

Nutrition

Highly competitive athletes realize that the fuel they put in their bodies is crucial for recovery. Great recovery allows for a more intense follow-up workout. This cycle of highly intense practice and proper recovery will give an athlete a tremendous advantage over their competitors

When we perform a task, we ask our bodies to transfer energy from storage to use. This involves chemical reactions at the cell level to create the energy to contract and relax muscles to perform desired task. The energy comes from what we eat. When we repeatedly perform a task (or workout), the body builds muscle during recovery in anticipation of the next workout. The better the fuel and rest, the better the recovery and the higher the intensity the athlete can achieve at a follow up workout.

World Class Swimmer Garrettt Weber-Gale (gwgswims.com) believes highly competitive athletes need to "compete in the kitchen." Imagine eating as an extension of a workout.

Three types of Fuel:

- 1) Protein-the main course
- 2) Carbohydrates- sides
- 3) Fats- Condiments- any thing that adds flavor

A Well Balance Diet for a training athlete:

Carbohydrates: 60% Protein: 15% Fat: 25%

Note: Carbs to Protein Ratio is 4 to 1

Carbs:

- 1) Dominant fuel for high intensity activities
- 2) primary fuel for moderate activities
- 3) secondary fuel for easy activities

Carbs are the PRIMARY FUEL Source for Swimmers!!!!

Most carbs break down into glucose. Glucose is the major chemical component that creates energy for intense training.

Simple Carbs (Simple Sugars): made of one or two sugars, easily absorbed by the body & also contain vitamins and fiber. Samples are fruits, vegetables & milk

Complex Carbs: made of three or more sugars, body needs more time to digest and deliver energy. Samples are breads, pasta, oatmeal, rice, broccoli, corn, beans

Thus, Simple Carbs are encouraged as they deliver energy quicker. Athletes are encouraged to eat 5 or more servings of fruits and vegetables per day!!!

Protein:

- 1) fuel used to build and repair muscles (provides strong basis for recovery)

Protein is NOT A SOURCE OF ENERGY!!!

Complete Proteins: Contain all 8 essential amino acids required to produce new proteins.

Sample: meat, dairy products, eggs, fish, shellfish, poultry

Incomplete Proteins: lacking 1 or more amino acids. Sample: nuts, some vegetables, grains.

Combining Incomplete Proteins usually creates a Complete Protein package to the body.

Fat:

- 1) Primary Source of Fuel for low-intensity exercise

The Bad News About Fat:

1 g Carbs = 4 Calories

1 g Protein = 4 Calories

1 g Fat = 9 Calories Fat has more than double the calories per serving

Sample of Good Sources of Fat: lean meat, low fat salad dressing, frozen yogurt, milk

Water:

- 1) Proper hydration before during and after physical activities is important for an athlete to maintain high levels of training intensity.
- 2) Water weight loss of just 1-2% (little as 1.5 lbs for 150 lbs athlete) will impair performance
- 3) Body absorbs water from non-cooked food (fruits, vegetables); great source of water.
- 4) Athletes lose water thru sweating. Swimmers sweat significantly in water
- 5) Children have more difficulty remaining hydrated than adults.
- 6) During Winter, the body needs more water.
- 7) Since the body is 65% water, all body functions, including exercise and the protection of the immune system involve the need of water
- 8) A recent experiment with high level athletes showed increase workout capacity when water was simply swished in the mouth and then spit out. The body increased workout capacity based upon the assumption water was going to be delivered!!

When to Eat/Drink?

When you eat is as critical as what you eat!!! The Optimum diet for highly competitive athletes is 5 to 6 small and appropriately proportioned meals throughout the day.

- 1) Regularly spaced meals or proper snacks. An athlete should never go more than 3-4 hours without a snack or meal
- 2) Never Skip Meals. Body hoards fat when it does not have a regular intake of fuel.

3-4 hours prior to exercise:

small meal: sample: PB & J with apple, fruit & yogurt smoothie + low fat granola, Turkey & Swiss sandwich + Fruit + sports drink

2 hours prior to exercise:

16-20 oz of water

30-60 minutes prior to exercise:

Piece of fruit, sports bar or sports drink Why? Remember, simple carbs quickly absorbed and

deliver energy faster
8-10 oz of water

During exercise:

Every 15 minutes 4-8 oz

After Exercise: Eating for Recovery

No matter how much one eats, the body can only absorb a certain amount of nutrients from a meal. The exception is after a workout. Using a window as an analogy, directly after a workout, the body can absorb significantly more nutrients from the same amount of food. The window of absorption opportunity closes over 2 hours. At 2 hours, the swimmers is back to the base line of what a body can absorb.

So, the sooner the swimmer eats, the more nutrients they will absorb from that food (helping the recovery process significantly). Swimmers should eat and drink directly after practice (power bar, sandwich, sports drink, etc should be provided to eat prior to arriving home).

Swimmers should also NOT overeat. The body will store some nutrients as fat. Eating slowly so one knows when they are full is preventative medicine from eating too much.

Eat to Train, Don't Train to Eat!!!

- 1) Eating more calories than one burns puts on unwanted/unproductive weight.
- 2) Eating less calories than one burns creates a body not fully recovered from the last workout
AND the energy used during the workout could come from the breakdown of muscle!!

Sleep-the last Recovery Focus

Obviously, the correct amount of sleep is crucial to the recovery process. Swimmers who do not get enough sleep will not recovery as fast or as well as the well-rested swimmer.

Proper Diet-A short review

1) Look at the plate and understand the percentages. If your protein is the size of your fist, the proper amount of Carbs (for an athlete) is 4 fist sizes. The proper amount of fat would be 1.5 fist sizes.

2) Is the plate colorful? Variety is best practice and best achieved when the plate has many different and natural colors.

3) Eat regularly and small meals. Drink water all day.

4) Eat and drink prior to practice, drink during practice and eat and drink directly after practice