

## Pedometers: An Easy Way to Count Your Steps

Research shows that the pedometer—a small and typically inexpensive device that counts steps—is an excellent motivational tool for physical activity. They are easy to use and can be used by almost anyone. Because pedometers are small devices, they can be worn throughout the day without being obtrusive. In fact, considering all of the beepers and cell phones you see hanging from people’s waistbands, a pedometer might go completely unnoticed, even if you’re dressed for a meeting or more formal occasion.

### How Do Pedometers Work?

Most pedometers today are electronic. A pedometer has an internal, horizontal spring-suspended lever arm (pendulum) that moves up and down with normal walking movements. With each movement, an electrical circuit closes, and a “step” or electrical event is recorded. Thus, when the foot hits the ground, it produces an impulse that transfers to the pedometer case.

### How Should a Pedometer Be Worn?

You can wear a pedometer in a variety of places, although some sites are more reliable than others. Recommendations for the most accurate readings are usually to wear the pedometer clipped to the waistband or belt, over the center of the leg (above the midline of the thigh); for standardized purposes, it is suggested that you always wear the pedometer over your dominant foot (i.e., typically the right foot for those who are right-handed and the left foot for those who are left handed).

It is important that the pedometer remain snug to keep it from bouncing around and recording non-step movements. Some experts suggest adding an extra safety “leash” or

string fastened to the pedometer’s waist clip and pinned to or looped through a belt loop to keep it in place and to prevent it from falling off or going down a toilet. The pedometer needs to be worn as close to the hip bone as possible for the most accurate results. It must also remain vertical for accurate readings. If the stomach protrudes and causes the pedometer to angle, it is best to wear the pedometer slightly below the waist.

### How Much Do Pedometers Cost?

Some pedometers are simple, inexpensive devices that only count your steps. In fact, you can purchase a basic pedometer for less than \$10. Other pedometers have features such as calculations for calories burned and distance traveled. There are even pedometers that use Global Positioning Service (GPS) satellite tracking to calculate steps taken and distance traveled, along with other features. Some pedometer models connect to your computer to upload data from your exercise workout. Of course, the latter models mentioned will cost considerably more money, but they may be attractive options for those who find these features create even more motivation than steps counted. Note, however, that some of these additional features will have larger margins for error than the step counter.

### What Should I Look for in the Features of a Pedometer?

**Accuracy.** The most important consideration when buying a pedometer is accuracy. You want a pedometer that counts your steps as accurately as possible. The simplest pedometer that accurately counts steps is the only essential feature in a pedometer. Researchers have reported that no pedometer (of those studied) exceeded 5 percent error

(i.e., 5 steps out of 100). You can probably expect a similar error rate when validating the accuracy of your own pedometer. So, try it out; if you find it is more than 5 percent inaccurate (i.e., inaccurate over 5 steps per 100 steps taken), return it and try another make or model. (Note that most pedometers studied have been shown to be more accurate if you walk about 3.5 mph rather than more slowly at 2.5 mph.)

**Comfort.** Second to accuracy, you will want to consider comfort. If you only plan to wear the pedometer during scheduled physical activity, comfort will not be as important. But if you plan to wear the pedometer all day, comfort will be an essential component.

**Other Features.** Choosing other features is dependent on your personal preferences. You might want to choose other features if they help to motivate you or keep your interest in continued physical activities. Remember that features such as calories burned and distances covered are estimates (based on individual factors input into the device) and have a larger margin of error than steps counted.

### **Where Can I Buy a Pedometer?**

Pedometers can be found in most sporting goods stores or can be bought directly from the manufacturer. As pedometers become more popular in your area, you may find them in other local multi-purpose stores as well (check the sporting goods departments). Additionally, many health and physical activity promotion programs give pedometers as prizes, rewards, or motivators.

### **Pedometers and Other Types of Physical Activity**

Obviously, a pedometer won't work if your sport of choice is swimming, since you can't immerse a pedometer in water. But what

about other forms of physical activity? Pedometers work for runners. Keep in mind that a pedometer does not measure intensity, but steps are counted just the same. Cycling is another possibility, but some say pedometers don't work because they can't register impact from the foot. Some recommend that if attaching the pedometer to the hip doesn't count your pedaling, attach the pedometer to your shoe. Wearing the pedometer on the shoe is also an option for those who find that it doesn't record steps consistently when worn on the waistband, perhaps because of a high waist.

We recommend trying the pedometer with other activities to see how accurate it is at counting your movements. Then adjust the numbers as needed to represent your true amount of movement or number of steps. For example, if you want to play tennis, soccer, or basketball, put the pedometer on at the hip and play a short while counting your actual steps; then look at the pedometer to see if it recorded the steps or movements that you counted. Try this several times to see if it is accurate, underestimating, or overestimating. Then adjust the numbers accordingly—if the pedometer seems to underestimate by about 10 percent, add the steps to your log book; if it overestimates, subtract steps. If it is within 2–5 percent, it is probably fairly accurate as many pedometers will be off by 2–5 percent even when counting steps walked. If the pedometer does not register movements for your chosen activity, try placing it on the shoe to see if this makes a difference.

Although the pedometer may not be completely accurate with activities other than walking and running, you may still be able to record enough information to know whether or not you are increasing your activity level.

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