

Helpful Nutrition Information for Swimmers

ARE YOU NEW TO MORNING WORK OUTS?

TIP: get swim bag and back pack entirely ready the night before. Fix a water bottle or sports drink and have it waiting in the refrigerator. Make sure you eat before going to workout...you won't run well on empty. Kids love morning workouts because it leaves their afternoons free! Once you get use to getting up each morning you'll love it!

ARE YOU NEW TO LATE AFTERNOON WORKOUTS?

TIP: Get up a half hour earlier than normal and have some free time for TV or Nintendo or use mornings before school as your homework time. Many of you are already use to getting up early for morning workouts. Get your swim bag ready the night before so your time between school and workout isn't spent looking for your suit and towel. Eat a healthy after school snack or small meal before going to workout. Let your friends know about your swim team schedule so you can plan to do things together at other times. Remember that consistently coming to workout is the only way to get FAST!

Health Notes

From Dee

I want to remind you all that the colder months, and weather have arrived. In order to safe guard and/or protect your health you need to do the following:

1. Eat properly and hydrate--take in fluids in appropriate amounts.
2. Get plenty of rest--work to get 8 hours of sleep each night.
3. Dry off completely BEFORE leaving the pool building.
4. Wear shoes and stocking cap when going outdoors. This is especially important if it is snowing or raining outside.
5. SERIOUSLY CONSIDER getting a flu shot.
6. Avoid cold late night outside activities.
7. Wear running shoes and sweatshirt to ALL dryland sessions.

Health Tip

The following information is from the USA resources.

If you would like to study it in detail visit the Swimming offers a free 'nutrition tracker' to all



Swimming web site US-SWIMMING.ORG under programs/coaches

web site. There is some fascinating and detailed information. USA registered USA swimmers. It is also available on their website.

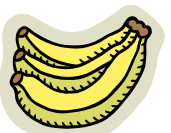
Something every swimmer should know before learning about good nutrition is this:

Food does NOT make you swim fast.

That's right. Food does not make you swim fast. What *DOES* make you swim fast? Training. Training makes you swim fast. Better yet,

QUALITY training makes you swim fast.

And part of quality training is good nutrition!



Believe it or not, you don't get fast during practice. Practice is where you might see your times improving, but your *adaptation* to training (i.e. getting faster) actually occurs while your body is at rest. Workout is the **stimulus** that causes this to happen.

Workouts are hard! Yes they are. They're supposed to be. They're designed to tell the body, "This is hard work for me...you better do something to enable me to do it again later." And the body actually responds by becoming more efficient – aerobically and anaerobically. During its time off, the body WILL adapt. But only if you give it the **proper fuels**.

Learning about good nutrition can be simple. Conduct your "Nutrition Course" over the season with these 8 easy-to-read (*and learn*) educational and practical tips for teens and twenty-somethings:

Fueling Your Stroke

The concept of buying and burning gas.

Six 200's descending on five minutes. Twenty-five 50's on :58. Whatever your "favorite," every set during every workout and dryland session requires energy.

Nutrients are the "chemicals" that supply the body with energy. Carbohydrate, protein and fat supply energy in the form of calories. These are your "Energy-Yielding Nutrients." Vitamins, Minerals and Water don't supply energy in the form of calories, but their presence is required in order for the body to access the energy provided by carbohydrate, protein and fat.



During exercise, the body gets its energy primarily from carbohydrate and fat. It likes to save protein for other things (building and repairing muscle tissue, hormones and red blood cells, and supporting the immune system). The only time the body uses protein as an energy source during exercise is when carbohydrate and fat are not present in sufficient quantities. This happens when the total caloric intake is too low over a period of months, and or the bout of exercise is so long that the body's accessible sources of carbohydrate and protein become exhausted. Neither of these scenarios is desirable for swimmers.

Think about money. When you have lots of it, you don't mind paying full price for things. But when money is scarce, or there is just too much you have to buy, you look for bargains. You're not being cheap, just thrifty. Simplified to some extent, your body knows how to shop.

