

The No Sweat Couch Potato Recovery Program

The Incredibly Easy Way to Get Fit and Stay Fit

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What is Fitness?

To be fit, we need to burn the amount of physical activity energy that our body is tuned to expect.

There are two basic ways our bodies use energy:

- Basal Metabolic Rate

A couple of basal metabolic rate calculators can be found at <http://www.calculator.net/bmr-calculator.html> and <http://www.myfitnesspal.com/tools/bmr-calculator>.

- Physical Activity

Marlowe, F. “Hunter-Gatherers and Human Evolution.” *Evolutionary Anthropology* 14:54–67 (2005) (<http://www.fas.harvard.edu/~hbe-lab/acrobatfiles/hg%20and%20human%20ev.pdf>)

This interesting study looks at many aspects of how human beings evolved as hunter gatherers. The estimate for how much hunter gatherers walk each day is found in Table 3 on page 63. Table 3 focuses on warm climate, non-equestrian foragers, which is the environment in which humans first evolved.

In the “Traits” column in Table 3, go down to the next-to-last entry titled “Day range (km).” The study estimates that the daily range for women was 9.5 km, which equals 5.9 miles or 11,800 steps. For men, the estimate is 14.1 km, which is 8.7 miles or 17,400 steps.

Key Benefits of Fitness - Energy

If you get fit you will have a lot more _____ .

What is your chronological age?

What is your energy age?

Key Benefits of Fitness - Weight

Some of the studies showing that getting fit does not, by itself, produce weight loss:

Changes in Weight, Waist Circumference and Compensatory Responses with Different Doses of Exercise among Sedentary, Overweight Postmenopausal Women

Timothy S. Church, et. al.,

PLoS ONE. 2009; 4(2): e4515.

<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0004515>

Physical Activity, Total and Regional Obesity: Dose-response Considerations.

Ross R, Janssen I

Med Sci Sports Exerc 33: S521–S527.

Individual Variability Following 12 Weeks of Supervised Exercise: Identification and Characterization of Compensation for Exercise-induced Weight Loss

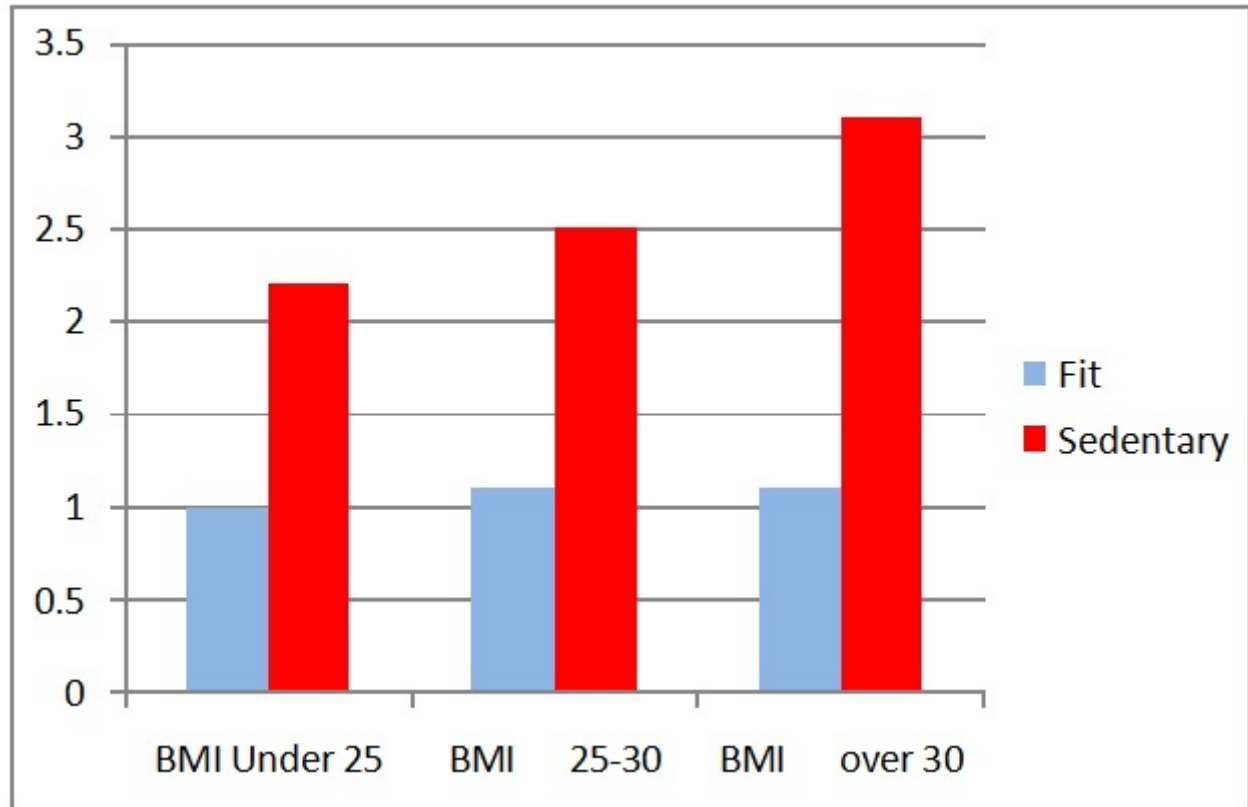
King NA, Hopkins M, Caudwell P, Stubbs RJ, Blundell JE

