

Exercising Only on Weekends Still Reduces Risk of Death

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

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STORY AT-A-GLANCE

- › The benefits of exercise are many, including reducing the risk of death; data show even weekend warriors had reduced all-cause and cause-specific mortality rates when compared to people who did not get 150 minutes of moderate exercise each week
- › Exercise also promotes the benefits of quality sleep, stress reduction and improved mental health. It helps boost self-confidence and normalizes glucose, insulin and leptin levels
- › The data are helpful for those who can't exercise every day after work. Other activities that do not take an extended period but also improve longevity are balance exercises, sauna bathing and inspiratory muscle strength training

According to the Centers for Disease Control and Prevention,¹ all adults should get at least 150 minutes of aerobic physical activity every week. They recommend 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity exercise. However, according to the American Heart Association,² only 1 in 5 adults and teenagers is meeting this goal.

Research³ published in July 2022 in JAMA Internal Medicine finds that even weekend warriors who pack 150 minutes of exercise into two days enjoy lower all-cause and cause-specific mortality rates. One study⁴ published in the European Journal of Preventive Cardiology showed that exercise variables are a powerful predictor of survival, and health care providers could consider using physiological age to motivate patients to exercise more.⁵

Another study^{6,7} looked at 8,000 middle-aged older adults and found that physical activity of any intensity or duration cut their risk of early death. The results from these studies are encouraging — exercise promotes longevity. However, it's also important to remember that you cannot out-exercise your diet.

In other words, a diet based on processed junk food will reduce your chance of getting fit and staying healthy. The good news is that research published in the Journal of the American College of Cardiology⁸ demonstrates a diet of minimally processed foods markedly blunts an increase in inflammation, glucose and triglycerides after a single meal. Research also demonstrates those who pack their exercise into the weekend also experience benefits.⁹

Packing Exercise Into the Weekend Reduces Risk of Death

The researchers began by asking the question of whether getting all your physical activity within one to two sessions on the weekend versus getting it more often during the week would influence mortality.¹⁰ They gathered data from 350,978 adults, in which they did not find any significant differences in mortality rates.

However, when active groups were compared with physically inactive participants, the data showed that the active participants had lower mortality rates. The participants were adults who reported their physical activity to the U.S. National Health Interview Survey between 1997 and 2013.

They were grouped into those who got less than 150 minutes of exercise per week, classified as physically inactive, and those who were physically active who got more than 150 minutes of moderate or 75 minutes of vigorous activity per week. The active group was then further broken down into those who got all their exercise on the weekend and those who regularly exercised throughout the week.

The main outcome measures were mortality rates, including cardiovascular disease, cancer and all-cause mortality. The research suggests that active individuals have a lower rate of mortality than inactive individuals and that those who were weekend

warriors or regularly active did not experience significant differences in all-cause or cause-specific mortality.

Leandro Rezende, adjunct professor of epidemiology in the department of preventive medicine at the Federal University of Sao Paulo in Brazil, wrote in an email to Pittsburgh Action News 4:¹¹

"This is good news considering that the weekend warrior physical activity pattern may be a more convenient option for many people to achieve the recommended levels of physical activity."

Exercise Does More Than Promote Longevity

While the results of this study identified how exercise promotes longevity, even in those who exercise only on the weekend, research also demonstrates that exercise has other significant benefits in your daily life. For example, sleep is essential to your overall health.

Yet, surveys¹² conducted by the National Sleep Foundation found that at least 40 million Americans report experiencing sleep disorders and 60% have had sleep problems for a few nights a week or more.

However, this lack of sleep affects nearly every aspect of your physical and mental functioning, as well as your metabolism and risk for chronic disease.¹³ Research has found an association between exercise and an individual's quality of sleep. Exercise increases total sleep time and delayed REM sleep onset.¹⁴

An analysis of 34 studies¹⁵ found mixed results for young adults and younger. However, in middle-aged and elderly adults, exercise promoted sleep efficiency, especially in populations of individuals with disease. They concluded, "Our review suggests that sleep and exercise exert substantial positive effects on one another."¹⁶

Data has also proven that exercise has mental health benefits, reducing anxiety, stress and depression.¹⁷ In one study¹⁸ published in 2019, researchers evaluated the effect of

exercise in 60 patients with Type 2 diabetes over 12 weeks. They found that regular aerobic training was an effective strategy for improving mental health, improving life quality and self-esteem.

