

Using Pedometers to Measure Physical Activity

Increasing Physical Activity to Improve Cardiovascular Fitness Using a Pedometer

Tag words: Pedometer, Weight loss, Tracking, Physical Activity, Walking

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Summary

The sedentary lifestyle of Americans is a growing problem. A sedentary lifestyle can lead to obesity and other chronic diseases such as hypertension and diabetes.. Current estimates in the US state that almost $\frac{1}{3}$ of adults are obese, while another third is considered overweight (Stipanuk). In the state of New Jersey, 1 in 4 are obese. One way to negate sedentary behaviors is to increase levels of physical activity. Many do not know how much activity they are doing nor do they know how much they should do. With the use of pedometers, one can find out how much walking they do, and through that, correlate to how much overall physical activity they engage in. For our service project, we asked various Rutgers staff and students to participate in a pedometer tracking program. The goal of our project is to get participants to buy the pedometers, which is the first step in gaining a more physically active lifestyle. Many do not know their activity level, and having a pedometer helps this. After the program, we provide participants with their results and tips on improving their activity levels.

Video Link

Pedometers: <http://www.youtube.com/watch?v=yUvZ9XjSaCk>

The Issue: Measuring Physical Activity

What is Physical Activity? (MH)

Physical activity is defined by the USDA as movement of the body that uses energy. For health benefits, physical activity should be moderate or vigorous and add up to at least 30 minutes a day in at least 10 minute increments. Moderate physical activities include walking briskly, dancing, and even gardening. Some vigorous physical activities are basketball, swimming, and running.

The benefits of physical activity are boundless. There are improvements in self-esteem, feelings of well-being, increased fitness levels, maintenance of bones, muscles and joints, higher endurance and strength, weight management, and a lower risk of many of the common health problems that are increasingly becoming more prominent in not only the US, but the world.

There are many health risks associated with lack of physical activity. According to a study carried out by the University of Hong Kong (Blair), 20% of all deaths of adults 35 and older were attributed to a lack of physical activity. Looking at specific diseases, we can see how much physical inactivity can have an effect. The risk of death from cancer increased 45% due to physical inactivity. The risk of dying from heart disease increased 52%. The risk of dying from respiratory ailments was almost doubled from a lack of exercise, increasing 92%. These numbers show the importance of exercise.

Long periods of physical inactivity can lead to many diseases and negative effects on the body.

Some of the major risks involved in a sedentary lifestyle include metabolic disorders, cardiovascular diseases, psychological disorders, and cancer. Regular physical activity is important because it increases your fitness level and your capacity for exercise. One of the main risks of physical inactivity is coronary artery disease (CAD). This disease is characterized by deposits of fat, cholesterol, and calcium in the inner lining of arteries that supply blood to the heart muscle. This can easily lead to death. By exercising, CAD and many other risk factors can be reduced. Aerobic activities done regularly can lower blood pressure. Physical activity can also reduce the chances of one developing diabetes and decrease insulin requirements for those who have already developed diabetes. Exercise can even help people psychologically. It can reduce feelings of depression and anxiety, improve mood, and promote a sense of well-being. Overall, the more you use the body, the healthier you become.

Many people believe that in order to live a healthy life, you have to go to the gym four or five times a week. Of course, the majority of the population does not have the time to do this. This is one of the main reasons that physical inactivity is so prevalent in the world today. Starting a healthy life intimidates many people. They think that since it is difficult to maintain a fit lifestyle, they never actually begin.

A simple way to combat this is done by one of the easiest things that man can do: walk. All one needs is a pair of rubber shoes, and some motivation. Simply adding more walking to everyday life can provide many the healthy lifestyles that they are looking for. Walking reduces your blood pressure and improves your cardiovascular functions. It helps build muscle strength and increases your endurance, which is useful in everyday life. Also, it is much less likely to get injured while walking than other exercises at the gym. As long as it is not done excessively, walking can even help maintain healthy bones and joints. Regular walking also increases your

overall health by boosting your circulation, and keeping your energy level up. Simply walking can improve many aspects of life. It can lower LDL (bad cholesterol) while increasing HDL (good cholesterol). Walking can lower your blood pressure, manage your weight, and reduce the risk of type 2 diabetes. If one is stressed by work or other worries, then walking can be the answer. It can relieve your stress, and the less stress is put on the body, the better it ages.

Probably one of the best advantages of walking is that it will give people the energy to spend more time with their family and friends, ultimately leading to a happier life.

