



How to stop your brain shrinking and improve your thought processes

Background

The fact that your brain may be slowly shrinking sound frightening and painful. What are the causes, how do we recognise the effects and can the process be prevented or reversed?

Research suggests that among the many possible causative could be certain activities, drugs or everyday habits. Brain shrinkage has been linked to a declining memory, difficulty in thinking, or solving metaphorical puzzles. Changing aspects of your life and adding brain exercises into your routine may prevent a deterioration in function.

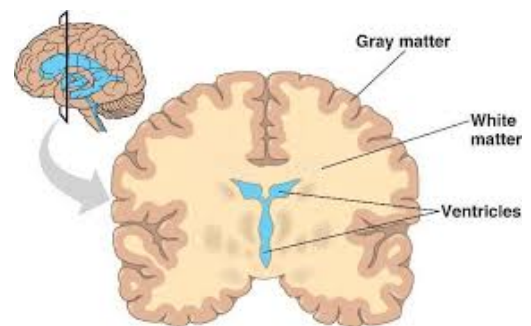
Causes of shrinking

Sleep quality

Lack of sleep damages your brain. Less than six to eight hours of sleep per day is linked to shrinking gray matter over time, according to a recent study published in the journal *Neurology*. Scientists at the Universities of Oxford and Oslo studied changes in the brain MRI scans of 147 Norwegian adults over 3.5 years. Study subjects were asked to monitor their sleep quality, patterns of sleep, and daytime sleepiness. On average, it took participants 20 minutes to fall asleep, and they then slept for an average of seven hours. A subgroup who experienced poor sleep quality were found to have suffered shrinkage of their frontal cortex. In addition, there was deterioration in three other areas of the brain, including those responsible for reasoning, planning, memory, and problem-solving. [1]

Incredible brain facts

Your brain is made up of grey and white matter. The gray matter on the outside is responsible for thinking, seeing, hearing, speaking, movement and feelings. Different bits of the brain's gray matter are responsible for these various processing functions. By comparison neurons in the white-colored myelinated axons help quickly transfer messages back and forward from the various organs in the body.



Drugs

Antipsychotic drugs are known to shrink the brain. [2] Volumes of gray matter shrink with different types of antipsychotics, and the higher the dosages, the more the gray matter shrinks, ultimately decreasing the amount of messages being sent throughout the brain. While generally detrimental, brain shrinkage can actually help with psychosis by cutting down the amount of detrimental activity.

Depression and stress

Sufferers from depression may also face deterioration in brain structure and function according to a study from Yale University. [3] Researchers found lack of pleasure and happiness caused dendrites, the structures that serve as connectors within the brain to shrink. Similarly, major life stresses can cause neurons in the prefrontal cortex (PFC) to shrink. These areas are responsible for aspects of metabolism (e.g. glucose), emotional processing, and problem solving.

Visual stimuli

Another part of the brain that is under threat is the striatum. This area is responsible for motivation and rewards. Visual stimuli such as exposure to pornography may cause shrinkage of this area. German scientists found that men between the ages of 21 and 45 who regularly viewed pornography had less gray matter than a control group [4]. Watching pornography may cause a proportional deterioration in the connections between the striatum and the PFC, the latter being responsible for managing impulses, social control and the suppression of emotions and sexual urges. This may lead to a lack of control and impaired decision-making abilities.



So what can you do?

Improve with brain boosters

- Start off by getting a good night's sleep for your brain's sake.
- Do some regular brain exercises e.g. switch hands and use your non-dominant hand to perform simple tasks such as writing a few sentences, eating and brushing your teeth. This will force your brain to learn in a new way and engage under-used regions with new wiring.
- Take a daily dose of 600mg docosahexaenoic acid (DHA) supplement for six months. It's an omega-3 fatty acid that makes up the central building blocks of brain tissue. DHA is also known to combat inflammation and plaque buildup [5].
- Exercising improves cognitive performance and increases neurotropic factor (BDNF), a substance that strengthens brain cells and neural connections. Exercise has even been shown to build new cells in the hippocampus, which is responsible for memory, organizing, and storing information.
- Meditation will give your brain the power it needs. This is often call it the "relaxation response," helping to lower blood pressure, heart rate, and anxiety. Yoga, meditation, or prayer have been shown to reverse the effects programming cell death [6].

Sources

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Conclusion

There are no excuses when it comes to brain health – treat your brain the same way you would a new sports car or a computer, update it, don't overuse it, add new software in the form of various activities and do not forget to refuel or feed it when needed. You cannot stop your brain cells from dying during your lifetime, but what you CAN do is to make the whole process as slow as possible so once you are old you still remember what you did the day before.



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