

# Nature walking and health:

## An update on benefits to mind, body and spirit of time in nature



### **Growing scientific evidence shows that exposure to nature and outdoor activities such as forest bathing improves health and well-being**

*by Shirley Archer, JD, MA*

Have you felt awe at nature's beauty after watching a glowing, multicolored sunset? Or invigorated while inhaling the scent of the ocean, as you hear waves crash, feel cool mist against your skin and dig bare toes into sand? Or serene from listening to a stream gurgle and leaves rustle in a summer breeze? These are all examples of nature's power to capture attention, transform mood and offer peaceful perspective on our place in nature's vast scheme. Intuitively, we know these experiences make us feel good.

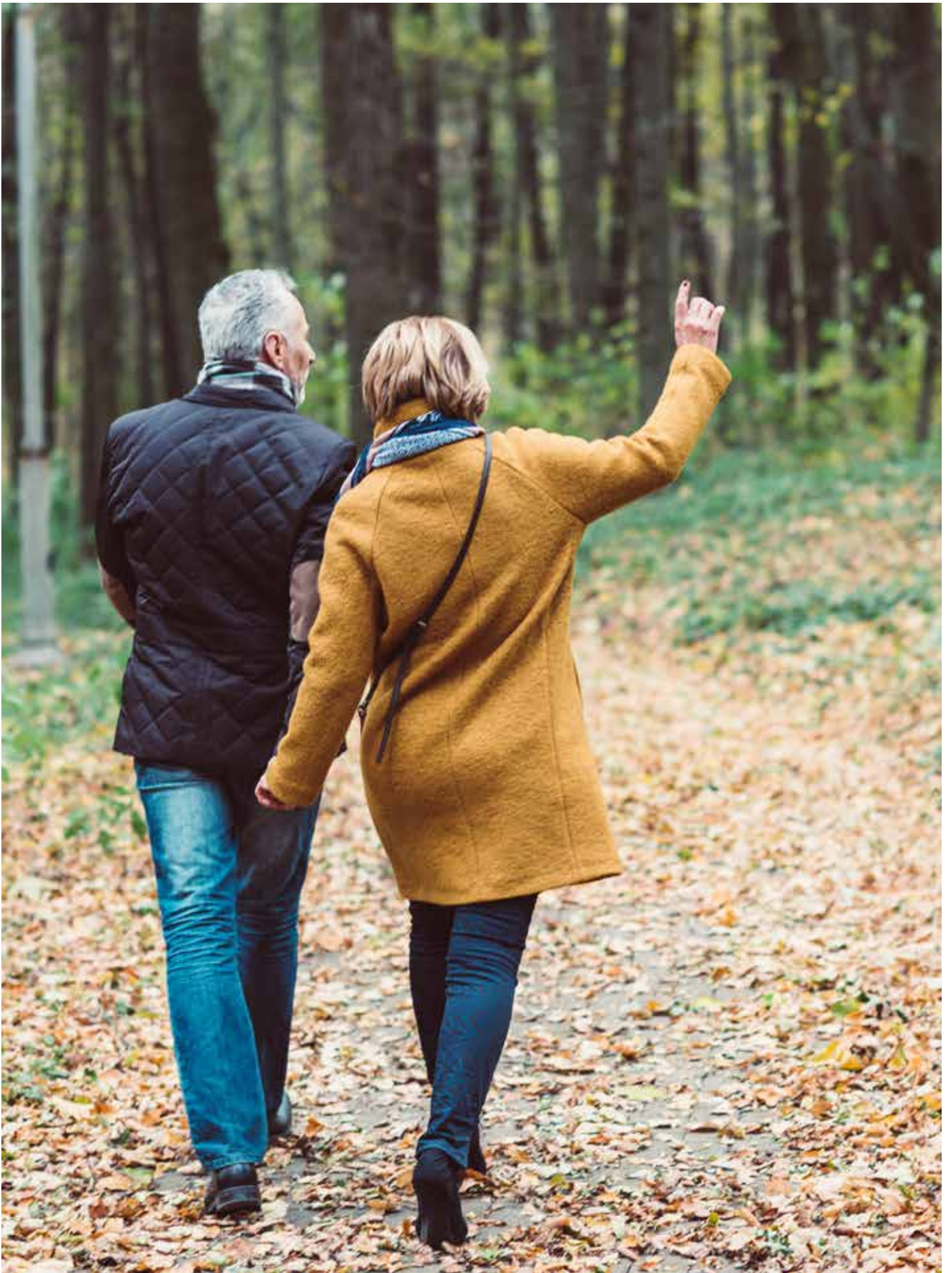
Today, compelling and growing scientific evidence offers proof that we reap health benefits from time spent in

nature. In fact, research findings have motivated organizations and medical centers to offer nature therapy or "forest bathing" as complementary care for people with certain mental health issues, cancer and some chronic diseases, and for physicians to begin giving "nature prescriptions."<sup>1,2</sup>

