

DIETARY PRACTICE THAT CAN IMPROVE PERFORMANCES IN COMPETITION

There are several nutritional practices that are considered to be important pre-and post-competition procedures. These are, the pre-meet meal, the use of quick energy foods, and carbohydrate loading. Another consideration that affects competitive swimmers in particular is what to eat between events during competitions that last for several hours. There are lots of myths and misinformation surrounding each of these practices. I will try to separate fact from myth in the following sections, starting with the pre-meet meal.

THE PRE-MEET MEAL

It has been nearly 30 years since the first research showed that pre-competition meals should consist mostly of carbohydrates rather than protein. The original belief that meat should be part of the pregame meal had its origin in the practices of the ancient Greeks and Romans. They believed that eating the meat of animals would transfer to athletes the qualities of speed, power and endurance those animals possessed. As an example, it was common for Roman gladiators to eat the meat of lions for strength and courage before entering the arena. Another common practice during the Ancient Greek Olympiads, was for competitors to eat the meat of cheetahs or gazelles to make them run faster and jump higher.

Actually, the pre-meet meal has very little to do with improving one's performances. The meals that athletes eat one to three days prior to competition are actually more important because that is the food that will be stored as muscle glycogen and then used for energy during the competition.

Athletes should enter important meets with their muscle glycogen storage at normal levels or higher. To accomplish this, they should increase the carbohydrate content of their meals beginning two or three days prior to the meet and this pattern should be continued until the competition begins. The fat and protein content of these meals should be reduced to make room for more carbohydrates. Additionally, important meets should be preceded by a reduction of both the quantity and intensity of training so muscle glycogen will not be depleted prior to the competition.

The main functions of a pre-meet meal, on the other hand, should be to reduce feelings of hunger and, in some cases, to provide a ritual for "psyching up" before competitions. The principal concern with these meals should be that they do not interfere with the athletes' efforts. They should not cause them to enter contests with large quantities of food in their stomachs and/or feelings of nausea.

A sensible pre-meet meal should be small and easily digested so swimmers do not go into competition with their stomachs full of food and the food eaten should be familiar to the swimmers and not heavily spiced or cooked in a way that causes them digestive distress. These and other recommendations for the pre-meet meal have been listed in figure 11.

SUGGESTIONS FOR PRE-MEET MEALS

1. IT SHOULD CONTAIN 600 TO 800 CALORIES
2. MOST OF THE CALORIES SHOULD COME FROM CARBOHYDRATES. INCLUDE ABOUT 100 TO 150 GRAMS OF CARBOHYDRATES IN THE MEAL.
3. STARCH FORMS OF CARBOHYDRATES ARE BEST IN AN EASILY DIGESTED FORM. AVOID LARGE AMOUNTS OF RED MEAT AND FRIED AND HEAVILY SPICED FOODS.
4. MEAL SHOULD BE EATEN APPROXIMATELY 3 HOURS BEFORE COMPETITION. ALTHOUGH SMALL MEALS AND LIQUID SUPPLEMENTS CAN BE CONSUMED LATER THAN THIS WITHOUT ANY ILL EFFECT.

Figure 11. Suggestions for the pre-meet meal

Six hundred to 800 calories, consisting primarily of bland forms of complex carbohydrates fill the bill perfectly for pre-meet meals. Such foods are quickly digested so they do not remain in the stomach during competitions. The carbohydrate content should equal between 100 and 150 grams. Foods that are high in fats and proteins are not good items to include in a pre-meet meal because they are slow to digest. For this reason, the time-honored portions of red meat and foods that are fried in oil, or, worse, in lard, should be avoided. High-fiber foods are also not recommended if the pre-meet meal is within one or two hours of the start of the competition. Fibrous foods are good sources of complex carbohydrates but they are slower to digest and may cause intestinal discomfort during competition. Foods that are high in fiber are oats, bran, oatmeal, rice, barley, fruit and tuberous vegetables.

Toast, muffins, cereal, pancakes, waffles, and noodles are good choices for a pre-meet meal. Pizza, spaghetti, tacos and burritos have been recommended by some because of their carbohydrate content, but they are not good choices. These foods also contain a considerable amount of fat and protein and are more likely to cause nausea or diarrhea because of the spices used in their preparation. Samples of some good pre-meet meals are provided in figure 12.

Liquid supplements also make excellent pre-meet meals because they leave athletes' stomachs rapidly. Several commercial preparations are available that will provide balanced nutrition and an adequate, but not excessive, number of calories that will satiate the appetites of swimmers. Similar solutions can also be mixed from commercial carbohydrate preparations that are sold in powder form.

The usual practice is to eat the pre-meet meal at least three hours before competition, if it contains a sizable amount of solid food. Liquid solutions can be consumed within one-half hour to two hours prior to competing and even during breaks in the competition.

Suggested pre-meet breakfast for a morning competition.

- 1 bowl of dry cereal with skim milk or 2 pancake with syrup, or 1 waffle with syrup. (Easy on the butter or margarine)
- 1 glass of juice
- 1 English muffin or toast with jelly.

Suggested pre-meet lunch for an afternoon competition.

- 1 Turkey sandwich, or 1 fish sandwich, lightly battered, or 1 bowl of soup.
- 1 baked potato (easy on the toppings)
- 1 glass of juice
- 1 or 2 glasses of water

Note: A normal, high carbohydrate breakfast should be eaten in the morning before an afternoon meet. It can contain fibrous foods such as fruit and oatmeal if the meet will be held more than 3 to 4 hours later.

Figure 12. Examples of pre-meet meals for morning and afternoon competitions.

WHAT TO EAT IF YOU ARE COMPETING SEVERAL TIMES IN A DAY.

In championship and weekend competitions swimmers often compete in preliminary heats and then return 3 to 5 hours later to compete in the final heats. In other competitions, they may swim two or more races over a period of several hours during the day, with only 1 or 2 hours between each race. What meal procedures should they follow in these cases?

Muscle glycogen depletion is generally not a problem for them. The amount of glycogen a swimmer uses in a single race will be small and can easily be replaced in a few hours. Accordingly, the purposes of a snack between events is to "top-off" the muscle glycogen supply and to relieve hunger. The snack should do this without laying in the swimmer's stomach undigested by race time and without causing nausea.

In the case where swimmers must return in several hours for a final competition, they should eat a small, high-carbohydrate meal as soon after the competition as possible. The composition of that meal should be similar to the pre-meet meal that was just described. It should contain 500 to 800 calories in high-carbohydrate form, (about 100 to 150 grams of carbohydrate). Once again, the best foods would be those that have a high-glycemic index because they will be digested and absorbed quickly. As a result, the swimmer will not report for the finals feeling full and uncomfortable and they will have replaced some of the glycogen that was lost from their muscles earlier in the day.

When competitions follow one another within an hour or two, swimmers should make a conscious effort to eat some high-glycemic carbohydrate foods as soon after the first competition as possible. These foods will leave their stomach quickly and be absorbed into their blood stream where they can enter the muscles and be stored as glycogen. Swimmers should keep a liquid source of complex carbohydrate handy and drink a small