Weight loss: Feel Full on Fewer Calories

Choosing foods that are less calorie dense (meaning you get a larger portion size with a fewer number of calories) can help you lose weight and control your hunger. Simply put, high energy density means that there are a lot of calories in a little amount of food. Low energy density means there are few calories in a large amount of food. When you're striving for weight loss you want to eat a greater volume of food that's lower in calories. This helps you feel fuller on fewer calories.

Here's a quick example with raisins and grapes. Raisins have a high energy density — 1 cup of raisins has about 434 calories. Grapes have a low energy density — 1 cup of grapes has about 82 calories.

Three main factors play a role in what makes food high or low in energy density:

Water - Fruits and vegetables generally have high water and fiber content, which provide volume and weight but not calories. That's why they're low-energy-dense foods. Grapefruit, for example, is about 90 percent water. Half a grapefruit has just 37 calories.

Fiber - High-fiber foods not only provide volume but also take longer to digest, making you feel full longer on fewer calories. Vegetables, fruits, and whole grains all contain fiber. Popcorn is a good example of a high-volume, low-calorie whole grain. One cup of air-popped popcorn has about 30 calories.

Fat - Fat is high in energy density. One pat of butter, for example, contains almost the same number of calories as 2 cups of raw broccoli. Foods that contain fat are higher in calories than lower fat foods.

Making Energy Density Work for You

By including plenty of fresh fruits and vegetables in your diet, you can feel full on fewer calories.

When you stick to the concept of energy density, you don't have to feel hungry or deprived. You may even have room in your diet for a sweet on occasion.

Sources:

1. Body temperature and metabolism. In: Scanlon VC, et al. Essentials of Anatomy and Physiology. 7th ed. Philadelphia, Pa.: F.A. Davis Company; 2015.
2. Fundamentals of human energy transfer. In: Katch VL, et al. Essentials of Exercise Physiology. 4th ed. Baltimore, Md.: Lippincott Williams & Wilkins; 2010.