

## **Add Volume to Your Diet** **by Sharon Howard R.D.**

What is the secret to losing weight without feeling hungry? Has someone invented the perfect diet pill? No, the answer has been right on our plates all the while. Yes, eating less fat saves calories, and yes, sugar-laden foods are not the mainstay of a weight loss diet. Use the natural VOLUME of food to reduce your calorie intake and eat a healthier, lower calorie diet.

In her book, *Volumetrics*, Barbara Rolls, Ph.D., describes the research that we eat the same weight of food each day. We don't naturally have a calorie-counter in our stomachs, but we do naturally have a point of satiety or fullness that we achieve each day. The calorie density of our diets can be reduced without lowering the weight of the food by adding VOLUME in the form of water and fiber. You eat as much food, but fewer calories and lose weight.

The soup experiment is a good example. Researchers at Penn State gave women one of three different first courses, each 270 calories, before lunch. The first was a chicken rice casserole; the second was the same casserole with a 10 oz. glass of water. The third choice was a soup that was actually the chicken rice casserole with the 10 oz. of water cooked into it. Only the soup reduced the amount of calories eaten at the lunch that followed, even though the calories consumed before lunch were the same. The women consumed 100 fewer calories, did not feel hungry nor make up the calories later.

Water as a beverage does not enhance the feeling of satiety as well as heavier water-laden foods, such as soups, fruits, or vegetables. Water dilutes the caloric content of a given amount of food. In other words, you can eat more food for the same calories if you select a diet rich in high water content foods. You get a bigger portion for the same number of calories.

Fiber also provides bulk without calories, so you feel full sooner when you eat a high fiber meal. If you build your food choices around high water and fiber content foods, you will eat fewer calories and lose weight. However, you must still be aware that the opposite is true of fats, the most calorically dense food we can possibly eat, so eat fats sparingly. Fats contain 9 calories per gram, whereas carbohydrates and proteins contain 4 calories per gram.

Can air added to food improve satiety? Another experiment was conducted with fruit smoothies. Rolls and her researchers took the same fruit smoothie recipe and blenderized it for different amounts of time, ending up with different volumes of the drink, same calories. They gave them to young men before lunch. The larger the volume, the less lunch they ate, concluding that foods with more air, like air-popped popcorn, or puffed cereal, can make you feel full.

Rolls coined an interesting term, "energy density," or a number that measures the calories per gram in a food. You can use a food label to calculate the E.D. (energy density) by dividing the calories per serving by the grams in the servings. For example, a ½ cup serving of yogurt weighs 98 grams and has 160 calories. 160 divided by 98 equals 1.6. This food is a medium energy-dense food. Most fruits, vegetables, skim milk, and broth based soups have an E.D. of 0.6 or less, and are very low energy dense foods. The next category is an E.D. of 0.6-1.5 and includes foods like cooked grains, low-fat meats, legumes, and salads. Medium energy dense foods are 1.5-4.0 such as cheeses, salad dressings, meats, and some snack foods. High energy dense foods 4.0-9.0 are chips, crackers, chocolate candies, cookies, nuts, butter and full-fat condiments. The drier the food and the more fat in the food, the higher the energy density. The goal is to eat more of the low energy dense foods (low values) and less of the high energy dense foods.

How do you lower the energy density of your diet? Add more water rich foods using these tips.

1. Eat fruit for or with breakfast. Have a delicious ½ grapefruit or eat a fruit salad with yogurt.
2. Top cereals and pancakes with peaches, blueberries, or strawberries.
3. Grab fresh fruit instead of dried fruit for a snack.
4. Add vegetables such as zucchini, squash, peppers, onion, and spinach to pasta dishes, casseroles or pizza.
5. Put extra vegetables on sandwiches like sliced cucumbers, onion, sprouts, or pickles.
6. Start dinner with a broth based soup.
7. Put lots of vegetables in your stir fry, fajitas, casseroles, stews and soups, and less meat and starch.
8. Add salads to most dinners.
9. Select desserts that have fruit in them.
10. Be aware of the calories you drink. Even healthy choices such as milk and juice do not reduce food calorie consumption at your meal.

*Volumetrics* addresses one of the main reasons dieters crumble. If you cut calories by just eating less, you will feel hungry—not satisfied. The feeling of fullness, or satiety, can be activated by adding foods to your meals that contain high water and fiber content. You get larger portions of the lower calories foods, which give you the sensory stimulation of eating enough, or even more. We seem to naturally strive to eat the same weight, or volume, of food each day—no matter what the calories!

So, the well researched **secret** to a healthier and higher quality diet, without the pain of hunger, is a **low energy dense diet**. This translates into more fruits and vegetables, whole grains and less total fat, less sweets and starches. And, large enough portions to feel full! You really can eat more for less. In *Volumetrics*, Barbara Rolls offers a food guide full of many delicious meals to eat including their energy density. You can mix and match these tasty foods for great menu-planning.

The book also offers plenty of high water, high fiber, and low-fat recipes. Rolls praises the virtues of broth based soups that provide plenty of satiety and nutrients for minimal calories. Here is a twist on a classic soup you will enjoy!

### ***Volumetrics* “Cream of Broccoli Soup”**

3 cups canned low-fat or fat-free chicken broth  
1 ½ cups fat-free evaporated milk  
1 (10 oz.) package frozen broccoli  
1 baking potato, peeled and cut into 1 inch cubes  
1 cup chopped onion  
½ cup chopped celery  
3 cloves garlic, chopped  
½ teaspoon salt  
¼ teaspoon pepper

Combine all ingredients in large heavy saucepan, and bring to a boil over medium-high heat, stirring occasionally. Cover, reduce heat, and simmer 30 minutes, stirring occasionally. Process the mixture in batches, in a food processor or blender until smooth. Reheat in saucepan. This soup can be stored in a covered container in the refrigerator for up to 3 days, or in the freezer for up to 1 month.

Yield: 7 servings of 1 cup each

**Nutrition information:**

Calories 110

**Energy density 0.5**

Carbohydrates 18g

Fat 0g

Protein 98g

Sodium 504mg

Good source of vitamin C

Volumetrics, Rolls, Barbara, Ph.D., and Barnett, Robert. Harper Collins Publishers, New York, N.Y. 2000.

Volumetrics Eating Plan, Rolls, Barbara, Ph.D., Harper Collins Publishers, New York, N.Y. 2005.

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