How do Pedometers Work?

THE BASICS

Pedometers use a Magnetic Pendulum to track how many steps you take as you walk or run. The pendulum is designed so that it swings past a magnetic field with each step you take, recording the step electronically. Most pedometers work only when attached to your belt or waistband.

WHAT THEY DO

All pedometers need to register each step you take. The pedometer then takes this step data and translates it into various pieces of information (depending on its features and functions) that will be useful to you. The most basic models only count steps. These models are preferred by people who want simplicity and ease-of-use. Other models will take basic step data and use their built-in computers to calculate other important information such as distance (miles and/or kilometers), calorie burn, average speed and more. Since it is basically impossible to keep mental track of how many steps a person walks in an average day, a pedometer becomes the only way to record such information.

HOW THEY WORK

A pedometer can sense the vibrations of the feet hitting the pavement or the movement of your hips, and use this to move the counter forward. The movement opens and closes an electrical circuit, and as the lever arm makes contact, a step is registered. Simply shaking the pedometer will get you the same result, even if you don't move, which shows how the device works.

WHERE THEY SHOULD BE WORN

To be able to measure correctly, a pedometer should be worn straight and vertically (in a line straight up from the middle of your knee), preferably attached to your belt. This will help the device identify the movements correctly and keep accurate track of how many steps you take. Wearing the pedometer correctly also improves its performance. Despite what many companies would like to believe, none of the pedometers currently in the market can measure accurately if placed in a pocket or your backpack.

WHAT ACTIVITIES ARE THEY GOOD FOR

Pedometers work when you dance, climb stairs, or walk outdoors or on a treadmill, but they do not work if you're biking, skiing, rowing, or swimming.

ARE THEY ACCURATE

Set your pedometer to zero, and then walk and count off 20 steps to determine if your
pedometer is accurate. Remember that it's accurate if the error is within 10% of

your
count (19-21 steps if you walk 20 steps). Move the pedometer forward or backward on your waist or even switch sides and walk another 20 steps if the error is more than 10%. Repeat these trials until you find the right position.

ARE THEY ACCURATE FOR MEASURING DISTANCE & CALORIES

Pedometers don't measure distance or calories burned accurately. They can be off by as much as 10% with distance and 30% with calories, which means the error could be half a mile if you walk five miles and 150 calories if you burn 500. They tend to overestimate distance at slower speeds, underestimate distance at faster speeds, and they're simply not sensitive or smart enough to detect and factor in all the variables that determine how many calories you burn when you exercise.

HOW MANY STEPS SHOULD I TAKE

Experts recommend taking around 10,000 steps per day to improve physical fitness.

HOW FAR AM I WALKING & HOW MANY STEPS IN A MILE

Figure 1,900-2,600 steps per mile depending on your stride length. Stride length is
dependent on (1) your leg length, and (2) how fast you're moving. It's longer when you jog or run, compared with walking, which means your step count will be different for the same distance depending on your mode of activity. For example, it could take 2,400 steps to walk a mile and 2,100 steps to jog it. Likewise, you will take more steps walking uphill than when walking flat and so you need to consider that when assessing your activity level with a pedometer.

HOW DO I INCREASE MY DAILY STEPS

Looking for ideas to increase your steps? My guess is that if you scanned your week, you would find times and opportunities when you could walk a little more.

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