Sedentary Lifestyle of Americans (LR)

A lack of physical activity, or physical inactivity, comes from the sedentary lifestyle most Americans lead. According to the Bureau of Labor Statistics (BLS), 5 hours per day for the average adult is used for leisure and sport activities in 2009. Of those 5 hours, only 19 minutes are spent participating in sports, exercise, or recreational activities, whereas 2.8 hours are spent watching television. Already the 19 minutes do not meet the ACSM Guidelines for physical activity of 30 minutes per day. The BLS also found that young adults ages 15-19 spend 42 minutes per day participating in physical activity and the older population 75 years of age and older spend only 12 minutes. Therefore we can conclude that physical inactivity and sedentary lifestyle increase with age.

The most popular reasons why adults do not exercise include lack of time, lack of effort, lack of motivation, low income, cost of programs, advancing age, and inexperience. Strong evidence states that 50% of people who begin an exercise program will quit within the first 6 months and this has held true for the past 30 years (Heyward). Another factor supporting lack of physical activity is school budget cuts. Physical education classes are one of the first classes to be cut and with further budget cuts, the recreational activity during recess is also reduced. The last factor of physical inactivity can be concluded from technological advancements. The amount of time watching television has increased but so has time spent surfing the Internet and playing video games. We can conclude that most Americans are not meeting the recommended guidelines for physical activity and are leading more sedentary lifestyles.

What is a pedometer? (LR)

A pedometer is a device that tracks the number of steps taken by detecting the motion of a person's hips. This device can be worn on your wrist, hip, or in your pocket. Usually worn on the hip, pedometers are lightweight and easily attachable to such as a belt. Pedometers come in all designs and shapes. Pedometers should be small, discernible, and durable. Since pedometers are worn during leg movements, the pedometer should stay in place and durable in case it falls off. Popular brands of pedometers include Omron and Gaiam. Hip pedometers were an exercise fad in the 1980s with the tag line "Walk Your Way Thin" with 10,000 steps.

There are many types and styles of pedometers. Other than its simplest function, to count steps, pedometers can have other capabilities too. Some pedometers have the ability to track heart rate. Some pedometers can also count calories expended during movements. Some pedometers can double as accelerometer, a device that measures the amount of force being exerted on the object in motion or expected motion, otherwise known as sitting. Another variation is how you wear the pedometer. I prefer wearing my pedometer on my hip since the location of the step counter makes sense to me. However, sometimes the pedometer at the hip can cause discomfort.

Pedometer worn at the wrist can feel like a watch so its location is not uncomfortable. I question the validity of a pedometer worn at the pocket since it may be too sensitive to movement and may not give an accurate reading of step calculations. We must remember that a pedometer's basic function is to track of the number of steps you take when walking, running, or participating in physical activity.

Anyone can use a pedometer. Whether the motivation to use the device was either curiosity or a jump start to an exercise program, the outcome is increased physical activity levels. The pedometer is a simple device so the settings are easy to understand. After setting the device, attach the pedometer to your belt clip. Make sure that the pedometer is straight vertically. If not, the alignment is off and so will be the tracking system in the pedometer. Some pedometers, such as Omron pedometers, have a 7 day memory for tracking steps and an automatic reset function at midnight to begin a new day. The simple directions make using a pedometer easy and easy to understand, regardless of age and current physical activity level. Since children are more physically active because of their lifestyle, children may benefit from the use of pedometers to monitor whether they meet ACSM guidelines for physical activity. For example, parents can monitor whether physical education programs or after school sport programs engage their child in appropriate levels of physical activity.

Adults can benefit from the use of pedometers as well. Since adults lead more inactive lifestyles and sedentary behaviors, pedometers can provide daily feedback to monitor daily physical activity outcomes. Pedometers can also benefit the obese population. Pedometers can be an effective tool to start an exercise program to achieve short term goals. The elderly population can benefit from the use of pedometers as well. General movement is essential for well-being for the elderly population. Walking can increase quality of life for the elderly in terms of activities of daily living. Pedometers can benefit everyone because of its simplicity. A recent study by Shaw, Fenwick, Baker, et. al. states that pedometers are indeed cost effective and suitable to use in the community. Walking interventions using the pedometer are effective for short term goals. The small device can impact the community for monitoring physical activity.

