Balance Food and Activity

What is Energy Balance?

Energy is another word for "calories." Your energy balance is the balance of calories consumed through eating and drinking compared to calories burned through physical activity. What you eat and drink is ENERGY IN. What you burn through physical activity is ENERGY OUT.

You burn a certain number of calories just by breathing air and digesting food. You also burn a certain number of calories (ENERGY OUT) through your daily routine. For example, children burn calories just being students—walking to their lockers, carrying books, etc.—and adults burn calories walking to the bus stop, going shopping, etc. A chart of estimated calorie requirements for children and adults is available at the link below; this chart can help you maintain a healthy calorie balance.

An important part of maintaining energy balance is the amount of ENERGY OUT (physical activity) that you do. People who are more physically active burn more calories than those who are not as physically active.

The same amount of ENERGY IN (calories consumed) and ENERGY OUT (calories burned) over time = weight stays the same

More IN than OUT over time = weight gain
More OUT than IN over time = weight loss

Your ENERGY IN and OUT don't have to balance every day. It's having a balance over time that will help you stay at a healthy weight for the long term. Children need to balance their energy, too, but they’re also growing and that should be considered as well. Energy balance in children happens when the amount of ENERGY IN and ENERGY OUT supports natural growth without promoting excess weight gain.

That’s why you should take a look at the Estimated Calorie Requirement chart, to get a sense of how many calories (ENERGY IN) you and your family need on a daily basis.

Estimated Calorie Requirements

This calorie requirement chart presents estimated amounts of calories needed to maintain energy balance (and a healthy body weight) for various gender and age groups at three different levels of physical activity. The estimates are rounded to the nearest 200 calories and were determined using an equation from the Institute of Medicine (IOM).

Source: HHS/USDA Dietary Guidelines for Americans: 2005

a. These levels are based on Estimated Energy Requirements (EER) from the IOM Dietary Reference Intakes macronutrients report, 2002, calculated by gender, age, and activity level for reference-sized individuals. "Reference size," as determined by IOM, is based on median height and weight for ages up to age 18 years of age and median height and weight for that height to give a BMI of 21.5 for adult females and 22.5 for adult males.

b. Sedentary means a lifestyle that includes only the light physical activity associated with typical day-to-day life.

c. Moderately active means a lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

d. Active means a lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

e. The calorie ranges shown are to accommodate needs of different ages within the group. For children and adolescents, more calories are needed at older ages. For adults, fewer calories are needed at older ages.
Energy Balance in Real Life

Think of it as balancing your "lifestyle budget." For example, if you know you and your family will be going to a party and may eat more high-calorie foods than normal, then you may wish to eat fewer calories for a few days before so that it balances out. Or, you can increase your physical activity level for the few days before or after the party, so that you can burn off the extra energy.

The same applies to your kids. If they'll be going to a birthday party and eating cake and ice cream—or other foods high in fat and added sugar—help them balance their calories the day before and/or after by providing ways for them to be more physically active.

Here's another way of looking at energy balance in real life.

Eating just **150 calories more a day** than you burn can lead to an **extra 5 pounds** over **6 months**. That's a **gain of 10 pounds a year**. If you don't want this weight gain to happen, or you want to lose the extra weight, you can either reduce your ENERGY IN or increase your ENERGY OUT. Doing both is the best way to achieve and maintain a healthy body weight.

- Here are some ways to **cut** 150 calories (ENERGY IN):
  - Drink water instead of a 12-ounce regular soda
  - Order a small serving of French fries instead of a medium, or order a salad with dressing on the side instead
  - Eat an egg-white omelet (with three eggs), instead of whole eggs
  - Use tuna canned in water (6-ounce can), instead of oil
- Here are some ways to **burn** 150 calories (ENERGY OUT), **in just 30 minutes** (for a 150 pound person):
  - Shoot hoops
  - Walk two miles
  - Do yard work (gardening, raking leaves, etc.)
  - Go for a bike ride
  - Dance with your family or friends

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**Estimated Calorie Requirements (in kilocalories) for Each Gender and Age Group at Three Levels of Physical Activity.**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age (years)</th>
<th>Activity Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sedentary</td>
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<tr>
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<tr>
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<tr>
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<td>9-13</td>
<td>1,600</td>
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<tr>
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<td>14-18</td>
<td>1,800</td>
</tr>
<tr>
<td>Female</td>
<td>19-30</td>
<td>2,000</td>
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<tr>
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<tr>
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<tr>
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<td>2,200</td>
</tr>
<tr>
<td>Male</td>
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<td>2,000</td>
</tr>
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</table>

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