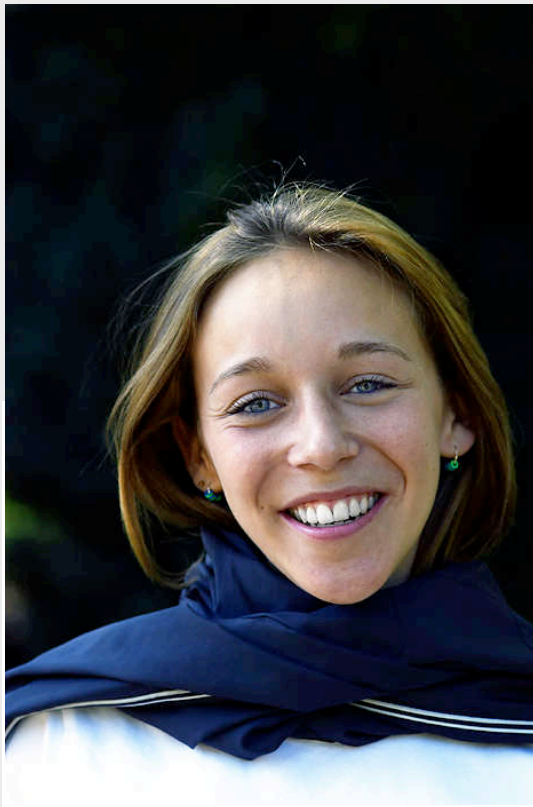


# BDNF

Brain & Mind Research Institute  
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## Why is taking anti-depressant or anti-psychotic medication so important?

Brain-derived neurotrophic factor (BDNF) is a protein in the brain that helps promote a variety of neuromodulatory processes during development as well as in adulthood. In the brain, BDNF is active in regions that are important in learning, memory and higher order thinking.

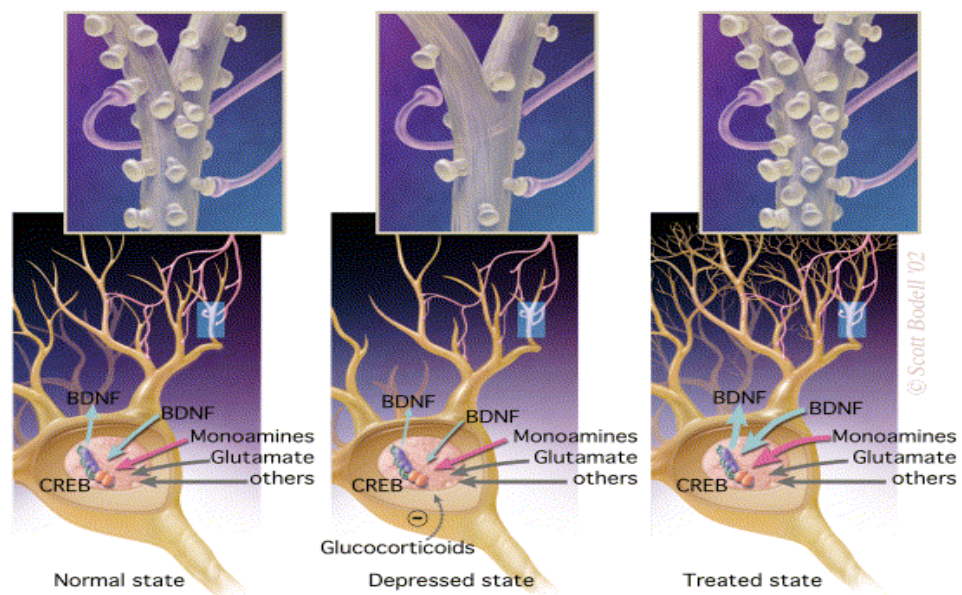
People with untreated depression and schizophrenia have been shown to have a reduced level of BDNF in the brain (Lang et al., 2004). Exposure to stress has also been shown to reduce the expression of BDNF (Smith et al., 1995).

Taking your anti-depressant and anti-psychotic medication regularly each day helps to stimulate BDNF in the brain. It is neuroprotective – that is it helps support the survival of existing neurons in the brain, and encourages the growth and differentiation of new neurons and synapses. All this helps to improve your brain function.

One of the most important things to remember is that the medication will be most effective if you take it every day and not skip any doses.

There are other things too that help increase BDNF. These include regular exercise, eating a well balanced diet, and keeping your brain active.

BDNF has been shown to regulate the activity of mature neurons in the hippocampus, a region involved in learning and new memories and known to be affected in depression & schizophrenia. Taking anti-depressant medication regularly helps to protect this region.



When treated with anti-depressant medication, levels of BDNF in the brain increase (green arrows) which helps to promote new dendritic growth (the branches between neurons) and more synapses (connections) in the brain.