

The Power of Meditation

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✓ Fact Checked

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STORY AT-A-GLANCE

- › As of 2019, an estimated 200 million to 500 million people around the globe were meditating regularly. Considering its many psychological and physical benefits, this is good news. There is a large body of evidence demonstrating the mind-body connection is real, and that your mind has a direct impact on your physical health
- › Brain imaging has revealed meditation alters your brain in a number of beneficial ways, such as increasing gray matter volume in brain regions involved in the regulation of emotions, memory, learning and self-referential processes
- › Meditation has also been shown to alter the expression of 2,209 different genes. Examples of genetic effects include the down-regulation of genes involved in inflammation and stress
- › Clinically, mindfulness-based meditation practice has been demonstrated in randomized trials to improve depressive symptoms in women with fibromyalgia and to have lasting anti-anxiety effects after only eight weeks of group practice
- › Studies suggest meditation can help a wide range of health problems, including cardiac arrhythmias, bronchial asthma, cold sores, cough, ulcers, diabetes, constipation, infertility, high blood pressure, psoriasis, pain and much more

According to the featured BBC Documentary “The Power of Meditation,”^{1,2} originally aired in 2008, more than 10 million Westerners practice daily meditation. More recent statistics³ suggest people are turning to meditation in droves, with the number of

practitioners tripling since 2012. As of 2019, an estimated 200 million to 500 million people around the globe were meditating regularly.

Considering its many psychological and physical benefits, this is good news, especially in light of the pandemic we are all going through. There is a large body of evidence demonstrating the mind-body connection is real, and that your mind has a direct impact on your physical health.

Meditation Changes Your Brain and Body for the Better

For example, brain imaging has revealed meditation alters your brain in a number of beneficial ways – such as increasing gray matter volume in brain regions involved in the regulation of emotions, memory, learning and self-referential processes⁴ – and studies show meditative practices even alter your genetic expression.^{5,6,7,8}

Indeed, one study⁹ found meditation practice altered the expression of no less than 2,209 different genes. Examples of genetic effects include the down-regulation of genes involved in inflammation and stress.^{10,11}

According to a study in PLOS ONE,¹² many of these genetic changes – such as reduced oxidative stress and increased antioxidant production and telomerase stability – are the result of activating the body's relaxation response. The relaxation response also influences your energy metabolism, which can have bodywide benefits. As explained by the authors:¹³

“Upregulating ATP synthase – with its central role in mitochondrial energy mechanics, oxidative phosphorylation and cell aging – RR [the relaxation response] may act to buffer against cellular overactivation with overexpenditure of mitochondrial energy that results in excess reactive oxygen species production.

We thus postulate that upregulation of the ATP synthase pathway may play an important role in translating the beneficial effects of the RR.”

Meditation Improves Wellness by Promoting Balance

Findings such as these prove you cannot separate your health from your emotional well-being, and if you want to prevent chronic illness, you'd be wise to incorporate this knowledge.

Clinically, mindfulness-based meditation practice has been demonstrated in randomized trials to improve depressive symptoms in women with fibromyalgia¹⁴ and to have lasting anti-anxiety effects after only eight weeks of group practice.¹⁵

In "The Power of Meditation," professor Kathy Sykes begins her investigation of meditation by visiting a Buddhist monk in Nepal, who teaches her basic Buddhist meditation, which involves sitting comfortably, with your spine straight, concentrating on a single focal point, such as your breath.

When a thought arises, you simply refocus your attention on your breath. Over time, this kind of meditation fosters inner calm, happiness, relaxation and emotional equanimity, although results can often be felt rather quickly. "Meditation is not just a hobby," the monk says. "It's something that is going to change the very way you experience every moment of your life."

The Science of Meditation

I've already mentioned a number of studies demonstrating the benefits of meditation. "The Power of Meditation" cites¹⁶ additional evidence showing it can help a wide range of health problems, including cardiac arrhythmias, bronchial asthma, cold sores, cough, ulcers, diabetes, constipation, infertility, high blood pressure, psoriasis, pain and much more.

Research¹⁷ even suggests total medical costs for primary care could be drastically reduced simply by practicing meditation and other relaxation techniques.

To reach this conclusion, the researchers analyzed data from 4,452 people who received eight weeks of relaxation response training and 13,149 controls who did not meditate.

