The Calorie Density Approach to Nutrition and Lifelong Weight Management

By Jeff Novick, MS, RD
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Calorie density is the simplest approach to healthful eating and lifelong weight management. This common sense approach to sound nutrition allows for lifelong weight management without hunger; more food for fewer calories, and is easy to understand and follow. In addition, by following the principles of calorie density, you will also increase the overall nutrient density of your diet. The basic principles of calorie density are simple and outlined below. Remember, these are just guidelines expressing the principles and not exact recommendations.

The Calorie Density Approach

Calorie density is simply a measure of how many calories are in a given weight of food, most often expressed as calories per pound. A food high in calorie density has a large number of calories in a small weight of food, whereas a food low in calorie density has much fewer calories in the same weight of food. Therefore, one can consume a larger portion of a low-calorie dense food than a high-calorie dense food for the same number of calories. On a day-to-day basis, people generally eat a similar amount of food, by weight. Therefore, choosing foods with a lower calorie density allows us to consume our usual amount of food (or more) while reducing our caloric intake.

Foods low in calorie density also tend to be higher in satiety so by consuming foods lower in calorie density, one can fill up on much fewer calories without having to go hungry and without having to weigh, measure or portion control our food. In addition, the foods that are lower in calorie density (fruits, veggies, starchy vegetables, intact whole grains and legumes) are also the foods highest in nutrient density. Therefore, by following a diet lower in calorie density, one also automatically consumes a diet higher in nutrient density.

Principles of Calorie Density

- **Hunger & Satiety.** Whenever hungry, eat until you are comfortably full. Don't starve and don't stuff yourself.
- **Sequence Your Meals.** Start all meals with a salad, soup, and/or fruit.
- **Don't Drink Your Calories. Avoid liquid calories.** Eat/chew your calories, don't drink or liquefy them. Liquids have little if any satiety so they do not fill you up as much as solid foods of equal calories.
- **Dilution is the Solution: Dilute Out High Calorie Dense Foods/Meals.** Dilute the calorie density of your meals by filling 1/2 your plate (by visual volume) with intact whole grains, starchy vegetables, and/or legumes and the other half with vegetables and/or fruit.
- **Be Aware of the Impact of Vegetables vs. Fat/Oil.** Vegetables are the lowest in calorie density while fat and oil are the highest. Therefore, adding vegetables to any dish will always lower the overall calorie density of a meal, while adding fat and oil will always raise the overall calorie density of a meal.
- **Limit High Calorie Dense Foods.** Limit (or avoid) foods that are higher in calorie density (dried fruit; high fat plant foods; processed whole grains; etc). If you use them, incorporate them into meals that are made up of low calorie dense foods and think of them as a condiment to the meal. For example, add a few slices of avocado to a large salad, or add a few walnuts or raisins to a bowl of oatmeal and fruit.

What Are Calorie-Dense Foods?

Calorie Density Chart

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Foods	Calories/Pound
Vegetables	60 - 195
Fruit	140 - 420
Potatoes, pasta, rice, barley, yams, corn, hot cereals	320 - 630
Beans, peas, lentils (cooked)	310 - 780
Breads, bagels, fat-free muffins, dried fruit	920 - 1,360
Sugars (i.e. sugar, honey, molasses, agave, corn syrup, maple syrup)	1,200 - 1,800
Dry cereals, baked chips, fat-free crackers, pretzels, popcorn	1,480 - 1,760
Nuts/seeds	2,400 - 3,200
Oils	4,000

Research has shown that people can freely eat foods that are 300 calories per pound or less and not gain weight. People can consume relatively large portions of foods that are between 300 and 800 calories per pound and still lose or maintain their weight depending on their individual activity levels and metabolism. The intake of foods with a calorie density of 800-1,800 should be limited as these can contribute to weight gain and interfere with efforts to lose weight. Additionally, the intake of foods over 1,800 calories per pound should be extremely limited as these foods can very easily contribute to weight gain and obesity and can also greatly interfere with efforts to lose weight.

The 2007 report from the American Cancer Institute and the World Cancer Research Fund recommended lowering the average calorie density of the American diet to 567 calories per pound. One can easily do this by following the above principles of calorie density, which allows us to eat freely of unrefined, unprocessed fruits, veggies, starchy veggies, intact whole grains and legumes without the addition of salt, sugar and/or fat/oil.

Summary

Calorie density really is a common-sense approach to sound nutrition and is the cornerstone of good health. It is the simplest way to lose and/or manage your weight for life. By following a few simple principles, you will increase the amount of food on your plate while decreasing your overall caloric intake, all without ever having to go hungry. At the same time, you will be optimizing your overall nutrient intake.

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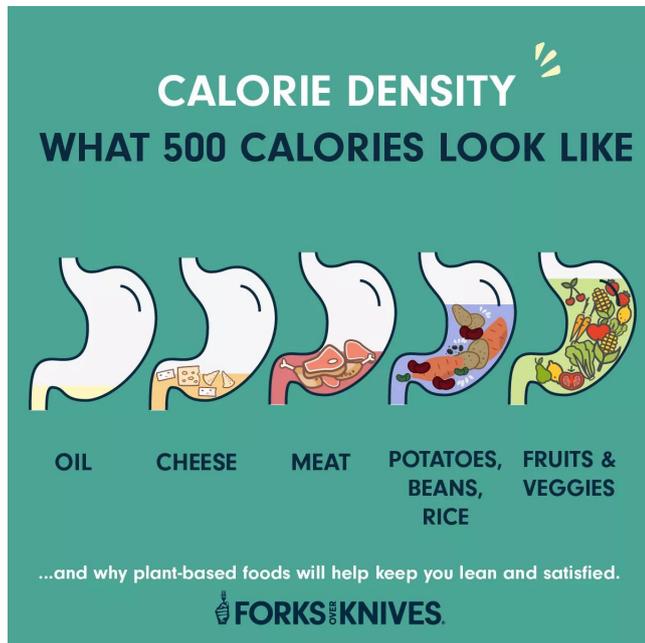
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