

MEDITATION AND ITS BENEFITS

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OUR MIRACULOUS BRAIN



- The brain is the **master controller** of our bodies, despite only weighing about **three pounds** and having a texture like a **firm jelly**.
- About **75% of the brain is made up of water**. Dehydration, even as little as 2%, can negatively affect brain functions (like changes in memory, attention, and more).
- The human brain contains approximately **one hundred billion neurons** (nerve cells), about the same as the **number of stars in the Milky Way galaxy**.

OUR MIRACULOUS BRAIN



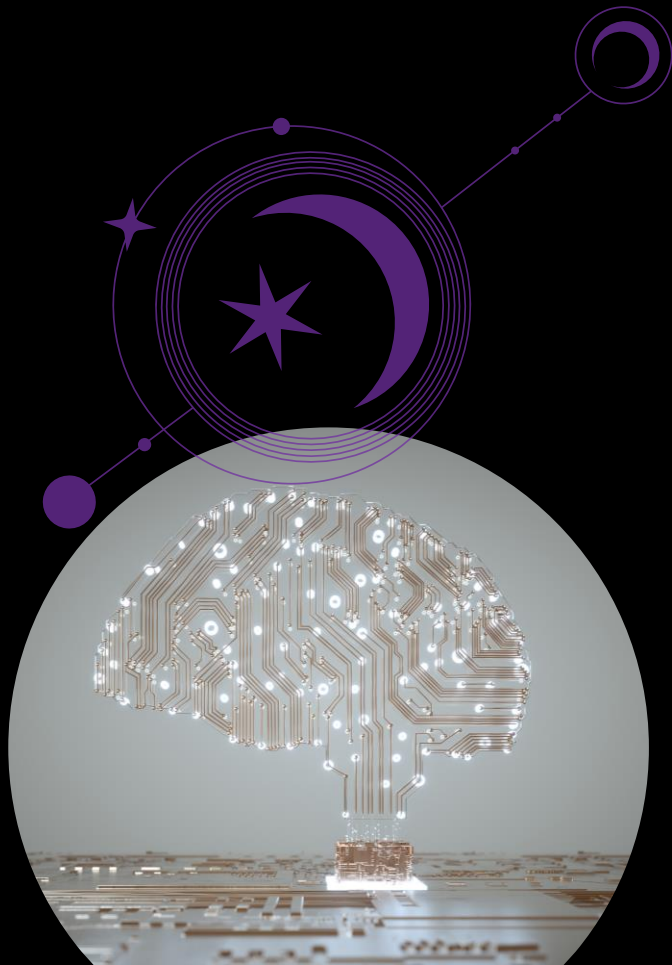
- These neurons are connected by **trillions of connections** (synapses), which experts call a “**neuron forest.**”
- Information runs between these neurons at different speeds (with a **peak of around 250 mph**) for everything we see, think, or do.
- The average person has about **12,000 to 60,000 thoughts every day**. Of those, 95% are the same repetitive thoughts as the day before and about 80% are negative (**let's change that!**).

OUR MIRACULOUS BRAIN



- Your brain uses 20% of the oxygen and blood in your body and needs a constant supply of oxygen.
- The harder you think, the more oxygen and fuel your brain will use from your blood – up to 50%.
- Every minute, 750-1,000 milliliters of blood flows through the brain. This is enough to fill a bottle of wine or liter bottle of soda.
- Dreams are believed to be a combination of imagination, physiological factors, and neurological factors.

OUR BRAIN AND MEDITATION



- Meditation is “a practice entailing an enhanced focus of the mind on a particular object, thought, or activity to achieve a mentally clear and emotionally calm state.”¹
- Concentration [during meditation] **can affect neurotransmitters** [natural brain chemicals] in our brains.²
- Levels of dopamine (the neurotransmitter of pleasure), serotonin (the neurotransmitter of happiness), and GABA (the neurotransmitter of calmness) **all rise in response to meditation.**²

Sources for content:

¹ Brandmeyer T, Delorme A, Wahbeh H. The neuroscience of meditation: classification, phenomenology, correlates, and mechanisms. *Prog Brain Res.* 2019;1(244):1–29.

² [Stanford Magazine](#), What Happens When You Meditate. March 13, 2023.

MEDITATION AND HEALTH



- According to the Harvard Gazette, studies have shown benefits against an array of conditions both physical and mental, including irritable bowel syndrome, fibromyalgia, psoriasis, anxiety, depression, and post-traumatic stress disorder.
- While some of those findings have been called into question because of small sample sizes or problematic experimental designs, there are a handful of key areas — including depression, chronic pain, and anxiety — in which well-designed, well-run studies have shown benefits for patients engaging in a mindfulness meditation program.

MEDITATION AND HEALTH

- A study in the Journal of Alternative and Complementary Medicine reported that people who meditated over an eight-week period had a striking change in the expression of 172 genes that regulate inflammation, circadian rhythms and glucose metabolism. And that, in turn, was linked to a meaningful decrease in their blood pressure.
- It's a small study, and does not show a firm cause and effect, but provides directional information that meditation might be able to impact the way our genes change and are expressed!



MEDITATION AND HEALTH

According to Hari Sharma (Center for Integrative Medicine, The Ohio State University) which cites multiple sources:

- Research has confirmed **myriad health benefits associated with the practice of meditation.**
- These include stress reduction, decreased anxiety, decreased depression, reduction in pain (both physical and psychological), improved memory, and increased efficiency.

Source for content: Sharma H. Meditation: Process and effects. Ayu. 2015 Jul-Sep;36(3):233-7. doi: 10.4103/0974-8520.182756. PMID: 27313408; PMCID: PMC4895748. View a pdf [here](#).



MEDITATION AND HEALTH

- Physiological benefits include **reduced blood pressure, heart rate**, cortisol [a so-called “stress hormone”]; and epinephrine [also called adrenaline].
- **Decreased metabolism**, breathing pattern, oxygen utilization, and carbon dioxide elimination, and increased melatonin.
- Increased skin resistance, and **relative blood flow to the brain**, and increased electroencephalogram (EEG; brain signals) coherence.
- A study on the effect of meditation on the executive attentional network [of the brain and nervous system] found that **meditators were faster on all tasks**.

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- With aging, the brain cortical thickness (gray matter, which contains neurons) decreases, whereas **meditation experience is associated with an increase in gray matter** in the brain.
- Meditation decreases sympathetic overstimulation and **reduces cholesterol and smoking.**



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Credible, peer-reviewed
medical data continue to
prove the positive
benefits of mindfulness
and meditation.
Isn't it worth a try?

