

Why Hiking Is Uniquely Beneficial for Your Body and Brain

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STORY AT-A-GLANCE

- › Hiking offers unique benefits by combining outdoor exposure with full-body exercise, engaging multiple muscle groups and challenging balance on varied terrain, leading to improved overall fitness and agility
- › Even a single hiking session can improve heart health by enhancing endothelial function, reducing arterial stiffness, and increasing endothelial progenitor cells, which are important for vascular repair
- › Hiking in nature boosts mental wellbeing by reducing stress, improving mood, and fostering a sense of connection to the environment and others, with benefits seen after just 120 minutes weekly
- › The activity is accessible to all fitness levels, from beginners to advanced hikers, and can be easily scaled in difficulty. It requires minimal skills and equipment, making it a cost-effective health intervention
- › Healthcare providers are encouraged to prescribe hiking for its immediate and long-term health benefits, including decreased blood pressure, enhanced immune function, weight loss, and improved overall wellness

Hiking, often overlooked in favor of more intense forms of exercise, offers a unique combination of physical and mental health benefits that set it apart from other activities. Unlike the repetitive motions of gym workouts, hiking immerses you in natural environments while providing a full-body workout.

This blend of outdoor exposure and physical exertion creates a synergistic effect, enhancing both physical health and mental well-being in ways that few other activities can match. In the U.S., more Americans are catching on to the unique benefits of hiking. In 2023, 61.4 million Americans hiked at least once, representing an 89% increase in hiking participants since 2010.¹

Hiking's Diverse Landscapes Work Multiple Muscle Groups

The act of traversing varied terrain not only engages multiple muscle groups but also challenges balance and coordination, promoting overall fitness and agility. Unlike the predictable surfaces of treadmills, hiking on natural trails presents a constantly changing landscape that requires continuous adaptation. In fact, this is the definition of hiking.

As noted in the *Journal of Physical Activity and Health*, "Hiking is defined as the act of walking over a distance in the outdoors, often in a natural environment with geographical obstacles."² Uneven ground, rocky paths and varied inclines challenge your body's proprioception and balance, activating stabilizing muscles that often go unused in day-to-day life.

As hikers navigate uphill sections, they engage their quadriceps, hamstrings and calves in a powerful lower body workout. The gluteal muscles are particularly activated during steep ascents, contributing to improved hip stability and lower back health.

Downhill portions, while often perceived as easier, actually provide an eccentric muscle workout, strengthening the anterior muscles of your legs as they control descent. Core muscles are consistently engaged throughout a hike, working to maintain balance and posture as your body moves across changing gradients and surfaces.

"Hiking is really a three-in-one exercise that combines components of cardio, balance, and weightlifting – and this increased complexity creates a greater challenge for our bodies," Joyce Gomes-Osman, a physical therapist and neurologist at the University of Miami Miller School of Medicine, told National Geographic.³

Even One Hike May Improve Your Heart Health

Hiking offers significant cardiovascular benefits as well, making it an excellent choice for improving cardiac fitness. Unlike [high-intensity workouts](#), which can backfire if you overdo it, hiking provides a sustained, moderate aerobic activity that effectively strengthens your heart muscle over time.

In a study published in the journal *Atherosclerosis*, researchers investigated whether a single hiking session could enhance endothelial function, reduce arterial stiffness and increase endothelial progenitor cells (EPCs), which play an important role in vascular repair.⁴

The study included 24 healthy participants, who went on a moderate-intensity hike that was completed within 13 hours. Significant benefits were noted, including improvements in flow-mediated dilation, an indicator of endothelial function, and Augmentation Index, a measure of arterial stiffness. EPCs also increased.

"Even single bout hiking improved vascular endothelial function and arterial stiffness and augmented the number of circulating EPCs in young healthy volunteers," the researchers concluded.⁵ The gradual inclines often found on hiking trails provide a gentler form of resistance training for the heart, allowing it to adapt and grow stronger without the sudden stress that can occur during more intense workouts.

Further, nature-based recreational physical activity, such as hiking, was estimated to have prevented 12,763 cases of non-communicable disease in England in 2019.⁶ This includes reductions in ischemic heart disease, ischemic stroke, Type 2 diabetes, colon cancer, breast cancer and major depressive disorder.

How Hiking Rejuvenates Your Mind

Hiking's combination of physical activity and immersion in nature can significantly boost mental wellbeing, beyond what may occur with other forms of exercise.

"Hiking is an amazing way to get outside and explore, reconnect with feelings of wonder and awe, and reap countless benefits such as decreased anxiety and depression and reduced risk of heart disease, high blood pressure, diabetes, and obesity," Alyson Chun, assistant director of the Adventure Sports and Recreation Adventure programs at Stanford University, told National Geographic.⁷

Quite simply, spending time outdoors in the sunlight, fresh air and peaceful surroundings allows your mind to decompress. When researchers investigated the effects of various leisure activities on mental health among older adults, they found hiking was beneficial.⁸

Nature-based interventions, including hiking in natural areas, was also found to be beneficial for older adults' health and well-being in a study published in the International Journal of Environmental Research and Public Health.⁹ The act of hiking through forests, mountains or meadows may have a meditative quality, allowing you to disconnect from daily worries and practice mindfulness almost effortlessly.

It's also a simple way to get your daily or weekly "dose of nature." A study in Scientific Reports examined the relationship between nature exposure and self-reported health and well-being.¹⁰ The research, which included data from 19,806 participants, found that people who spent at least 120 minutes in nature during the previous week were more likely to report good health or high well-being compared to those with no nature contact.

