

The 20-5-3 Nature Prescription: How Much Time Should You Be Outside?

Analysis by [Dr. Joseph Mercola](#)

March 20, 2024

STORY AT-A-GLANCE

- › The 20-5-3 nature prescription describes how much time you spend outdoors to be happy and healthy
- › At the bottom of the pyramid is 20 minutes: This is the amount of time you should aim to spend outdoors three times a week to boost memory, cognitive function and well-being
- › The next part of the 20-5-3 rule refers to five hours – the length of time you strive to spend in semi-wild nature each month
- › The final part of the 20-5-3 nature prescription describes three days – the number you should spend every year in remote areas of the natural world
- › Spending time outdoors may put your brain into “soft fascination” mode, which has meditation-like benefits

It’s no secret that spending time in nature is good for your mind and body. Humans are designed to be connected to their natural environment, and when this connection is severed, as is so common in the modern world, physical, emotional and mental health suffers.

I’ve long recommended spending time outdoors daily to reap the benefits of sensible sun exposure. But even beyond sunlight, the natural world offers a place for humans to destress and connect in ways that don’t occur inside of four walls.

Michael Easter, professor at the University of Nevada, Las Vegas, and author of "The Comfort Crisis: Embrace Discomfort to Reclaim Your Wild, Happy, Healthy Self," described his time spent in the Alaskan wilderness as "transcendent."¹ Yet, Americans may spend up to 92% of their time inside,² missing out on key benefits.

Still, the advice to "spend time outdoors" is ambiguous, leaving many to wonder how much time in nature is necessary for optimal health and well-being. The 20-5-3 nature pyramid may provide some clarity.

20 Minutes in Nature, Three Times a Week

Rachel Hopman, Ph.D., a neuroscientist at Northeastern University, told Easter about the nature pyramid – a simple guideline for the amount of time you should spend in nature. At the bottom of the pyramid is 20 minutes. This is the amount of time you should aim to spend outdoors three times a week to boost memory, cognitive function and well-being.³ It may also lower levels of the stress hormone cortisol.

It's important to note that walking while using a cellphone did not lead to the same beneficial effects. However, simply going for a walk outside may put your brain into "soft fascination" mode, which has meditation-like benefits. Easter wrote:⁴

"In nature, our brains enter a mode called 'soft fascination.' Hopman described it as a mindfulness-like state that restores and builds the resources you need to think, create, process information, and execute tasks. It's mindfulness without the meditation.

A short daily nature walk – or even a walk down a tree-lined street – is a great option for people who aren't keen on sitting and focusing on their breath. But turn off your phone – alerts from it can kick you out of soft-fascination mode."

Other research by Hopman and colleagues found spending time in natural environments, like parks or forests, can make you feel better and think clearer. When you focus on something, your brain uses up energy, like a battery running out of power. But nature is different – it gives your brain a break because you don't have to try so hard to pay

attention to it. Hopman's study looked at brain waves of 29 people before, during and after spending time in nature.⁵

They found that a specific type of brain wave, called posterior alpha power, was lower when people were in nature compared to when they were not. This suggests that changes in this brain wave might help explain how being in nature affects our brains.

Five Hours in Semi-Wild Nature Each Month

The next part of the 20-5-3 rule refers to five hours – the length of time you strive to spend in semi-wild nature each month. It's not only the hours spent that are important but also the environment. Look for a natural area such as a state park, which gives you access to a wilder space – more so than you'd find in your average city park.

Part of the relaxation humans feel when immersed in nature may come from viewing fractals. "Fractals are patterns that repeat at increasingly fine sizes and so create shapes of rich visual complexity. Prevalent in nature, clouds, trees and mountains are common examples, as are cauliflowers and fern leaves," according to research published in *Urban Science*.⁶

Fractals are like repeating patterns, but they look a bit different each time they repeat. Most studies on how people react to fractals have used ones that mimic the patterns we see in nature, rather than ones that repeat exactly at different sizes. Researchers wondered: Do we feel better because of any kind of fractal, or specifically because of the ones found in nature?

To find out, a study looked at both types of fractals – the ones that mimic nature and the ones that repeat exactly – and gradually changed one into the other.⁷ They showed these patterns to 35 people while measuring their brain activity. The results revealed that people responded differently to the two types of fractals – and the ones that looked like natural patterns were better at helping people feel relaxed and focused.

"Cities don't have fractals," Hopman told Easter. "Imagine a typical building. It's usually flat, with right angles. It's painted some dull color."⁸

Three Days in the Wild Every Year

The final part of the 20-5-3 nature prescription describes three days – the number you should spend every year in remote areas of the natural world. Easter explains:⁹

"This is the top of the pyramid. Three is the number of days you should spend each year off the grid in nature, camping or renting a cabin (with friends or solo). Think: places characterized by spotty cell reception and wild animals, away from the hustle and bustle.

This dose of the wildest nature is sort of like an extended meditation retreat ... It causes your brain to ride alpha waves, the same waves that increase during meditation or when you lapse into a flow state. They can reset your thinking, boost creativity, tame burnout, and just make you feel better."

Indeed, after a week spent river-rafting, the participants in one study reported an average 29% decrease in post-traumatic stress disorder (PTSD) symptoms and a 21% decrease in general stress, along with improvements in social relationships, life satisfaction and happiness.^{10,11} The researchers attributed the benefits to the feelings of awe experienced when in the natural world. Easter described similar emotions after time spent in the wild:¹²

"I experienced savage weather, crossed raging rivers, and faced a half-ton grizzly. My brain was feeling less hunkered down in its typical foxhole – a state I'd compare to that of a roadrunner on meth, dementedly zooming from one thing to the next. My mind felt more like it belonged to a monk after a month at a meditation retreat. I just felt ... better.

