

## WHAT TO EAT BEFORE A WORKOUT

By Rob Maxwell, M.A.

This month, I decided to ask some Track Club members what they'd like me to write about, and try to answer some questions they may have. Jenn Labonte asked a very good question that I think a lot of runners and fitness enthusiasts want to know more about, and that is "What should I eat before a workout, and when?" I decided I'd answer that, plus talk just a little about what to eat during and afterwards. If any of you readers ever want a question answered and possibly published in the Sandpiper, simply email me at [fittmax@aol.com](mailto:fittmax@aol.com). Even if I don't write about it, I'll still answer your question.

### WHAT TO EAT BEFORE A WORKOUT

When I say workout, I really mean any kind of workout (cardiovascular training or strength training) or race. Your pre-race meal should be the same for any type of workout or race that you are doing. There is a lot of information out there on this subject, and like everything else, there are some true fundamentals and there is some deviation based on personal preferences. What I'll focus on is the fundamentals. Before we start though, it's important to know that all of this information is most beneficial if you eat a pretty good diet to start with and keep your glycogen levels full. Your glycogen levels are merely your stored carbohydrates, and we can store up to 500 grams (400 in the muscles and 100 in the liver). That is 2000 calories worth of stored carbs (1600 and 400). If you don't eat a balanced diet and are on some kind of low carb diet, any good pre-workout meal or eating during an event will not save you. You have to be able to rely upon your stored glycogen—this is fundamental. Your body cannot consume the same amount of food that you burn, so you will run out of gas if you're always running on empty.

- **WHEN TO EAT:** Your pre-workout, meal whether it be in the morning or later in the day, should be 3-4 hours before you train. Yup, you read that correctly. If you eat too close to training/racing, that food will not be digested, and you'll simply be training with a lot of food jostling in your stomach. And there is a big metabolic cost to digesting food, so a lot of blood will go to the stomach to aid digestion, leaving you feeling "flat". "What if I'm hungry?" If you eat "right" and keep your glycogen levels full, you won't be. The feeling you're having is simply the 100 grams of liver glycogen that has burned off while you sleep, raising your blood sugar and sending signals that you're hungry. But again, if you've kept up with your glycogen, you're not. One way around the hunger feeling— Just before you train or race (within 10 minutes of starting), eat a GEL. This will not cause a spike and drop in blood sugar since you are putting your body into motion. Again, the hunger feeling is really more mental than physical because you have enough glycogen to get you through (and you need to eat *during* if training is long enough—more later).
- **HOW MUCH TO EAT:** This depends on your size, but a fundamental rule of thumb is 200-400 calories. Yes, that's it. Three to four hours out, this is perfect to top off your glycogen stores. The majority of these calories need to be in the form of carbohydrates,

with just a little bit of protein. The fundamental rule of thumb is 4:1 or 5:1 carbohydrates to protein.

- **WHAT TO EAT:** First, do not eat high fiber foods, foods with fats, or simple sugars. The carbohydrates you consume should be of the complex carbohydrates, and technically called polysaccharides. Simple sugars will simply spike the blood sugar, causing a crash before hand. They will not store as glycogen. Normally, fiber is good, but not before a workout. You really have to simply experiment with what complex carbs you like—just make sure they're polysaccharides. The protein needs to be very little, lean and easy to digest. Some people use a non-fat yogurt. Some people use soy. Experiment. There are plenty of products out there that do all the work for you, and you can simply use an engineered liquid pre-workout meal.

## WHAT TO EAT DURING TRAINING OR RACING

Keep in mind, again, that the type of training or racing you're doing is irrelevant. The goal of eating during training or racing is to spare glycogen. You cannot replace all that you are burning up. It is impossible for your body to process all the calories that you are burning up. So the idea is to save the glycogen so you can have the fuel to be used for energy.

