

Understanding Calories and Exercise

What exactly is a calorie and how do you figure out how many calories you burn with exercise?

A calorie is actually a measure of heat or energy. This energy is contained within the chemical bonds of food and in substances which the body stores as fuel (glycogen and body fat). During activity, these substances are degraded in a series of reactions which releases the energy and transforms it into kinetic movement and heat.

Our concern with calories stems from the fact that, over time, excess food energy is stored as body fat. Physical activity, especially exercise, uses stored energy and can help reduce storage fat.

The rate at which calories are burned during exercise depends on intensity and body size. Higher intensity activities, such as running, will result in greater calorie expenditures than lower intensity activities such as walking. In addition, a 200 lb. individual will burn more calories doing the same activity than a 130 lb. person. (Of course, this does not mean that everyone should take up higher intensity exercise activities. You must still consider age, fitness level and medical history).

Once the intensity level of an activity is known, it is simple to calculate the calorie expenditure for a person of any given weight. Standard formulae have been developed to calculate intensities for popular forms of exercise such as walking, running, cycling, etc. These formulae are programmed into the displays of exercise equipment that give calorie readouts.

Keep in mind that any calorie reading from a machine is an estimate, especially if you are not asked to enter your weight before starting to exercise. If you do not enter your weight, the calories burned display is calculated using a set weight.

Also beware of equipment ads that claim very high levels of caloric expenditure. The average exerciser usually cannot achieve those numbers. One nationally-advertised treadmill promises to burn "up to 1000 calories per hour." However, the person shown is about a 130 lb female working at a low level of effort that is probably only burning about 200-300 calories per hour!

Should you have a weekly goal for calories burned? To lose one pound of fat, you must incur a deficit of 3500 calories (combination of restricting intake and exercise). The mortality studies performed using Harvard alumni have indicated that a weekly caloric expenditure of 1500-2000 calories is best for longevity. Another recommended goal is to burn 300-500 calories per workout. Also keep in mind that if you are exercising at a low to moderate intensity, such as a walking program, you will see better results if you increase the duration of your workouts into the 40-60 minute range.