

Training Table

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Eating Before Exercise

Depending on the duration, intensity, and type of exercise you are performing, there are three stages where nutrition plays a role in performance—before, during, and after activity. The goals of carbohydrate and fluid nutrition strategies are to optimize the availability of muscle glycogen and to keep the body well hydrated, thereby insuring optimal performance.

Properly nourishing yourself before exercise should:

- Prevent low blood sugar during exercise.
- Provide fuel by topping off your muscle glycogen stores.
- Settle your stomach, absorb gastric juices, and prevent hunger.
- Instill confidence in your abilities.
- Remember, fasting is detrimental to performance and is strongly discouraged before exercise or performance.



Why is it important to be adequately fueled before exercise?

Carbohydrates before exercise can help keep glucose levels steady and, if eaten far enough in advance, may increase glycogen stores (the storage form of carbohydrate). Most research points to improvements in performance including the ability to maintain submaximal exercise for longer periods as well as the ability to maintain a higher intensity level when a high carbohydrate diet is consumed.

What should I eat before exercise or a competition?

The pre-exercise meal should consist primarily of high carbohydrate, low fat foods for easy and fast digestion. Since everyone's preferences for, and responses to, different foods are unique, it is recommended that you learn, through trial and error, what works and does not work for your own body. For example, some people respond negatively to sugar intake within an hour before exercise. The temporary "boost" that some people experience after

eating foods with a high sugar (sucrose) concentration such as candy, syrups, or soft drinks actually causes an increase in insulin

production which will be followed by a rapid lowering of blood sugar and can lead to decreased performance. In addition, fructose (the sugar present in fruit juices) ingested before exercise may also lower your blood sugar and cause gastrointestinal distress in many people.

Allow adequate time for digestion and normalization of blood glucose:

- 4 hours for a large meal.
- 2 – 3 hours for a smaller meal.
- 1 hour for a blended meal, a high carbohydrate beverage (10 – 30%), or a small snack.

For an early morning event, plan wisely so that you can consume at least a smaller meal 2 – 3 hours before race time. If you know you get nervous or jittery and lose your appetite before an event, make a special effort to eat well the day before. Always eat familiar foods before a competition, don't try anything new and risk affecting your performance. Experiment only during your training.

What should I eat before exercise?

Choose foods with a low to medium glycemic index. Research shows that these foods are absorbed slowly and have a moderate effect on raising blood sugar levels (which is good.) Foods high in fiber, minimally processed, with a little fat and/or protein tend to have a lower glycemic index. Beans, lentils, citrus fruits, apples, bananas, and pasta are examples. Avoid fatty foods before exercise as they may cause digestive problems during exercise.

And another thing...

Remember to hydrate: Drink before you exercise. Drink 2½ cups (20 oz.) of water 1 – 2 hours before exercise.

Suggested Reading

Achten J, Jeukendrup AE. (2003). The effect of pre-exercise carbohydrate feedings on the intensity that elicits maximal fat oxidation. *Journal of Sports Sciences*, 21(12):1017 – 1024.

Foster-Powell K, Holt SHA, Brand-Miller JC. (2002). International table of glycemic index and glycemic load values. *American Journal of Clinical Nutrition*, 76:5 – 56.

Walberg-Rankin J. (2000). Dietary carbohydrate and performance of brief, intense exercise. *Sports Science Exchange* 79, 13(4).

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About the Author

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