Int J Obes (Lond) 32: 177–184.

Effects of a 16-month Randomized Controlled Exercise Trial on Body Weight and Composition in Young, Overweight Men and Women: the Midwest Exercise Trial

Donnelly JE, Hill JO, Jacobsen DJ, Potteiger J, Sullivan DK, et al.

Arch Intern Med 163: 1343–1350.



All Cause Mortality - Fitness and Weight

Relationship Between Low Cardiorespiratory Fitness and Mortality in Normal-weight, Overweight, and Obese Men

Wei M, Kampert JB, Barlow CE, Nichaman MZ, Gibbons LW, Paffenbarger RS Jr, Blair SN
 JAMA. 1999 Oct 27;282(16):1547-53

Researchers are often not the world’s greatest communicators. And is that ever true with this study. The key, earth-shaking, mind-blowing data that is depicted in the graphic in Chapter 4 comes from two lines of data in Table 2 on page 1550 of the study. Table 2 contains twenty-four lines of data and the key mind-blowing ones are the last two lines in the table.

Studies showing that fitness is required to sustain weight loss.

Pavlou KN, Krey S, “Exercise as an adjunct to weight loss and maintenance in moderately obese subjects.” *Am J Clin Nutr* 1989 49: 5 1115S-1123S

<http://www.ajcn.org/content/49/5/1115.full.pdf>

The key graphic in this study is Figure 6, which can be found on page 1122. This graphic is a bit convoluted. I guess they were trying to save space by graphing all of the different groups together in one graphic. However, if you follow each of the lines carefully, you can see the various shapes.

The fitness program for the fitness groups equaled the expenditure of approximately 1,500 calories per week or 214 calories per day. 214 calories equals about 4,285 steps. Add that to the 4,000 steps people normally take in the course of a day and you again get 8,285 steps.

(Note that it is referred to as 1,500 kcal per week. That is because, technically speaking, a calorie is the amount of energy required to increase the temperature of 1 gram of water 1°C. What we call a calorie is technically a kilo calorie. It is the amount of energy required to raise the temperature of 1 kg of water 1°C. Therefore, in the scientific literature you'll often see kcal used in the notation.)

Many other studies reach the same conclusion. Another example is Jakicic JM, Marcus BH, "Effect of exercise on 24-month weight loss maintenance in overweight women." *Arch Intern Med.* 2008 Oct 27;168(19):2162. (<http://archinte.ama-assn.org/cgi/reprint/168/14/1550.pdf>)

The key chart in this study is Figure 4 located on page 1556. In this study weight loss maintenance occurred for the group expending at least 2,000 kcal/week in the fitness program. 2,000 kcal/week is 286 kcal/day or 5,720 steps. Add that to the 4,000 steps people normally take in the course of a day and you again get 9,720 steps per day.

