

High BDNF Tied to Lower Alzheimer's Risk

By David Perlmutter, MD, empowering neurologist

Growth hormone for the brain. What a concept. Truth is, science has indeed identified a protein that does exactly that, and it's called brain-derived neurotrophic hormone (BDNF). Knowing about BDNF is even more important now, as a new report clearly links higher levels of BDNF to remarkably reduced risk for Alzheimer's disease.

In a recent issue of the Journal of the American Medical Association, researchers from Boston University measured baseline BDNF levels in a group of adults and followed them for up to ten years. They found that those individuals with the highest baseline BDNF levels developed dementia 50% less often compared to those with the lowest levels.

BDNF is a protein that plays a pivotal role in neuronal health. Your brain contains as many as 100 billion neurons and the health, vitality, and, perhaps most importantly, functionality of each one of your brain cells is intimately influenced by BDNF.

Early in life, BDNF regulates not only the growth of brain cells, but also their ability to make connections to other brain cells, a process fundamental to our ability to create a more powerful brain. But keep in mind that the process of growing new brain cells, neurogenesis, continues throughout your entire life! Think of it. As you are reading this report, your brain is actively producing new brain cells, and brain cells are always busy creating new connections with their neighbors in a process called neuroplasticity.

Both of these events, neurogenesis and neuroplasticity, are directly enhanced by BDNF, and who wouldn't more brain cells that are more connected? No doubt you are now wondering what you can do to get hold of this magic elixir that builds a better brain. But while BDNF isn't something you can buy at the pharmacy, the good news is that you can absolutely increase your body's ability to create this powerful protein and pave the way for a healthier, more resilient brain.

I've discussed how the omega-3 oil DHA can enhance BDNF as well as how it can be enhanced with aerobic exercise in previous posts. You can get a lot more information beginning on page 126 in Grain Brain.

I've also written about how sunlight can turn on BDNF production. In this report from Dr. Marc Molendijk and colleagues at Leiden University in the Netherlands, a profound seasonal variation in blood level of BDNF was observed with increasing amounts of BDNF found in the blood during months with the most sunshine. Interestingly, they were able to correlate levels of BDNF with the diagnosis of depression as well with low BDNF levels highly related to this diagnosis. This information has important implications. Not only does it offer up yet another lifestyle modification to provide our bodies with more BDNF (sunlight exposure), it might well explain why individuals may become depressed during winter months and when living in places with little sunshine.

Despite the literally hundreds of millions of research going in to finding a way to treat Alzheimer's, it looks like that prospect remains a long way off. So we should pay attention to research that shows how

the disease could be prevented in the first place. Getting sunshine, exercise and taking DHA are proven methods to raise BDNF, and now we see the science that clearly correlates elevated levels of this powerfully important factor with reduced Alzheimer's risk.