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Mental illness and how hyperbaric oxygen therapy can help

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To understand how hyperbaric oxygen therapy (HBOT) can help with mental health, we must first have some understanding about the effects stress, anxiety and depression have on us to then see how HBOT can help.





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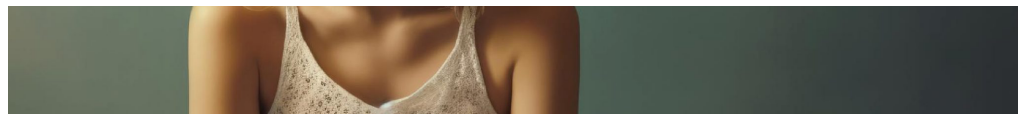
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What does stress, anxiety and depression do to us?

It is quite extraordinary to think that something we merely feel can quite literally physically alter us, and in this case, prominent levels of stress can create changes to our brain structure and make us more susceptible to mental illness, such as depression and anxiety.

Our brains are made up of both white and grey matter. White matter is used to communicate information to different regions of the brain and grey matter is used to make decisions, and when under extreme levels of stress, your brain produces more white matter, leading to an imbalance. If serious, the imbalance of white and grey matter can lead to a permanent change in the brain's structure and be the catalyst for mental illness.

Further to the alteration of the brain's structure, the stress hormone, cortisol, causes a chemical imbalance, shrinking areas of the brain associated with emotion and memory. The increase in levels of cortisol is powerful enough to kill new neurons that are produced in the hippocampus – the part of the brain responsible for memory and learning – with some dying off within a week of being created.

Whilst some areas of the brain shrink, the amygdala grows – the part of the brain the controls our emotions – leading to hormone-related problems such as mood swings and disturbed sleep.

With chronic stress capable of causing such severe changes

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with chronic stress capable of causing such severe changes, many people will experience symptoms of stress such as headaches, fatigue, irritability, muscle tension, and high blood pressure. Remaining under elevated levels of stress for a long time also lowers the immune system, making us more susceptible to certain illnesses.



Hyperbaric oxygen therapy and mental illness

It might seem a bit odd to think that breathing in near-pure oxygen at increased atmospheric pressure can help ease the symptoms of stress, anxiety, and depression, but there are studies to support this claim, with some finding proof it is just as effective at treating mental health as psychotherapy is.

HBOT's primary effect is its ability to increase blood flow, and with neuronal function reliant on oxygen levels in the brain, hyperbaric oxygen therapy is considered an extremely effective way to treat mental illnesses. The enhanced oxygen in the blood helps protect and restore neurons that are threatened by cortisol levels and helps to balance brainwave activity, evening out the brain's chemicals.

Stress can also lead to inflammation in the body, which can be

reduced by heightened levels of oxygen in the blood, lowering oxidative stress – a contributing factor to several stress-related illnesses leading to free radicals in the body causing damage to cells and tissues.

Cerebral metabolic rates, mitochondrial function, and brain cell growth are other closely observed side effects, with studies also showing HBOT can encourage neuroplasticity in the brain. Increased neuroplasticity is something believed to be triggered through antidepressants, boosting brain power and improving focus, and of course, drastically reducing the symptoms of stress, anxiety and depression.

To shed light on how detrimental neuroplasticity is on our cognitive wellbeing, individuals who have suffered a stroke or TBI (traumatic brain injury) have had brain function restored by increasing neuroplasticity in the brain.

Easing other side effects

Hyperbaric oxygen therapy doesn't target any illness, disease, or condition. It's a holistic treatment for the entire body, bringing about a vast range of other benefits. For someone undergoing HBOT sessions for their mental health, they will most likely experience other advantages that'll generally boost their welfare.

Sleep

For a while HBOT has been known to help people who struggle with sleep, improving both sleep time and quality by reducing the inflammatory biochemicals in your brain and increasing antioxidant enzymes – both of which can curb our stress – clearing your mind to allow for a deeper doze. I think we can all agree dealing with stressful situations is much easier when we've had a good night's rest.

Headaches

Frequent headaches are a classic sign of stress and anxiety, especially more severe ones like cluster headaches and migraines.

These types of headaches are thought to be caused by the blood vessels in the brain narrowing, restricting the supply of oxygen. Not only will therapy increase oxygen supply but it will stimulate cerebral tissue which reduces inflammation.

Skincare

We've all woken up with a stress-induced spot or two, and let's just say there are better ways to start the day than being

just say there are better ways to start the day than being stressed over how our skin looks when we're already stressed...

HBOT increases collagen synthesis by up to three times, the process responsible for keeping our skin looking young and reducing the appearance of wrinkles. It works similarly to how an oxygen facial would, not only stimulating the production of collagen but the production of elastin too, something that only occurs under the increased atmospheric pressure.

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