

Swimming Nutrition for Top Performance

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Proper nutrition and physical activity are key to keeping our children healthy. For the young athlete good nutrition is crucial for appropriate growth, development, and sports performance. For athletes of all ages, balance should be the focus. A diet that promotes good health and peak performance is made up of appropriate amounts of carbohydrate rich fruits, vegetables, low fat dairy products and whole grain foods, along with adequate protein and healthful fats for optimum performance. In addition to healthy food choices, consuming adequate calories, ensuring appropriate hydration and planned meal timing can power a young athlete to proper health, growth and top performance. The following information offers general nutrition information, but it is important to adjust for your swimmer as each athlete has individual needs based on their age, sex, weight, height, and exercise intensity.

CARBOHYDRATES- MUSCLE FUEL

[Carbohydrates](#) are the main source of fuel for muscles during exercise and should be included at each meal and snack. Adequate carbohydrate intake ensures that muscle glycogen and high energy is maintained helping the athlete train hard day after day. Since the brain cannot store carbohydrate or burn fat for energy, the carbohydrate in the liver is released into the bloodstream to maintain a normal blood glucose level and feed the brain (as well as the muscles). That is why it is important to consume food close enough to strenuous events to supply energy for top mental function. Low blood sugar results in poor performance because a brain that is not fueled optimally limits muscular function and mental drive. Get adequate [pre-practice nutrition](#) for a fueled mind and energized muscles.

PROTEIN- HOW MUCH IS ENOUGH

[Protein](#) is the building block for muscle, and is also important for proper immune function and hormone production as well. Americans typically get enough protein through normal diet except in cases of strict calorie restriction or in some instances a strict vegan diet. So as long as an athlete is including good sources of protein like chicken, turkey, eggs, cheese, milk, yogurt, dried beans and legumes, and lean meats daily, they are probably getting the protein they need. Athletes need carbohydrates for fuel and if excessive protein replaces that necessary carbohydrate, performance can actually be impaired. While getting too much protein is not beneficial, the timing of protein intake has been shown to speed recovery and may reduce soreness. Some protein should be consumed with a good source of carbohydrates after a hard training session.

HYDRATION FOR TOP PERFORMANCE

A lack of fluids can without question hurt athletic performance. It is necessary to monitor hydration and ensure sufficient intake of liquids. On a daily basis, the athlete should drink enough to be properly hydrated when training begins. Water is perfect for everyday hydration. During hard exercise that lasts **more than an hour**, a sports drink optimizes fluid retention, delays dehydration, and improves endurance. For [younger kids](#), sports drinks can become a source of “empty calories” since they provide little in the way of nutrients. For the younger set, 8 to 12 ounces of a regular sports drink is typically plenty, but water is the best choice if practice is for an hour or less. The [older group](#) that trains strenuously for 2 to 3 hours will need more, drinking about 4 to 8 ounces of a sports drink every 15 to 20 minutes. This provides hydration as well as a source of carbohydrate for the muscles and brain.

Athletes should monitor the color and volume of urine as an indicator of hydration status. When well hydrated, urine is pale in color and volume requires a bathroom break every 2 to 4 hours. Weighing before exercise and immediately after is a more specific way to monitor hydration and fluid needs. For each pound lost sip on 16 to 24 ounces of fluids to replenish what was lost. It often takes 24 to 48 hours to replace sweat losses after a long, strenuous workout.

MEAL TIMING- EAT THE RIGHT FOOD AT THE RIGHT TIME

The body requires fuel just like a car and timing that fuel appropriately helps the body keep energy levels adequate day after day. Eating on a regular schedule each day, which for kids can mean 5 to 6 small meals per day, ensures enough energy is available for the body. It is also important to fuel correctly before, during and after exercise.

Fuel before Exercise:

The goal of [pre-exercise fuel](#) is to help prevent low blood sugar and the feelings of lightheadedness, needless fatigue, and indecisiveness or lack of drive. It also wards off hunger and helps settle the stomach by absorbing some of the gastric juices. While there is no one magic meal or food that will settle comfortably and ensure top performance for everyone, each athlete can learn what works best for them and find something that is tolerated.

The energy from the pre-exercise fuel should be predominantly carbohydrate as it empties quickly from the stomach and is immediately ready for use by the muscles. If a young athlete is involved in intense exercise that requires more than one practice a day and practice day after day, it is especially critical that their everyday nutrition is adequate in total calories and carbohydrates. Find early morning snack ideas [here](#).

Fuel during Exercise:

When exercising intensely for **more than an hour**, it is important to maintain normal glucose levels. Eating or drinking about 100 to 250 calories of carbohydrate per hour (that is equivalent

to 16 to 39 ounces of Gatorade each hour of practice) will provide sustained energy and should help performance by increasing stamina. The goal is to match your sweat losses [with enough fluid and enough carbohydrate](#) to provide energy and maintain normal blood sugar level. This carbohydrate and fluid can come from natural or engineered foods, but due to the nature of swimming, a sports drink is the most convenient to have on the pool deck and consume in between sets. Experimenting during training and planning ahead will help an athlete learn what flavors, foods, or drinks work best for them.

Recovery Fuel:

After a workout swimmers need to replace fluid and fuel so they can continue to train hard day after day. A carbohydrate and protein snack immediately after exercise (within 30 minutes) will decrease core temperature, rehydrate, restore energy and fuel, initiate tissue repair, reduce muscle damage, prepare for muscle growth, strengthen the immune system, and improve performance.

The recovery snack should be followed by a meal within an hour or additional high carbohydrate snacking every 30 minutes until the next meal. For very high intensity training the recovery formula is to consume .5 grams of carbohydrate per pound of body weight every hour, taken at 30 minute intervals, for 4 to 5 hours. Plan ahead by packing healthy sports foods and fluids so healthy foods will be readily available after the workout. A high carbohydrate snack (4 to 1 /carb to protein) with about 10 to 20 grams of protein is recommended. Find recovery ideas [here](#).

MEET MANAGEMENT

It is helpful to have a defined eating plan for a meet so that low blood sugar and dehydration can be avoided and the focus can be on the events for the day. Although a particular event may only last 30 seconds, a meet typically requires an athlete to be ready for hours on end, usually for days in a row. This requires careful attention to good nutrition so that athletes don't cheat themselves of the ability to perform well throughout the day and evening.

The goals on meet days are to maintain proper hydration and normal blood sugar levels. On this day, snacks or meals eaten within an hour before a race primarily keeps an athlete from feeling hungry and maintains blood sugar. Strategies for fueling will vary from athlete to athlete depending on what foods are tolerated and enjoyed. Coming up with a plan for what to eat before and after warm up is the first step in starting the day on a nutrition positive. By combining the right foods with the proper timing you can better ensure that nutrition will not hinder performance but will enhance it on meet day. Use training days to practice nutrition ahead of time. Find meet day tips [here](#).