What are pedometers and how do they work?

Pedometers are simple and inexpensive gadgets ($10-30) that you wear attached to your clothing at your waist. They have an internal lever mechanism that detects the up-and-down movement at the hip while walking and translates this to steps taken. They are considered by researchers to be acceptably accurate for assessing typical walking behaviors and they also have the potential to be used as motivational devices. Small errors due to missed steps during slow walking or extra steps during bending or fidgeting are considered to be small and unimportant in the context of daily movement.

How many steps/day do people typically take?

We are now becoming acquainted with how many steps different groups of people typically take. We can expect children to take 12,000 and 16,000 steps/day and healthy younger adults take 7,000-13,000 steps/day. Healthy older adults typically take 6,000-

8,500 steps/day and those living with chronic illnesses or with disabilities take 3,500-5,500 steps/day.

How many steps/day should I take?

This is a burning question. The media are quickly promoting "10,000 steps/day" which can be traced to a business catchphrase originally used to promote the sale of pedometers in the 60's in Japan. The science behind that level is not well established yet, however. We do know that it is definitely too low for children and is likely a difficult target for more sedentary folks to achieve, let alone sustain.

A more realistic approach that accommodates the public health recommendations is to find out how many steps/day you are taking now and gradually increase it by an amount that is equivalent to 30-60 minutes of brisk walking as per public health recommendations. For example, depending on walking speed, people will take approximately 1000 steps in 10 minutes. You can personalize this even more by determining exactly how many steps you take in 10 minutes while wearing your pedometer. Then just multiply this number by 3-6 to find out how much you might want to increase your daily walking, depending of course on your personal schedule and goals.

How do I find out how many steps/day I take?

Wear a pedometer for a full week without altering your usual activity. This is important so you can get a real Baseline that you can later work on increasing if you like. During this first week take special note of what you do differently on days when your steps/day are highest and lowest. For example, you might discover that the days when you go shopping, walking at the beach, or to the park with your child are higher than the days you stay at home or travel long distances in the car. You will find this information useful when you subsequently try to maximize your steps/day.

How do I work on increasing my steps/day?

Once you have a goal number of steps/day (your Baseline plus the amount you want to increase by) focus on working towards this goal one day at a time. Look at your pedometer frequently throughout the day to find out where you are and what you need to do to meet your day end goal. Pay attention to what behaviors you practice that elicit the most number of steps and repeat these as often as you can. For example, parking farther away from stores might seem to produce relatively few extra steps, but the more you practice this behavior the more the steps will add up.

Is there a single best strategy?

Include others. Social support is perhaps one of the best strategies for increasing your steps/day. Show family members your pedometer and get them interested in increasing their own walking behaviors. Schedule walks with your friends. Get your co-workers involved in going for a walk at lunch hour. Phone someone and ask them how their walking is going. Take your dog for the walk he deserves. Not only will you benefit from the support you derive but you will also be passing the gift of wellness onto others.

Ways to Encourage Use of Pedometers

Pass the Pedometer: Have youth take turns using the same pedometers and comparing, seeing how many steps they take around the block compared to another.

Errands with a Pedometer: Have youth wear the pedometer and run a few errands. Have him estimate how many steps he will "earn" on the errands. Compare his estimate with actual.

Family of Friend Dance Night: Let's have a contest to see who gets the most steps on the dance floor. Youth love this one.

Scavenger Hunt: Hind items, give directions to find them by steps and NSEW.

Per Chore Time: Youth will have 2000 steps of chores to do. What chores equal how many steps. Good way to negotiate chores.

Start Up A Program

1. Help youth understand pedometers.
2. Help youth set a goal for use of pedometers.
3. Be a role model.
4. Give ideas for use of pedometers.
5. Generate some activities for your club with the pedometer.
6. Help them learn how much energy is needed to burn off the calories.

Table 1. The energy expenditure of some common physical activities. A sample calculation is made for a 90 kg (198 lb) individual with a resting energy expenditure of 1 kcal/kg/hr.

Activity	Intensity	METs	Kcal/hr (sample calculation)
Reclining, reading		1.0	90
Sitting, card playing		1.5	135
Sitting, studying		1.8	162
Standing in line		2.0	180
House cleaning		2.5	225
Scrubbing floors		5.5	495
Mowing lawn	Walking/power mower	4.5	405
Raking lawn		4.0	360
Stacking wood		5.0	450
Chopping wood		6.0	540
Carpentry		3.0	270
Sawing hardwood		7.5	675
Roofing		6.0	540
Driving farm tractor		2.5	225
Shoveling grain		5.5	495
Bicycling	<10 mph	4.0	360
Bicycling	12-14 mph	8.0	720
Bicycling	16-19 mph	12.0	1080
Stationary cycling	100 w (light)	5.5	495
Stationary cycling	150 w (moderate)	7.0	630
Stationary cycling	200 w (vigorous)	10.5	945
Walking	Moderate speed	4.0	360
Walking	vigorous	5.0	450
Water aerobics		4.0	360
Aerobics	Low impact	5.0	450
Aerobics	High impact Moderate	7.0	630
Rowing, stationary		7.0	630
Stair-treadmill		5.5	495
Ski machine	Moderate	9.5	855