Another study¹⁹ published in *Frontiers in Pharmacology* in 2017 wrote that although academics and health care professionals may view “exercise as medicine” skeptically, randomized controlled trials comparing exercise to antidepressants reported both were equally as effective. Exercise also has benefits for your skin, including promoting wound healing.²⁰ It also may attenuate age-associated skin changes.²¹

Exercise also benefits those suffering from chronic diseases²² such as osteoarthritis,²³ depression, anxiety and cancer.²⁴ Additionally, exercise helps normalize your glucose, insulin and leptin levels,²⁵ and boosts your self-confidence.²⁶

One of the challenges to exercising people encountered throughout the week was a lack of time. CNN fitness contributor and certified strength and conditioning specialist Dana Santas, spoke with Pittsburgh Action News 4, acknowledging this, saying:²⁷

"Understandably, they don't want to sacrifice much-needed sleep by getting up early or lose invaluable family dinner time by going to the gym right after work. Those are valid concerns as we all need sleep to function. And family dinners not only represent quality time but also increase the odds of eating healthy as opposed to grabbing fast food."

Practicing Balance Powers Your Independence

While time can be a challenge, there are several strategies you may consider that can easily be integrated into your daily routine and which have impressive benefits. A growing body of research has demonstrated that your balance is directly associated with longevity.²⁸ A study²⁹ published in the *British Journal of Sports Medicine* found that people who fail a 10-second one-leg stance balance test are nearly twice as likely to die in the following 10 years.

The researchers assessed 1,702 people between the ages of 51 and 75 from 2008 to 2020. During a seven-year median follow-up, the data showed those who could not perform a 10-second one-legged stance had lower survival rates, even after adjusting for body mass index, age, sex and other comorbidities.

The researchers believe that using a 10-second one-legged stance in addition to other prognostic information may offer the primary care provider important information during routine physical examinations of middle-aged and older adults.³⁰ Internal medicine physician Michael Roizen, author of “The Great Age Reboot,” believes that your balance is so closely tied to longevity because of the required neurological connections. He says:³¹

“Keeping your balance requires more complicated connections than a 60-person family. You have sensors throughout your limbs that interact with position sensors in your ears and others in your eyes, all of which are integrated in an area in the back of your brain called your cerebellum and in motor nerves that send messages to all your skeletal muscles to keep you upright.”

Family-practice physician Dr. Danine Fruge, medical director at Pritikin Longevity Center, believes the one-legged stance test is a better indication of a person's longevity than their ability to walk well. Three pathways appear to impact how balance is related to your longevity.³² What may be the most obvious connection is physical fitness.

More active people may be more active because they do not have underlying medical conditions. Roizen also believes that the connections that foster good balance are linked to cognitive function. Balance is associated with memory and spatial cognition,³³ which may strengthen and boost neuroplasticity.

Finally, balance relies on proprioceptive signals, which are sent from your peripheral nervous system to your brain telling your body where it is in space. A person with poor balance will have lost some of their proprioceptive ability, which can be related to chronic illnesses such as diabetes or transient ischemic attacks (TIA).³⁴

A lack of balance in the elderly can lead to falls associated with broken hips and a higher rate of death. While balance is linked to longevity, it is also practically necessary for older adults to remain independent and live at home.³⁵ A loss of independence can lead to destructive behavior, depression and anger.

The simplest way to improve your balance is to practice balance. As a starting point, consider simply standing on one leg while facing a corner so you can catch yourself if you begin to lose your balance.

As you become more confident, practice while you're doing other tasks that require upper-body movement, such as washing dishes. Take care to alternate the leg you are balancing on. The key is to keep the exercises challenging and to do them daily. One of the benefits of balance exercises is that you can easily incorporate them into your daily activities.

Sauna Use Mimics Cardiovascular Activity

Sauna bathing is another strategy that mimics exercise and can increase your longevity and health. Data³⁶ show that men who used Finnish-style, dry heat sauna seven times per week had a significantly reduced risk of death from fatal heart problems as compared to those who only used it once a week.

Even after confounding factors were eliminated, such as cholesterol, smoking and high blood pressure, the results held true. Heat stresses your heart and body in a similar way to exercise and thus may prompt similar effects. This could include increasing blood flow to the heart and muscles and increasing muscle mass due to higher levels of heat shock protein and human growth hormone (HGH).³⁷

A study³⁸ published in 2018, looked at stroke risk over 14.9 years and found a dose-dependent effect. In other words, those who used the sauna longer had an increasingly reduced risk of stroke.

Heat stress from sauna bathing has also been shown to lower your risk of high blood pressure. In one study³⁹ with a median follow-up of 24.7 years, data showed “Regular

sauna bathing is associated with reduced risk of hypertension, which may be a mechanism underlying the decreased cardiovascular risk associated with sauna use.”

When you don't have time for a full workout after work, consider popping into a sauna for 20 minutes. There are several different types of saunas from which to choose and different health benefits you receive from Finnish-style wet and dry saunas, near-infrared and far-infrared light sources.

