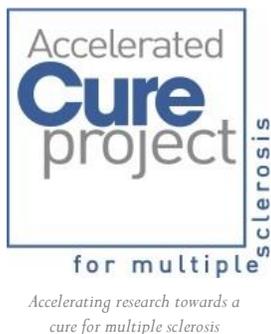


Accelerated Cure Project for MS

April 2019

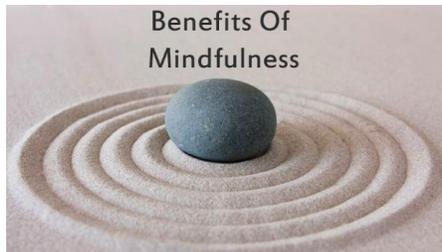


Mindfulness – Put Your Mind Over MS

The practice of mindfulness has become increasingly popular in recent years and its benefits are well documented. This age-old philosophy can be traced as far back as the fifth century BC, when it appeared in the Buddha's most essential teachings. According to [Dr. Jon Kabat-Zinn](#), mindfulness is "paying attention in a particular way: on purpose, in the present moment and non-judgmentally." This can be achieved through meditation or simply by observing your surroundings without opinion. People practicing this philosophy learn to think about their thoughts and emotions as passing events, rather than attributing importance to them.



Dr. Kabat-Zinn is internationally known for his work as a scientist, writer, and meditation teacher. He developed the [mindfulness-based stress reduction](#) (MBSR) program at the University of Massachusetts Medical School (UMMS), and is recognized for bringing this philosophy into the mainstream of medicine and society. In 1979, he recruited chronically ill patients not responding well to traditional treatments to participate in an eight-week stress-reduction program (now known as MBSR). Each week, participants took part in a two and a half hour session learning mindfulness meditation, body awareness, yoga and other techniques that support stress reduction, self-awareness and relaxation. This was the beginning of the Mindfulness-Based Stress Reduction Clinic at UMMS. Dr. Kabat-Zinn founded the [Center for Mindfulness](#) at UMMS in 1995. These programs are now offered in over 720 medical centers, hospitals, and clinics around the world.



There is ample scientific evidence supporting the widespread benefits of practicing mindfulness. To name a few, a [recent study](#) reported significant, long-lasting improvements in anxiety, depression, and perceived wellness in subjects who completed an 8-week MBSR program. Other [research](#) suggests that mindfulness meditation also helps with symptoms of [social anxiety](#). [Researchers](#) at the University of California Santa Barbara found that just a few days of mindfulness training may improve both concentration and attention. There is evidence that this philosophy can be very effective in helping people recover from various types of addiction. One [study](#) compared mindfulness training to the American Lung Association's [freedom from smoking](#) (FFS) program, and found that people who learned mindfulness were more likely to have quit smoking by the end of the training and at 17 weeks follow-up, than those in the conventional treatment. Other [research](#) has found that this practice can be helpful in treating other forms of addiction, such as drug and alcohol abuse. In addition, there is [evidence](#) that people who are more mindful tend to have less pain. The benefits of mindfulness are not limited to adults. A [2014 study](#) evaluated the effect of a 5-week mindfulness-based curriculum on student classroom behavior. Investigators concluded that mindfulness meditation has both cognitive and emotional benefit in children.

One might wonder how a mental discipline, like mindfulness, can have such a broad and powerful effect. The human brain changes throughout a person's lifetime. Changes in neural connections may occur when an individual learns new things or memorizes new information. This ability to change is often referred to as [neuroplasticity](#). These new nerve networks are reinforced and strengthened through behavior.



Mindfulness, when approached as a form of mental exercise, can lead to changes in the brain. [Researchers](#) at Harvard Medical School found subjects who incorporate meditation into their daily routine had increased cortical thickness in the areas of the brain that govern learning and memory, as well as emotion regulation and other cognitive processes. MRI results from these subjects showed decreases in brain cell volume in areas of the brain responsible for fear, anxiety, and stress. These results were confirmed in a subsequent [study](#). [Researchers](#) at UCLA found less [grey matter](#) atrophy in subjects practicing long-term meditation as they aged. MRI results from a [2011 study](#) at Yale University showed mindfulness meditation decreases activity in the [default mode network](#) (the area of the brain responsible for daydreaming or mind wandering). Data from this study showed new neural connections, formed as a result of meditation, allowed subjects to refocus more easily when their minds did wander.

MS is a stressful condition. Its chronic, unpredictable nature and unpleasant symptoms can wreak havoc in the lives of those living with the disease. The resulting increased stress is often associated with more severe MS symptoms, which sets up a vicious cycle. Although medications can impact the disease course and help improve some symptoms, they are not as effective in relieving the stress caused by the nature of



the disease and many have unpleasant side effects. One of the key ways mindfulness may help people with MS is by reducing stress. Numerous studies show mindfulness practices have other mental and physical benefits for people living with the disease, as well. For example, a [recent study](#) confirms that people with MS practicing mindfulness also experience less pain. A [review](#) of three studies on mindfulness training for

people with MS concludes this training is especially helpful for improving mental health and quality of life. None of the studies showed any adverse effects from this practice. Researchers in Scotland conducted a [clinical trial](#) evaluating whether a standard, eight-week MBSR program was feasible and effective for people with MS. Results showed most participants were able to complete the program, and those that did reported less anxiety and felt more positive emotions than the control group (who received usual care). Mindfulness practice appears to be a safe, drug-free approach to coping with stress and anxiety, which in turn may help reduce MS symptoms and help individuals living with the disease feel their best.

Healthy Mind Healthy You

Most mindfulness programs are taught in weekly sessions over the course of 8 weeks. Researchers at Massachusetts General Hospital (MGH) will be conducting a nationwide clinical study entitled "[Healthy Mind Healthy You](#)" to determine if this length of training is necessary, or if the same benefit can be derived from a shorter program.

Healthy Mind Healthy You is funded by PCORI (the Patient Centered Outcome Research Institute), which means patients have played an integral role in designing the study since its inception. PCORI established [PCORnet](#) (the National Patient-Centered Clinical Research Network) as a national resource that could harness multiple sources of health data to make research more effective, efficient, and patient-centered. Healthy Mind Healthy You will involve all patient-powered research networks (PPRNs) including ACP's [iConquerMS](#) and, potentially, clinical data research networks (CDRNs), in PCORnet to recruit and enroll subjects. As a result, investigators will be able to evaluate the effects of mindfulness on a wide variety of populations and conditions, including MS.

The MGH study team hopes to recruit more than 2,000 adult subjects nationwide, including patients, caregivers and family members, who are members of one of PCORI's PPRNs. Participants will be randomly assigned to a "standard" eight-week mindfulness-training program or a "light" mindfulness training consisting of three sessions. Participants will fill out standard well-being assessments every other week throughout the study and after they have completed all sessions to see how they are doing. All sessions and assessments will be done online. The knowledge gained will help clinicians, patients and caregivers know the best dose of mindfulness to manage stress and increase wellness, with a substantial impact on care. It may also reveal what groups of people do better with one or the other program.

We will soon be inviting iConquerMS members to join the Healthy Mind Healthy You study. Are you already a member of the [iConquerMS](#) network and are interested in learning more? [Email us](#)! If you are not a member of iConquerMS, please consider [joining](#) to add your voice to those already helping to steer the direction of MS research, and to contribute valuable data that may one day lead to better MS treatments and a cure!