- **WHEN TO EAT?** This really isn't so much a matter of when but when NOT. In other words, if the workout or race is going to be less than 90 minutes, no additional **energy** is needed. You have enough glycogen (AGAIN!). Remember, this article is not about hydration or electrolytes. It's about ENERGY. Even in very short workouts, you need water and electrolytes. If the training or racing is going to be longer than 90 minutes, you need to take in additional energy. And as far as spacing goes, it's best to break it up. There really is no exact formula to break it up, although it seems to work best when the total calories ingested is divided by 2-3 for each hour of exercise.
- **HOW MUCH TO EAT:** Most studies indicate that you can only utilize about 250-300 calories per hour. That's it! More than that, your body will simply find ways to get rid of the undigested foods, and that won't be pleasant. This is why I said you can't replace all that you use up. Take, for example, a 180 lb. runner running just below his AT for a marathon. This runner may be burning up to 1000 calories per hour. So the idea is to delay the onset of glycogen depletion and utilize the stored glycogen and fatty acids (your fat!)—which is another reason not to run above your AT early in a race. That is what 'hitting the wall' is, and has nothing to do with how many miles you trained.
- **WHAT TO EAT:** Again, you need to consume complex carbohydrates--- polysaccharides. Look for glucose polymer on the label of the product to be used. If it states that, it's what you want. If the training session or race is going to exceed 2 hours, you will need to eat a little protein. Just very little—about 10% of the 250-300 calories need to be in the form of protein. So, you're wondering if you have to be a chemist to create the right amount of "eat during"... no, just shop correctly. There is no doubt that you can make your own "sports meal", but why when there are so many companies doing the work for you? You just have to know the right one to get. Most research indicates that liquid nutrition, such as the correct gels (not all gels are the same—not all have protein) and sports drink, is better than solid nutrition as far as absorption goes. But you'd have to try them for yourself and just make sure that they work for you. I have

found what works for me, and it is about trial and error. Most products on the market have the correct amount of glucose polymers with just a smidgen of protein—typically using soy for these purposes.

## WHAT TO EAT AFTER TRAINING AND RACING

This is what is known as eating for recovery. It is the most important step in making sure that you are recovering after workouts. And it's the time that your glycogen stores are most ready to be filled. Studies have shown that after exercise, your body will absorb carbohydrates at a faster, more efficient rate. The cells almost act like sponges, pulling the blood sugar into the cells. But what if the blood sugar isn't there? It's the number one way to make sure that you stay "full" all the time—eat AFTER training.

- **WHEN TO EAT:** Right after you are done training/racing, and I mean right after. You should have eaten your first "meal" within 30 minutes of completion of training. And you don't want to take back in all of your carbs at one time, so the research indicates that you should eat another mini meal a couple hours after that meal to ensure maximum recovery (which means glycogen filled back up and muscle damage recovery set into place).
- **HOW MUCH TO EAT:** This is very variable based on how much you weigh, and the duration and intensity of your exercise. The idea is to try to restore the carbohydrates that you've lost. There really is no way to know for sure. A good rule of thumb is to take in about 200 calories, with most of it being in carbohydrate form again, and a little bit of protein. Later on, you want to take in some more carbohydrates and again more protein, and at this second meal you would want to eat a higher level of calories, especially in the form of carbohydrates, so this meal would be in the 300-500 calorie range (still mostly QUALITY carbs and a little protein). You will know how you are recovering based on your workouts. If you feel stale, this is an indicator that you are going to have to take in more carbohydrates after training. The key is that you can't do this all at once. Again, your body can only take in so much at one time, so you'll have to do this in mini-meals at a time.
- **WHAT TO EAT:** Is this beginning to sound like a broken record or what? You guessed it---CARBOHYDRATES and PROTEIN. Now you don't have to worry about stomach upset as you would with what you eat before or during, so you can maybe take in a slightly different mix of carbs and protein. The key is still polysaccharides for the most part. With the protein, it's important that the amino acid GLUTAMINE is present. This amino acid (a building block of protein) has been shown to aid recovery. Even though you don't have to be as careful regarding stomach upset afterwards (fiber, etc), I'm still not a big proponent of junk food. What good do a bunch of sugar and high fatty protein sources really do? Complex carbs and lean protein still rule the day!

I hope this answers Jenn's question and all of yours. Don't forget to email me if you have any questions. I really like to know what people are looking for regarding information for their training. Remember, **YOU ARE WHAT YOU EAT!**