

CHRONIC BACK PAIN ASSOCIATED WITH DECREASED BRAIN FUNCTION

HEALTH ISSUES #44

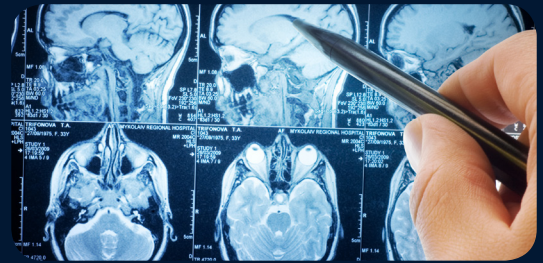
If you're one of the millions of people with chronic back pain, scientists say your brain may age up to 20 times faster than normal. It is well documented that chronic back pain negatively impacts quality of life and increases anxiety and depression, but it has been assumed that any brain changes revert to a normal state after the pain stops.

A study in the *Journal of Neuroscience* reported the following findings in people with chronic back pain.

"The brain may shrink as as much as 11 percent – equivalent to the amount of gray matter lost in 10 to 20 years of normal aging."

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Apkarian, A. Nov.2004, 24 (46) 10410-10415



Gray matter contains most of the brain's neuronal cell bodies and is involved in muscle control and sensory perception as well as memory, emotions, speech, and decision making. Normal aging results in only about 0.5% of gray matter loss each year. Loss in brain density is related to pain duration, indicating that 1.3 cubic centimeters of gray matter are lost for every year of chronic pain.

By definition, chronic back pain is a state of persistent pain sensation with associated negative mood and tension, therefore, one possible explanation for the decreased gray matter is excessive nervous system stress.

In earlier research, it was found that back pain sustained for six months or longer is accompanied by abnormal brain chemistry, indicated by chemical changes in the area of the brain known to be important in making emotional assessments, including decision-making and control of social behavior. Clearly, there is more to chronic back pain than just the pain itself.

