


NATURE'S



Someday soon when you visit your doctor for a stress-related condition, they may just tell you to go take a hike (or a day by the sea or a stroll in the park). That's because research is affirming the calming, curative effects of getting outside in a natural setting. Here's how you can do it, no matter where you live.

BY SHARLENE BREAKEY

During the pandemic, biking through the park, planting a garden, and sitting by a lake breathing the fresh air were safer ways to leave your house than more crowded indoor activities. But sticking with these habits even after theaters and restaurants are fully open is a smart move, especially if the thought of reentry is a bit anxiety-inducing. “Being outdoors is a natural antidote to stress,” says Richard Taylor, Ph.D., head of the physics department at the University of Oregon, who studies how nature’s patterns affect mental

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health. His research shows that stress levels plummet by 60% when we view patterns like those found in nature. “Humans evolved for thousands of years outdoors, and our physiology is designed around it,” he explains. “But then we built these boxes to live in, and there has been a growing move to be inside more. Our stress levels keep growing because of that too.”

Indeed, study after study over the past two decades has confirmed that green spaces, water, and sunlight confer health benefits that range from improved healing rates after surgery and strengthened immunity to decreased chronic pain. But the impact on mental health might be most dramatic of all: Therapists and doctors use water and bright-light therapy to treat not only seasonal affective disorder, but also depression, PTSD, and ADHD. Check out how scientists think being in nature is curative—as well as how to take advantage of it even in more urban settings.

WATER, WATER EVERYWHERE

“When I walked along the beach and heard the rhythm of the tide and saw the eagles and herons soaring above, I felt liberated, unburdened for the first time in months,” says Sarah Pollock, a writer and professor emeritus at Mills College in Oakland, CA, of her first visit to her mother’s seaside home after the pandemic started. That day, she and her husband vowed to make a trip to the

beach—to hike, to read, to just sit and stare—every week.

Sarah’s reaction makes sense, says Wallace J. Nichols, Ph.D., author of *Blue Mind: The Surprising Science That Shows How Being Near, In, On, or Under Water Can Make You Happier, Healthier, More Connected, and Better at What You Do*. “Living things crave water, and honestly we flourish when we’re near it,” he says, explaining that seeing or even hearing water triggers a flood of neurochemicals that increase blood flow to the brain and heart. “It’s instantly calming,” he says.

A 2020 review of research on the human-water connection concluded that being in or near water had a direct positive impact on mental health—in one study, even just standing in front of an exhibit in an aquarium was enough to lower heart rate and lift mood. A newer study from the U.K. found that participants from low-income households were 40% less likely to exhibit symptoms of mental illness when they lived near water compared with those at the same income level who lived farther inland. Nichols explains that this is because back when our ancestors were on the move, finding water was a matter of life or death, so hearing or seeing it is enough to ease the mind; floating or swimming has been shown to almost immediately produce a meditative state.

The best news is that achieving “blue mind”—the term researchers commonly use to describe the peaceful state induced by proximity to water—is very simple, says Nichols. We reap the



benefits, to different degrees, whether we take a long swim in a lake, stare out at crashing ocean waves, listen to a trickling brook, or just sit on a bench by a pond watching ducks swim by. “Do what works for you, and do it as often as possible,” he says, adding that even on days when you can’t get outside, you can help yourself breathe easier by taking a shower or a bath or by staring at a photo or painting of, say, dolphins swimming, especially if it reminds you of a particular body of water that brings you joy.

You can even tap into the wonder of water by streaming a documentary such as the Oscar-winning *My Octopus Teacher* or watching a livestream of jellyfish at the Monterey Bay Aquarium (on YouTube) or colorful tropical fish from the Shedd Aquarium in Chicago (at sheddaquarium.org).

FEELING SMALL & FULL OF AWE

While the peace and quiet of nature certainly soothes our senses, the overpowering immensity of the great outdoors can be just as calming. Tabitha Dosch, a communications specialist in Chicago, was speeding down a bike path near her house one day last summer when, as she got to the top of a hill, a giant five-point buck appeared in the middle of the path. They stared at each other for a few moments, and when the buck finally ran off, Tabitha burst into tears: “I wasn’t scared so much as overwhelmed by his size and beauty. I felt transported and had this ‘everything’s OK’ feeling that lasted all day.”

Even something as simple as watching plants emerge in your backyard can

create a sense of awe. “Out hiking or even just puttering in my garden, I find myself deeply amazed by things like the moss on the trees and the rocks, the lichens, the many types of mushrooms—and I think about all the things nature does to survive and adapt,” says Deb Stemmerman, a Seattle obstetrician who works at a hospital that was overrun during the first coronavirus wave.

Experts say that what these women experienced was awe, an exhilarating, sometimes even slightly frightening wonder that wells up when we encounter something beyond the bounds of our everyday experience. That emotion can be a powerful boost to mental health, and the benefits tend to last, says Jennifer Stellar, Ph.D., an assistant

professor and director of the Health, Emotions, and Altruism Lab at the University of Toronto.

Research is confirming this phenomenon: A study at the University of California, Berkeley, found that disadvantaged youths and military veterans who went white water rafting in a beautiful but rugged setting described wonderment that went beyond the thrill of the ride—they reported higher levels of well-being and less stress a week later. Stellar explains that awe deepens our feeling of connection to the earth and to other creatures. We fade away into the moment, experiencing that feeling we describe as being “one with nature,” Stellar adds. Trying to comprehend the immensity, she says, overpowers the



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ego, which is usually busy narrating our lives, often with negative chatter. Feeling that you are a small part of something larger quiets that voice.

