

## RECOVERY NUTRITION

The Key to Improving Performance

By Sunny Blende, Sports Nutritionist

Ever wonder why sometimes after a hard workout, you feel great later and even consider a second workout the same day? And other times you're tired and fatigued and couldn't imagine doing anything else? Even if two workouts a day is not your goal it's probably a good idea to show up for work somewhat less than totally exhausted. And wouldn't it be great if you could start your next workout refreshed and replenished and maybe pushing a little harder to increase your performance. Here's the latest scientific research to help you avoid chronic glycogen depletion and put you on the road to rapid recovery.

Nutritionally speaking, you want to start out with a full tank – or better yet, topped off. The time to fatigue when exercising is directly related to initial glycogen levels. If you have 24 hours or more, you can replenish glycogen stores more easily. But if you have a life that involves other energy consumers (work, kids, chores, cross training) then the type and amount of food as well as the timing of eating that food can become critical. Most athletes are now familiar with the "30 minute window" - the time post-exercise when muscles are hungry to refuel. During this time your muscles can convert carbohydrates into glycogen up to three times faster than other times. Why is this important? Because muscle glycogen is the body's favorite fuel during exercise and it is easier to burn than fat and more available than blood glucose (sugar). When you run out of muscle glycogen during exercise your body turns next to blood glucose for fuel. One or the other is needed to convert fat to usable energy. But blood glucose is difficult to maintain, even while ingesting sports drinks. As your body gets desperate it starts converting protein (from breaking down your muscles) into emergency fuel but not fast enough to keep up your previous pace. The result is known as "hitting the wall" or "bonking."

Since you cannot replace muscle glycogen while exercising (it would be used immediately for fuel), the "window" becomes critical. If you wait too long after exercising, all the carbs you eat will either go to liver glycogen, the usual place, or stored as fat. Now scientists have discovered a way your body can open the "window" a little wider. Usually only a small amount of carbohydrates are converted into muscle glycogen but researchers know that the hormone insulin helps transfer glucose into muscles and that amino acids (found in protein) stimulate insulin production. So scientists added some protein to the post carbohydrate food in the amount of one-gram protein to four grams carbohydrate to test groups of athletes and glycogen synthesis increased by 28 percent! That's very significant. And the higher glycemic index of the carbs ingested, the more readily available the glucose, the more glycogen produced.

Sound complicated? Read the above again because if you can figure it out you will have one third more fuel, as in energy, to exercise and recover quickly. Remember you can recover with high glycemic (GI) foods or low GI foods. Low GI foods will burn fat longer. And eat a ratio of 1:4 protein to carbohydrate (or 1:3 works too) for the best result. Mix it up – try a bagel with peanut butter, yogurt with grape nuts or a sports nutrition bar. Good recovery!