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Optimized Post-Workout Nutrition for the CrossFit Athlete

CrossFitters know all about controlling insulin levels, and Chris Mason believes you can use that knowledge to produce big gains via a carefully planned post-workout insulin spike.

By Chris Mason

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CrossFitters pushing their bodies to the limit owe it to themselves to evaluate all available information about nutrition and post-workout nutrition.

CrossFit athletes subject their bodies to a tremendous workload comprising high-intensity effort and significant training volume. The CrossFit way is incredibly taxing to the body—hence the great results—and places a huge strain on one's recovery ability.

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“Recovery” is a term that’s bandied about a great deal yet is often misused. Technically, recovery is not what any hard-training individual wants as a result of his efforts—he wants supercompensation. Recovery from a session means you get back to the same physical state you were in prior to training. Supercompensation is when the body adapts to the stimulus of training by getting bigger, faster, stronger or more aerobically fit, or some combination thereof.

Supercompensation can be an elusive thing, especially for anyone beyond a rote beginner. Good health, sufficient rest and proper nutrition are all factors that can affect recovery, and thus potential supercompensation. Post-workout (PWO) nutrition is only one aspect of the larger nutrition component, but its effects on recovery and supercompensation are very important.

Why PWO Nutrition?

After an intense session in the gym, the body is in a very unique physiological state, and it’s this state that has generated the onslaught of PWO hype that’s been touted in muscle magazines and supplement-company ads for years. All hype aside, the PWO nutrition window is real and should be taken advantage of by any athlete looking to optimize performance.

Intense training causes a temporary volumization of the muscle cells, and cell volumization has been proven to stimulate protein and glycogen synthesis. Increased protein and glycogen synthesis is extremely important to the recovery and supercompensation processes. Increased muscle size via larger contractile myofibrils (a potential result of increased protein synthesis) and greater glycogen stores are both integral to improved performance capacity.

What makes PWO nutrition so important is that while training stimulates increased protein and glycogen synthesis, in a fasted state the body will actually have a net catabolic response to training. While training stimulates increased protein synthesis, it simultaneously stimulates an increased breakdown of protein. This results in a net negative nitrogen balance, or the aforementioned catabolic state. Adequate nutrients, most importantly protein (in the form of amino acids) and carbohydrates (as glucose), must be available during the PWO period in order foster an anabolic environment and increase the possibility of supercompensation.



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Athletes who give their all in every WOD need to fuel themselves properly, and the post-workout period is key to recovery and high performance.

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Chris Mason believes consuming a shake containing protein and carbs is essential after a WOD. If you left it all in the workout, it may also be essential to have someone feed it to you.

CrossFit practitioners are an educated lot and don't want to be fed hype or misinformation, and many might be thinking the requisite amounts of nutrients will be available so long as a meal is consumed within a few hours of training. However, the immense number of real-world variables involved with digestion, absorption, exact timing and composition of meals makes this approach hit-or-miss unless you incorporate PWO nutrition.

Optimal PWO Nutrition

What should one consume for the optimal PWO "meal"? The answer to this question might cause a bit of a stir in the CrossFit community because the optimal PWO meal is a shake consisting of a combination of protein and carbohydrates at a minimum.

Why a shake and not a meal? The primary reason has to do with absorption rate. Liquid meals are normally digested and absorbed at a slightly quicker pace than a comparable solid-food meal. The faster you can make amino acids (protein) and glucose (carbohydrates) available to the muscle cells, the greater the potential PWO recovery response.

Your PWO shake should consist of, at a minimum, both whey and casein protein and a simple carbohydrate. Whey and casein each provide unique anabolic benefits

in the PWO environment. Whey is quickly absorbed and provides a powerful protein-synthesis stimulus. Casein has a significantly slower absorption rate and stimulates protein synthesis to a lesser degree than whey, but it blunts protein degradation (catabolism) to a much greater degree, and its slower absorption rate allows for a longer delivery of amino acids and a better overall net retention. Contrary to some claims, consuming whey and casein together does not blunt the positive effects of either; rather the user enjoys the benefits of each.

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The inclusion of a simple carbohydrate in the shake serves two (somewhat overlapping) purposes. First, it allows for a quick spike of blood glucose levels, which provides the hungry muscle cells the fuel they need to replenish diminished glycogen stores. Second, the same blood glucose spike triggers a strong insulin response by the body. Insulin is a very unique anabolic hormone, and one that must be harnessed to optimize the PWO response. Insulin has both direct and indirect effects on enhanced protein synthesis. In addition, insulin enhances glycogen synthesis and does so via a unique pathway from the aforementioned volumized cell response, thus providing for an additive effect. With insulin, the probability of supercompensation is significantly increased.

Insulin and health are, of course, related. Many CrossFitters follow the Zone Diet, which advocates insulin control (including the avoidance of insulin spikes) for good health and body composition. While this practice is definitely advisable for the general population, it is *not* optimal for the athlete. Don't get me wrong: I, too, believe in insulin control. The chronic elevation of insulin levels can lead to many health-related concerns, such as obesity and metabolic syndrome. The key to harnessing insulin for optimized athletic results while simultaneously protecting one's health is incorporating planned insulin spikes. For the CrossFit population, I recommend limiting these spikes to the PWO period and practicing insulin control at all other times. Doing so will protect the athlete's health by helping to maintain high insulin sensitivity while simultaneously providing support for supercompensation.

Fueling Hard Training

If you CrossFit, you train with intensity rarely matched in the athletic world, and the grit and effort that are part and parcel to the CrossFit lifestyle do not go unrewarded: the CrossFit athlete becomes one of the most fit individuals in the world. That said, it is my firm belief that every CrossFit practitioner should do everything he or she can to support hard training. If you are going to put forth such an incredible effort on a consistent basis shouldn't you do everything possible to provide yourself the best chance to reap the greatest benefits possible? Do yourself a favor and begin practicing PWO nutrition today. You deserve it!



About the Author

*Chris Mason is the co-owner of [AtLarge Nutrition](#), and he has been involved with bodybuilding and powerlifting for over two decades. He is an accomplished writer in the genre, having published articles in **Athlete**, **Planet Muscle**, **Ironman** and **Powerlifting USA** magazines, as well as online. You can view several of his articles on his website [WannaBeBig.com](#). Chris currently resides in Charlottesville, Va., and makes monthly treks to Ohio to train at [Westside Barbell](#) with Louie Simmons. He is also a member of Louie's team for CrossFit Powerlifting Certs.*