No need to book a trip to Machu Picchu to experience awe—it's more a matter of slowing down and noticing these wonders rather than blowing right past them. Pulling over to really appreciate a rainbow can provide that dose of well-being. Visit a small oasis of natural beauty you live near but may have taken for granted—a forest preserve, a craggy bluff, or a rushing creek. Or simply zoom in on the beauty of a butterfly or a flower in your windowsill pot to take in how extraordinary it is. “Details like the shiny filaments that make up a butterfly’s wing can be mind-blowing,” Stellar says.

FINDING PEACE IN PATTERNS

Have you ever really noticed the way tree branches, well, branch out, getting progressively smaller? Or how the sun’s rays glint on a lake, or how the flames of a campfire crackle? Most of nature is made up of monotonous but soothing shapes or movements like these that repeat endlessly at finer and finer scale. Those patterns are called fractals, and they offer yet another way of soothing the soul. In fact, when researchers asked participants to view the types of fractal patterns found in nature, electroencephalograms (EEGs) revealed that alpha waves peaked in the frontal region of the brain and beta

waves peaked in the parietal region—indicating that looking at nature is both relaxing and restorative.

Meghan Eplett, a New York City designer, had this experience on a (socially distant) yoga retreat last fall. When her group sat down by a creek, she took out her pad to draw. She got so absorbed in recreating the details of the creek and the forest behind it that when an otter zipped by and snapped her out of it, she discovered that the rest of her class had gone. “I got so lost in recreating the glittering patterns dancing on the water and the layers of gray in the rocks, I didn’t even notice when they left! It was the first time in months that I’d had no nagging worry in the back of my mind,” she says.

Taylor explains why our visual systems, having evolved over millennia in nature, are still soothed by these repetitive patterns: Much of the natural world—leaves, patterns in the sand, clouds, roots, branches, waves washing in—is made up of fractals, and historically, if that was all we saw, it meant that there were no predators darting into the landscape or lightning bolts threatening to strike us. In other words, we were safe. “We call it fractal fluency, or ‘effortless looking,’ and more than just reducing stress, taking in fractals is actually restorative,” he says.

Fortunately, getting the restorative benefits from these patterns requires very little effort—just stare into nature, whether up at the clouds or at the veins of a leaf. Even short daily doses of this kind of “effortless viewing” will help, but

to really rack up the benefits of nature's patterns, Taylor suggests heading to the beach or the backyard with a sketchbook and a pencil in hand—no artistic talent required. Drawing what you see in nature can magnify the calming effect the patterns have on our brains, says Taylor, who has studied how some artists, such as Jackson Pollock, subconsciously embedded fractals into their work. “Creating is good for everyone; when you aren’t just passively looking, but actively recreating nature on paper, the fractals flow in through your eyes and out through your fingers, and your whole body reaps the benefits,” he says.

LIGHT YOUR OWN WAY

As at ease as we feel amid greenery or near water, it might be the warm rays of the sun that give us the greatest lift. When Renee Nelson, a morning TV anchor in Phoenix, was reporting on the pandemic during the first months of lockdown, the combination of worry, exhaustion, and being sequestered from her family and coworkers took a toll. “Studios often have no windows,” she

says. “I struggled to know what time of day it was and found myself battling some really dark feelings.” Her mood began to lift once she started taking walks downtown between shows: “I’d lift my face to the sun to prove to my brain that it was actually daytime, and it made me feel so much better. I started to sleep well again too.”

Exposing ourselves to sunlight—especially in the bright morning hours—works to orient our bodies, regulating the biological clock that sits in the hypothalamus and controls, among other things, when we wake up and fall asleep. That, in turn, has a positive effect on everything from hormones to brain chemistry. “Being inside, especially as much as we



have been during the pandemic, pushes our internal clocks later,” says Helen Burgess, Ph.D., a professor and codirector of the sleep and circadian research lab at the University of Michigan. “Studies show that even a small shift later can lower our mood. Getting out in the morning light for 30 minutes every day is enough to shift it earlier.” (Burgess points out that even an overcast day will provide more intense light than you can typically get inside your home.) That helps regulate sleep and consequently your mood.

In fact, research connecting bright light to mental health has gone into overdrive in recent years. One study showed that bright-light therapy was as effective for treating major depressive disorder as antidepressants were. Burgess herself stumbled upon data supporting this when veterans who were participating in a study of sunlight and chronic pain reported reduced symptoms of PTSD. A subsequent clinical trial confirmed that half an hour to an hour of morning light indeed had a significant impact on mood.

But while morning light has the greatest impact on circadian rhythms, Burgess says spending time in the sun at any hour of day is beneficial. “There’s evidence that sunlight can immediately increase serotonin levels in the brain,” she explains. That’s what Hannah Touby, a recruiter who lived in Los Angeles through much of the pandemic, learned after she started to use the extra hours she had through not needing to commute to bike or run outside with friends. “I was surprised by how much I realized I was craving the sun,” says Hannah. “I found myself scurrying for any bright spot I could find throughout the day just to soak in some extra vitamin D.”

That’s not surprising to Burgess, who suggests finding time to get outside even when we can all gather indoors again. “Short breaks give you a serotonin boost and make cortisol levels drop. So walk the dog while the sun is up, take a few calls outside, or enjoy a leisurely stroll around the block,” she says. “It will help you feel good in the world again.”