Healthy Eating For Kids with Burn Injury

This factsheet explains the importance of proper nutrition as your child recovers and heals from a burn injury. It describes the nutritional needs during recovery in the hospital and at home, offers tips for a healthy diet for healing, and includes a few kid-friendly recipes.

This factsheet is intended to inform families of children with burn injury about nutrition during hospitalization and after they return home. Your child needs adequate nutrition to grow and develop. Having a burn injury dramatically increases the need for proper nutrition. The larger the burn size, the more nutrition your child needs 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?

For a child with burn injury, a dietitian and the medical team decide how much nutrition (calories and protein) your child needs based on his/her 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.

  There is no need for vitamin and mineral supplements if your child is eating a healthy, well-balanced diet. Ask your child's doctor if you have concerns about your child's nutrition needs.

How are nutrition needs met while hospitalized?

Healing from a burn injury requires more calories and protein than any other type of injury. In the hospital, a dietitian makes sure that your child is getting enough nutrients to heal. The dietitian monitors your child's weight, nutrient intakes and outputs, wound healing, and levels of protein and vitamins in the blood. So, your child may need more nutrients than what he/she gets 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 to deliver a liquid formula that contains all of the nutrients needed for healing. Tube-feedings continue as long as necessary.

In the hospital, your child may need to add nutrient-rich snacks and beverages in between meals. For example, drinking milkshakes or smoothies may help your child meet his/her calorie and protein needs. High-protein foods include meat, fish, eggs, legumes, milk, yogurt, cheese, and nuts. You should include high-protein foods for your child at every meal and as snacks.

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, you can monitor your child's nutrition status by watching his/her weight, growth and wound healing. Take your child to regular doctor appointments where they will chart your child's growth.

What should your child eat at home?

Remember, your child requires fewer calories than when he/she was hospitalized. If your child's burn wounds are still open, his/her diet should include extra protein. As your child continues to heal, his/her nutrition needs will be like they were before the injury. At the hospital, he/she likely ate large meals, drank nutrition supplements, and ate a lot of snacks. So your child's 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, and white breads or crackers. Eat more lean meats, whole grains, vegetables, fruits, and dairy. A child with burn injury needs the nutrients from these foods to continue healing and maintain a healthy weight.

Your child may also need extra vitamins. For example, the health care team may ask your child to take a vitamin D supplement because of extended hospitalization, immobility, and decreased exposure to the sun.

Ask your child's health care provider about exercise to help maintain a healthy weight. Playing and exercising is great for the mind and body. In general, your child can do many of the things that he/she did before the injury. But listen to your child's doctor about any limitations. Protect your child's skin from sunlight when he/she is outside. For more information, refer to the Exercise After Burn Injury Factsheet (https://msktc.org/lib/docs/Factsheets/Burn_Exercise_Fact_Sheet_508.pdf).

Tips for a well-balanced diet

- Offer your child small, frequent meals and snacks. Let him/her decide how much to eat at one time.
- Prepare balanced meals that include all five foods groups: fruits, vegetables, grains, protein, and dairy.
- Give your child foods that are high in protein with every meal and snack. Good sources of protein include beef, chicken, pork, eggs, beans, nuts, milk, yogurt, and cheese.
- Make smoothies or milkshakes for your child, if he/she isn't interested in food.
- Offer your child water between meals. Sugary beverages such as soda and sports drinks add too many calories with little nutritional value.
- Get creative! Try combining new foods.
- Be a role model: Make extra and eat with your child.

Ideas for increasing protein

When your child eats:	Add or use:
Fruit and vegetable sticks	Peanut butter, almond butter, hummus or cheese
Whole wheat bread or toast	Peanut butter or melted cheese
Oatmeal	Milk instead of water and add nuts
Crackers or chips	Choose whole grain and eat with peanut butter, cheese, or hummus
Milk	1 cup of regular, dry milk powder to 1 quart of milk
Broth-based soups	Cream-based soups
Soups and casseroles	Diced or ground beef, chicken or turkey
Ice cream or yogurt	Nuts and granola with seeds

It is best to add protein to the diet with whole foods; protein powder supplements are generally not needed.

Kid-friendly smoothie recipes

Monkey Shake (485 calories, 14 g protein)

1 banana
2 tbsp. peanut butter
2 tbsp. chocolate syrup
½ cup whole milk

Creamsicle Smoothie (455 calories, 13 g protein)

1 cup orange sherbet
½ cup whole milk
6 oz. vanilla yogurt

Dinosaur Juice (310 calories, 9 g protein)

½ cup vanilla ice cream
1 or 2 handfuls fresh spinach leaves
2 cups frozen fruit: pineapple, mango, or berries
2 tbsp. wheat germ or flax seed

Summer Vacation Smoothie (370 calories, 9 g protein)

½ cup vanilla ice cream
1 package vanilla Instant Breakfast
½ cup orange juice
½ cup frozen fruit (e.g., pineapple, mango, etc.)

Bibliography

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

Corkins, M. R. (Ed.). (2015). *The A.S.P.E.N. Pediatric Nutrition Support Core Curriculum* (2nd ed.). Silver Spring, MD: American Society for Parenteral and Enteral Nutrition.

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

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 child's specific lifestyle and nutrition goals.

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

Authorship

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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 factsheet were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DP0012). The contents of this factsheet 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.

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