According to Tudor-Locke, the average American person takes 5,600 to 6,900 steps per day. A simpler way to measure pedometer based activity without calculating intensity is by the number of steps taken using turning points. Sedentary lifestyle is defined as taking less than 5,000 steps/day. Low active lifestyle is defined as taking 5,000 to 7,499 steps per day. Somewhat active lifestyle is defined as taking 7,500 to 9,999 steps per day. An active lifestyle is defined as taking 10,000 to 12,499 steps per day. A highly active lifestyle is defined as taking greater than 12,500 steps per day. These simple turning point numbers can serve as a guideline to measuring how many steps a person should take. To make your pedometer step reading more accurate for goal setting, you can correlate your steps with miles, an SPM baseline. Just walk an accurate one mile, such as walking four times around a track, and divide that number from the number of steps you walked for a day to get how many miles you have walked. An estimate of steps per mile is 2,000 steps. Therefore 10,000 steps is equal to 5 miles.

Pedometers are beneficial to achieve short term goals. Just walking is not sufficient for weight loss goals because the pedometer does not track intensity of physical activity. Weight loss goals are long term and are best achieved with moderate to high intensity physical activity and

exercise. However, pedometer based physical activity can create modest changes in cardiovascular health such as improved blood pressure. Pedometers and other step counters are useful tools that can be used for screening, prescription, monitoring, feedback, and evaluation purposes.

Pedometers and their relation to physical activity. (FJ)

How can wearing a pedometer help one keep up and follow the guidelines for physical activity? It is hard to believe that such a small device can help in making people more physically active. It does nothing more than count one's steps. What many do not realize is that there is a lot more to this device than just counting steps. There are plenty of methods and studies in which using a pedometer have helped.

Studies have shown that when interventions are done in an attempt to increase physical activity, it starts with behavior change. Those that are ready for change are more likely to change. Using goal setting and knowing the benefits of physical activity help in increasing activity in people. With having a pedometer on, there is increased awareness of how much activity one did. One participant in a pedometer study stated that "It caused you to stop and think about how much activity you have done today." (Gardner). This helps alleviate the issue that many are unaware of how much activity that the guidelines ask for.

By having the pedometer on as well, participants can use it as a tool for motivation. Participants in a study described checking their pedometers both during the day and at night to see if the steps were at a number that they wanted to be at. This in turn caused them to want to take a walk and just move in general in order to increase the number of steps to where they want it to be. Without pedometers, this ability to track activity is impossible (Gardner). A study showed that a group that was given pedometers and was able to record the number of steps had a significant increase in their number of steps per day after 6 and 12 weeks as apposed to the group that wasn't able to record. By having the pedometer on, it also gives the user immediate feedback about how they are doing, which can be used as a motivational factor as well (Pal).

With the difference in physical activity between those who are obese and those who are at a healthy weight, an emphasis on walking may be a good strategy to start with. Weight gain in U.S. adults is about 1.8 lb per year. It was reported in 2002 that the prevalence of obesity in U.S. adults was 23.9%. By comparison, Switzerland had an obesity rate of 8% in 2002, and Japan had an obesity rate of 3% in 2000. These two countries are found to require more walking for transportation. Pedometers show that the obesity problem and lack of physical activity also starts with a change in lifestyle and how one operates in their environment.

There are various strategies for increasing the number of steps to the level that is wanted. Using a different walking routes to a destination, taking one less public transportation vehicle then one would usually, getting dropped off further and walking to work, listening to music while walking, and combining walking with activities at work or volunteering are all strategies one may be able to use in order to increase the number of steps (Gardner). In another study, it was found that the differences between the days in which one participated in some kind of sport or exercise with the days where one did not produced a difference of 6000 steps. This shows that while walking is a way to increase activity, participating in purposeful movements that are

intended to be for exercise are important and helpful in reaching one's step goals (Tudor-Locke).

Alone, the pedometer will not cause one to increase physical activity. But by using it, one will be able to understand how much they walk, which is one of man's most performed activities during the day. It is a good start for those not used to participating in physical activity and want to begin getting active. Using the pedometer helps in figuring out where one's beginning level of activity is, and from there, make improvements. There are not many other methods in which one can use to be able to track their activity level like the pedometer does. While walking is not necessarily the best indicator for overall activity, it indicates how active one is doing basic functions, and serves well as a baseline indicator for where one should begin.

