

# The Case for *Meditation*

Recent trends toward using natural methods and remedies for health and treatment of disease and illness are slowly changing the medical world as we know it. Pills and prescription drugs are increasingly being supplemented or substituted with yoga, acupuncture, herbal medicine, and breathing exercises to improve people's physical and mental health. In particular, the use of meditation has grown, as its benefits have become known and cultural attitudes are changing.

## **Ancient roots, modern rediscovery**

The practice of meditation is by no means new—it has been used for religious and cultural purposes for thousands of years, specifically in Eastern countries such as India and China. But over the past few decades, millions more have adopted the practice of meditation, and many have used it for emotional and physical relief from illness, disease, and everyday stress.

“Meditation has penetrated into the popular culture, and people have started to realize its great benefits outside of its religious purposes,” says Keyvan Golestaneh, director of the Conscious Health Institute, as well as a practitioner of Chinese Medicine, a therapist, and a yoga teacher with more than 25 years of experience with meditation. “More and more people

are using techniques, like meditation, especially because mainstream organizations, educators, medical and health professionals are now endorsing and recommending them.”

A pioneering scientific study by Beth Israel Hospital and Harvard Medical School in 1975 was the basis of the popular best seller *The Relaxation Response* by Herbert Benson. The book discusses how one can elicit a relaxation response, relieving stress and tension, through meditation. Benson demystifies the mantra meditation used in Transcendental Meditation programs and explains how anyone can benefit from these techniques, with or without the help of an expert. There have since been many books on the benefits of meditation and relaxation practices since Benson's.

## **Defining meditation and its uses**

Meditation, as defined by experts like Golestaneh, is an act of focusing one's attention, or awareness, but unlike thinking one does not actively engage the mind during meditation. People can meditate using various techniques, such as focusing on one's breath, counting, on an object (e.g., a candle flame or a flower), or on a mantra, which is a word or series of words that is repeated over and over.

“The process produces an alternated state of consciousness and change in physiology,” said Golestaneh.

Meditation has many uses. Most people think of meditation as only a technique and use it as such, but it is more than that. “If it could be said to have a goal, the aim of meditation is the transcendence of one’s separate sense of self, which is manifested in the body-mind, but meditation is also a way of being,” explains Golestaneh. “When one starts to meditate, there is a shift in the relationship between body and mind. Your sense of feeling gradually becomes more congruent with the body, and that results in a sense of deep relaxation as bodily functions like breath, mind and heart rate start to shift. A person gradually will no longer identify with contents of their mind but will fall back into a feeling state. The result is that you feel better, more energized and more relaxed.” The “better feeling” is often associated with an innate sense of happiness.

There are many forms of meditation. One popular form of meditation is called “mindfulness,” which has its origins in Buddhism, and is now being used for scientific studies. Mindfulness meditation is also known as “insight meditation” because it involves introspection and self-observation. The practice involves separating attention from the mind. Mindfulness is the achievement of mindful awareness—that is, a sustained moment-to-moment awareness of mental states and processes, such as thoughts and images, as well as physical sensations.

That better feeling and increased awareness are what people are seeking more and more through complementary and alternative medicine (i.e., yoga, meditation, acupuncture, herbal medicine). The [2007 National Health Interview Survey](#), conducted in part by the Centers for Disease Control and Prevention, shows that nearly [40 percent](#) of Americans regularly use some form of complementary and alternative medicine (CAM). The survey also shows that the number of individuals who engage in meditation has increased from 7.6 percent in 2002 to 9.4 percent in 2007. Such statistics do not surprise experts like Golestaneh, who has seen meditation adopted by both individuals who

are healthy or ill, and for preventative and spiritual reasons.

Although people practice meditation for various reasons, research suggests it is increasingly adopted by individuals who become diagnosed with illnesses like cancer. European studies show that the percentage of people who use relaxation techniques and meditation [more than doubles](#), and in some countries nearly [quadruples](#), when they are diagnosed with cancer. The majority of these individuals also keep up the practice post-diagnosis.

While medical treatments still are considered by many the primary option for treating ailments, researchers are now uncovering the various health benefits of mind-body therapies. For instance, a recent [meta-analysis](#) looked at the effects of mindfulness-based stress reduction (MBSR)\* on the health of various clinical populations (i.e., cancer, heart disease, depression, and anxiety) and non-clinical populations (those looking for better ways to cope with stress). The findings suggest that MBSR can improve how people cope emotionally and physically with distress from a serious disorder/disability and from everyday activities. Specifically, MBSR aided with improvements in depression, anxiety, coping style, medical symptoms, sensory pain, and physical impairment.

Individual studies have analyzed populations separately to determine whether the effects of meditation are similar among the physically and/or mentally ill versus the healthy. For instance, some studies suggest that mindfulness-based cognitive therapy (MBCT)—a group program that teaches mindfulness meditation to those with mental illnesses—can help participants with [bipolar disorders](#), and those at [risk for hypertension and depression relapse/recurrence](#).

Mindfulness skills acquired through therapy or classes improved participants’ overall coping skills and were significantly associated with changes in depressive symptoms for participants with more than two depressive episodes. Even more impressive, a randomized study of depressives in remission found that one-year relapse rates of major depressive episodes were halved

when conventional treatment was supplemented by a mindfulness program.

