







Photo credit: CDC, Amanda Mills





Healing Nutrients Fact Sheet: Eat Right, Ready to Fight!

If you are Wounded, Ill or Injured (WII), you may now find yourself in a new battle – fighting to heal and recover. To increase your chances of the quickest and best recovery possible, fuel and hydrate your body for healing with proper nutrition and fluids. When you eat right and hydrate, you give your body the resources it needs to help repair tissues, fight disease and infection, and even assist in the recovery process from brain trauma.

Effects of Improper Nutrition on Healing

Improper nutrition and hydration presents challenges to you as a WII member. Indicators of improper nutrition and/or hydration include being underweight, overweight, or obese. Further impacts from improper nutrition and hydration include:

- Potential increased recovery time
- Improper fitting of prostheses and/or adaptive clothing
- Difficulties being active among persons with amputations
- Increased risk for infection
- Poor wound healing¹

Ensuring proper nutrition and hydration, and maintaining healthy weight involves balancing the foods and drinks you consume with your basic caloric and fluid needs. There may be special considerations for calories and fluid needs related to treatment, recovery, and activity level.







The same amount of ENERGY IN (calories consumed) and ENERGY OUT (calories burned) over time = weight staying the same. ^{2.} Hydration needs will vary depending on your condition. However, the standard rule of thumb involves dividing your weight in pounds by two. The result is your daily baseline fluid need in ounces. For example, a 160 pound person would require 80 ounces (10 cups) of fluid per day unless otherwise indicated by a healthcare provider. ³

Healing Nutrients Table

To ensure you meet nutritional challenges head on, it is important to fuel your healing and recovery with nutrient-dense foods that contain certain properties that can aid in healing and resilience. In addition to protein, complex carbohydrates, and healthy fats, select nutrient-dense foods that contain Vitamins A and C, as well as Zinc, all of which are essential to healing.

Nutrient & Healing	Recommended Daily	Whole Food Sources	Practical Example
	Allowance (RDA)		
Lean Proteins help your body build and maintain muscle mass Carbohydrates give your body energy	 .66g/kg body weight ⁴ (.3 g/lb body weight) (Protein needs may be higher during peak periods of healing or treatment) 130 grams/day (minimum) 	Choice grades of meat, poultry, eggs, seafood, tofu, beans, peas, legumes, quinoa Whole grains, quinoa, brown rice, fruits,	1 cup chopped or diced chicken (~4 oz) = 28 grams protein ⁵ 1 cup of brown rice = ~45 grams
body energy		vegetables	carbohydrates ⁶
Healthy Fats are essential for normal body function and can help fight inflammation	• For a person with a 2,000 calorie a day diet = 6 teaspoons ⁷	Olive oil, canola oil, walnuts, almonds, fatty fish such as salmon & mackerel	1 teaspoon of olive oil = 9 grams of fat ⁸
**Vitamin A promotes cell growth and development, bone development and immune system functioning	 Men = 2080 IU Women = 1665 IU Do not exceed 3,000 Mcg (10,000 IU) 	Liver, sweet potatoes, carrots, mango, turnip greens, spinach, papaya, red bell peppers	One medium sweet potato contains ~1,096 RAE (3650 IU) Vitamin A 9
Vitamin C helps your body form collagen, a protein needed for strength and flexibility; it repairs tendons and ligaments and strengthen bones	 Men = 75 milligrams Women = 60 milligrams Do not exceed 2,000 milligrams *RDA for smokers is 35 mg higher 	Oranges, fruit juices, red bell peppers, strawberries, baked potatoes, cabbage, tomatoes, papaya, cantaloupe	One 8 oz glass of orange juice provides 83.7 mg Vitamin C ¹⁰
Zinc is a critical component of wound healing.	 Men = 9.4 milligrams Women = 6.8 milligrams Do not exceed 40 milligrams 	Red meat, seafood (crab and lobster), sunflower seeds, almonds	One ¼ pound hamburger contains ~2.52 milligrams Zinc 11

^{*} The recommended daily allowances (RDA) in the table above are provided by the U.S. Department of Agriculture and reflect general guidelines for men and women ages 19-30. Please follow the advice of a physician for specific requirements.

^{**}Vitamin A can be stored by the body, and too much could damage the liver. Avoid Vitamin A supplements unless you have first consulted with your medical provider.







Meal Planning for WII

Proper nutrition is about balancing the foods and drinks you consume with basic nutrition needs, special healing requirements, and activity level. Planning your meals in advance can help ensure you not only meet basic caloric needs, but also your needs for key nutrients that aid in recovery. To help plan your meals, take advantage of our Meals that Heal Guide that includes a section on meal planning.

Additional Resources

For more information, visit the Navy and Marine Corps Public Health Center's <u>General Nutrition</u> Web page or consult Benefits and Strategies for a Healthy Weight.

References

- 1. J. WJaC. Obesity: Impediment to post-surgical wound healing. *Advance Skin Wound Care*. 2004:17(8):426-35.
- 2. Balance Food and Activity. *National Heart, Lung, and Blood Institute*. February 13, 2013. Available at: https://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/healthy-weight-basics/balance.htm. Accessed April 17, 2014.
- 3. American Dietetic Association. *Nutrition Care Manual*. 2014. Available at: http://www.nutritioncaremanual.org/. Accessed September 08, 2014.
- 4. Dietary Reference Intakes (DRIs): Estimated Average Requirements. Food and Nutrition Board, Institute of Medicine, National Academies. http://www.iom.edu/Activities/Nutrition/SummaryDRIs/~/media/Files/Activity%20Files/Nutrition/DRIs/5 Summary%20Table%20Tables%201-4.pdf. Accessed May 08, 2014.
- National Nutrient Database for Standard Reference. United States Department of Agriculture
 Agricultural Research Service. Available at:
 http://ndb.nal.usda.gov/ndb/foods/show/803?qlookup=05010&max=25&man=&lfacet=&ne
 w=1. Accessed April 28, 2014.
- 6. National Nutrient Database for Standard Reference. United States Department of Agriculture Agricultural Research Service. Available at: http://ndb.nal.usda.gov/ndb/foods/show/6385?qlookup=20037&max=25&man=&lfacet=&new=1. Accessed April 28, 2014.
- 7. My Daily Food Plan. *ChooseMyPlate*. http://www.choosemyplate.gov/food-groups/downloads/results/MyDailyFoodPlan 2000 18plusyr.pdf. Accessed April 28, 2014.
- 8. National Nutrient Database for Standard Reference. *United States Department of Agriculture Agricultural Research Service*. Available at:







http://ndb.nal.usda.gov/ndb/foods/show/631?qlookup=04053&max=25&man=&lfacet=&new=1. Accessed April 28, 2014.

- 9. National Nutrient Database for Standard Reference. *United States Department of Agriculture Agricultural Research Service*. Available at: http://ndb.nal.usda.gov/ndb/foods/show/3255. Accessed April 28, 2014.
- 1 National Nutrient Database for Standard Reference. *United States Department of Agriculture*
- 0. Agricultural Research Service. Available at: http://ndb.nal.usda.gov/ndb/foods/show/3254?qlookup=11507&max=25&man=&lfacet=&new=1. Accessed April 28, 2014.
- 1 National Nutrient Database for Standard Reference. *United States Department of Agriculture*
- 1. Agricultural Research Service. Available at: http://ndb.nal.usda.gov/ndb/foods/show/6620. Accessed April 28, 2014.