Pedometers are the perfect start to track activity, but it is important to know how much physical activity is needed in order to meet the guidelines of being considered an active, healthy human being. The human body is designed for movement and strenuous physical activity, yet exercise is not part of the average lifestyle (Heyward). As mentioned earlier, many disease states have arisen because of physical inactivity. Increasing activity is one way to help combat these health problems.

The American College of Sports Medicine (ACSM) and American Heart Association (AHA) have come up with basic guidelines for recommended physical activity. For adults, one should either engage in 30 minutes of moderate aerobic activity for a minimum of 5 days a week. Healthy adults aged between 18 and 64 should also engage in muscle-strengthening activity of 8-12 reps for 1 set, doing 8-10 exercises for each major muscle group for at least 2 nonconsecutive days a week. The recommendations are similar for those older than 65, except that they should do about 10-15 reps per exercise at a weight comfortable. The ACSM and AHA do not have specific recommendations for stretching for adults age 18-64, but for those 65 and older, it is recommended that 10 minutes a day for two days would be good. This also includes balance activities.

The U.S. Department of Health and Human services also released in 2008 the "Physical Activity Guidelines for Americans". Much like the ACSM/AHA guidelines, it gives information about the amount of activity one should do, but also places people in active and inactive categories, while also taking children into account.

For children and adolescents (6-17 years old), moderate activity daily or vigorous aerobic activity at least 3 days a week for more than 60 minutes a day should be achieved. Moderate to high muscle strengthening activity should be engaged 3 days a week at moderate to high intensities, and bone strengthening activities should be engaged in 3 days a week.

For adults (18-64 years old) it is split into different activity populations. For those who are initially inactive, they should begin benefits, physical activity should be moderate or vigorous and add up to at least 30 minutes a day. The benefits of physical activity are boundless. There are improvements in self-esteem, feelings of well-being, increased fitness levels, maintenance of bones, muscles and joints, higher endurance and strength, weight management, and a lower risk it many of the common health problems that are increasingly becoming more prominent in not only the US, but the world.

Active adults should participate in aerobic activity 150-300 minutes a week at moderate intensity or 75-150 minutes a week at vigorous intensity. Moderate to high muscle strengthening activities are recommended for at least 2 days a week, doing at least a set per major muscle group.

For those that are highly active, it is recommended doing more than 300 minutes of physical activity a week at moderate intensity or more than 150 minutes a week at vigorous activity. Muscle strengthening activities should be done more than 2 days a week at moderate to high intensities, with 2 to 3 sets per major muscle group.

For inactive older adults, light aerobic activity should be done for 150 minutes a week, 5 days a week. Light muscle strengthening 2 to 3 days a week is also needed. For active older adults, 150-300 minutes of moderate aerobic activity or 75-150 minutes of vigorous aerobic activity a week should be performed more at least 3 days a week. Moderate to high strength training at 8-12 reps should be performed more than 2 non consecutive days a week, with a set or more per major muscle group.

For a proper cardiorespiratory workout, there are 4 main components. To begin, a 5-10 minute warm-up is done. The purpose of this is to increase blood flow to the cardiac and skeletal muscles and increase body temperature, which decrease the risk of muscle and joint injuries while also maintaining proper cardiac rhythm. Low to moderate aerobic activity, which includes brisk walking or jogging, are ideal.

After the workout, a proper cool down is appropriate. Stopping suddenly after a bout of endurance cardiorespiratory exercise can cause complications in the heart. Exercising at a low intensity for about 5 to 10 minutes allows heart rate and blood pressure to return to resting levels and prevents blood pooling. There is also a reduction in the chances of one feeling dizzy and fainting. With the continued movement of the muscles, there is increased venous return, which helps speed recovery as well.

Stretching after a bout of endurance exercise is also important. This usually lasts about 10 minutes and can be done either after the warm up or the cool down. Stretching after the cool down helps reduce muscle cramping and soreness. Static stretches, where one holds a stretch, are recommended for these activities.

The Service Project: Pedometer Walking Program

Summary (FJ)

For our service project, we set up a pedometer walking program. We asked participants to first, and foremost, purchase a pedometer. For seven days, participants would enter how many steps they walked that day according to their pedometers, and what types of activities they performed. After the program, we would provide results and information based off their results such as continuing the use of pedometers, general exercise programs, and various methods they can increase physical activity.

