



A Few Fasting Fixes

Q I always feel weak when I fast—and I get a headache halfway through the day. Can you share any nutrition tips to help me feel better this Yom Kippur?

A The bad news first. When you deprive your body of its main source of energy and water for a period of twenty-five hours or so, you will feel it. To paraphrase the Torah verse, Yom Kippur is meant to be an “enui,” an affliction; fasting is simply not supposed to be comfortable. Fortunately, your body is well designed to last for short periods without food. In fact, a 150-pound person can live on stored body energy—a euphemism for fat—for as long as two or three months, assuming he’s not running marathons or doing anything else too strenuous. (One cannot, however, live more than a few days without drinking water.¹)

To function during a twenty-five-hour fast, your body needs between 150 and 250 grams of glucose—most of it (125 to 150 grams) to fuel your brain. Since you’re not taking in any food on Yom Kippur, you’re stuck with the

reservoirs of glucose already in your body. In your liver, chains of glucose are strung together to form a substance, called glycogen, expressly for this purpose (that is, surviving short periods of time without eating). During a day-long fast, liver glycogen will provide roughly three-quarters of the glucose that your body requires. This is the fastest way to get glucose without eating—the rest comes from additional glycogen stored in the muscles as well as from small amounts of protein and fat that are broken down and used to make more glucose. You don’t have to worry about losing dangerous amounts of protein during the fast, but at the same time—sorry, dieters—you won’t be losing significant amounts of body fat either.² (FYI: Any weight loss on Yom Kippur is most likely due to water loss.³)

The good news is that there is a way you can try to maximize the glycogen stored in your muscles so that as much as possible is available during the fast. Marathon-runners do it all the time; in the midst of a long, draining run, they need glucose to be readily available. So for a few days before the big run, they pack in carbohydrates along with plenty of fluids to “top off” their muscle glycogen stores; this process is called “carbohydrate loading.”⁴ Boosting your glycogen stores by increasing carbohydrate intake for a few days before Yom Kippur (say, from the day after the Fast of

Gedaliah) may provide similar benefits for fasters as well. The trick to loading up on carbs healthfully is to include additional carbohydrates to your day without increasing your calorie intake (unless you want to gain weight). So instead of adding food, substitute carbohydrates for some of the fat and protein you would normally eat. You still need to eat fat and protein, but if, for example, you have spaghetti and meatballs for dinner, you’ll want to go heavier on the pasta and lighter on the meatballs. You’ll also want to select the healthiest carbs—fruits, vegetables, beans and legumes and whole grains (like brown rice, whole wheat pasta and bread)—and limit processed carbohydrates (like white bread and white rice and, of course, soda, candy and other sugary sweets).

Because of fluctuations in blood sugar, fasting can be more complicated for people with diabetes—but certainly not impossible. In a recent article published in the journal *Endocrine Practice*, Dr. Martin Grajower discusses several ways to manipulate medications and insulin to enable individuals with diabetes to fast without danger.⁵ Deciding how to proceed on Yom Kippur requires a thorough understanding of the medications and a plan tailored to the individual. If you have diabetes, don’t wait until *erev Yom Kippur* to talk to your health care provider and rabbi about your fasting options.

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Since you won't be taking in any fluid for a full day, make sure to start out fully hydrated. In addition to drinking plenty of water, try to incorporate lots of fruits and vegetables, which have a high water content, into your *erev Yom Kippur* meal. Avoid diuretic beverages (those that contain caffeine or alcohol) before the fast,⁶ and minimize your salt intake, since it increases the need to drink.⁷ You may become dehydrated anyway, so try to stay in cool areas, avoiding long periods of time in direct sunlight. And there's an added benefit to wearing "angelic" white—the light-colored clothing helps keep you cooler.

