

3 Breathing Exercises to Calm the Brain, Reduce Stress & Cure Anxiety

FEATURED BREATHING



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When you breathe correctly, you pump cerebrospinal fluid into the brain to reduce stress and cure anxiety

You've probably heard the expression, "just breathe through it." When a situation is stressful, [breathing](#) deeply and evenly can help to cure anxiety and reduce stress. Why is that so? There's a very important link between [feeling calm](#), nasal breathing, [better sleep](#), and [brain health](#).

In Taoist philosophy it's taught that "The wise man/woman breathes from his/her heels." Physically speaking, this phrase is a reference to the fact breathing deeply into the body is incredibly good for health. Today research is revealing how breathing affects the brain.

The human brain is bathed with crystal clear liquid called cerebrospinal fluid (CSF). CSF carries oxygen and nutrients to brain cells while removing waste products. Recent studies using magnetic resonance imaging (MRI) show a link between CSF flow and breathing.

In this article, we'll explore the process of breathing and [how it affects the brain](#).

Cerebrospinal Fluid (CSF) – The Brain's Life Blood

Perhaps the most important fluid of your body is the 250ml of cerebrospinal fluid that flows around a system of pipes in the brain called the ventricles. CSF is produced by the choroid plexus in the third ventricle, and from here it circulates through the [brain via the ventricles and then to the spinal cord](#).

Each day the entire volume of CSF is replaced four times. During sleep, the blood brain barrier relaxes to let CSF into the neurons and flush out the build-up from the day. This is a big reason why sleep is so important.

How Breathing Affects the Brain and CSF

A good night's sleep is easier said than done for some, but there are ways to get better sleep by breathing consciously. Breathing influences CSF flow dynamics by changing pressure in the chest. Recent studies have shown how breath can affect the flow of CSF directed through the ventricles of the brain. This is important, because you need to make sure your brain gets the most CSF it can.

If you sleep badly, wake up feeling tired or anxious, then it might indicate a sleep disorder. Conditions such as snoring, sleep apnea, and other issues are known to affect CSF flow to the [brain](#).

Studies show that pressure in the chest influences the pressure in vessels like arteries and veins. It was previously thought that changes in CSF flow responded to arterial pressure during deep inhaling, however, it was recently discovered that the direct change of pressure in the chest during breathing is likely responsible.

Diaphragm breathing affects the pressure of the veins around the thoracic vertebrae (located in the mid back), and the veins in the chest respond to these changes in pressure by pumping CSF into the spinal cord.

Breathing Shifts CSF via Pressure in Chest Veins

The veins around the chest vertebrae column transmit pressure upwards to the brain. They make up a sprawling network of tinier veins that extend up into the epidural venous system of the spinal canal. It's called a venous plexus.

During an inhale and exhale the chest rises and falls. The change in pressure flows upward to the CSF dynamics around the brain. Here's how it works:

Breath in (inspiration) – Lowers chest pressure and empties the venous plexus. CSF flows down the spine.

Breath out (expiration) – Increases chest pressure and fills the venous plexus, pushing CSF up the spine into the head.

As you can see, breathing conducts a rhythm of flow of CSF up and down the spinal cord.

Deep Breathing and the Brain

Most veins in the body have valves to stop blood flowing backwards. However, the **thoracic plexus is valve-less**, any pressure will cause a flow in either direction. More pressure from deep breathing causes more CSF to flow into the brain.

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A [2013 study](#) showed that the depth of breathing can even change the rate of CSF movement through the brain, with deeper breaths pushing CSF further up into the brain. Researchers also tested breath holding and found it also produces increased CSF flow.

Pressure changes of CSF likely then push CSF into the lymphatic system, so with each breath, CSF is flowing into your brain. The body then exits it into the lymphatic system to be met by the immune system.

Easy Breathing Tips for Better Sleep and Reduce Stress

Now we know how breathing bathes the brain in CSF, it's important to know that how you breathe during your waking hours will be reflected in your breathing pattern while you slumber. Priming your body for good breathing during sleep may help nourish the brain in CSF.

For better sleep and a [healthier brain](#), reduce stress and anxiety, practice the following breathing exercises.

Step 1: Deep Breath to Reduce Stress

- Lay on the floor with two hands over your stomach.
- Seal the tongue firmly to the roof of the mouth, seal the lips and breathe deeply through nose.
- Breathe deeply into the diaphragm. Your hands should rise as the stomach expands. Breathe in for 4 seconds.
- Take a slow exhale for 8 seconds.
- Continue for 30 breaths and repeat 3 times.

Step 2: Expand your Breathing Capacity

- Repeat the steps above, and when you reach your capacity, make a conscious effort to extend your breathing.
- Lengthen the exhale to 10-12 seconds.
- Feel the rush of CSF to your brain as you expand you feel comfortable in slow, deep breathing.

Step 3: Improve your Spinal Posture

Remember, CSF moves up the spine into the brain as you breathe. Your spinal posture will influence that pathway. Here's an exercise to increase core mobility with standing Chi Gung. Hold the following posture for two minutes:

- Draw the body's weight to the middle of the feet, slightly away from the heels.
- Extend your arms in front of the body.
- With every breath as the chest expands, shift your body weight forward, taking additional weight off the heels.
- To balance the forward motion, extend the spine and stretches through the heels.
- Ensure the downward stretch and forward motion are exactly balanced so that there is no visible movement of the heels.
- To an observer the heels appear to be in contact with the ground, but internally they are engaged in a downwards stretch with each breath.
- Feel the stability of the spine and visualise CSF flowing up the spine.

Your brain depends on deep breathing patterns to help bath it in cerebrospinal fluid. Using your diaphragm to maximize pressure shifts in the chest cavity, this will help to boost the flow of CSF to the brain.

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