An email was sent out calling for participants. This included faculty and staff at Rutgers, as well as other work professionals and students. In the email, we provided a list of pedometers we found to be of good quality, and information on what we were asking them to do. Participants were asked to submit a questionnaire prior to participating, asking what types of activities they already participated in and how they spend their leisure time. Participants were also asked to submit a form after finishing the walking program on how they felt after completion, changes they felt, and any perceived benefits they found. All forms were made and ready for completion to submit using Google docs, Internet forms. Therefore, there was no need to officially meet the participants and exchange information other than what was asked for in the questionnaires.

The main goal of our service project was to get people to actually buy the pedometers and use them. Just purchasing a pedometer is a message or beginning of a commitment to engage in physical activity. While giving them information after the program would help them, its was getting people started on a program that was our main goal. Many do not know how much physical activity they do. Even if they perceive themselves as active in life, they may not be doing as much as they should be. With a pedometer, like previously explained, they would be able to track one of life's basic abilities in walking. Walking programs have been found to be great starts for people who are not used to doing physical activity. Sedentary behaviors can fade into an active lifestyle. Since pedometers are cost-efficient for short term goal use, participants are more likely to continue the use of pedometers even after the walking program has ended.

Materials (LR)

The following is a sample Pre-Pedometer Activity Questionnaire sent to all the participants.

**Pre Pedometer Physical Activity Questionnaire
Before Pedometer Study**

What is your sex? M F

What is your age?

How would you rate your current level of physical activity?

1 2 3 4 5 6 7 8 9 10

Leisure Activities: Please mark a box once each line.

	none	less than 1 hour/day	1 - 2 hours/day	2 - 3 hours/day	greater than 3 hours/day
Watching television					
Preparing food					
Cleaning the house					
Doing laundry					

Walking for pleasure					
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Work: Please mark a box once each line.

	less than 30 minutes/day	30-60 minutes/day	60-90 minutes/day	greater than 90 minutes
How much time do you spend commuting to work?				
How much time do you spend continuously sitting? (eg. desk work)				
How much time do you spend standing? (eg. lecturing)				

Recreation: Please mark a box for each line.

(1 time = for a minimum 10 min.increments)	none	1-2 times/week	3-5 times/week	greater than 5 times/week
walking				
jogging				
running				
swimming				
lifting weights				

The following is a sample Day to Day Pedometer Questionnaire for the participant to complete each consecutive day of wearing the pedometer.

Day to Day Pedometer Log

Instructions:

For the study, please wear the pedometer all day. Indicate for each day the times in which you wore the pedometer. Also indicate which day you walked by circling the matching day. At each time indicated in the log, please log the

number of steps that the pedometer indicated that you took. Also, please describe the nature of your activity. For example, did you take a jog between certain times or did you only walk. If you have a goal for a certain number of steps, please write that down also.

What is your name?

What day is this in your pedometer log?

1st 2nd 3rd 4th 5th 6th 7th

What day of the week is this?

Sunday Wednesday Saturday
Monday Thursday
Tuesday Friday

How many steps did you take this day?

Please provide a description of the activities you did throughout the day.

The following is a sample Post Pedometer Activity Questionnaire.

Post Pedometer Survey

What is your name?

How would you rate your level of physical activity now in comparison to before the survey?

Sedentary Highly Active
1 2 3 4 5 6 7 8 9 10

Did the pedometer help increase your level of physical activity?

Yes No Not sure

Were there any changes in your walking patterns because you knew your steps were being measured? If so, please explain. For example, my daily walking increased because I was more self-conscious. I walked up and down the stairs instead of taking the elevator.

Was this study beneficial for you? Please explain.

Would you use the pedometer even after completing this study?

Yes

No

Not sure

Please include your email address if you want feedback on your results.

Below are the links to each of the live google forms.

[Pre-Pedometer Activity Questionnaire Google Form](#)

[Day to Day Pedometer Activity Log](#)

[Post Pedometer Activity Questionnaire](#)

Results and Interpretation. (LR)

There are 5 subjects whose data we can analyze. They all successfully completed the pedometer study. All 5 subjects are female and their ages range from 22 to 56. The younger participants rated their pre-pedometer activity level as high while the older participants rated their pre-pedometer activity level as low. All subjects engage in low to moderate amounts of sedentary activities such as watching television, sitting at a physical desk, and driving. All subjects also engage in little to no amount of recreational activities such as running and lifting weights.