The intervention group also worked on building resiliency using social support, cognitive skills training and positive psychology. Results showed:

“At one year, total [health care] utilization for the intervention group decreased by 43%. Clinical encounters decreased by 41.9%, imaging by 50.3%, lab encounters by 43.5%, and procedures by 21.4% ... The intervention group’s Emergency department (ED) visits decreased from 3.6 to 1.7/year and Hospital and Urgent care visits converged with the controls.

Subgroup analysis (identically matched initial utilization rates—Intervention group: high utilizing controls) showed the intervention group significantly reduced utilization relative to the control group by: 18.3% across all functional categories, 24.7% across all site categories and 25.3% across all clinical categories.

Conclusion: Mind body interventions such as 3RP [relaxation response resiliency program] have the potential to substantially reduce healthcare utilization at relatively low cost and thus can serve as key components in any population health and health care delivery system.”

The researchers estimate the average patient could save between \$640 and \$25,500 a year in health care costs by implementing this kind of relaxation response training.

Meditation Guidelines for Heart Disease

While the mind-body connection has long been ignored by conventional medicine, the American Heart Association in 2017 issued its first scientific statement and guidelines on seated meditation,¹⁸ suggesting it can be a valuable adjunctive intervention for cardiovascular disease. As noted in the AHA’s scientific statement:¹⁹

“Novel and inexpensive interventions that can contribute to the primary and secondary prevention of cardiovascular disease are of interest. Numerous studies have reported on the benefits of meditation.

Meditation instruction and practice is widely accessible and inexpensive and may thus be a potential attractive cost-effective adjunct to more traditional medical therapies ...

Neurophysiological and neuroanatomical studies demonstrate that meditation can have long-standing effects on the brain, which provide some biological plausibility for beneficial consequences on the physiological basal state and on cardiovascular risk ...

Overall, studies of meditation suggest a possible benefit on cardiovascular risk ... Given the low costs and low risks of this intervention, meditation may be considered as an adjunct to guideline-directed cardiovascular risk reduction by those interested in this lifestyle modification ...”

There Are Many Types of Meditation

As noted in “The Power of Meditation,” there are many different types of meditation techniques. Common forms of seated meditation suggested in the AHA’s guidelines include:²⁰

Samatha (focused attention technique)	Vipassana (insight meditation; an “open monitoring” technique that encourages a broader awareness of your environment or train of thought, allowing feelings you might normally suppress to rise to the surface)
Mindful meditation	Zazen (Zen meditation)
Raja yoga	Metta (loving-kindness meditation)
Transcendental meditation (TM)	Relaxation response practice

“The Power of Meditation” interviews Dr. Robert Schneider, a medical doctor who conducts research on the health benefits of Transcendental Meditation.²¹ According to Schneider, there are several hundred studies showing TM “evokes a deep state of rest and an orderliness of the brain and nervous system, and this results in improved mental health, physical health and even improved social health.”

He goes on to discuss the scientifically demonstrated benefits of TM on cardiovascular diseases specifically. This includes lowering high blood pressure and reducing death rates from [heart attacks](#) and strokes.

Meditation Relaxes Yet Invigorates

In the 2014 Talks at Google video above, meditation expert Emily Fletcher explains the differences between two popular styles of meditation, directed attention (mindfulness) meditation and nondirected attention meditation (which she refers to as “self-induced transcendence” meditation), and explains how each meditation style affects your brain.

She also discusses the similarities between meditation and caffeine. Both have the effect of energizing you and boosting your productivity, but meditation accomplishes this without any adverse effects.

Caffeine stimulates neural activity in your brain that triggers the release adrenaline, a stress chemical involved in the fight-or-flight state. Meditation, on the other hand, energizes you and makes you more productive without triggering an adrenaline rush.

The reason for this is because meditation de-excites your nervous system rather than exciting it further. This makes it more orderly, thereby making it easier for your system to release pent-up stress. It also makes you more productive. In fact, she notes that many are now starting to recognize meditation as a powerful productivity tool.

Contrary to popular belief, taking the time to meditate can actually help you gain more time through boosted productivity than what you put into it. According to Fletcher, meditating for just 20 minutes equates to taking a 1.5-hour nap, and provides your body

with rest that is two to five times deeper than sleep. This is why even a short period of meditation each day can help you feel more refreshed and awake.

How Different Types of Meditation Affect Your Brain

So, just how does different types of meditation styles impact your brain? Here's a summary of some of the neuroplastic changes induced by three popular sitting meditation practices:

- **Transcendental meditation**²² causes your brain to switch into primarily alpha frequency, corresponding to a relaxed yet aware state akin to daydreaming.

