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Metabolism and weight loss: How you burn calories

Find out how metabolism affects weight, the truth behind slow metabolism and how to burn more calories.

By Mayo Clinic Staff

You've probably heard people blame their weight on a slow metabolism, but what does that mean? Is metabolism really the culprit? And if so, is it possible to rev up your metabolism to burn more calories?

It's true that metabolism is linked to weight. But contrary to common belief, a slow metabolism is rarely the cause of excess weight gain. Although your metabolism influences your body's basic energy needs, it's your food and beverage intake and your physical activity that ultimately determine how much you weigh.

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Metabolism: Converting food into energy

Metabolism is the process by which your body converts what you eat and drink into energy. During this complex biochemical process, calories in food and beverages are combined with oxygen to release the energy your body needs to function.

Even when you're at rest, your body needs energy for all its "hidden" functions, such as breathing, circulating blood, adjusting hormone levels, and growing and repairing cells.

The number of calories your body uses to carry out these basic functions is known as your basal metabolic rate — what you might call metabolism. Several factors determine your individual basal metabolic rate, including:

- Your body size and composition. The bodies of people who are larger or have more muscle burn more calories, even at rest.
- Your sex. Men usually have less body fat and more muscle than do women of the same age and weight, burning more calories.
- Your age. As you get older, the amount of muscle tends to

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decrease and fat accounts for more of your weight, slowing down calorie burning.

Energy needs for your body's basic functions stay fairly consistent and aren't easily changed. Your basal metabolic rate accounts for about 70 percent of the calories you burn every day.

In addition to your basal metabolic rate, two other factors determine how many calories your body burns each day:

- Food processing (thermogenesis). Digesting, absorbing, transporting and storing the food you consume also takes calories. This accounts for 100 to 800 of the calories used each day. For the most part, your body's energy requirement to process food stays relatively steady and isn't easily changed.
- Physical activity. Physical activity and exercise such as
 playing tennis, walking to the store, chasing after the dog and
 any other movement account for the rest of the calories
 your body burns up each day. Physical activity is by far the
 most variable of the factors that determine how many calories
 you burn each day.

Metabolism and weight

It may be tempting to blame your metabolism for weight gain. But because metabolism is a natural process, your body has many mechanisms that regulate it to meet your individual needs. Only in rare cases do you get excessive weight gain from a medical problem that slows metabolism, such as Cushing's syndrome or having an underactive thyroid gland (hypothyroidism).

Unfortunately, weight gain is complicated. It is likely a combination of genetic makeup, hormonal controls, diet composition, and the impact of environment on your lifestyle, including sleep, physical activity and stress. All of these factors result in an imbalance in the energy equation. You gain weight when you eat more calories than you burn — or burn fewer calories than you eat.

While it is true that some people seem to be able to lose weight more quickly and more easily than others, everyone will lose weight when they burn up more calories than they eat. Therefore, to lose weight, you need to create an energy deficit by eating fewer calories or increasing the number of calories you burn through physical activity or both.

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