

This fact sheet explains the importance of proper nutrition as you recover and heal from a burn injury. It describes the nutritional needs during your recovery in the hospital and at home, and offers tips for balancing your diet as you heal.

This factsheet is intended to inform people with burn injury and their families about nutrition during hospitalization and after they return home. Burn injury dramatically increases your nutrition needs. The larger the burn size, the more nutrients you need to heal. A diet high in calories and protein:

- supports the immune system to decrease risk of infection;
- helps wounds heal faster;
- maintains muscle mass; and
- minimizes weight loss to support rehabilitation.

How are nutrition needs determined?

A dietitian and the medical team decide how much nutrition (e.g., calories and protein) you need. They set your nutrition needs based on your weight, height, age, and burn size. Vitamins and minerals are also important for healing and preventing infection.

- Vitamin C, zinc, and copper help burns heal.
- Vitamin E, vitamin C, and selenium are antioxidants. They help to reduce the body's stress response after an injury.
- Vitamin C, vitamin D, and zinc help to prevent and treat infections.

If you eat a healthy, well-balanced diet, you may not need extra vitamins. Ask your doctor if you have concerns about your nutrition needs.

How do I meet my nutrition needs while hospitalized?

Healing from a burn injury requires more calories and protein than any other type of injury. You may need more nutrients than what you get from eating only by mouth. If this is the case, tube-feedings can deliver more nutrients. A soft, flexible tube inserted through the nose reaches the stomach and delivers liquid formula that contains all of the nutrients needed for healing. Tube-feedings continue as long as necessary.

You may need to add nutrient-rich snacks and beverages in between meals. For example, drinking milkshakes or smoothies may help you meet your calorie and protein needs. High-protein foods include meat, fish, eggs, legumes, milk, yogurt, cheese, and nuts. You should eat high-protein foods at every meal and as snacks. If needed, vitamins may be recommended by the health care team.

The health care team also monitors the level of salt in your blood. If your level of salt is low, you may need to reduce the amount of water and fluid that you drink. This keeps you from diluting the level of salt even more. The team may also ask you to eat foods with higher salt content.

In the hospital, a dietitian may work with you to make sure you are getting enough nutrients to heal. The dietitian follows your weight, nutrient intakes and outputs, wound healing, and levels of protein and vitamins in the blood. After leaving the hospital, maintaining a stable weight is the best way to make sure you are staying nourished.

The Burn Model System is sponsored by the National Institute of Disability, Independent Living, and Rehabilitation Research, U.S. Department of Health and Human Services' Administration for Community Living. (See <http://www.msktc.org/burn/model-system-centers> for more information).

After leaving the hospital, eating a balanced diet is the best way to make sure you stay nourished but do not gain too much weight.

What if I have diabetes or high blood sugar?

After a burn injury, stress forces the level of sugar in your blood to increase. High blood sugar interferes with healing. Even if you don't have diabetes, you may have high blood sugar. Your health care team may prescribe insulin which lowers blood sugar. Until your blood sugar improves, you might have to limit the amount of foods you consume that are high in carbohydrates, such as bread, juice, potatoes, fruit, and desserts.

What should I eat at home?

Remember, your body requires fewer calories than when you were hospitalized. If your burn wounds are still open, your diet should include extra protein. As you continue to heal, your nutrition needs will be like they were before the injury. At the hospital, you likely ate large meals, drank nutrition supplements, and ate a lot of snacks. So your appetite may be big when you get home. Now focus on a balanced diet. Avoid foods with little nutritional value, such as sugary beverages, desserts, candy, fatty meats, whole-fat dairy, and white breads or crackers. Eat more lean meats, whole grains, vegetables, fruits, and low-fat dairy.

Ask your health care provider about exercise to help maintain a healthy weight. Exercise is important for long-term health and avoiding chronic illnesses, such as high blood pressure, diabetes, and heart disease. For more information, refer to the Exercise After Burn Injury Fact Sheet (http://www.msktc.org/lib/docs/Factsheets/Burn_Exercise_.pdf).

