# Training Time Nutritional Strategies to Pack on Muscle

by Joe Giandonato, MS, CSCS



Even though athletes may have their training dialed it, many still miss the mark when it comes to workout time nutrition. If adding muscle and improving performance are desired than its imperative that athletes take heed to making nutrition a priority. Before you head off the gym make sure you review the following nutritional checklists.

## Pre Workout Nutrition

Pre Workout Nutrition sets the stage for a productive workout as it:

- Stabilizes blood sugar levels, ensuring that muscle glycogen and protein aren't depleted
  - Prevents the distraction of hunger
  - Mitigates the breakdown of muscle following workouts

What should you consume before your workout?

If you're having a meal before your workout:

- Consume it no less than 2 hours before your workout
- It should contain 1 gram of a higher glycemic carbohydrate source per 2 pounds of bodyweight if it's the first meal of the day
- If working out later in the day, ingest lower glycemic carbohydrates throughout the day as they help steady blood sugar levels
- It should include a high quality protein source, with a complete amino acid profile such as: low fat animal proteins such as lean meats, poultry, or fish

If you're on the go and must consume something quickly, ideal options include:

- Low fat yogurts with granola or fruit
- Whey Protein powder mixed in water, a sports drink, or skim milk
- You may consume a pre workout snake up to 30 minutes before your workout

#### Peri Workout Nutrition

Evidence suggests that consuming protein and carbohydrates during an intense workout offers a number of exercise performance recovery enhancing benefits. According to a 2001 study conducted by researchers at the University of Texas, subjects who ingested a mixture containing amino acids and carbohydrates during their workouts increased muscle protein synthesis (1).

A study conducted in 2004 by a team of Japanese researchers concluded that amino acid supplementation during exercise helped stave off exercise induced fatigue and muscle damage. Their findings echoed that of the researchers at the University of Texas regarding amino acids playing a vital role in muscle repair following exercise (2).

If you're considering consuming something during your workout:

- Make sure that it's liquid based as it more readily digestible than solid foods and will help keep you hydrated
- For taste, opt for a fruit flavored protein powder mixed in water or a carbohydrate enriched sports drink if training longer or more intensely
- Choose high GI carbohydrates such as sports drinks and soft fruit to keep the blood sugar elevated throughout the workout

## **Post Workout Nutrition**

Lastly, you'll want to reward your hard working body with a meal that enhances recovery, such as that brings your blood sugar back to normal, replenishes glycogen stores, and mends your muscle cell's contractile proteins.

Some guidelines to follow regarding what to consume post workout include:

- Consuming carbohydrates along with protein to enhance protein synthesis and to reduce protein degradation
- A suggested carbohydrate to protein ratio of 3:1 is ideal (i.e. 75 grams of carbs and 25 grams of protein)
- Ideally you should consume nutrients immediate after your workout has concluded

## Sources

- 1. Tipton KD, Rasmussen BB, Miller SL, et al. "Timing of amino-acid carbohydrate ingestion alters anabolic response of muscle to resistance exercise." Am J Physiol Endocrinol Metab. 2001.
- 2. Shimomura, Y, Murakami, T, Nakai, N. "Exercise promotes BCAA catabolism: effects of BCAA supplementation on skeletal muscle during exercise." Journal of Nutrition. 2004.