

## pedometer power

Pedometers are the new fitness toys; people everywhere are clipping them on to measure their steps. They can be very useful for motivating you to work out and to track your exercise success. Understanding how they work will help you program them to be more accurate.

### How Do They Work?

**1**

Pedometers are motion sensors that measure steps. Usually a lever arm suspended from a spring moves up and down with the motion of walking or running. The arm works like a pendulum. An electric circuit closes after each movement and records the step on a digital readout. Most electronic pedometers ask you to input an average step length to aid accuracy.

### How Well Do They Work?

**2**

- Electronic pedometers are more accurate than older analog models.
- Many pedometers appear to be most accurate at 80 meters per minute or about 3 miles per hour (mph) (actually 2.98 mph). Normal walking speed for most people is between 2 mph and 4.5 mph.
- Whether a pedometer is worn on the left or right side does not appear to affect accuracy, but excess fat at the waist may create inaccuracy.
- The slower the walking speed, the more inaccurate the step count will be. Also, stride length may be shorter than what is programmed into the pedometer. For frail or shuffling walkers, pedometers are probably ineffective for measuring steps.
- Distance and caloric expenditure are estimated from the step data, using manufacturers' proprietary formulas.

Some pedometers are more accurate than others. Generally, distance is less accurate than step count. Caloric expenditure is the least accurate measurement.

### Increasing Accuracy

**3**

To ensure that your pedometer provides accurate data, clip it to your waistband or belt and make sure the pedometer is straight. If it tilts, it becomes inaccurate. It should sit at the midline of the thigh, or about 4 to 5 inches away from the belly button. A pedometer won't work in a pocket because the device can't stay vertical.

For accuracy, adjust the stride length programmed into the pedometer. When measuring your stride length, walk using a normal range of motion. Try using water to measure your footprints. Outside on concrete, pour water into a puddle and splash around to get the bottoms of your shoes wet. Then measure your wet footprints from left heel strike to right heel strike. If you measure in inches, divide by 12 to get the number of feet. Or, measure a 10- or 20-foot distance and walk it several times, counting steps, to get the average number of steps for the distance. Divide distance by steps to calculate stride length. ■

### SOURCES

- Digi-Walker Pedometer website, [www.store.yahoo.com/n-e-wlifestyles](http://www.store.yahoo.com/n-e-wlifestyles); accessed November 2003.
- Pedometer Walking*, Robert Sweetgall, Creative Walking Inc., 2001.
- "Taking Steps Toward Increased Physical Activity: Using Pedometers to Measure and Motivate," *Research Digest*, President's Council on Physical Fitness and Sports, June 2002.
- "Validity of 10 Electronic Pedometers for Measuring Steps, Distance and Energy Cost," *Medicine & Science in Sports & Exercise*, August 2003.

## pedometer walking programs

Pedometers are great fitness tools, but sometimes their novelty wears off! To stay motivated, follow a program that logs steps, distance and time. Try using one of these interactive programs:

**CORNERSTONE FITNESS 10,000 STEPS-A-DAY**, [www.cornerstonefitness.com/10000Steps.html](http://www.cornerstonefitness.com/10000Steps.html). Join this 8-week program and receive a pedometer, access to the website for logging and coaching tips, exercises, a T-shirt and a weekly newsletter.

**CREATIVE WALKING INC.**, [www.creativewalking.com](http://www.creativewalking.com). Receive a book, a 52-week log and a pedometer. The school program incorporates pedometers, logs, a "Walk Across America" theme, a staff wellness program and family activities.

**HEALTHPARTNERS' 10,000 STEPS PROGRAM**, [www.10k-steps.com](http://www.10k-steps.com). Track steps taken in everyday activities such as shopping or walking to the office. Includes pedometer and a secure, personal online log.

**STEPTRACKER.COM**, [www.steptracker.com](http://www.steptracker.com). Track and chart steps with this online database. Compete with others, create a club or join existing clubs.

**WALK OFF THE WEIGHT**, [www.walkofftheweight.com](http://www.walkofftheweight.com). Join this program and gain access to an online log, personalized walking programs and fitness calculators.

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[www.3-fitness.com](http://www.3-fitness.com)  
coachken@3-fitness.com

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