

POST-WORKOUT FUEL

"Exercise is your king, and nutrition is your queen. Together they create your fitness kingdom."

~ Jack La Lanne

What you eat in the three hours following your workout has a significant impact on the results you achieve.

ENERGY DURING EXERCISE

During exercise, the body uses up excess sugar in the bloodstream for energy. Once the excess sugar has been depleted, the body takes glycogen (stored glucose) from the liver and the muscles, converts it back into glucose, and uses it, along with excess body fat and possibly muscle, for energy.

RECOVERY TIME

How quickly the body recovers after exercise depends upon what is eaten in the three hours following exercise. The length of time the body needs to recover decreases when the body has all the nutrients it needs to repair itself after each workout.

Ideal Recovery Response Indicators

- Consistent energy throughout the day
- No food cravings
- Improved endurance during subsequent workouts
- Lose excess body fat or maintain ideal body weight
- Seldom sick with infections and illnesses
- No injuries

Poor Recovery Response Indicators

- Periods of low energy throughout the day
- Food cravings (Not feeling satisfied throughout the day)
- Lack of endurance during subsequent workouts
- Unable to lose excess body fat and possibly even gain weight
- Frequently sick with infections and illnesses
- Injured easily and/or frequently

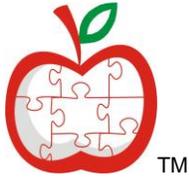
WHAT TO EAT AFTER EXERCISING

WITHIN 30 MINUTES OF EXERCISING

Immediate Post-Workout Fuel

Choose one of the following options and consume within 30 minutes of completing a workout to achieve the fastest recovery time:

1. $\frac{1}{4}$ - $\frac{1}{2}$ cup pure juice (not from concentrate) + additional water to taste + 20-30g of protein from whey isolate protein powder (Shake together before exercising and let it sit for the duration of your workout. This gives the protein powder an opportunity to dissolve and the foam that forms on top, when you first shake it, to go down.)
2. $\frac{1}{2}$ - 1 cup unsweetened juice from concentrate + 20-30g of protein from whey isolate protein powder (Prepare as above.)
3. $\frac{1}{2}$ - $\frac{3}{4}$ cup coconut water + 20-30g of protein from whey isolate protein powder (Same as above.)



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4. ¼ cup unsweetened juice + ½ cup coconut water + 20-30g of protein from whey isolate protein powder (Same as above.)
5. ¾ - 1 cup unsweetened applesauce + 20-30g of protein from whey isolate protein powder (Mix together approx. 30 minutes ahead of time to give the protein powder time to dissolve in the applesauce.)
6. ½ - 1 medjool date + 20-30g of protein from whey isolate protein powder mixed with water or unsweetened almond milk
7. 1 small/medium banana + 20-30g of protein from whey isolate protein powder blended in a blender with some water or ice cubes
8. ½ cup **sweetened** almond milk + 20-30g of protein from whey isolate protein powder

The Reason Why

Juice/Applesauce/Fruit – Replenishes Glycogen Stores

The body sends out enzymes within the first three hours after exercise to scoop up glucose and convert it into glycogen to replenish the glycogen stores in the muscles and the liver. These enzymes are at their highest concentration in the blood within the first 30 minutes of exercise. Unsweetened juice, applesauce and fruit are natural sources of sugar that are easily digested and, therefore, quickly absorbed into the bloodstream to be picked up and utilized by the glycogen-converting enzymes.

Best Quality:

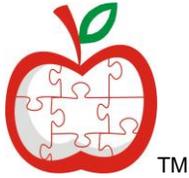
- #1 Choice - Pure (i.e. not from concentrate) and organic, if possible
- #2 Choice – From Concentrate with no added sugars (Check the list of ingredients to make sure sugar has not been added.)

Examples of Good Brands: (You can find in health food stores or grocery stores with a natural/health food section such as SuperStore and Zehrs. I believe Metro distributes their natural food products throughout the store.)

- Black River / Santa Cruz / R.W. Knudsen / Kiju
- Ceres
- Tropicana Orange Juice (Watch out for juice blends – they tend to contain added sugar.)

Coconut Water – Source of Electrolytes to Rehydrate

Electrolytes are mineral salts (eg. sodium, potassium, calcium, magnesium, chloride, selenium, zinc, phosphorus). When in the correct balance, electrolytes allow electrical impulses to travel properly throughout the body. These impulses control blood flow and oxygen utilization, which, in turn, keeps our cells healthy and our muscles strong and loose. If our electrolytes become depleted, we become dehydrated and our performance will decline. It is most important to



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replace electrolytes during endurance activities, such as running and biking, or when exercising in the hot weather.

