

What you eat after practices and games is just as important as what you eat before. Optimal recovery nutrition is needed to help repair and restore the body for the next exercise.

POST-EXERCISE NUTRITION

Athletes often don't think about nutrition as an important component to their post exercise recovery plan; however, food is a key factor in the body's recovery process. An athlete's body needs proper nutrition after exercise in order to be ready for the next activity. This is especially important during intense training periods, such as preseason or during tournaments. Recovery nutrition begins immediately after practice or games and continues over the course of 4-6 hours. The primary goals of recovery nutrition include replenishing energy stores and repairing muscles. If you neglect to refuel your body properly you will run low on energy and athletic performance will decrease.

Some athletes do not feel hungry after exercising, but the best way to start the recovery process is to eat as soon as possible. If you find that you cannot tolerate eating solid food immediately after exercise then beverages can work just as well. High carbohydrate foods will replenish energy stores and protein will help repair and build muscles. Look at the column to the left to find examples of high carbohydrate recovery foods.

HOW MUCH IS ENOUGH?

Now that you have ideas of what to eat for recovery it's time to figure out how much to eat. Target carbohydrate intake should be around 0.5 grams per pound of body weight. For example, if an athlete weighs 150lbs then their target carbohydrate intake is 75 grams ($150\text{lbs} \times 0.5\text{g}$). This amount should be eaten within the first hour post exercise. It can be split into small snacks every 15-30 minutes or eaten as a meal. To find the exact amount of carbohydrates in a food look at the nutrition facts panel. Continue with recovery nutrition by eating a couple of meals high in carbohydrates within 6 hours after practices or games.

High Carbohydrate Recovery Foods

These foods are high in carbohydrates and can be eaten right after exercise or as part of your recovery meals.

- *Bagel*
- *Pasta*
- *Rice*
- *Bread*
- *Fruit*
- *Crackers*
- *Cereal*
- *Granola*
- *Potatoes*
- *Smoothies*
- *Juice*
- *Sport drink*

Throw an orange in your bag for an easy post game recovery snack. A medium size orange has about 20 grams of carbohydrates.



PROTEIN FOR RECOVERY

High intensity training and strength training can cause muscle breakdown. Protein helps repair the damaged muscles and build new fibers for muscle growth. Eating a small amount of protein with your post exercise carbohydrate snack can also help replace the body's energy stores. The column to the left contains recommendations of carbohydrate and protein combination snacks.

If you want to build muscle you will need to eat 15-20 grams of high-quality protein within an hour of exercise. This will promote muscle growth, which is especially important after a strength training session. Consuming more protein than 15-20 grams does not promote further muscle growth, and eating too much protein can damage the kidneys. Look at the nutrition facts panel to find the exact grams of protein in a food product. For continued recovery be sure to combine protein with the high carbohydrate recovery meals within 6 hours of exercise.

It is easy to get the appropriate amount of protein without using a supplement by eating a well balanced diet. As discussed in the Dietary Supplements handout, athletes should be cautious about using supplements due to contamination and health risks. Whey protein, a high-quality protein found in milk, is a common supplement used by athletes. It may be easy to throw a scoop of powdered whey protein in a post workout fruit smoothie, but make sure to select the supplement from a trusted manufacturer.

DON'T FORGET TO HYDRATE!

Rehydration is also an important part of recovery after exercise. In general, 16-24oz of fluid should be consumed for every pound lost during exercise. See the Hydration for Athletes handout for specific details on how to determine the amount of fluid you need for recovery. For some athletes, drinking a sport drink that contains carbohydrates and electrolytes, such as sodium, can be beneficial after exercise. Sodium helps the body retain water and increases the absorption of fluid into the muscles. Sodium is lost in sweat and may need to be replaced after exercise. If you notice your skin feels gritty after a practice or game then you are likely a salty sweater and would benefit from a recovery sport drink.



Carbohydrate and Protein Foods For Recovery

These ideas combine carbohydrates and a small amount of protein for one recovery snack.

- *Chocolate milk*
- *Cereal with milk*
- *Granola with yogurt*
- *Apple or banana with peanut butter*
- *Trail mix with nuts, dried fruit, and chocolate*
- *Peanut butter and jelly sandwich*
- *Pretzels and hummus*

What is High-Quality Protein?

High-quality protein is a food source that contains all the amino acids the body cannot make on its own. Amino acids are the building blocks of muscle tissue. Eating the right type of protein after exercise is very important. Choosing lean protein sources will also aid in muscle growth because they are more efficiently absorbed in the body. Examples of high quality proteins include:

- *Chicken - 25g in 3oz*
- *Beef - 24g in 4oz*
- *Fish - 20g in 3oz*
- *Nonfat yogurt - 11g in 8oz*
- *Milk - 8g 1 cup (8oz)*
- *Egg - 7g in 1 large egg*
- *Quinoa - 4g in 1cup (cooked)*