Researchers continue to explore details of dose, duration and response to define clinical guidelines for nature prescriptions.<sup>3</sup> But, significant evidence exists regarding the physical, mental and even spiritual benefits of nature exposure. Many older-adult residential communities and recreational centers integrate outdoor features in their design, such as gardens, fountains, walking paths and more.

As a professional who works in an active-aging setting, are you fully aware of the latest findings on the potential

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*Shirley Archer enjoys the greenery around her as she walks her dog. Such outdoor activities bolster wellness. Image courtesy of Shirley S. Archer Associates*

health benefits offered by these spaces? In this article, you'll learn why you may want to spend more time in nature and promote outdoor activities for others.

## **What are nature therapy, 'forest bathing' and green exercise?**

Proponents of nature therapy and forest bathing cite the comprehensive health benefits of exposure to nature and to green environments supported by studies. These nature activities can include the following:

**Nature therapy.** Nature therapy is defined as a set of practices aimed at

achieving "preventive medical effects" through exposure to natural stimuli that stimulate physiological relaxation and boost weakened immune functions to prevent diseases. Nature therapy can include petting animals, "care farming," enjoying sensory gardens, camping with activities like nature-inspired arts and crafts or even therapeutic fishing, with trained wilderness therapists.<sup>1</sup>

**Forest bathing.** Forest bathing, known as *Shinrin-Yoku* in Japan, is a type of nature therapy and an official form of Japanese preventive medicine since 1982. It's a traditional Japanese practice of mindfully immersing oneself in nature by

stimulating all five senses while walking amidst trees.<sup>1</sup> Today, forest bathing is led by professionally trained guides or "forest medicine" experts, and, in Japan and South Korea, on officially designated forest therapy trails. Forest bathing is a physical activity, but it's not a fitness program.

**Green exercise.** Green exercise is any form of physical activity that takes place in urban green spaces like city parks and maintained campuses or in completely natural green areas. Researchers have identified three dimensions that affect gaining benefits from green exercise:

- degree of environmental naturalness from completely manicured to untouched
- amount of nature engagement from active interaction on physical, psychological and spiritual levels and from stimulation of all five senses
- intensity of physical activity from high to mild

The amount of nature engagement seems most relevant for health improvement.<sup>4</sup> Since "green exercise" encompasses so many activities in diverse natural settings, this article focuses on the proven value of nature walking.

## **Growing recognition of health benefits to body, mind and spirit from nature**

Japanese scientists have led the way in investigating benefits of forest walking with senses wide open. The Japanese government has designated forest medicine experts, certified official forest therapy trails and funded millions of research dollars. Reasons for this include the facts that Japan is a densely populated nation with a growing older-adult population, chronic stress is prevalent and reducing healthcare costs is a priority.<sup>5</sup>

While scientific interest surged in Japan, the realization that exposure to nature offers health benefits is gaining momen-

tum worldwide. In Norway, people are returning to the concept of *friluftsliv*, loosely translated as “open-air living”; the Norwegian University of Life Sciences has created a portal for nature and human health research.<sup>6</sup> In the United Kingdom, Natural England, the government’s adviser for the natural environment, supports “green care” services and the National Health Service supports “green prescriptions.”<sup>7</sup> And, the World Health Organization (WHO) recognizes the link between urban green spaces and improvements in health and well-being.<sup>8</sup> A 2016 WHO report concludes that older adults particularly benefit from such green spaces, along with “economically deprived communities,” pregnant women and children; in fact, European member states of the United Nations have committed “to provide each child by 2020 with access...to green spaces in which to play and undertake physical activity.”<sup>8</sup>

Below are some of the evidence-based health benefits of forest bathing:

