



MEDITATION BOOSTS PERFORMANCE & BUILDS RESILIENCE

Although the practice of meditation is thousands of years old, research on its health benefits is relatively new, but promising. Some emerging research suggests that mindfulness meditation may:

- Improve mood through enhanced self-esteem, reduced stress, anxiety and depression (For depression, meditation was as effective as antidepressant medication)
- Improve mental performance through enhanced focus and memory
- Relieve pain
- Help fight insomnia and improve sleep
- Enhance self-awareness and awareness of present moment experiences (being present)
- Improve relationships through increased compassion and better regulation of emotions

SO, WHAT IS MINDFULNESS MEDITATION?

- A mind-calming practice that focuses on breathing and awareness of the present moment
- Mindfulness meditation involves focusing on your breathing and then bringing your mind's attention to the present without drifting into concerns about the past or future.
- The core components of mindfulness meditation practice include attention control, regulation of emotions and self-awareness.



HOW DOES IT WORK?

We now know that the brain can change its structure in response to learning and experience (positive or negative), known as neuroplasticity. Through neuroplasticity new neurons (brain nerve cells) are created and new neural connections or pathways are formed and strengthened, thereby increasing the volume and changing the structure to the part of the brain affected by the event or experience.

There is emerging evidence that mindfulness meditation might cause neuroplastic changes in the structure and function of brain regions involved in regulation of attention, emotion and self-awareness. These changes have been reported in beginner and advanced meditators, healthy individuals and patient populations. A study led by Harvard-affiliated researchers at Massachusetts General Hospital (MGH) discovered that regular mindfulness meditation produced positive changes in the brain's structure in just 8 weeks. MRI scans showed increased concentrations of grey matter (the "computing" or processing nerve cells) in the hippocampus, a region of the brain associated with learning and memory, and in brain regions associated with self-awareness, compassion and contemplation. The researchers also found that meditation practice reduced the concentration of grey matter in the amygdala, a region of the brain associated with fear, anxiety, and stress — and that this reduction was associated with lower stress levels. Other MRI studies have also reported functional changes in brain regions associated with attention, emotional regulation and awareness of present-moment experience, following mindfulness meditation training.

The brain is also sensitive to stress and stress hormones, resulting in neuroplastic changes in the brain that are adaptive under normal circumstances but can lead to damage when stress is excessive or chronic. Studies have shown that moderate to severe stress increases the volume of the amygdala (the stress control centre) but reduces the volume of the hippocampus and prefrontal cortex (PFC), area of the brain associated with executive



function and attention. Mindfulness training, however, has been associated with enhanced grey-matter density in the hippocampus and reduced amygdala grey-matter density and activation in periods of perceived stress.

Mindfulness meditation may also directly modulate the stress response by increasing stimulation of the parasympathetic nervous system (relaxation response), thereby preventing the activation of the sympathetic nervous system (fight-or-flight stress response) and reducing stress-induced cortisol secretion.

Research has also shown increases in alpha and theta brain wave activity during meditation. These brain waves are both associated with relaxation, whereas reduced activation of these brain waves is associated with stress and anxiety.

HOW MUCH IS NEEDED TO GAIN A BENEFIT?

It is unclear what the ideal frequency and duration of meditation practice should be, however, anecdotal evidence claims that as little as 10mins per day can have immediate benefits on relaxation and mood. In the Harvard study at MGH, participants spent an average of 30mins per day meditating over 8 weeks, which was sufficient to elicit positive changes in brain structure.

HOW TO GET STARTED

Try one of these fantastic guided meditation apps to help make meditation a regular practice:

- [Muse meditation](#)
- [Smiling Mind](#)

Any type of meditation will reduce anxiety and lower cortisol levels. Simply taking a few deep breaths engages the parasympathetic nervous system which triggers a signal to slow heart rate, lower blood pressure and decrease cortisol. The next time you feel yourself in a stressful situation that activates your 'Fight-or-Flight' response take 10 deep breaths and feel your entire body relax and decompress.

Setting aside 10-15 minutes to practice mindfulness or meditation will fortify a sense of calm throughout your nervous system, mind, and brain.

You can meditate almost anywhere, anytime and there isn't really any strict requirements to when and how you do it. Mindfulness meditation is a powerful de-stressor and cortisol reducer that is always in your toolbox and available when you have the need for it. You can squeeze in a few minutes of meditation on the train or bus, in a waiting room, or on a lunch or coffee break to help balance out your stress and recovery.

WANT TO KNOW MORE?

Watch this interesting meditation documentary that recently appeared on [Catalyst](#) to find out more.

References

1. A research review published in *JAMA Internal Medicine* in January 2014 found meditation helpful for relieving anxiety, pain, and depression.
2. Harvard University discovered changes in brain structure after 8 weeks of meditation *Psychiatry Research: Neuroimaging* (Jan. 30, 2011)
3. A study published by *JAMA Internal Medicine* in February 2015 suggests that meditation may help sleep disturbances
4. A systematic review published in *Psychological Medicine* in August 2010 found evidence of brain wave changes during meditation
5. The Neuroscience of Mindfulness Meditation. *Nature Reviews Neuroscience*. 18 March 2015