As far as fasting headaches go, the jury is still out as to their exact cause. Developing mild to moderate tension headaches during fasting is more common among people who are chronic headache sufferers; however, the longer the fast, the more people get headaches.⁸ Researchers have ruled out dehydration as a cause,⁹ but headaches are more common in those who drink coffee or tea on a regular basis, which suggests that the headaches are related to caffeine withdrawal.¹⁰ Some dispute this,¹¹ but there is no harm in trying to wean yourself off caffeine before Yom Kippur. Gradually reduce the amount of caffeinated coffee, tea or other caffeinated beverages for about a week beforehand. (Note: A cup of brewed coffee or tea may contain 100 or more milligrams of caffeine, while eight ounces of most soft drinks contain between twenty to forty milligrams.¹²)

Just as you must prepare your soul for purification on Yom Kippur, so too must you take steps to prepare your body for the fast. Good luck and *gemar chatimah tovah!* ■

Notes

1. Peter R. Kerndt et al., "Fasting: The History, Pathophysiology and Complications," *Western Journal of Medicine* 1375 (1982): 5, 379-399
2. Kerndt et al., "Fasting: The History, Pathophysiology and Complications"
3. Amnon Mosek and Amos D. Korczyn, "Fasting Headache, Weight Loss, and Dehydration," *Headache: The Journal of Head and Face Pain* 39 (1999): 3, 225-227

Fasting Do's and Don'ts

Do: Do eat frequently throughout the day on *erev Yom Kippur*. If possible, fit in five or six small meals. Remember, it's a mitzvah to eat on *erev Yom Kippur!*

Don't: Don't gorge yourself. Eat enough so you feel satisfied, but don't eat to the point of discomfort or you'll have difficulty concentrating during Kol Nidrei.

Do: Do try a broth-based vegetable soup as a starter for your *seudah mafseket* (pre-fast meal). Research suggests that soups help you feel full and satiated*—plus the extra liquid (including the water in the vegetables) will help keep you hydrated.

Don't: Don't take extra multivitamins or minerals because you'll be missing a day, unless directed to do so by your health care provider. Follow your health care provider's advice regarding medications during the fast.

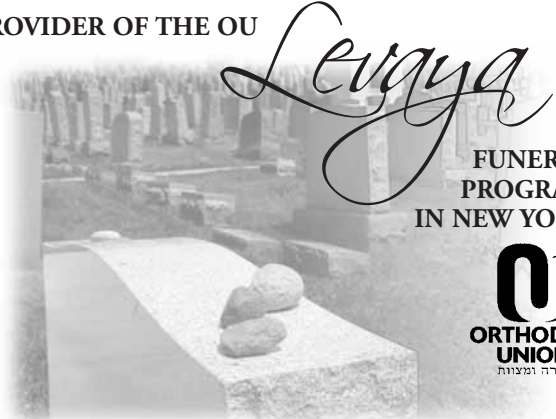
*Richard Mattes, "Soup and Satiety," *Physiology & Behavior* 83 (2005): 5, 739-747

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4. Dan Benardot, *Advanced Sports Nutrition* (Champaign, Illinois, 2006)
5. "Management of Diabetes Mellitus on Yom Kippur and Other Jewish Fast Days," 14 (2008): 3, 305-311
6. Susan M. Kleiner, "Water: An Essential But Overlooked Nutrient," *Journal of the American Dietetic Association* 99 (1999): 2, 200-206. [http://www.adajournal.org/article/S0002-8223\(99\)00048-6/abstract](http://www.adajournal.org/article/S0002-8223(99)00048-6/abstract)
7. Benardot, *Advanced Sports*

8. Amnon Mosek and Amos D. Korczyn, "Yom Kippur Headache," *Neurology* 45 (1995): 11, 1953-1955

9. Mosek and Korczyn, "Fasting Headache, Weight Loss"

10. A. Awada and M. Al Jumah, "The First-of-Ramadan Headache," *Headache: The Journal of Head and Face Pain* 39 (1999): 7, 490-493

11. Mosek and Korczyn, "Yom Kippur Headache"

12. International Food Information Council, *Everything You Need To Know About Caffeine*, 1998. Available at <http://ifc.org/publications/brochures/caffeinebroch.cfm>.