- lower heart rate
- lower blood pressure for those with hypertension; improved blood pressure for those with low blood pressure
- lower cortisol levels
- lower blood glucose levels in those with type 2 diabetes
- higher natural killer immune cell (NK cell) activity, indicating a stronger immune system
- improved quantity and quality of sleep
- increased physiological relaxation
- less stress
- less anxiety
- reduced feelings of hostility
- alleviated feelings of depression
- less pain and improved ability to cope with chronic pain

Research findings of particular interest for those who work with older adults include the following:

**Reduced blood pressure and heart rate.** Numerous studies show a significant effect on blood pressure from exposure to a forest environment. In a 2017 review of studies that included 732 participants, researchers found that

forest bathing reduced blood pressure, particularly among those with high blood pressure and for people who were in mid- or later life.<sup>9</sup> Heart rate also significantly decreased after interventions. Forest bathing activities included walking in forest areas or simply sitting and viewing forest landscapes. Interventions ranged from 15 minutes to three-day programs. Study authors concluded that the positive effects on blood pressure were not from physical activity, but rather from other factors in the forest environment. Limitations of the study include the fact that most trials only looked at immediate effects, so long-term effects could not be evaluated; however, reduction in blood pressure after one day of forest therapy lasted up to five days. Repeated exposure to the forest may be needed for long-term benefits.

**Reduced depression.** Researchers note that active participation and involvement with nature is most effective for improving depression, particularly for adults with health problems. A 2017 systematic review showed that forest therapy activities ranging from as little as 12 minutes up to three hours, for as short as one day up to two-day programs, helped participants alleviate depression. Active participation and involvement involves more than simply walking, however. It requires multisensory stimulation through specific activities, like consciously breathing in woodland scents and handling natural materials like stones and bark.<sup>10</sup>

In a 2007 University of Essex study with 20 participants, sponsored by the UK nonprofit group Mind, investigators found that 71% of these individuals reported lower levels of depression and tension after a country walk. And, 90% felt increased self-esteem.<sup>11</sup>

**Less pain, reduced depression and improved quality of life.** Spending time in a forest therapy camp helped people with chronic widespread pain to feel less pain and to cope better with persistent pain, resulting in better quality of life, according to findings by Inje University staff

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## Resources

### Internet

#### Association of Nature & Forest Therapy Guides & Programs

<http://www.natureandforesttherapy.org>

#### David Suzuki Foundation One Nature Challenge

<https://david Suzuki.org/take-action/act-locally/one-nature-challenge>

#### Green Exercise: The Home of Green Exercise Research at the University of Essex

<http://www.greenexercise.org>

#### International Society of Nature and Forest Medicine

<http://infom.org/index.html>

#### Mood Walks for Campus Mental Health: “Mood Walks for Older Adults: An Ontario Pilot Project” (with downloadable infographic)

<https://www.moodwalks.ca/about-mood-walks/evaluation-summary-report>

### Print

Li, Q. (2018). *Forest Bathing: How Trees Can Help You Find Health and Happiness*. New York, NY: Viking Press

Louv, R. (2012). *The Nature Principle: Reconnecting with Life in a Virtual Age*. Chapel Hill, NC: Algonquin Books

Miyazaki, Y. (2018). *Shinrin Yoku: The Japanese Art of Forest Bathing*. Portland, OR: Timber Press

Williams, F. (2017). *The Nature Fix: Why Nature Makes Us Happier, Healthier and More Creative*. New York, NY: W.W. Norton & Company



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from the Stress Research Institute in Seoul, South Korea. Pain is subjective, emotional and physical. Researchers found that after participating in multiple forest-based activities that included walking, mindfulness-based meditation, sensory awakening exercises, and pain education, participants

showed more physiological relaxation as demonstrated by increased heart-rate variability and improved immune response with higher levels of NK cell activity. Individuals reported significantly lower levels of depression and better health-related quality of life. Study authors recommend forest therapy for managing and improving both physiological and psychological aspects of pain.<sup>12</sup>

**Better mood and self-esteem.** Being physically active in nature boosts mood and increases self-esteem. In a 2010 review of studies that included more than 1,200 participants engaged in various outdoor activities, researchers found that green exercise improved people's mood and self-esteem after as little as five minutes. All types of natural settings improved both mood and self-esteem, and the presence of water generated greater effects.<sup>13</sup>

**Lower stress.** One of the most important and universal reasons for forest bathing and doing other nature therapies worldwide is its impact on stress levels. A significant amount of research demonstrates that the restorative effects of nature stimulate physiological relaxation and boost immune-system functioning. Multiple studies show that nature exposure reduces heart rate, lowers blood pressure, reduces blood sugar levels and decreases cortisol—all physiological markers of stress reduction. At the same time, participants who suffer from chronic stress have reported less hostility, depression and anxiety after forest therapy.<sup>1</sup>

So, given all these benefits to mind, body and spirit, are we paying enough attention to our innate need for connection with nature?