Now instead of dollars, think of your currency as oxygen. When swimming is "easy," say during warm-up or your easiest sets, there is plenty of oxygen available to support the exercise. The body perceives itself as "rich" and doesn't mind splurging on fat (1 gram of fat costs 9 oxygens). In fact, it automatically does so because it knows it might need carbohydrate at a later time.

When exercise is hard (we're talking *tough* sets, definitely your *hardest* sets), oxygen is not plentiful. In fact, the body needs every bit it can get to support the exercise, but even *that* is often not enough, and the body is forced to derive energy in ways that do not require oxygen (i.e. *anaerobic* metabolism). In this situation, the body perceives itself as very "poor" and becomes very thrifty with its "purchase" of fuel. Since carbohydrate costs less than fat (1 gram of carbohydrate costs 4 oxygens), the body chooses to rely primarily on carbohydrate for its energy.

Keep in mind that this entire fuel burning process is never a case of "all or none." In other words, the body is always using some combination of carbohydrate and fat, but the **intensity** of the exercise dictates which fuel source will be the *dominant* one. When swimming is easiest, fat is the primary fuel source. When swimming is toughest, carbohydrate is the primary fuel source. When swimming is about 50% of maximum effort, carbohydrate and fat contribute about equally.

Let's face it – the majority of workouts are hard. Above 50% for certain. If you consider the typical swim workout, it's pretty safe to say that **the primary fuel source for swimmers IS carbohydrate**.

What's the Scoop on Cereal

So many options...how do you choose?

For swimmers, cereal is great just about any time of the day. Competitive athletes are encouraged to choose nutrient dense cereals, which contain more of the right kinds of nutrients (carbohydrate, protein, vitamins, minerals) per serving than their "candy cereal" counterparts. More bang for the buck, so to speak.

Generally speaking, the best cereals are high-carbohydrate (>25 grams/serving), moderate-protein (5-10 grams/serving), low-fat (<5 grams/serving), and moderate-fiber (2-4 grams/serving). Most cereals on the

market today, including “candy cereal,” are fortified with vitamins and minerals, such that one serving usually provides 20-100% of a given vitamin or mineral. However, these values are based on a 2,000 calorie diet, which is well below the energy requirements for most competitive swimmers in their teens and twenties.

Consider cereals in three categories: High Nutrient Density, Moderate Nutrient Density, and Low Density (aka “candy cereal”). Athletes looking for a good cereal but not a whole lot of calories, a Moderate Nutrient Density product is best. For those looking for density (i.e. lots more nutrients/calories in a smaller serving), then a High Nutrient Density cereal is the way to go. Swimmers looking for “candy cereal” should be encouraged to save this type of product for weekends and/or limited occasions. The following table offers a non-exhaustive list of cereals in each of the categories mentioned above:

High Nutrient Density Cereals >30 grams carb >4 grams protein <40% of carbohydrate is sugar	Moderate Nutrient Density Cereals 20-30 grams carbohydrate 2-4 grams protein <40% of carbohydrate is sugar	Low Nutrient Density (“candy”) Cereals >40% of carbohydrate is sugar
Quaker Toasted Oatmeal Raisin Bran Smart Start Blueberry Morning Basic Four Wheaties Energy Crunch Raisin Nut Bran Honey Nut Shredded Wheat	Cheerios Team Cheerios Rice Crispies Corn Flakes Special K Total	Fruit Loops Cinnamon Toast Crunch Captain Crunch Cocoa Puffs Fruite Pebbles Frosted Flakes

And of course, hot oatmeal and granola are always excellent choices. And all dry cereals make a great snack to take on the road. Just toss 1 cup into a plastic storage bag or air-tight container, and off you go. The point is to find a cereal that tastes good and also meets your nutritional needs. With all the products on the market, no swimmer should have any problem doing just that.

FLUIDS - Water vs Sports Drink

There are 2 reasons to drink fluids: (1) to stay hydrated, and (2) to provide the body with fuel.