The biologist E.O. Wilson put what I was feeling this way: 'Nature holds the key to our aesthetic, intellectual, cognitive, and even spiritual satisfaction.'"

Not Enough Time in Nature Poses Health Risks

Urbanized lifestyles, characterized by limited access to natural spaces, extensive screen time and heightened work and academic pressures, contribute to an increase in nature deficits. This trend results in a reduction in outdoor leisure time and a greater amount of time spent indoors.

Journalist Richard Louv, in his book "Last Child in the Woods," coined the term "nature deficit disorder" to describe this phenomenon.¹³ Although not a formal psychological diagnosis, it highlights how nature deficiency is linked to adverse psychological and physical health outcomes. Louv contends that human disconnection from nature leads to diminished sensory engagement, attention difficulties and elevated rates of both physical and emotional ailments.

Time outdoors is so fundamental to human life that even in U.S. maximum security prisons, inmates are guaranteed two hours outdoors each day. Yet, according to one survey, 50% of children spend less than one hour outside daily.¹⁴ It's further noted in Proceedings of the Royal Society B:¹⁵

"Humans in developed countries spend much of their time indoors and in urban landscapes that bear little resemblance to the environment in which our species evolved. For example, a large survey based in the USA suggested that a typical citizen spends 87% of their time indoors and an additional 6% of their time in vehicles.

Living almost entirely apart from nature can lead to an overall disconnection from nature that has negative consequences for environmental conservation and can deprive individuals of the health and well-being benefits that nature provides."

Spending Time in Green and Blue Spaces Is Good for You

Varying the time you spend in natural environments among green spaces – like forests and parks – or blue spaces, like rivers, lakes and coastal areas, also provides significant

benefits to overall well-being. There is a growing recognition of the importance of both green and blue spaces.

While green and blue spaces share some characteristics such as cooling effects and exposure to biodiversity, they also offer unique experiences. Blue spaces, for example, provide opportunities for recreational activities like swimming and offer distinct soundscapes such as the sounds of water, unlike green spaces.

A team of researchers, analyzing data from 18 countries, found that the greatest mental health benefits may stem from exposure to various types of natural environments. Visiting green spaces, inland blue spaces or coastal blue spaces within the past four weeks was positively associated with well-being and inversely associated with mental distress.

Feeling psychologically connected to nature, known as nature connectedness, was similarly linked to mental well-being and was associated with a lower likelihood of using depression medication.¹⁶ In separate studies, it was observed that older adults with access to parks exhibited better physical and psychological health, while individuals who frequented blue spaces also reported improved health.¹⁷

Another variable is exposure to specific sites and sounds in the natural world, like birds and their songs. It turns out these sweet melodies may yield lasting mental health benefits, according to research from the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London.¹⁸

The study took place between April 2018 and October 2021. It involved 1,292 participants primarily from the U.K., the European Union and the U.S. A cellphone app called Urban Mind was used to collect real-time reports of participants' mood and environment.

Significant improvements were reported in the mental well-being of people with and without depression upon seeing a bird or hearing birdsongs compared to not seeing or hearing a bird.¹⁹ The positive benefits to mood lasted until the next app message, or up to eight hours.²⁰

Why I Disagree With This Recommendation

I view the 20-5-3 nature rule as a feeble attempt to identify the minimum requirement of being outdoors in the sun. I realize that many, even at this astonishing low level, still fail to achieve this recommendation. This is a devastatingly sad commentary on just how unhealthy our behavior has become.

Getting regular daily sun exposure has been a passion of mine for several decades. There are many benefits to this activity that was engaged in by virtually every one of our ancient ancestors. It was virtually impossible to violate this because the daily necessities of living forced nearly everyone to experience daily sun exposure, not 20 minutes three times a week.

Even up to the turn of the twentieth century the most common occupation in the US was that of farmer who is outside most of the day. Today virtually all of us have indoor jobs. So, even if we live at a latitude where healthy sun exposure is possible, most fail to go outdoors and are stuck inside all day long.

I strongly believe that most of us should strive to be outdoors for an hour a day. Ideally that hour should be around solar noon to achieve the benefits of UVB and near IR wavelengths that, not only increase vitamin D, but additionally increase a storage form of energy known as structured water that can power your body when you don't have sun exposure.

Sources and References

- [1, 3, 4, 8, 9, 12 Pocket June 12, 2021](#)
- [2 Men's Health June 4, 2021](#)
- [5 Cogn Res Princ Implic. 2020 Dec; 5: 51](#)
- [6 Urban Sci. 2022, 6\(1\), 3; doi: 10.3390/urbansci6010003](#)
- [7 Nonlinear Dynamics Psychol Life Sci. 2015 Jan;19\(1\):1-12](#)
- [10 Berkeley News July 12, 2018](#)
- [11 Emotion December 2018](#)
- [13 Yale Environment 360 January 9, 2020](#)
- [14 Ivanhoe.com May 8, 2022](#)
- [15 Proc Biol Sci. 2020 Dec 23; 287\(1941\): 20201811](#)

- ¹⁶ Sci Rep. 2021; 11: 8903., Abstract
- ¹⁷ Int J Environ Health Res. 2021 Sep;31(6):703-714. doi: 10.1080/09603123.2019.1681379. Epub 2019 Oct 18
- ¹⁸ Scientific Reports October 27, 2022
- ¹⁹ The Hill October 27, 2022
- ²⁰ King's College London October 27, 2022