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10,000 steps a day — or fewer?

POSTED JULY 11, 2019, 10:30 AM



[Steve Calechman](#)

Contributor

10,000 steps a day has become the gold standard for many people. That number has sold many step-counting devices and inspired interoffice competitions. But it's a big number that can be hard to reach. When people continue to not hit five digits, eventually some ditch the effort altogether.

Dr. I-Min Lee is an associate epidemiologist at Brigham and Women's Hospital, a professor of medicine at Harvard Medical School, and a researcher on physical activity. She and her colleagues wanted to look at the basis for 10,000 steps and its validity. Their [new study](#) in *JAMA Internal Medicine* answers two questions about mortality: How many steps a day are associated with lowering the mortality rate? Does stepping intensity level make a difference in mortality when people take the same number of steps?



Where does 10,000 steps a day come from?

Dr. Lee discovered that the origins of the number go back to 1965, when a Japanese company made a device named *Manpo-kei*, which translates to "10,000 steps meter." "The name was a marketing tool," she says. But since the figure has become so ingrained in our health consciousness (it's often the default setting in fitness trackers), she wanted to see if it had any scientific basis for health.

She had already been studying the relationship of physical activity and health in older women, and it made sense to stay with that population, she says. This group tends to be less active, yet health issues that occur more often as people age become more important. The research looked at 16,741 women ages 62 to 101 (average age 72). Between 2011 and 2015, all participants wore tracking devices called accelerometers during waking hours. The central question was: are increased steps associated with fewer deaths?

What did the research find?

Key findings from the study include these:

- Sedentary women averaged 2,700 steps a day.
- Women who averaged 4,400 daily steps had a 41% reduction in mortality.
- Mortality rates progressively improved before leveling off at approximately 7,500 steps per day.
- There were about nine fewer deaths per [1,000 person-years](#) in the most active group compared with the least active group.

So, if mortality — death — is your major concern, this study suggests you can reap benefits from 7,500 steps a day. That's 25% fewer steps than the more common goal of 10,000 steps.

What are the study's limitations?

Dr. Lee notes that this study was designed to look at only two factors. One is mortality — not anything related to quality of life, cognitive functions, or physical conditions. So, this particular study doesn't tell us how many steps to aim for in order to maximize our quality of life, or help prevent cognitive decline or physical ailments.

The second question Dr. Lee hoped to answer is whether the intensity of the steps a person took mattered. It doesn't. "Every step counts," she says.

What's the bigger picture?

While the scope of this study is narrow, Dr. Lee draws some bigger-picture findings.

- [Exercise recommendations](#) are often measured in time: at least 150 minutes of moderate aerobic activity a week has been the [federal government's recommendation since 2008](#). People who aren't active may find it difficult to know exactly how long they've been moving. Quantifying exercise by counting steps can feel more doable and less overwhelming.

- If you're sedentary, add 2,000 more daily steps so that you average at least 4,400 daily steps. While 2,000 steps equals one mile, it's not necessary to walk it all at once. Instead, try to take extra steps over the course of each waking hour.

She offers good advice for everyone, particularly those looking for extra steps:

- Take the stairs instead of the elevator.
- Park at the first empty space you see, not the one closest to the entrance.
- Get off the bus one stop earlier than your destination.
- At home, break up chores. Make more than one trip to bring the dinner dishes into the kitchen, or when bringing groceries in from your car.

"Those little things collectively add up," Dr. Lee says. "Don't be intimidated or dissuaded by the 10,000 number."



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POSTED JULY 20TH, 2019 AT 11:44 PM

Marisa Sylvester

Thank you for this helpful article and summary of the findings published by Dr. Lee and colleagues. It is encouraging information for many of us who strive for the standard 10,000 step goal and often fall short. I have been exploring the impacts of sedentary careers and the benefits associated with frequent breaks from sitting, particularly when short walks are taken on these breaks. It seems that this new study supports the benefit of walking at least up to 7,500 steps, even if it is low intensity and only a few steps at a time. I expect additional studies will be needed to understand if the findings of this study hold at a similar number of steps for different age ranges and a male population sample.

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POSTED JULY 19TH, 2019 AT 12:42 PM

Michael Schatzki

This is a great study and a harbinger of more good things to come, but Dr. Lee did not do her homework on the origins of 10,000 steps.

There are many studies that demonstrate that folks who walk 10,000 have at least a 50% reduction in all cause mortality verses those who are sedentary. But past studies have been based of individual reporting of time walked (e.g. Klaus et. al.- 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). With the advent of fitness trackers, we are going to start getting much more granular information on actual step counts for different population segments and their impacts on health and all cause mortality.

This study targeted women with an average age of 72 and for this population group 7,500 steps a day provided the maximum reduction in all cause mortality. Hopefully we will soon start to see similar data for all age groups and for both genders. But in the mean time, we need to remember that this applies only to this subgroup. Until we get data to the contrary for other subgroups, 10,000 steps a day remains the safe harbor for physical fitness for everyone else.

Given the otherwise excellent quality of this study, it's a shame that the authors did not do even minimal research on the origin of 10,000 steps. The initial study was done in early 1960s by a research team led by Dr. Yoshiro Hatano at the Kyushu University of Health and Welfare in Japan. In the lead-up to the 1964 Tokyo Olympic Games, a Japanese company seized on Dr Hatano's research and used it to market a new pedometer, Manpo-kei, which translates as '10,000 step meter.' Thus the 10,000 step threshold became well known, to everyone's benefit.

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Hello,
I completely agree with your article because I use to go for a daily walk which makes a far change in my body and also help me to be healthy every day.
Thank you such a true article.

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