

The care and feeding of Olympic athletes

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Right combination of food and fluid can be critical to athletes' success.

(HealthDay) -- It seems there's virtually no end to the power and stamina of Olympic athletes, which is due in part to the detailed guidance they get from experts about the right amount and type of food they need.

So what do [Olympic athletes](#) eat? A lot.

On average, they need to consume between 8,000 and 10,000 calories a day, compared to just 2,000 to 2,800 calories a day for the average moderately active man, according to the Academy of Nutrition and Dietetics.

The science of fueling athletes for elite sports goes way beyond [caloric intake](#) to include percentages of carbohydrates versus proteins, quantities of fluid and the timing of meals and snacks.

"There is a huge range of different needs, depending on the event and how much speed, endurance and strength the athlete needs," said Dr. Christine Gerbstadt, a registered dietician and [anesthesiologist](#) in Gaithersburg, Md.

The advice athletes get has changed a lot in the past 20 years, Gerbstadt said. "You used to see an NFL football team sit down to a huge steak dinner before a game," she said. "No more."

Instead, the new approach is designed to feed athletes not just a combination of foods they need

prior to an event, but to ensure that they ingest the right nutrients to help repair their muscles for the next competition, Gerbstadt said.

There are three phases to consider when planning the nutritional needs of athletes, Gerbstadt explained. An hour or two before an event, the Olympians should have an easily digestible light meal -- ideally oatmeal and a banana with milk or yogurt. An hour or so before the competition, they also need 16 ounces of water.

Hydration is a big issue, said Amy Jamieson-Petonic, a registered dietician and director of wellness coaching for the Cleveland Clinic.

"Athletes can lose 2 percent to 3 percent of their body weight from dehydration, which can negatively impact their aerobic performance," she said.

Trainers and coaches regularly check their athletes' specific gravity and osmolality (measures of dehydration), she added.

Some sports are more likely to lead to [dehydration](#) than others, Jamieson said. Swimmers typically are at high risk for the condition because they typically can't grab a sip of water in the middle of the event.

If an athlete's event is an hour long or less, they shouldn't drink water during the competition, Gerbstadt said. If it's more than an hour, the amount of water they should drink depends on the temperature, humidity and how much they actually perspire.

Gerbstadt recommends drinking 16 ounces of water, juice or a sports drink anywhere from every 15 minutes to every hour, depending on the individual's needs.

"They shouldn't go overboard on the fluids," she said. "It's actually better to be under-hydrating than taking in too much fluid."

After the event, in the "recovery" phase, the goal is

to help the athletes' bodies bounce back quickly. The average Olympian burns about 800 calories an hour, but that can be replaced gradually over four to eight hours, Gerbstadt said.

She advises athletes to eat a quick recovery snack as soon after the competition as they can -- preferably 20 to 30 grams of protein and carbohydrates.

"A fruit smoothie with protein powder would be ideal, or a turkey sandwich is great," she said. "Without the immediate snack, there will be a prolonged recovery time of broken-down muscle fibers."

For most Olympic athletes, one of the hardest aspects of nutrition is finding the time to consume all the calories they need, said Jamieson-Petonic.

"They're training so hard, they have to literally plan to eat and drink multiple times a day," she said. "Because their nutrient needs are so high, they have to schedule meals and snacks very carefully."

The guidance that nutritionists offer Olympic [athletes](#) is also highly individualized, going beyond their sport to their particular preferences.

"Everybody's got something a little different in their sports bottle," Gerbstadt said.

Although most people will never experience the athletic demands [Olympians](#) face, there are some important lessons from the nutrition experts for everyone who exercises:

- If you wonder whether you get enough hydration when you exercise, try weighing yourself first thing in the morning and then again right after your workout. The decrease in weight will represent the amount of fluid you lost, Jamieson-Petonic said. You'll need to replace every pound you lost with 24 ounces of fluid, she added.
- Concerned you might be dehydrated? It will probably be evident through your performance. "You feel like you just can't go on, your body can't do what it's used to doing," Jamieson-Petonic said. "You can

walk but you can't run."

- Don't roll out of bed and go straight to a 5K run without some breakfast, Gerbstadt said. "Be sure to get some carbohydrates, lean protein and fluid on board before you go."

More information: For more on healthy diets, go to the [Academy of Nutrition and Dietetics](#).

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