

Don't Exercise at This Time of Day if You Want to Live Longer

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✓ Fact Checked

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STORY AT-A-GLANCE

- › Data from a study with 86,657 male and female participants demonstrated that those who exercised between 8 a.m. and 11 a.m. had the lowest risk of coronary heart disease and stroke and women appeared to benefit more than men
- › A past study of 350,978 participants showed no significant difference in all-cause or cause-specific mortality in people who exercised on the weekend or regularly throughout the week
- › Exercising in the evening, from 7 p.m. to 10 p.m., can disrupt your circadian rhythm, which is associated with the dysregulation of the neurological, psychiatric, metabolic, cardiovascular and immunological systems
- › You can boost the health benefits of exercising in the morning even further by exercising in a fasted state and including time in the sauna with your routine

Exercise is a foundational pillar of optimal health and disease prevention. A paper¹ released in November 2022 found an association between the time of day that you exercise and the risk of coronary artery disease and stroke. Siim Land, an esteemed biohacker and author of “Metabolic Autophagy,” explains in this video that the data indicated the hours between 8 a.m. and 11 a.m. may be the most optimal to prevent disease.

The importance of exercise is not disputed. Evidence continues to mount showing that the more time you spend sitting, the shorter your life expectancy,² thanks in part to the negative impact it has on your cardiovascular and metabolic functions. In one meta-analysis,³ researchers discovered that those who sat the longest were twice as likely to have diabetes or heart disease when compared to those who sat the shortest amount of time.

In 2012, data showed that a lack of activity was the cause of more than 5 million deaths each year.⁴ In one study published in the *European Journal of Preventive Cardiology*,⁵ researchers used an exercise stress test to estimate a patient's age.

They engaged 125,000 patients and followed them for nearly nine years. They discovered that the estimated age based on the exercise stress test was a better predictor of mortality when compared to chronological age for both men and women. Although the results of studies are encouraging, it's important to note that you can't out exercise a bad diet.

Morgan Spurlock's documentary "Supersize Me"⁶ was one of the first to demonstrate the consequences of sustaining yourself on a fast-food diet. After just four weeks his health had deteriorated to the point his physician warned he was putting his life in serious jeopardy if he continued the experiment.

However, it doesn't take 30 days to experience the health effects of a poor diet. According to research published in the *Journal of the American College of Cardiology*,⁷ changes can happen after a single meal. Thus, it is vital to recognize the importance of balancing a nutritional diet with increased activity and exercise.

Morning Exercise Shows Greatest Reduction in CAD

As Land explains in the video, the study included 86,657 men and women with a mean age of 61.6 years and a BMI of 26.6.⁸ This BMI generally falls in the overweight range. An individual 5'4" and 150 pounds or 5'8" and 170 pounds would have a BMI of approximately 26.⁹

The participants were free of cardiovascular disease at the start of the study. They wore an activity tracker for seven consecutive days and were then followed for cardiovascular disease, including coronary artery disease (CAD) or stroke. During the six to eight years of follow-up, 2,911 participants developed CAD and 796 had a stroke.¹⁰

The researchers compared the peak time of activity for each participant across a 24-hour period and found those who were most active from 8 a.m. to 11 a.m. had the lowest risk of heart disease and stroke – 17% reduced risk of stroke and a 16% reduced risk of CAD when compared to the reference group.

They also found those who exercised during the night hours, between 1 a.m. and 6 a.m., had a greater risk for stroke and CAD as compared to the baseline control group. The researchers then compared the data between the sexes and found women most active in the late morning had a 24% lower risk of CAD and a 35% reduced risk of stroke when compared to the reference group. They concluded:¹¹

“Irrespective of total physical activity, morning physical activity was associated with lower risks of incident cardiovascular diseases, highlighting the potential importance of chronoactivity in CVD prevention.”

The researchers also tracked whether the participants naturally woke early in the morning or stayed up late at night. One study author, Gali Albalak of Leiden University Medical Centre, The Netherlands, commented in a press release:

“It is well established that exercise is good for heart health, and our study now indicates that morning activity seems to be most beneficial. The findings were particularly pronounced in women, and applied to both early birds and night owls.”

Time of Day You Exercise Influences Your Circadian Rhythm

As Land notes in the video, individuals who exercise in the morning have better biomarkers throughout the day. This includes lower blood sugar and lower blood

pressure “which over the course of many years just keeps you healthier.” He also notes that the time of day you exercise influences your circadian rhythm.

Research published in the *Journal of Physiology*¹² confirmed that exercise shifts your circadian rhythm, and the magnitude and direction of that shift depend on the time of day that you exercise. In this study, researchers engaged 99 participants of different ages to perform one hour of moderate-intensity exercise on a treadmill at the same time for three consecutive days.¹³

Those who exercised at either 7 a.m. or between 1 p.m. and 4 p.m. shifted their body clock to an earlier time. As a result, it was easier for the participants to go to bed earlier. Going to sleep earlier can facilitate getting up earlier the next morning. People who exercised between the hours of 7 p.m. and 10 p.m. shifted their body clock to a later time.

While data from the featured study showed individuals got the greatest benefit from exercising in the morning, Land was quick to point out that if you cannot exercise in the morning, it is important to continue to include exercise in your daily routine since no matter what time you exercise, it is a healthy activity.