And among healthy individuals (those not diagnosed with mental and physical disorders), [studies](#) and [meta-analyses](#) suggest that mindfulness-based stress reduction programs can lower anxiety caused by daily stresses and can improve participants' blood pressure. The effects of MBSR on stress were found to be particularly strong, meaning the more MBSR was practiced, the less stress participants felt.

The benefits of mind-body therapies and meditation can be seen among populations of all types.

But the benefits might have a more dramatic effect on people with serious health problems as opposed to people who are relatively healthy because of the increased physical and emotional stress. "If someone is in pain and is able to live with that pain because of benefits of meditation, that is going to be more dramatic and observable than a person who is using it for spiritual reasons," notes Golestaneh.

## Meditation and the brain

Traditions like yoga and Qi Gong, which use meditative practices, have long taught that humans can change bodily functions through the use of consciousness and awareness. Now science is studying these claims. Some of the most scientific and revolutionary evidence for the psychological and physical impacts of meditation comes from studies published during the past 10 years. Researchers have had the opportunity to use neuroimaging technology (e.g., magnetic resonance images) to document changes in brain activity and even [brain size](#). Such new evidence has [voided](#) scientists' previous beliefs that the brain's structure could not change in adulthood. Even

more radical is the implication that there is not hard separation between consciousness, the mind and body.

The first evidence that meditation can alter the [physical structure](#) of our brains came as recently as 2006, when researchers from Harvard University, Yale University, and the Massachusetts Institute of Technology found that experienced meditators have increased thickness in parts of the brain that deal with attention and processing sensory input. The increased thickness, spotted through brain scans, was due to wider blood vessels and to increased branching and connections in the brain.

More recently in 2011, some of the same researchers found that mindfulness meditation can [alter](#) the brain's structure by affecting gray matter density in the hippocampus and amygdale, areas that affect stress, memory, empathy, and sense of self. This study was the first to document meditation-produced changes over time in the brain's [gray matter](#). The findings were made possible due to magnetic resonance images taken of participants' brains before and after an eight-week MBSR program in which participants practiced mindfulness exercises approximately 30 minutes each day.

Sara Lazar—one of the study's authors, as well as an instructor at Harvard Medical School and an associate research scientist at Massachusetts General Hospital—said she and her colleagues recruited healthy\*\* participants who already were part of a MBSR program at a university. She also said more research is needed to understand how long the gray matter changes last and if these changes are permanent or require ongoing meditation.

### Documented benefits of meditation include:

- improvements in depression, anxiety, coping style, medical symptoms, sensory pain, physical impairment, bipolar disorder, and hypertension
- reduced anxiety caused by daily stresses
- improvement in blood pressure.
- alteration of the brain's physical structure
- increased brain activity associated with good mood and positive feelings.

“The data suggest that the more you practice, the more change there is. In terms of other benefits, it appears that even meditating five to 10 minutes a day is useful,” Lazar says. “There needs to be some balance between frequency and length of meditation—they are both good and important, but we are not sure about the optimal combination of both.”

Since meditation can directly affect the amygdale, it also can [increase brain activity](#) associated with good mood and positive feelings. Such effects can positively impact people’s emotional health. “Meditation can allow an individual to develop a certain level of equanimity and emotional balance,” Golestaneh says. “It allows people to not be so controlled by their emotions...so instead of resorting to violence, for example, meditation can help people control themselves and allow them some emotional distance so they can work out their relational problems with others and also handle better their own emotions.” These benefits apply to children as well. As documented in a University of California study in 2010, one elementary school-based mindfulness awareness [program](#) saw increased executive function among second- and third-grade participants, particularly those who had executive function problems. In 2007 the *New York Times* [highlighted](#) a high school which implemented relaxation-based training for students in the face of competitive college admissions processes.

Depending on one’s experience with meditation and the number of years s/he has practiced it, the psychological benefits of meditation can be seen very quickly. One study conducted at the University of Wisconsin found that long-time meditators (i.e., Tibetan monks) have brains that are [highly activated](#) during meditation. This results from years of training, which can change the inner circuitry of the brain. Another similar study that used experienced meditators and non-meditators found that experienced mediators (e.g., yoga instructors) show [increased thickness](#) in

parts of the brain linked to attention and processing sensory input. Such effects are the result of years of routine meditation and of the increased mind-body bond that consequently takes place.

Such findings can be a great contribution to society since today’s culture grants much authority to science—this casts a positive light on the use and validity of practices like meditation. However, there exists the concern that the concept and practice of meditation can become more limited with its increased popularity. Some people don’t like to use the word meditation any longer because of its association with religion.

“The deeper implication of meditation might ultimately become diluted, which is common as ideas and practices spread through popular culture,” says Golestaneh. “Many people’s understanding of meditation and yoga has become diluted, and even distorted, as they’ve become popularized. This seems inevitable, but that doesn’t mean the changes that result are not welcome or beneficial.” The positive effects are now being recognized and growing.

Developing a routine, albeit a new one, can be a challenge for many, but a little meditation each day can yield great benefits, including improved memory, mood, and attention, as well as lower blood pressure, anxiety and stress. Meditation can not only change the workings of the brain and physiology in the short term, but it can also quite possibly produce permanent changes via cognitive and psychological benefits. These benefits persist throughout the day and, if practiced regularly, throughout one’s life.

\* MBSR is an 8-10-week group program that focuses upon the acquisition of mindful awareness, or mindfulness, through techniques such as formal instruction, meditation, and yoga/body movements. It was developed in 1982 by Jon Kabat-Zinn.

\*\* Healthy participants refers to people with no medical illnesses.