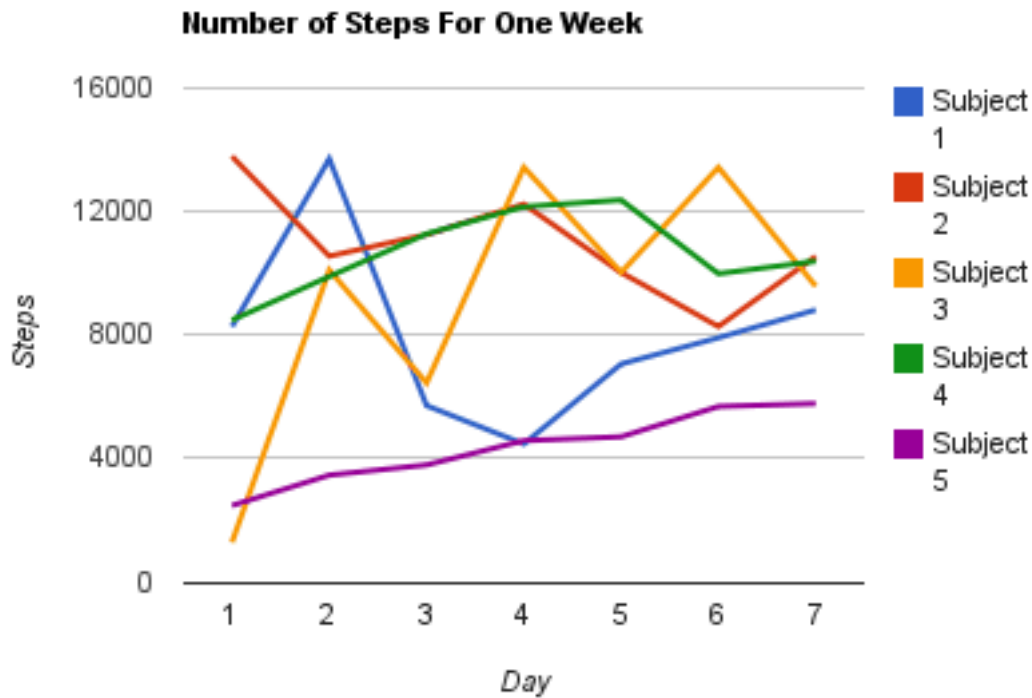


Figure 1: Number of Steps For One Week.

Figure 1 is the number of steps each subject made for 7 days. The subjects performed very well in regards to physical activity level. Table 2 is the mean number of steps the 5 participants took throughout the course of their week. We will base data analysis and results upon the mean number. Subject 1 and subject 3 are considered low active. Subject 5 is considered sedentary. Subject 2 and subject 4 are considered physically active. Please note that none of the subjects reached above 12,500 steps per day which is considered highly active.

Subject	Average Number of Steps	Physical Activity Level Based on Average
1	7973.5	Low Active
2	10927	Active
3	9164	Low Active
4	10625	Active
5	4341	Sedentary

Table 2: Average Number of Steps Taken.

Conclusion and Outcomes. (Lynda Rattanacommon)

The outcome of this investigative report was greater than what we had expected. We expected that most activity level curves look like curves of subject 5, sedentary, since most professors and

the majority of adults have sedentary lifestyles. However, our results can be skewed since each subject participated and willingly wanted to complete the survey. Each subject was motivated to complete the 7 day pedometer report.

Our main goal of the community service project was completed: to get people to purchase pedometers. Although the pedometer is a simple device, it is cost effective and is successful in measuring physical activity levels. 7 participants said that the pedometer did help them increase their levels of physical activity. The pedometer made the subjects more aware of their own levels. Just wearing a pedometer made the subjects walk more just because they knew their steps were being measured. 5/5 participants felt that this study was beneficial for them. 7 participants said they they were unsure whether they were going to use the pedometer again, but 7 participants said that they would continue using the pedometer after completing the study.

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Editorials

(Fred Jurado)

How a Pedometer Can Help

One of the many problems that plague us today is lack of physical activity. This lack of activity feeds into the obesity problem that affects not only our nation but the entire world. It is not necessarily because of lack of resources. There are gyms all over the place now, and equipment is available for one to purchase for home. One can even step outside their home and find a whole road to use for running or a park for sports and recreation. It is really a lack of the knowledge of how much activity one needs to do and how much one is actually doing. The Bureau of Labor Statistics state that of the 5 hours of leisure time the average adult has, only about 20 minutes of it are used for physical activity, while almost three hours are used to watch television. The American College of Sports Medicine recommends having at least 30 minutes of physical activity throughout the day, and this already does not meet that goal.

