoothie & Shake Recipes

Smoothies can be a great way to increase calories, protein, and high-nutrient carbohydrates. Use these recipes to get started and experiment with some of your own favorite ingredients. Put each of the following in the blender on medium speed for 2-3 minutes (or until your desired consistency).

Quick Homemade Energy Shake

- 1 cup skim or 1% milk
- ½ scoop 100% whey protein powder
- 1 banana
- Ice

*240 calories / 40 grams carbohydrate / 18 grams protein

Chocolate Milk with a Boost

- 2 cups lowfat chocolate milk
- ½ cup dry skim milk powder
- Ice

*435 calories / 69 grams carbohydrate / 28 grams protein

Banana Energy Shake

- 1 cup skim or 1% milk
- 1 packet vanilla instant breakfast mix
- 1 banana + ½ cup berries
- Ice

*340 calories / 70 grams carbohydrate / 15 grams protein

Chocolate Peanut Butter Shake

- 1 cup vanilla ice milk
- ½ cup skim or 1% milk
- 2 Tablespoons chocolate syrup
- 2 Tablespoons peanut butter
- Ice

*540 calories / 70 grams carbohydrate / 18 grams protein

Strawberry Smoothie

- 1 cup lowfat vanilla yogurt
- 1 cup skim or 1% milk
- 1 cup fresh strawberries
- Ice

*350 calories / 60 grams carbohydrate / 19 grams protein

Orange-Peach Smoothie

- 1 cup orange juice
- 1 cup lowfat vanilla yogurt
- ½ cup dry skim milk powder
- ½ cup frozen unsweetened peaches
- Ice

*550 calories / 100 grams carbohydrate / 25 grams protein

This handout was designed by Sports Dietitians Michelle Rockwell, MS, RD, CSSD and Susan Kundrat, MS, RD, CSSD to provide general education. For specific concerns, refer to your sports medicine team.