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Stress and Your Brain Activity

By John Hinwood | November 23rd, 2015

Feeling overwhelmed, sleeping poorly and recognizing you are isolating yourself is a recipe for becoming stressed out. Being over worked can cause chronic stress and this can affect your brain size, how it works and how it functions. When you are stressed your brain reacts by activating the Hypothalamus – Pituitary – Adrenal (HPA) Axis which is the endocrine pathway from your brain to the adrenal glands which are located at the top of each kidney. The hormones secreted control your body's reaction to stress. The hormone cortisol is released which primes your body for quick action. Chronic stress creates a constant production of cortisol which then affects another part of your brain, the Amygdala, which is your brain's fear and anxiety centre. It increases neural connections here, which in turn fires increased activity in the Hippocampus which is related to learning, memory and stress control. This activity further sets off increased activity of the HPA axis. The result of this constant relentless activity in individuals who operate in over stress can cause your brain to shrink in size. This results in the reduction of synaptic connections in your brain. The frontal lobe is affected and your decision making, judgement and concentration are adversely affected. This can then lead to depression and Alzheimer's disease and affects your DNA make up. To turn this downward spiral around it is as simple as adding daily exercise to your schedule, add some meditation or quiet time and focus on your breathing. Being outside helps also so you can take in the joys of nature around you and give all of your senses a good work out also. Getting adjusted increases brain activity too!