## 'Nature deficit disorder'

In 2005, Richard Louv, author of *Last Child in the Woods*, coined the term *nature deficit disorder*, based on the concept that people, especially children, are spending more indoor time, resulting in alienation from nature and more vulnerability to

negative moods and reduced attention span.<sup>14</sup> Efforts to improve health behaviors often focus on physical activity, nutrition, stress management, sleep, social support, smoking cessation and effective disease management. Only within the past decade has attention shifted to acknowledge an ecological model to promote health and wellness. Part of the challenge is that research historically studied human health in isolation, rather than in relationship to physical environments such as green spaces or forests.<sup>5</sup> This is changing.

Modern living has severely reduced the amount of time people spend outdoors. Americans and Canadians spend an average of 87% of their day in buildings and 6% in cars, leaving only 7% for outdoor time and that includes walking to stores and to public transportation, so even less time is available for being active in nature.<sup>15</sup>

Consider the problem of sleep disturbance. Many people, particularly older adults, suffer from an inability to fall asleep, to stay asleep or to enjoy satisfying sleep quality. While causes are multifactorial, one possible contributor is disruption to our circadian, or daily, rhythms from lack of exposure to nature and to natural light. Emerging research shows that when compared to an equivalent walk in an urban setting, an afternoon walk in a natural environment, for as little as 17 minutes, can result in more restorative nighttime sleep.<sup>16</sup> Perhaps, instead of searching for complex or pharmaceutical solutions to everyday issues, we may quite literally look in our own backyards for answers.

## 'In wildness is the preservation of the world'

Henry David Thoreau, a 19<sup>th</sup>-century American author, wrote, "In wildness is the preservation of the world." Wildness may also hold keys to self-preservation.

While scientists tease out factors for why nature is such a powerful health enhancer, we don't need to wait to incorporate more



Shirley Archer. Image courtesy of Shirley S. Archer Associates

## Mark your calendar

Learn more about green exercise science, mindfulness and meditation from Shirley Archer at the International Council on Active Aging Conference 2018. This year's conference and trade show will be held October 18–20 at the Hyatt Regency Long Beach and the Long Beach Convention & Entertainment Center in Long Beach, California.

Archer will present the session, "Touching earth: Mindful walking meditation," on Friday, October 19; 8:00 a.m.–9:30 a.m. Join this session to learn more about mindfulness, the science behind nature's positive effects, particularly for older adults, and how to offer walking meditation to your clients as a tool to boost mindfulness, reduce anxiety and improve health and well-being. Wear comfortable shoes, as you'll go on a Meditation Walk in this interactive workshop. For more information, visit <http://www.icaa.cc/conferenceandevents/overview.htm>.

nature into our programming and into our environments. Nature imagery, sounds, scents and plants can be integrated into indoor settings to enhance mood and produce feelings of well-being. And we can consciously make an effort to increase actual outdoor time.

A key aspect of nature's influence may lie in how it touches us spiritually. Contact with nature makes us feel holistically connected to the world—hopeful about the regenerative power of life itself and of our own small, individual place. We are part of nature; nature is part of us. Seasons come; seasons go. Life has a beautiful and timeless rhythm. Nature fills us with awe and reminds us of powerful mysteries that can only be accepted, not explained. Perhaps moving us to revel in acceptance of this truth is nature's true gift. 🌿

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## Ten tips for enriching nature walks

*How do you encourage people to engage more actively with nature for a richer, restorative walking experience? Shirley Archer provides the tips below for you to share with your residents, members or clients.*

- Disconnect from your smartphone or mobile device.
- Breathe deeply and commit to slowing down.
- Cultivate awareness of the present moment.
- Engage with all five senses—look at colors, smell scents, touch trees, listen to sounds, taste the air.
- Develop embodied awareness—what are you feeling intuitively?
- Take seated breaks in inviting spots, enjoy the view and observe nature's patterns.
- Experience yourself as part of nature.
- Restore perspective; feel space as vast and time as infinite.
- Appreciate the beauty, power and rhythm of life surrounding you.
- Accept and be open to whatever experience comes.