Another study reviewed a number of papers that have examined the issue of physical activity and weight regain. Fogelholm M, Kukkonen-Harjula K., "Does physical activity prevent weight gain--a systematic review." *Obes Rev.* 2000 Oct;1(2):95-111. (<http://www.ncbi.nlm.nih.gov/pubmed/12119991>) (Abstract only)

Their conclusion was that an increase in physical activity in the range of 1,500 to 2,000 kcal per week was associated with improved weight maintenance.

Key Benefits of Fitness - Health

Studies showing that walking and exercise are equivalent for fitness

Manson, J. et al. “A prospective study of walking as compared with vigorous exercise in the prevention of coronary heart disease in women.” *N Engl J Med* 1999; 341:650-658
(<http://www.nejm.org/doi/full/10.1056/NEJM199908263410904>)

What this study did was to take a large database of women (over 72,000) and look at their activity levels and rate of coronary events (basically heart attacks, both fatal and nonfatal) over a period of eight years. The key finding was that “The magnitudes of risk reduction associated with brisk walking and vigorous exercise are similar when total energy expenditures are similar.” (P. 656 - first paragraph in the right hand column). And just to be sure, she did the whole study over again three years later with a different database of women.

Manson, J. et al. “Walking Compared with Vigorous Exercise for the Prevention of Cardiovascular Events in Women.” *N Engl J Med* 2002; 347:716-725
(<http://www.nejm.org/doi/pdf/10.1056/NEJMoa021067>)

This study involved more than 73,000 women who were followed for approximately six years. The key finding was that “We observed similar magnitudes of risk reduction with walking and vigorous exercise, and the results were similar among white women and black women as well as among women in different age groups and categories of body mass index.” (Page 722 - right-hand column)

Here are two more recent studies that reach the same conclusion.

Paul T. Williams, Paul D. Thompson - Walking Versus Running for Hypertension, Cholesterol, and Diabetes Mellitus Risk Reduction - *Arteriosclerosis, Thrombosis, and Vascular Biology*. 2013; 33: 1085-1091 - <http://atvb.ahajournals.org/content/33/5/1085.full>

Paul T. Williams - Walking and Running Produce Similar Reductions in Cause-Specific Disease Mortality in Hypertensive - *Hypertension*. 2013; 62: 485-491

Klaus Gebel, PhD; Ding Ding, PhD; Tien Chey, MAppStats; Emmanuel Stamatakis, PhD; Wendy J. Brown, PhD; Adrian E. Bauman, PhD
Effect of Moderate to Vigorous Physical Activity on All-Cause Mortality in Middle-aged and Older Australians JAMA Intern Med. 2015;175(6):970-977.

Steps a Day	Reduction in All Cause Mortality
Daily Living (4,000-5,000 Steps a Day)	Baseline
7,000 Steps a Day	41% reduction in all cause mortality
8,500 Steps a Day	49% reduction in all cause mortality
10,000 Steps a Day	54% reduction in all cause mortality

This study actually looked at minutes of walking, but it is easy enough to translate minutes into steps.

Key Benefits of Fitness - Brain Health

Studies showing that fitness improves brain health

Midlife Exercise Blood Pressure, Heart Rate, and Fitness Relate to Brain Volume 2 Decades Later

Nicole L. Spartano, PhD, Jayandra J. Himali, PhD, Alexa S. Beiser, PhD, Gregory D. Lewis, MD, Charles DeCarli, MD, Ramachandran S. Vasan, MD and Sudha Seshadri, MD Neurology April 5, 2016 vol. 86 no. 14 1313-1319

Leisure-time Physical Activity Associates with Cognitive Decline, The Northern Manhattan Study

