

**Summer 2021** 

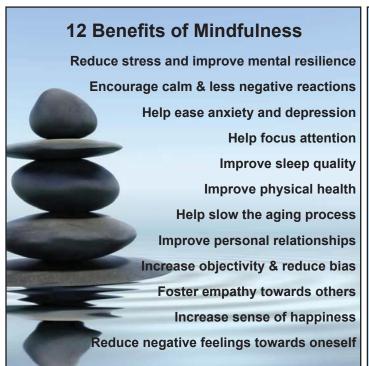
# **Mindfulness Matters**

#### Mindfulness Meditation Creates Balance in a Challenging World

Mindfulness refers to a mental state in which an individual becomes fully focused on the "here and now" and acknowledges his/her thoughts, feelings, physical sensations, and the surrounding environment. While in this moment-by-moment awareness state, there is no judgment of oneself or others. Mindfulness is achieved through mental training (mindfulness meditation) which teaches one to release negative thoughts and slow down racing thoughts to achieve calmness in both the mind and body. Mindfulness meditation is perhaps the one untapped and underutilized survival skills to help us navigate an ever-changing and unpredictable world, one that is compounded by fast-paced lifestyles and demanding responsibilities.

Mindfulness meditation has its origins in Buddhist meditation, but has become a secular practice. It was formally introduced to Americans through the work of Jon Kabat-Zinn at the University of Massachusetts Medical School who launched his Mindfulness-Based Stress Reduction (MBSR) program in 1979. Over the last four decades, the physical and mental health benefits of mindfulness meditation have been well-documented. One of the more universal benefits is that people who regularly practice mindfulness meditation are better equipped to deal with challenging situations and interpersonal relationships.

Techniques can vary, but typically involve deep breathing and awareness of one's body and mind. There's no right or wrong way to mindfully meditate. There's no equipment or props needed either, but if you do enjoy candles, essential oils, or mantras, go ahead and incorporate them into your session. All you need is a comfortable place to sit or lie down for five uninterrupted minutes (or more) and an open mind, devoid of personal judgment.

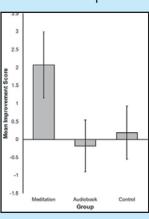


# RESEARCH PEARLS:

Mindfulness Meditation and Short-Term Memory

Psychology researchers in the UK report that mindfulness meditation has positive effects on visual short-term memory, even after a single, brief (8-minute) meditation session. Participants were asked to perform

a short-term memory task for faces in one of three situations - meditation while listening to an audio recording, listening to an audiobook, or simply passing the 8 minutes in any way they wished. Visual memory was measured before and after the 8-minute session. Only the mediation task elicited a significant improvement in short-term memory.

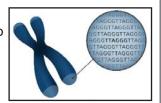


Psychol Rep. 2020 May 25;33294120926670.

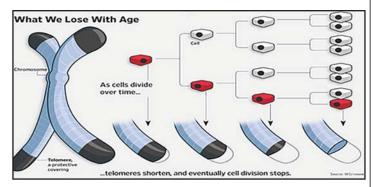
#### **Telomeres**

## Length Matters to Health & Longevity

Telomeres are the endcaps of human chromosomes, similar to the plastic ends of shoelaces. They provide a similar function by preventing the ends of our chromosomes from "fraying" or



becoming degraded and shorter. Telomeres contain a short, repeating DNA sequence of bases (TTAGGG) which repeats itself approximately 3,000 times. Each time a cell divides and its DNA is replicated, some of the bases are lost; however, since only the bases in the telomere are lost, the critical DNA in the chromosome itself is protected. With normal aging, the telomeres gradually become shorter and shorter until a "critical length" is reached which prevents the cell from replicating any further. This triggers the process of apoptosis, or programmed cell death, and the cell dies.



Other than normal aging, telomere shortening can be accelerated by oxidative stress in the body. Unhealthy lifestyle factors such as smoking, environmental pollution, poor diet, being obese, extreme exercise, and emotional or mental stress can increase the amount of oxidative stress. Without a conscious effort and tangible measures to remediate oxidative stress in the body, telomere shortening contributes to accelerated aging. Certainly, telomeres are not the only factor that impacts how one ages, but is one that can be realistically addressed by everyday habits.

The enzyme telomerase is essential to maintaining telomere length because it adds the TTAGGG sequence to the ends of chromosomes. Somatic cells (nearly all cells of the body except sperm, egg, and cancer cells) contain minute concentrations of telomerase but due to lack of regular utilization of the telomerase, the cells age, and march along towards apoptosis. The good news is that there's more to this story of healthy aging and longevity, so stay tuned...

Genes load the gun, and environment pulls the trigger.

Elizabeth Blackburn

### Dear Dr. Liker...

I feel that I may be jeopardizing my health by working long hours. Are there any symptoms of "working too hard"?



In our youth, it's often easy to sustain a frenetic pace while working towards education or career goals. For a short period of time, it's probably okay because the human body and brain are quite resilient. However, long-term overwork without adequate physical and mental recovery/rejuvenation can lead to profound health consequences, including increased risk of heart attack and stroke, memory impairment, and type 2 diabetes. If you are experiencing any of these symptoms of "working too hard," check with your primary care physician:

- ✓ Increase in normal alcohol consumption or "drinking too much." If you work more than 48 hours per week, you have a greater risk of excessive alcohol consumption, which is very likely to put your health at risk.
- ✓ Decrease in amount of nightly sleep and/or poor quality sleep. If work keeps you up at night, as it does for 4 in 10 Americans, consequences can include hypertension, high cholesterol, cardiovascular disease, metabolic syndrome, and weight gain.
- ✓ **Increase in cortisol levels.** Chronic secretion of the stress hormone cortisol can lead to increased blood glucose levels, suppressed digestion, and compromised immune function.

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