Tips for a well-balanced diet

- Eat small, frequent meals and snacks to keep from feeling so hungry that you eat too much at one time.
- Include protein with each meal and snack. Protein helps you stay full and your body stay strong. Good sources of protein are beef, chicken, pork, eggs, beans, nuts, milk, yogurt, and cheese.
- Slice fruits and vegetables for an easy snack on the go. They provide many key nutrients for healing and overall health.
- Change the flavors of the foods you eat to keep them tasty, and fun. Cook with spices and herbs, such as rosemary, mint, garlic, cayenne pepper, and basil.
- Drink water during the day to stay hydrated and avoid unnecessary calories. Many drinks have fat and sugar that your body doesn't need. Read the nutrition facts on food labels.
- Choose whole-grain breads and other foods that are high in fiber. These will help keep you feeling full between meals and can support regular bowel movements.
- Try to eat only when you're hungry. Avoid eating for other reasons, such as boredom, lack of control, anger, or hopelessness. Keep a food log and track your mood to see if you're eating for the wrong reasons.
- Talk to your doctor about any vitamins and supplements you would like to take at home.

Sample menu

This menu provides about 1,750 calories and 103 grams of protein per day. This sample menu should be balanced with physical activity.

Breakfast	2 scrambled eggs 1 slice whole-wheat toast 1 tsp. butter 1 medium banana 8 oz. nonfat milk
Lunch	Turkey sandwich: 2 slices whole-wheat bread, 2 slices deli turkey, lettuce, tomato, and mustard 1 cup nonfat yogurt 8 oz. water
Snack	1 medium apple 2 Tbsp. peanut butter 8 oz. water

Dinner	3–4 oz. baked salmon 1 cup mixed vegetables ½ cup brown rice 8 oz. nonfat milk
Snack	½ cup ice cream ½ cup sliced strawberries

Additional resources

Contact your local burn center and ask for an appointment with a dietitian who will create a nutrition action plan to meet your specific lifestyle and nutrition goals.

The MyPlate website (<http://www.choosemyplate.gov>) contains nutrition information, healthy eating tips, and ideas for increasing physical activity.

U.S. Department of Agriculture. (n.d.). MyPlate. Retrieved from <http://www.choosemyplate.gov>

Bibliography

Academy of Nutrition and Dietetics. (n.d.). Nutrition Care Manual products. Retrieved from <http://www.nutritioncaremanual.org>

Long, C. L., Schaffel, N., Geiger, J. W., Schiller, W. R., & Blakemore, W. S. (1979). Metabolic response to injury and illness: Estimation of energy and protein needs from indirect calorimetry and nitrogen balance. *Journal of Parenteral and Enteral Nutrition*, 3(6):452–456.

Mueller, C., Miller, S., Schwartz, D., Kovacevich, D., & McClave, S. (Eds). (2012). *The A.S.P.E.N. Adult Nutrition Support Core Curriculum* (2nd ed.). Silver Spring, MD: American Society for Parenteral and Enteral Nutrition.

Authorship

Healthy Eating After Burn Injury was developed by Megan Nordlund MS, RD, CD, Clinical Dietitian and Nicole S Gibran MD, FACS, UW Medicine Regional Burn Center, Harborview Medical Center, Seattle, WA in collaboration with the Model Systems Knowledge Translation Center.

Source: Our health information content is based on research evidence and/or professional consensus and has been reviewed and approved by an editorial team of experts from the Burn Injury Model Systems.

Disclaimer: This information is not meant to replace the advice of a medical professional. You should consult your health care provider regarding specific medical concerns or treatment. The contents of this fact sheet were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DP0012). The contents of this fact sheet do not necessarily represent the policy of the U.S. Department of Health and Human Services, and you should not assume endorsement by the federal government.

Copyright © 2016 Model Systems Knowledge Translation Center (MSKTC). May be reproduced and distributed freely with appropriate attribution. Prior permission must be obtained for inclusion in fee-based materials.