During Workout - Regardless of age or length of workout, all swimmers need fluids during practice to stay hydrated. Easily accomplished with a couple of sips from the water bottle every 15-20 minutes. As swimmers progress, workouts get longer and tougher. It’s well established that exercise beyond 90 minutes benefits from a supplemental fuel source. The sports drink can provide it. But we still have hydration to think about. Drinks that are too strong, or “concentrated,” can provide the fuel but also inhibit fluid absorption and often lead to cramping.



Years of research tells us that drinks that are 6-8% carbohydrate by weight provide the perfect balance. Enough carbohydrate to provide a fuel source during long exercise, but not so much that will inhibit fluid absorption. A couple of sips every 15-20 minutes keeps the body fueled, helps prevent unnecessary tissue breakdown, and maintains hydration. Today, only Gatorade and Powerade meet the 6-8% criteria. Most other drinks are too strong to be effective *during* workout.

After Workout – Water is an excellent choice to replenish fluids after practice. It’s always wise to drink at least one cup. But after a *tough* workout, replenishing fuel stores is equally important. Competitive swimmers need a little over 1 gram of carbohydrate for every kilogram they weigh (lbs/2.2) each hour after workout. And they need it **within the first hour**.

Oftentimes, a sports drink that is easily digested and quickly absorbed, such as Gatorade or Powerade can provide a convenient way to get some of this fuel within the first 20 minutes. Accelerade, a newer drink on the market may also do the trick. Endurox, perhaps, but beware of the high protein drinks, as they often forgo the carbohydrate, and carbohydrate is what you are trying to replenish within that first hour after workout. A little protein won’t hurt, in fact a little bit of protein may actually help by supporting tissue repair and re-building processes. But too much protein, especially when it comes *in place of* carbohydrate, may actually be detrimental to the post-workout recovery process.



****Remember...**

1. Carbohydrate is the primary fuel source during tough workouts. Protein is used as a fuel source during exercise only when carbohydrate and fat are not present in sufficient quantities. This can happen during long/tough workouts when the body uses much of its stored carbohydrate, and it must find an additional source. If an additional carbohydrate source (ex. Gatorade, Powerade) is not supplied, the body taps into *stored* protein, aka your muscles. This is why we drink carbohydrate-electrolyte solutions during workout...to **spare muscle protein**. And this is also why it is important to replace carbohydrate stores lost during a workout...so you start the next workout with a full tank of gas!

2. Following exercise, the body is very sensitive to the hormone *insulin*. Insulin is that hormone that rises every time blood sugar rises. In other words, every time a swimmer eats carbohydrate, which causes blood sugar to rise, insulin goes up. Well, it's insulin's job to remove sugar from the bloodstream, and it does so by facilitating its storage as **glycogen**. Glycogen, the storage form for carbohydrate, is what the body taps into for fuel when exercise is very intense. This can happen quite a bit during a tough workout, which is why it's important to see that glycogen is replenished before the next practice.

During the Day – Staying hydrated during the day is just as critical as hydrating during and after workouts. Most swimmers can do this by incorporating a variety of fluids into their daily diet. Water, fruit juice, milk, soups, etc, etc. Water is always an excellent choice, but other drinks, including sports drinks (defined as 6-8% carbohydrate by weight) are okay too. Just remember that variety is the key to a healthy diet. If you use a sports drink during and after practice, it may be better to drink water and juice during the day to stay hydrated. Juices are often healthier than sports drinks in that their sugars are natural. Always keep in mind that juices and sports drinks contribute to total caloric intake.

8. Speak with your doctor about taking a 'good' multiple vitamin.

These are some recommendations to you because your health should be of prime concern to you. If your health turns bad then you are not able to attend school and certainly not able to attend swim practice. If you are sick please do not come to practice. It will not help the team nor will it help you if you are contagious and come to participate and "share" your germs with others. If you have a cough, sore throat and so on please stay home and rest. If you have an ear infection you can come and do dryland during the swim and dry land sessions.