Research has demonstrated that a sauna can modulate your autonomic nervous system,⁴⁰ which governs your stress responses.⁴¹ Using a sauna during the week can go a long way toward improving your health and increasing your lifespan. While there are significant cardiovascular benefits, there are others as well, including pain reduction,⁴² increased metabolism,⁴³ detoxification⁴⁴ and stress reduction.⁴⁵

IMST Promotes Brain and Heart Health

Inspiratory muscle strength training (IMST) is another form of exercise that can help lower blood pressure, improve cardiovascular health and boost cognitive and physical performance without taking more than five minutes each day.⁴⁶ Researchers know that the way that you breathe has a significant impact on your health.

Inspiratory muscle training is a technique that helps strengthen your respiratory muscles by using a handheld device that restricts airflow. In other words, by breathing through the device, you must work harder to breathe, and this strengthens the muscles used for inhalation.

The trainer was originally developed for people who had respiratory conditions and to help wean patients off mechanical ventilation. As you might expect, any time you do not use your muscles, you lose strength, including your respiratory muscles.

Preliminary results from one study were presented at the Annual Experimental Biology Conference in 2019.^{47,48} The researchers analyzed how IMST could affect your cognitive, vascular and physical health. The researchers engaged middle-aged adults who were

inactive and found those who used the device lowered their blood pressure and improved their vascular health.

The data also showed those using IMST improved their exercise tolerance as assessed on a treadmill test and showed improved cognitive testing as well. Several types of breathing techniques are helpful to improve your cardiovascular, respiratory and autonomic nervous systems.⁴⁹ As noted in one study:⁵⁰

“Controlled, slow breathing appears to be an effective means of maximizing HRV [heart rate variability] and preserving autonomic function, both of which have been associated with decreased mortality in pathological states and longevity in the general population.”

These are just a few of the ways that you can integrate activities throughout your day and week that have cardiovascular, respiratory, and cognitive benefits, all of which contribute to increasing your quality of life and longevity.

Sources and References

- ¹ Centers for Disease Control and prevention, June 3, 2022
- ² American Heart association, April 18, 2018
- ^{3, 9, 10} JAMA Internal Medicine, July 5, 2022; doi.org/1001/jamainternmed.2022.2488
- ⁴ European Journal of Preventive Cardiology, 2019; doi.org/10.1177/2047487319826400
- ⁵ Cleveland Health, February 15, 2019
- ⁶ American Journal of Epidemiology, 2019;188(3)
- ⁷ EurekAlert! January 14, 2019
- ⁸ Journal of the American College of Cardiology, 2008; 51(3)
- ^{11, 27} Pittsburgh Action News 4, July 11, 2022
- ¹² American Psychological Association, Why Sleep Is Important
- ¹³ University of Michigan School of Public health, March 2, 2020
- ¹⁴ Sleep medicine reviews, 2000; 4(4)
- ^{15, 16} Advances in Preventive Medicine, 2017;2017
- ¹⁷ Maturitas, 2017;106
- ¹⁸ Health Psychology Research, 2019; 7(1)
- ¹⁹ Frontiers in Pharmacology, 2017; 8
- ²⁰ Wounds, 2019;31(2)
- ²¹ Aging Cell, 2015;14(4)

- ²² Sports Medicine and Health Science, 2019;1(1)
- ²³ Arthritis Foundation, Benefits of Exercise for Osteoarthritis
- ²⁴ American Cancer Society, Exercise and the Cancer Patient
- ²⁵ BMJ Open Sport and Exercise Medicine, 2016;2(1)
- ²⁶ Neuropsychiatric Disease and Treatment, 2016;12:2617
- ²⁸ NBC News, June 21, 2022
- ^{29, 30} British Journal of Sports Medicine, 2022; doi.org/10.1136/bjsports-2021-105360
- ^{31, 32, 34} Well and Good, July 9, 2022
- ³³ Scientific Reports, 2017;7
- ³⁵ Vantage, Reasons Independence is Important for Seniors
- ³⁶ JAMA Internal Medicine 2015;175(4):542
- ³⁷ Current Opinion in Endocrine and Metabolic Research, 2020;11
- ³⁸ Neurology, 2018; 90(22)
- ³⁹ American Journal of Hypertension 2017 Nov 1;30(11):1120
- ⁴⁰ Complementary Therapies in Medicine 2019 Aug;45:190
- ⁴¹ Harvard Health Publishing March 2011, Updated May 1, 2018
- ⁴² Anesthesia and Pain Medicine, 2019;14(4)
- ⁴³ International Journal of Environmental Research and Public Health, 2021;18(3)
- ⁴⁴ Journal of Environmental and Public Health, 2012;2012
- ⁴⁵ The Conversation, July 30, 2019
- ⁴⁶ CU Boulder Today, February 25, 2019
- ⁴⁷ Science Daily April 8, 2019
- ⁴⁸ Inverse, April 9, 2019
- ^{49, 50} Breathe (Sheff). 2017 Dec; 13(4): 298