As the left and right hemisphere of your brain enter into coherence, endorphin production increases, inducing a sense of happiness and bliss. Over time, this kind of meditation expands your sense of self beyond bodily limitations, resulting in a more integrated personality.

- **Mindful meditation**²³ and samatha – focused attention techniques in which you concentrate on your breath or a single object, thought, mantra, sound or visualization – activate the executive mode of your brain.

The idea behind mindfulness is to remain in the present moment by focusing your attention in the now. The brainwave frequency here typically responds to the gamma range.

Long-term, this type of meditation tends to enlarge your hippocampus, which is where your memories are stored, while shrinking the amygdala, the emotional center and the site of your fight-or-flight instinct. This is in part why mindfulness training tends to be helpful for depression and anxiety, as it helps improve the regulation of emotions.

- **Self-induced transcendence** (discussed by Fletcher in the video above) is a nondirected style of meditation in which you access a fourth state of consciousness that is different from waking, sleeping and dreaming.

Transcendence style meditation strengthens your corpus callosum, the bridge between your two brain hemispheres.

Your left brain is in charge of the past and the future, language, math and critical thought, while your right brain is in charge of “right now,” intuition, inspiration, connectedness, creativity and problem-solving.

By strengthening the connection between your right and left hemispheres, you gain access to more creative problem-solving and increase your productivity without adding stress.

Mindfulness-Based Cognitive Therapy for Depression

Sykes also investigates the benefits of meditation on mental health, for which there is perhaps even more evidence. She visits a woman named Carol, who struggled with severe depression after the death of her husband.

Her psychiatrist suggested meditation, in which you focus on your breathing – similar to the Buddhist meditation described earlier. “It stopped me from living in my head with my thoughts,” Carol says, “and it’s given me a better picture of what it’s like to be alive, really.”

The program Carol enrolled in, called MBCT, which stands for mindfulness-based cognitive therapy, was developed by professor Mark Williams, described as a leader in the field of clinical depression. MBCT is a mix of about 80% mindfulness meditation and 20% cognitive therapy, which is a widely used psychological technique.

As explained by Williams, mindfulness meditation teaches you to see your problems or thoughts clearly, without trying to change or fix anything. In other words, you learn to view your thoughts as “just thoughts,” be they positive, negative or neutral, rather than something with intrinsic meaning or something that you need to do anything about.

According to Sykes, four different trials have demonstrated that MBCT reduces the risk of recurrent depression by 50% in people who have had three or more depressive

episodes.

Williams also points out that mindfulness meditation can really benefit everyone, as it helps us deal with expectations, judgments (of self and others), paralyzing self-analysis and the feeling that we're just not good enough.

"All of these things are just thoughts," he says. "They will come up in meditation, and learning to recognize what they are – thoughts – and let them go, can be enormously empowering."

Beginner's Guide to Meditation

While it's not unusual for the most experienced meditators to have spent decades, even a lifetime, perfecting the art of meditation, you can gain benefits just from meditating in your home for 20 minutes a day.

If you'd like to give meditation a try, there are many classes and group sessions available if you want a structured group setting, and free guided meditation apps you can use on your own wherever you are.

The UCLA's Mindful Awareness Research Center²⁴ is a helpful resource where you can download free guided meditations in English and Spanish. The following suggestions can also help you get started:

- Set aside 20 to 30 minutes to meditate each day. Choose a quiet place where you can sit comfortably without being disturbed or interrupted. Simply close your eyes and focus on your breath. You don't need to control your mind or breathe in any unnatural way. When thoughts arise – and they will – simply let them pass through without judgment and return your attention to the breath.
- As you meditate, you will notice thoughts, sensations and sounds. The next step is to take note of the presence or "witness" that is doing the actual noticing. You'll find that this presence cannot be pinned down to any particular place inside you. As you continue, simply abide in this presence and be the witness.

In the book, “The Untethered Soul, the Journey Beyond Yourself,”²⁵ Michael Singer asserts that happiness and freedom are the result of cultivating “witness consciousness,” a state of willfully observing your mind, emotions and behaviors, rather than feeling that you actually are these things.

- The more you meditate, the easier it will become to quickly enter into a state of calm and relaxed yet focused awareness. It will also become easier to remain in meditation for longer periods of time. The after-effects will also last longer the more you meditate, allowing you to go through your day in a calmer more focused state.

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