

## AMC

### DEHYDRATION 101: MAKING YOUR OWN BACKCOUNTRY MEALS AND SNACKS

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07 April 2013

#### CALORIC INTAKE AND RULES OF THUMB

- Caloric Intake during Backpacking Activities (three season conditions)
  - During winter backpacking and camping increase the caloric intake by an additional 1/3 to 1/2 more of the base calculation
- Example of Adult Caloric Calculation: 20-25 kcal/ 1 lb body weight

Body Weight	Kcal/Lbs	Daily Caloric Minimum
125 lbs	20/1	2,500 calories
150 lbs	21/1	3,150 calories
175 lbs	22/1	3,850 calories
200 lbs	23/1	4,600 calories
225 lbs	24/1	5,400 calories

- Average Caloric Requirements for children:

Body Weight	Daily Caloric Minimum
79-81 lbs, Boys	2,279 calories
79-81 lbs, Girls	2,071 calories

Highly active children may need up to 2,400 calories a day.

#### NUTRITION RATIO AND CALORIE LOADING

- Nutrition Ratio
  - 50-55% calories from Carbohydrates/ 15-20% calories from Protein/ 30% calories from Fats
  - 125-130 calories per ounce of food stuff
  - 1.7 pounds of food stuff per day of backpacking; minimum
  - You enter a caloric deficiency when you burn more calories than you take in
  - Do not under-estimate the need to drink 3-4 liters of water a day on the trail...if you become dehydrated you are less likely to feel well and will feel less inclined to eat or drink, leading to big trouble and poor decision making.
- Burn Calorie Load: Weight Ratio (at moderate pace over reasonably flat ground)
  - 180 pound person = 570 calories per hour @ average of 6 hours = 3,420 total calories burned
  - 180 pound person with a 30 pound pack @ average of 6 hours = 4,000 total calories burned
  - 120 pound person with a 25 pound pack @ average of 6 hours = 2,500 total calories burned
- Food Types to achieve caloric needs
  - Fresh – PB&J, Lunch Meat, Fruit, Nuts and Veggies
  - Packaged – “Wet” packaged products, Ramen Noodle types and Energy Bars
  - Freeze Dried – Packaged backpacking meals and specialty grocery products
  - Dehydrated – Homemade meals, Jerky, and Snacks

## WHAT CAN BE DEHYDRATED? HOW?

- Fruits and veggies should be ripe and firm, but at the peak of maturity.
  - Fruits with a higher sugar content dry well, but need to be dried slowly so that a thick casing of leathery material does not form over the outside.
  - Ripe Vegetables are more flavorful than under ripe ones, and are less tough than over mature.
  - Herbs and Spices are best dried before the plant begins to flower.
- Remove any damaged or bruised parts. Trim or cut to a uniform size to promote even drying.
- Vegetables should be blanched (by steam or water) before drying.
- Meats (Beef, Turkey, Salmon, etc) should be low in fat and well trimmed.
- Drying is complete when...the item is tough, leathery, and pliable and does not have a moist center when cut. However, it should not be brittle unless you are making fruit/veggie chips.
- Allow 30 minutes to one-hour of cooling time to prevent condensation. However, do not leave it out too long so that moisture is allowed back into the item.
- Jerky must be stored in the freezer due to the residual fat content in the meat. However, storing all dehydrated goods in the freezer will extend their shelf life.

## MY DAILY BACKPACKING MENU

- Vacuum Sealed Bag One
  - Breakfast; Oatmeal with Granola, Coffee and Emergen-C
  - Snacks; Trail Mix, Japanese Rice Crackers, Annie's Fruit gummies, Fiber One Bars, Whole Foods Pro Bar
- Vacuum Sealed Bag Two
  - Appetizers; Hummus, Spinach & Bean Tacos
  - Dinner; Rehydrated Meal (Spaghetti, Mac-n-Cheese, Beef Stew, Mashed Potatoes), Flatbread Round with Butter, Baybel Cheese Rounds, Reese's Peanut Butter Cups, Tea, Emergen-C

## GENERAL DEHYDRATION TIMES

Item	Weight	Thickness	Hours to dry	Amount produced
Jerky	3 lbs wet	1/8 thick	10 hours	1 gallon bag
Ground Buffalo	1 lb wet		5 hours	2 cups dry
Deli Ham	1 lb wet	1/16" thick	6 hours	1 1/2 cup dry
Tuna	2 cans		2.5 hours	2 cups dry
Spaghetti	1 lb dry pasta		12 hours	1 gallon bag
Mac-n-Cheese	3 cups dry pasta		4-5 hours	3 cups
Spinach & Beans	2 lbs wet		8 hours	4 cups
Hummus	4 cups wet		16 hours	2 1/2 cups
Scallions	6 stems	1/8" thick	3 hours	1/2 cup
Mushrooms	1 pint	1/8" thick	7 hours	1/2 cup
Tomatoes	1 pint	1/8" thick	7 hours	1/2 cup
Peppers	4 peppers	1/2" square	10 hours	1/2 cup
Green Apples	6 apples	1/2" rings	12 hours	1 pint bag

## REFERENCES

- How to Dry Foods; Deanna Long; ISBN: 1-55788-050-6
- Ball Blue Book; Guide to Home Canning, Freezing & Dehydration
- Website: [www.backpackingchef.com](http://www.backpackingchef.com)
- Website: [www.netwoods.com](http://www.netwoods.com)