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## ***Hydration & You. How much should I drink?***

Endurance athletes experience significant sweat losses that need to be replaced for proper performance.

### **Before Activity:**

- 16 ounces (2 cups) - 20 oz fluid 2 hours prior to practice (preferably sport drink)
- Drink 7 to 10 oz of sports drink 10 to 20 minutes before
- Pre-hydration is much more effective than filling up during the event

### **During Event:**

- Consume 30 to 100 g of carbohydrates (120-400 kcal) per hour
- Drink 7 to 10 oz of fluid every 15 to 20 minutes, including sodium

### **After Event:**

- Drink 16 to 24 oz of sport drink for every pound LOST after event (include sodium)

### **What Should I Drink . . . Water, Sports Drinks or Gels???**

- For exercise lasting one hour or less, choose water
- For exercise lasting more than one hour, sports drinks are appropriate
- Gels can be used to replace carbohydrates, but adequate fluids still need to be consumed

### **Carb Loading: Who Will Benefit?**

Runners that are participating in events lasting longer than 90 minutes, such as marathons, ultra marathons, and triathlons. Those not benefitting - 5K or 10 K runners.

### **What is carb loading?**

During intense, continuous endurance exercise, your muscles will become depleted of glycogen, the stored form of carbohydrates after about 90 minutes.

The goal of carbohydrate loading is to “supersaturate”, or overfill the muscles with extra glycogen that your muscles can tap into once the normal stores are used. The more glycogen you have available, the less likely you are to “hit the wall” or run out of steam to finish the race

There are 3 types of carb loading methods:

### **1) Long Taper**

- Using the long taper method, you should have your final hard training session 3 weeks before the event.
- Two weeks prior to the event, the runner should start tapering your training.
- It’s important to note that during your taper, you do not need to eat extra calories since your body will not be using as many as it needed during training.
- The goal is 3-5 grams of carbohydrate per pound of body weight ( or 6-10 grams carbohydrates/kg body weight) and reduce your fat intake to make up for your body’s reduced demand for energy.
- Muscles use extra carbohydrate calories to build up a glycogen store that will remain, since you won’t be using it for training any longer. When done correctly, you can increase your glycogen stores by 40%-60% .

### **2). 6-day Protocol**

When this method is used, you deplete glycogen stores 6 days prior to the event and build them back up.

Days 3-6 before the event should include 2-3 grams of carbohydrate per pound or (4-7 grams carbohydrates/kg), and tapered training.

days before competition you would further reduce training or rest completely and consume a high-carbohydrate (~4.5 grams per pound), low-fat diet.

### **3). Rapid Loading—No taper needed.**

The runner will perform an intense glycogen-depleting exercise 24 hours prior to competition. Immediately following this workout the athlete will start to consume a high-carbohydrate diet consisting of 5-6 grams of carbohydrate per pound and continue this throughout the day.

For example, an athlete weighing 125 pounds would need to eat about 625 grams -- or 2,500 calories of carbohydrate.

You will need to reduce protein and fat to get this much in.

### **Take Away Messages**

- Always try new things out in training - NEVER in competition! You never know what can happen on race day.
- In the weeks and days leading up to competition, continue to eat an adequate protein (0.6-0.7 grams per pound or 1.3-1.5gm protein/kg body weight to help glycogen synthesis and can be an alternate fuel source in endurance exercise.
- Add some fiber-rich foods to promote regular bowel movements but not too constipation. There is a fine line between diarrhea and constipation, and you don't want to learn about it on race day!
- Expect some weight gain (~2-4 pounds). For every ounce of glycogen the body also stores 3 ounces of water. Although your muscles may feel a little heavier at the beginning of the race these feelings will subside as the body uses up the glycogen and water throughout the race.
- Use various forms of carbohydrate-dense foods and drinks to meet your needs such as juices, gels, and sports drinks. Be sure to consume whole-grain sources as well to balance out all that sugar. Here are some of the best carbohydrates for runners.
- Most of all—do NOT wait until your last meal to load up on the carbohydrates! You want to give your body time to digest and a big meal at night may leave you feeling full and uncomfortable in the morning.
- Eat your largest meal early in the day prior to competition.
- Finally, be sure to still consume some energy sources and fluids during your event. Make sure to stop at the water stops, use your water, sports drinks, gels as you need be. What you have stored up will help you go longer, but it still may not be enough to get you through the entire race without an additional fueling plan.

***For more information or to schedule an appointment with one of Sports Nutrition Specialists, call 216 983-PLAY (7529).***