



Sport Nutrition

Tip of the Month | August 2011



Recharge and Replenish – Recovery Nutrition

Did you know that in a typical hard two-hour workout, you can use up all your stored carbohydrate energy (muscle and liver glycogen), sweat away over two litres of water (along with approximately 1600 mg of sodium), and break down a variety of different body cells including muscle and red blood cells?

That's why what you consume within the critical minutes after training or competing are the most important! Without optimal recovery nutrition commencing within minutes after training, your body is likely to stay "broken down" and may not be fully recovered to train or compete to the maximum for the next 24 hours.

Why is proper timing so important?

Experts have determined that your body cells, especially those that store glycogen (energy), are most receptive to being replenished within the first 30 minutes after intense activity. Therefore, as soon as an athlete starts to "cool down" the recovery clock starts ticking! Recovery nutrition can actually be broken down into two stages: stage 1 which occurs within 30 minutes after exercise, and stage 2 which lasts for 1 to 2 hours post exercise.



Recovering Fuel (Carbohydrates)

Scientists have determined that between 1 to 1.5 grams of carbohydrate for every kg of body weight should be ingested within stage 1 and then at least this amount consumed again in stage 2. For example, a 70 kg athlete may require 70 to 105 grams of carbohydrates within 30 minutes of training/competition and this amount again an hour later. In some cases, an exhausted athlete may need to continue refueling at this rate for up to four, and even six hours after their strenuous workout, especially if training on several consecutive days.

Repairing Muscle (Protein)

While carbohydrate restoration post-exercise is essential, and is the priority, dietary protein should also be consumed to repair muscle post-exercise. It has been estimated that 0.2 to 0.4 grams of protein for every kg of body weight be consumed during each stage of recovery (or a carbohydrate to protein ratio of 3:1 or even 4:1). Therefore, a 70 kg athlete would need to consume between 14 to 28 grams of protein during stage 1, and this amount again during stage 2 recovery.

Rehydrating (Fluids)

Equally important for exercise recovery is rehydration. An athlete should check their weight immediately before and after exercise and aim to consume at least 500 to 750 ml for every 0.5 kg of weight that is lost during exercise. This amount of re-hydrating fluid will easily compensate for urinary losses so that the athlete remains in a positive fluid balance. If a weight scale is not appropriate or available, the athlete can simply continue to drink sufficient fluids until their urine is pale in colour (like pale lemonade), as an indicator of satisfactory fluid replacement. Because sodium is the main electrolyte lost in sweat during exercise, sodium-rich foods should also be consumed during recovery. Examples are: pickles, soy sauce, soup, vegetable juice and table or sea salt.

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Micronutrient Needs (Antioxidants)

The essential vitamins and minerals — especially antioxidants like vitamin C, E and beta-carotene that play key roles to keep body cells healthy — should also not be forgotten. Most of these nutrients can be found in fresh fruits and vegetables that are bright in colour, i.e., peppers, carrots, broccoli, and squash — as well as in wholesome nuts, seeds, and healthy oils.

It's relatively easy to apply all of these recommendations to real food examples. Here are practical ideas for both stage 1 and stage 2.

Stage 1: within 30 minutes after exercise

- Banana, yogurt, juice;
- Peanut butter sandwich, strawberries, milk or juice;
- Flavoured milk, granola bar, apple and water;
- Sports drink, cheese strings, grapes, juice or water;
- Low-fat muffin or bagel, homemade smoothie (blend milk, yogurt, fruit, juice and ice);
- Protein bar, orange, pretzels and juice or water;
- Meal replacement drink (Boost™, Ensure™, etc.), carbohydrate sports bar, apple, water.



Stage 2: 1–2 hours after exercise

- Meat or cheese submarine sandwich loaded with veggies, milk/juice;
- Chicken and vegetable stir-fry with brown rice, milk/juice/water;
- Whole wheat pasta with meatballs, vegetable salad, milk/juice/water;
- Grilled salmon, quinoa or whole wheat couscous, raw veggies with light dip, milk/juice/water;
- Bowl of cereal with yogurt or milk, fresh fruit, water/juice;
- Scrambled eggs with cheese and diced peppers, whole wheat bagel, milk/juice/water;
- Lentil soup, whole wheat bun, Greek yogurt/regular yogurt, fruit salad, water/soy beverage/milk;
- Pasta salad tossed with chopped vegetables, canned tuna or chicken breast, milk/juice/water;
- Cottage cheese or Greek yogurt, fruit salad, low-fat muffin, milk/juice/water.

Recovery Nutrition Challenges

Lack of appetite, food being unavailable or not prepared, late night games, waiting for teammates – the list goes on regarding the many obstacles that can make it a challenge for an athlete to have their recovery nutrition immediately available. However, with a little planning, these challenges do not have to be barriers, instead, when an athlete notices how energized they feel as a result of effectively consuming the appropriate recovery nutrition – this feedback can be a remarkable motivator to take the necessary steps to ensure eating well after exhaustive exercise.

“ TAKE THE NECESSARY STEPS TO ENSURE EATING WELL AFTER EXHAUSTIVE EXERCISE. ”