A tool that could be used more in this struggle to lose weight and be more active is the pedometer. We have all heard of this little machine before, but much of the public does not understand how useful it can be in helping fight the obesity problem. On average, American take 5,600-6,900 steps a day. Having a somewhat active lifestyle, which is needed to remain healthy, requires between 7,500 to 9,999 steps. Obviously it is necessary for people to take more steps. Pedometers help in providing information about how much one is walking, one of the basic activities one does everyday.

But how can a little machine that only tells you how many steps you walk be a good measure of physical activity, let alone help one get more active and be healthier? Well, there is a lot more to this little machine than just counting steps. If users check their pedometer each night, they can see where they are compared to the recommended levels. Knowing this information, the user will likely try to beat this goal by not only walking more, but possibly increasing overall activity. Competition and self improvement are two things that drive humans to do things, and pedometers can provide this.

Also, by just stopping and checking the number of steps on did, a pedometer user will already think about how much activity they have been doing. A user may begin thinking about what they did that day. If they have walked under the recommended limit, they may begin thinking about instances during the day where they could have been more active, such as when one spent a whole hour on a couch watching television. By having the pedometer on, one is more conscious about their activity level that day. Not many things provide this kind of information right at one's fingertip (or in this case, hip).

This is not me trying to sell an item. No, a pedometer is not the same as running 3 miles on the treadmill or spending an hour in the gym with weights. A pedometer will not by itself cause physical activity to be higher in our nation nor will it cause you to lose weight. But it is the perfect start for those who aren't already active and want to start. It is a great tool to use as a baseline measure of where you are with the daily recommendations and can help lead to being more active in general. With a population that is growing more and more overweight, a simple tool like this can go a long way in putting us on the healthy track.

(Lynda Rattanacommon)

Is Sitting Slowly Killing Us?

On a typical weekday, I have a basic routine. Commute to class, sit in class, wait for my next class, repeat, and commute home. A schedule such as mine is similar to that of any occupation; you spend most of your time seated. However, new research indicates that there is a greater correlation between amount of time spent sitting and risk for chronic illnesses such as heart disease. Muscles also conform to the position we spend more time in, making it difficult to do other tasks.

I know the benefits of physical activity, but it is difficult to get enough of it. The American College of Sports Medicine recommends an accumulation of 30 minutes per day of moderate intensity physical activity for all days of the week to maintain good overall health. I recently started wearing a hip pedometer to keep track of how many steps I take in my day. Although my numbers are nowhere near the recommended 10,000 steps, I am working up to higher numbers and better overall health. I suggest that more people should purchase a pedometer just to be more self conscious of how long you spend sitting as compared to doing something else.

(Miguel Honrado)

Small Steps to Fight Obesity

Every two out of three Americans are either overweight or obese. That equals more than 190 million Americans. It would not take much effort from the country to considerably decrease this alarming number. However, each individual would need to put in some effort.

One of the main reasons for America's obesity problem is the lack of daily exercise and physical activity that the average person completes. The sedentary lifestyle has become the norm in our society. Obesity in adults has increased by 60% within the past twenty years and obesity in children has tripled in the past thirty years. Obesity-related deaths have climbed to more than 300,000 a year, second only to tobacco-related deaths. Every day there is something new that makes life easier for us, making us even less active than the day before. The sooner we recognize that physical activity is decreasing in our lives, the sooner we can solve the problem.

It is difficult for most Americans to begin exercising because they do not know how or where to start. Most believe that in order to get results, you must go to the gym everyday and run for mile on end. However, small things in daily life can significantly increase physical activity. For example, walking is one of the most effective ways a person can get in his/her daily physical activity. Instead of taking the bus a few blocks, one can leave earlier and walk the distance. Instead of taking the elevator, one can walk up some flights of stairs.

A great way to motivate people into increasing their physical activity is by recording progress. If someone was given a pedometer to track how many steps he/she walks every day and was told what the normal amount of steps were to be considered active, that person would most likely look at the numbers at the end of the day. He/she will see that the number of steps are either too

low, or that the numbers are sufficient. And if the number of steps is sufficient, this will then motivate that person to walk even more in the upcoming days. This could then snowball into more exercise and a healthier lifestyle.

Will walking everyday solve the obesity problem? There's a good chance that this alone will not be able to, but it is definitely a good start.