The CDC¹⁴ recommends that all adults should get at least 150 minutes of aerobic physical activity every week, yet according to the American Heart Association¹⁵ only 1 in 5 people meets this goal. In one paper, researchers asked the question if getting all your physical activity within one or two sessions on the weekend would influence mortality.¹⁶

They gathered data from 350,978 adults and broke the physically active group into those who got all their exercise on the weekend and those who regularly exercised throughout the week. The data suggested no significant difference in all-cause or cause-specific mortality.

Circadian Disruption Is Associated With Other Health Problems

During his discussion of the featured study, Land also noted the results of a study¹⁷ in which researchers evaluated the efficacy of increasing NAD+ as a therapy for diet-

induced obesity and Type 2 diabetes.

Using an animal model, they demonstrated that increasing NAD⁺ levels during the onset of activity helped to mitigate metabolic markers such as glucose and insulin tolerance and body weight. However, using the same treatment at the beginning of rest severely compromised these responses. Land believes this may help explain the data from the featured study since exercise also boosts NAD⁺ levels.

In 2017, the Nobel Prize in Physiology or Medicine was awarded to three U.S. biologists – Jeffrey Hall, Michael Rosbash and Michael Young – for their discovery of master genes that control your body's circadian rhythms.¹⁸ In my interview with Satchidananda Panda, Ph.D., a leading researcher in the study of circadian rhythm, he explained the [importance of properly maintaining your circadian rhythm](#).

"The bottom line is almost every cell in our body has its own clock. In every cell, the clock regulates a different set of genes, [telling them] when to turn on and [when to] turn off.

As a result, almost every hormone in your body, every brain chemical, every digestive juice and every organ that you can think of, its core function rises and falls at certain times of the day [in a coordinated fashion]."

Research has found an association¹⁹ between disrupted circadian rhythms and the regulation of the neurological, psychiatric, metabolic, cardiovascular and immunological systems. This highlights the interrelatedness between a disruption in the circadian rhythm and the potential to use circadian-based interventions to modify disease outcomes.

Fasted Exercise Can Boost Your Health Benefits

You can boost the benefits of exercising in the morning even further by exercising in a fasted state. As noted in a 2012 study,²⁰ "aerobic training in a fasted state lowers body weight and body fat percentage," while "fed aerobic training decreases only body

weight.” Exercising and fasting together also increases acute oxidative stress which, paradoxically, benefits your muscle. A 2015 paper explains:²¹

“Since the discovery of exercise-induced oxidative stress several decades ago, evidence has accumulated that ROS [reactive oxygen species] produced during exercise also have positive effects by influencing cellular processes that lead to increased expression of antioxidants.

These molecules are particularly elevated in regularly exercising muscle to prevent the negative effects of ROS by neutralizing the free radicals. In addition, ROS also seem to be involved in the exercise-induced adaptation of the muscle phenotype.”

Fasting and exercise trigger a mechanism of genes and growth factors such as brain-derived neurotrophic factor (BDNF) and myogenic regulatory factors (MRFs). BDNF controls neurogenesis, signaling your brain stem cells to convert into new neurons,²² while MRFs are instrumental in muscle development and regeneration.²³

In other words, fasted exercise may actually help keep your brain, neuro-motors and muscle fibers biologically young. Fasted exercise is also a potent prevention strategy for Type 2 diabetes.

In one 2010 study,²⁴ those who exercised while fasting increased their levels of GLUT4 — a muscle protein that plays a pivotal role in insulin sensitivity by transporting glucose into the cell — by 28%, compared to those who had a carb-rich meal before training, or those who did not train. This occurred despite eating 30% more calories than was required for health.

Add Sauna Use to Boost Health Benefits

Another way to boost the health benefits of exercise is to include a sauna in your routine. In this MedCram video recorded in April 2022, Rhonda Patrick, Ph.D., cofounder of Found My Fitness, provided a summary of the benefits of sauna therapy and some of the basic principles of sauna treatment.

I've been a huge fan of sauna therapy for nearly a decade and have enjoyed the benefits of including it in my fitness routine. As Patrick describes throughout the video, research has demonstrated sauna use can:

Lower blood pressure	Lower risk of dementia	Strengthen immune function
Reduce all-cause mortality	Improve athletic endurance	Activate and replenish stem cells
Improve fasting glucose and insulin sensitivity	Reduce the stress hormone cortisol ²⁵	Improve cardiovascular fitness
Lower risk of death from cardiovascular disease	Improve mood and mental health	Reduce inflammation

Each of these benefits occurs in a dose-dependent manner, so the more frequently you use the sauna, the more robust your benefits will be. For example,²⁶ using the sauna two to three times a week has been shown to reduce your risk of cardiac death by 22% compared to once-a-week use, whereas those who use it seven times a week lower their risk by 63%.

Similarly, those who use it four to seven times a week have a 40% lower all-cause mortality risk than those who use it only once a week. And, as explained in the interview, combining sauna use with other strategies, such as cold-water immersion and/or exercise can optimize these kinds of benefits even further.

That said, more sauna is not necessarily better in all instances, as you will lose toxins but might also deplete your body of beneficial minerals. For more information about sauna use and how to build a sauna at home see [“The Stunning Health Benefits of Sauna Therapy.”](#)

Sources and References

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