Joshua Z. Willey, MD, MS, Hannah Gardener, PhD, Michelle R. Caunca, BS, Yeseon Park Moon, MS, Chuanhui Dong, PhD, Yuen K. Cheung, PhD, Ralph L. Sacco, MD, MS, Mitchell S.V. Elkind, MD, MS and Clinton B. Wright, MD, MS
 Published online before print (2016)

Longitudinal Relationships between Caloric Expenditure and Gray Matter in the Cardiovascular Health Study

Raji, Cyrus | Merrill, David | Eyre, Harrisc; | Mallam, Sravyac | Torosyan, Narec | Erickson, Kirk I. | Lopez, Oscar L. | Becker, James T. | Carmichael, Owen T. | Gach, H. Michaeli | Thompson, Paul M. | Longstreth, W.T. | Kuller, Lewis H.
 Journal: Journal of Alzheimer's Disease, vol. Preprint, no. Preprint, pp. 1-11, | Published 11 March 2016

Key Benefits of Fitness - Lifetime Mobility

	% Who Can't Walk for Five Minutes	% Who Have Difficulty Walking for Five Minutes	Total
75-84 Age Group	14.5	30.4	44.9
85 and Older	34.5	34.7	69.2

CDC Data is at: http://205.207.175.93/hdi/ReportFolders/ReportFolders.aspx?IF_ActivePath=P,17

You will find a table with two columns.

- In the left hand column click on “Health and functional status”
- In the right hand column click on “Difficulty in physical functioning, ages 18+: US, 1997-2014 (Source: NHIS)”
- On the top left column heading select either “Cannot Do” or “Some Difficulty.”

Most of the frailty symptoms that people attribute to aging are “really the result of the **‘rotting, corrosion and rust’** that develop in a stagnant system.” [Physical Dimensions of Aging- p. 28]

How Do We Get There?

Step One - Buy a Pedometer - Measure Your Baseline

Step Two - Log Your Steps *Every Day*

Step Three - Don't Put Yourself Down if....

Step Four - Analyze Why

Step Five - Problem Solve a Solution – Plan A

Step Six – Do a Plan B, C, D, E, if Needed

Baseline Week Log

When you start out, take it easy and don't overdo. The first week of your program, don't do anything differently. What we are trying to do here is establish your baseline starting point. Keep track of your steps for each day and write them in the log. Each morning, note how you feel and mark that in the chart for the prior day. At the end of the first week, take an average of the three days with the highest step count where you also indicated that you felt good the next morning. Then add 500 steps to the total and that becomes your goal for the next week. For example, if the three highest days where you felt good the next morning were 3,500, 4,000, and 4,500, then the average would be 4,000 and your goal for the following week would be 4,500 per day.

Base Week	Number of Steps	How Did You Feel the Next Morning?				Notes
		Good	Tired	A Little Sore	Very Sore	
Sunday	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Monday	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tuesday	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wednesday	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Thursday	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Friday	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Saturday	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

The No Sweat No Guilt Walking Log

Take it easy and don't try to go too fast. Start by setting a goal that is 500 steps a day above your baseline. Don't add any steps to that goal until your legs feel good every day that you have reached that goal. Then increase your goal by 500 steps a day. If your legs start to feel sore or you just feel generally tired, take a day off. There is no rush, this is a lifelong project. **If you try to do too much, too soon you will get sore, get tired, get discouraged and quit.** The tortoise wins this race, so take your time, but:

Log Your Steps Every Day, No Matter What

Week of _____ Step Goal _____	Log each day's Steps below	<h3 style="margin: 0;">Note to Self</h3> <p style="margin: 0;">Did I Meet My goal? If yes, then great!</p> <p style="margin: 0;">If I didn't meet my goal, NO GUILT. But think about what got in the way. See if you can come up with a way to make it easier and more doable tomorrow.</p>
Sunday	_____	
Monday	_____	
Tuesday	_____	
Wednesday	_____	
Thursday	_____	
Friday	_____	
Saturday	_____	