

WELLNESSMONTHLY

What's Behind Stress-Reduction Practices? | December 2020



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Stress-Reducing Practices Elicit Physical Response

In a year of unprecedented collective anxiety, many of us are hearing the same stress management advice: meditate, practice yoga and connect with nature.

Sounds good, but how can these recommendations improve your physical and mental health while you're coping with the COVID-19 pandemic? Here's a brief overview.

Meditation

Meditation is a mind and body practice. Most types of meditation feature four elements:

- Quiet location with as few distractions as possible
- Comfortable posture, such as sitting, lying down or walking
- Focus of attention, such as a word or phrase or focus on breath
- Letting thoughts come and go naturally without judgment

The health benefits of meditation have been thoroughly studied. Evidence shows meditation helps reduce high blood pressure; symptoms of irritable bowel syndrome and flare-ups in people with ulcerative colitis; anxiety and depression; and insomnia. It may also help reduce the brain's response to stress and physical pain, according to the [National Center for Complementary and Integrative Health](#), which is part of the National Institutes of Health.

Meditation has been found to affect gray matter, the nerve cell bodies that comprise the outer layer of the brain responsible for muscular and sensory activity. In one study, [researchers from Harvard Medical School](#) found that people who meditated for about 30 minutes a day for eight weeks experienced changes in gray-matter density in parts of the brain associated with memory, sense of self, empathy and stress. [MR images from meditators in the study indicated](#) increased gray-matter density in the hippocampus, which involves learning and memory, and in structures associated with self-awareness, compassion and introspection. The images also showed decreased gray-matter density in the amygdala, which influences anxiety and stress.

Did You Know?

Simply walking outside and listening to bird song can cause a person's brain connectivity to reflect outward-directed focus. On the flip side, artificial sounds create inward-directed focus, which occurs during states of anxiety or depression, and when suffering from post-traumatic stress disorder.

Yoga

Yoga is a spiritual and physical practice that promotes well-being. Yoga traces its roots to India. In the U.S., yoga typically involves physical postures (asanas) and breathing techniques (pranayama). Yoga is often combined with meditation (dhyana).

All systems of the body are stimulated and balanced by practicing yoga. Yoga triggers neuro-hormonal mechanisms, and [studies suggest that it can positively impact the brain](#), including regions associated with age-related changes.

Physiological effects of yoga cited in studies include lower blood pressure; improved lung capacity, respiratory function and heart rate; enhanced muscle tone; and greater mental clarity. People who practice yoga report benefits including reduced symptoms of stress; improved flexibility and balance; better sleep quality; weight loss; and decreased back and neck pain.

A study published in the [North American Journal of Medical Science](#) examines the physiological effects of yoga in detail. Among the findings:

- Direct stimulation of the pancreas with yoga postures can rejuvenate the capacity to produce insulin, which may be particularly beneficial for people with pre-diabetes or diabetes.
- Pranayama practice stretches lung tissue and helps trigger changes in the brain and autonomic nervous system.
- Single nostril breathing techniques have been shown to improve spatial and verbal skills.

- A randomized controlled trial involving adult yoga practitioners with asthma indicated progressive improvement in pulmonary function over an eight-week period.
- An interventional study showed beneficial effects of yoga and meditation practice on cardiovascular functions regardless of age, gender or weight in healthy individuals.
- A randomized controlled study to evaluate the efficacy of integrating yoga with therapeutic exercises for osteoarthritis showed improvements in this condition.

Nature

Many people feel better after connecting with nature in virtually any respect. Spending time close to nature has been shown to:

- Lower blood pressure and cortisol (stress)
- Reduce the body's fight-or-flight response
- Increase happiness and decrease brooding
- Relieve attention fatigue
- Increase creativity

The [physiological mechanisms](#) behind these results are connected to reduced neural activity in the subgenual prefrontal cortex, an area of the brain linked to mental illness and rumination.

During extensive research on urban landscapes, [Frances Kuo, a professor of natural resources and environmental science and psychology at the University of Illinois](#), found that city dwellers undergo patterns of social psychological and physical breakdown that are similar to those observed in animals that have been deprived of their natural habitat, leading to increases in violence, aggression and poor cognitive function.

Experts suggest getting outdoors for at least 20 to 30 minutes three days a week to reduce feelings of isolation, promote calm and lift mood. A combination of outdoor time and aerobic exercise is even more beneficial for your physical and mental health.