Coconut water contains less natural sugar than juice, therefore, individuals who need to watch their blood sugar levels will prefer coconut water to juice. ***Be sure to purchase coconut water that is not from concentrate and does not contain added sugar*** (i.e. sugar should not be listed in the ingredients list).

Whey Isolate Protein Powder – Muscle Recovery

Muscle is built through the process of muscle break down during exercise and the body repairing it after exercise. Protein is the body's building blocks; therefore, in order for the body to repair the muscle, it needs access to a useable source of protein. Whey isolate protein powder is the most easily absorbed protein source available. When taken immediately after exercising, the body can start repairing the muscles right away. This improves recovery time, which increases overall energy levels throughout the day and decreases the amount of time you need to rest between workouts.

What to Look For When Purchasing a Good Quality Whey Protein Powder

- ***Cross-flow micro-filtered*** (majority of lactose and casein has been removed)
- New Zealand Whey (considered "organic" based on how the cattle are raised)
- Isolate (body digests faster vs a concentrate which takes longer to digest)
- No artificial sweeteners (stevia is a natural herb and is OK to use)
- No/low carb
- Contains enzymes such as protease and lactase to help with digestion

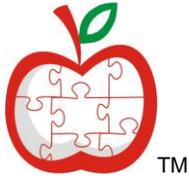
Kaha New Zealand Whey Isolate is the whey protein powder I prefer to use.

What about Vegetable-Based Protein Powders?

Protein powder made from rice, soy, pea and hemp can be purchased. While there are some excellent quality vegetable protein powders available on the market, I have found that most individuals, who have a goal to lose weight, have difficulty completely digesting the vegetable protein, and this will interfere with the weight loss process. If you cannot tolerate whey, the best vegetable-based protein powder I have found is PurePea Protein by Designs for Health. It is made from high quality pea protein and is not chalky like all other vegetable protein powders I have tried.

If You Are New to Using Protein Powder

If you have never used a protein powder before or if you have used one in the past but did not like the taste, I recommend you try an unflavoured protein powder. Start with 1 teaspoon or 1 tablespoon of protein powder and gradually increase the amount until you are consuming an appropriate serving. This allows your taste buds to adjust to the new taste, even though it is "unflavoured"! If you are mixing it with just water, then you will want either Vanilla or Chocolate.



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30-60 MINUTES AFTER YOUR POST-WORKOUT FUEL

Eat a completely balanced meal, including 20-40g of carbs, 20-30g of protein and 10-15g of fat. This is the **best meal of the day to consume higher carbohydrate foods** because the glycogen-converting enzymes are still present in the bloodstream, which means there is a much greater chance the body will use the carbohydrates for energy or convert them into glycogen instead of storing them as fat.

Excellent Sources of Carbohydrates:

Fruit, sweet potato, squash, beets, carrots, lentils, legumes, oatmeal, brown rice, quinoa, 100% whole grain or gluten-free bread, baked potato

Excellent Sources of Lean Proteins:

Egg whites, chicken, turkey, fish, unsweetened Greek yogurt, lentils, legumes

Excellent Sources of Healthy Fats:

Almonds, walnuts, pumpkin seeds, sesame seeds, ground flaxseeds, flaxseed oil, olive oil, avocado, nut butter, chia seeds

EXAMPLES OF BALANCED MEALS
<p>½ plate non-starchy veggies / veggie greens</p> <p>3-4 oz cooked chicken, turkey, fish</p> <p>½ - 1 cup sweet potato, quinoa or rice</p>
<p>¾ cup unsweetened Greek Yogurt (if you tolerate dairy well)</p> <p>¼ cup berries</p> <p>1 tbsp nuts or seeds</p>
<p>1 – 2 slices Little Stream Bakery Buckwheat Bread</p> <p>2 whole eggs + 2 egg whites or 1 whole egg and 3 egg whites</p>
<p>Banana Pancake – Recipe located on Member’s Portal under Protein Recipes</p>
<p>½ - ¾ cup Roasted Hazelnut-Almond Granola Clusters + 1 serving whey protein powder mixed with 1 cup unsweetened nut milk poured over top (Member Portal Recipe under Grains)</p>