

# EAT MORE TO LOSE MORE

ENERGY DENSITY

EATING MORE AND LOSING WEIGHT SOUNDS LIKE AN IMPOSSIBLE FEAT, RIGHT? WRONG. THE CONCEPT OF ENERGY DENSITY HAS BEEN PROVEN TO HELP PEOPLE FEEL SATISFIED AND LOSE WEIGHT. READ ON TO LEARN MORE.

**FORGET THOSE DIETS** that reduce the volume of food so that you feel hungry all day long. Being creatures of habit, we all tend to eat roughly the same volume of food each day; however, switching to lower energy dense foods can be the key to satisfying our appetites and shrinking our waistlines.

## What is energy density?

Energy density (ED) is defined as the amount of energy stored in a given system or region of space per unit volume. In relation to food, ED simply means the number of kilojoules (calories) per gram of food. More importantly, foods with a lower ED provide fewer kilojoules per gram than foods with a higher ED.

## Low energy dense diets may help manage body weight

A high ED food provides lots of calories bite for bite. To give you an example, a single Tim Tam contains 405kJ (97kcal) – equating to around 30 calories per bite! Lower ED foods are less concentrated in energy, meaning you can eat more for fewer calories. For example, one cup of strawberries has just 138kJ (33kcal) which equates to only four calories per strawberry!

A recent study from the Nutrition Department at Pennsylvania University found that people who reduced the ED of their diet by reducing fat intake and increasing the intake of low ED foods – such as fruits and vegetables – lost more

weight. Another finding was that these people not only lost more weight, but were less hungry than people who decreased fat intake alone.

## What foods should you choose?

In deciding what to eat, aim for foods with an ED below 1.5. Foods with an ED between 1.5 and 2.0 are considered medium, while foods above 2.0 are high ED foods.

Try to pile up your plate with low to medium ED foods, such as fruits and vegetables, low fat dairy products, legumes, lentils, lean meats and eggs. Not only will these keep you slim, they can also truly rev up the nutritional quality of your diet because they are loaded with vitamins and minerals.

Interestingly, foods with higher water content and rich in fibre tend to have a lower ED. This is because water lowers the ED by contributing weight without adding calories. At the other end

## ENERGY DENSITY RATINGS

### LOW ED (1.5 or below)

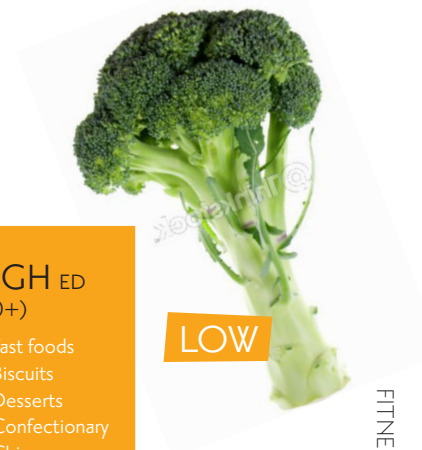
- ✦ Vegetables
- ✦ Fruits
- ✦ Legumes
- ✦ Lentils
- ✦ Brown rice
- ✦ Pasta

### MEDIUM ED (1.5 to 2.0)

- ✦ Lean meat
- ✦ Skinless chicken
- ✦ Fish
- ✦ Wholemeal bread
- ✦ Avocado

### HIGH ED (2.0+)

- ✦ Fast foods
- ✦ Biscuits
- ✦ Desserts
- ✦ Confectionary
- ✦ Chips
- ✦ Butter
- ✦ Oils





**FRESH, UNPROCESSED FOODS WITH HIGH FIBRE, HIGH WATER, HIGH NUTRIENT CONTENTS WILL TEND TO HAVE LOW ENERGY DENSITIES.**

of the ED spectrum, fat provides 37kJ/g (9kcal/g) – over twice the amount of carbohydrates and protein.

Foods with an energy density of less than 0.6 (e.g., some fruits and vegetable, such as broccoli, spinach, berries, apples) are very low ED and, therefore, can be eaten in abundance.

You don't need to calculate the ED of all the foods you eat. Just be aware that fresh, unprocessed foods with high fibre, high water, high nutrient contents will tend to have low energy densities, and choose these foods over processed, high fat foods to ensure you are on the right track.

### How do I calculate energy density?

Flip the product over and have a look at the nutritional information panel (NIP). You need to divide the number of calories (kcal) per serve by the serving size, so:

1. Firstly, look at the 'per serve' column.
2. Energy is often given in kJ. To convert to calories (kcal), divide by 4.18.
3. Once you have the number of calories (kcal) per serve, divide by the serving size in grams.

**Energy density** = kcal per serving / weight of serving (g)

So if you're wondering why a banana is a better choice than banana bread, look at the formula above.

A slice of banana bread (105g) has 346 calories, giving it an ED of  $346\text{kcal}/105\text{g} = 3$ . In contrast, a banana (170g) has just 99 calories and contains fibre, potassium and folate. The ED of the banana, therefore, is  $99\text{kcal}/170\text{g} = 0.6$ .

#### PUTTING IT INTO PRACTICE

How to lower the energy density of your diet

1. **Try to increase** the portions of vegetables in meals (e.g., bulk up pasta, rice and stirfry dishes with spinach, broccoli, carrots and mushrooms).
2. **Start dinner with** a vegetable-based soup or a green salad.
3. **Have fresh fruit** and chopped vegetables as snacks.
4. **Always choose** low fat dairy options and lean cuts of meat.
5. **Reduce intake** of crackers, cookies and chips.
6. **Consume foods** that have high fat contents (albeit 'good' fats) in moderation. These foods include nuts, dried fruit and olives.

### SWITCH THIS FOR THAT

<b>Café style muffin</b> (167g) - 491 kcal ED = 3	<b>Medium banana</b> (170g) - 99kcal ED = 0.6	<b>Half a cup strawberries</b> (75g) - 17kcal ED = 0.2
<b>1 cup regular pasta</b> (150g) - 210kcal ED = 1.4	<b>1/2 a cup wholemeal pasta and half a cup broccoli</b> 121kcal ED = 0.8	
<b>1 classic magnum ice cream</b> (91g) - 195cal ED = 2.1	<b>Low fat yoghurt</b> (100g) - 88kcal ED = 0.8	

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