The researchers also noted that the method of accumulating this time didn't matter; whether achieved through one long visit or several shorter ones, the benefits remained consistent. I strongly believe that most of us should strive to be outdoors for an hour a day, however. Ideally that hour should be around solar noon to achieve the benefits of sunlight exposure.

Further, the resulting nature connectedness, or feeling psychologically connected to the natural world, is similarly associated with mental well-being and has been linked to a lower likelihood of using medication for depression.¹¹

Hiking for Stress Relief and Cognitive Benefits

The changing scenery and the gentle sounds of nature, including singing birds, serve as a powerful antidote to the stresses of modern life, reducing cortisol levels¹² and improving mood.

Hikers exposed to a "phantom birdsong chorus," which consisted of hidden speakers that played a variety of birdsongs on two trails, reported higher levels of restorative effects.¹³ Researchers suggested that maintaining and improving natural soundscapes in protected areas may be one way to maximize humans' time spent in nature, but even hearing birds' natural songs while hiking is likely to be beneficial.

That being said, other research suggests that people's moods improve after hiking, regardless of the environment.¹⁴ Together, the evidence for hiking's role in health and wellness is so strong that researchers writing in the American Journal of Lifestyle Medicine suggested health care practitioners start handing out hiking prescriptions:¹⁵

"Hiking is a cost-effective intervention that encourages people to be physically active while spending time in nature. Time in nature can lead to health benefits through contact with the natural elements, participation in physical activity, restoration of mental and emotional health, and time with social contacts.

Benefits may be immediate, such as decreased blood pressure, decreased stress levels, enhanced immune system functioning, and restored attention, or transpire over time, such as weight loss, decreased depression, and overall wellness. Health care providers are ideally positioned to recommend and prescribe hiking to clients."

As hikers navigate trails and connect with the natural world, they experience a form of moving meditation that can lead to cognitive benefits, including reduced anxiety and improved mindfulness and mood.¹⁶

Perhaps one of the most underappreciated mental health benefits of hiking is its potential to combat feelings of isolation and loneliness. Whether done solo or with

companions, hiking fosters a sense of connection – to nature, to oneself and often to a larger community of outdoor enthusiasts. The shared experiences and camaraderie found on the trails can lead to meaningful social connections, further enhancing emotional wellbeing.

As noted in the Journal of Physical Activity and Health, "A hiking program that two of the authors conducted with older adults resulted in strong social cohesion, which led to a subgroup continuing regular group-based hiking long after the program ended."¹⁷

Hiking Is an Accessible Activity Suitable for All Fitness Levels

Adding to hiking's benefits is the fact that it's accessible to all, providing a free activity that requires only limited skills. Writing in the Journal of Physical Activity and Health, researchers explained:¹⁸

"One popular and accessible outdoor activity is hiking, likely due to its limited skill requirement and easy acceptability ... Although outdoor walking is the most readily practiced PA [physical activity] and is known to have many positive health benefits, hiking can provide further advantage due to the greater intensity and muscular endurance requirements.

Hiking is also a form of 'green exercise,' a term used to describe engaging in exercise while in the natural environment, providing synergistic benefits from nature and PA exposure.

Time spent in natural environments has been associated with significant mental and physical health benefits, with greater benefits among those of lower socioeconomic groups. For example, nature-based activity has been advocated for as an efficient health-supporting measure for new immigrants in Nordic countries to reduce health inequity."

Hiking is also a versatile activity that can be adapted to suit individuals of all fitness and mobility levels. The beauty of hiking lies in its scalability – from gentle nature walks on flat, paved trails to challenging mountain ascents. Beginners or those with limited

mobility can start with short, level paths in local parks or nature preserves, gradually increasing distance and difficulty as their stamina improves.

For those seeking more intensity, steeper trails, longer distances or **added weight in backpacks** can provide a more rigorous workout. Many hiking areas offer a range of trail options, allowing groups with mixed abilities to enjoy the same location while choosing paths that match their individual capacities.

Additionally, adaptive equipment like trekking poles has made hiking more inclusive, enabling people with various physical limitations to experience the joys of navigating natural landscapes. This flexibility ensures that almost anyone can reap the physical and mental benefits of hiking, regardless of their current fitness level or mobility constraints. The Journal of Physical Activity and Health researchers added:¹⁹

"In our qualitative research, older adults reported a twice-weekly hiking program to be enjoyable and to elicit positive health, fitness, and social benefits.

Furthermore, hiking promotes opportunity for individuals to be active based on varying fitness, skill, and sociodemographic levels.

We have recently found that participants of varied fitness levels self-selected similar relative rates of exercise intensity ... regardless of differences in hiking ability.

... Hiking and trail walking are activities that may also be accessible to participants with varying degrees of mobility as trails can be chosen based on skill level. Many trail systems include signage to denote level of difficulty (easy, moderate, and strenuous), and in many communities (in Canada), there are options for maintained gravel or boardwalk trails in addition to wooded trails."

So, whether it's a short nature walk or a demanding mountain trek, hiking offers a customizable path to improved physical health, reduced stress and enhanced overall well-being. By stepping onto the trail, you're embarking on a journey that strengthens your connection to nature while building your physical strength and innate capacity for renewal.

In an increasingly urbanized and digitalized world, the simple act of hiking emerges as a powerful antidote, inviting you to rediscover the profound benefits of moving through natural spaces.

Sources and References

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