



GREEN TEA STOPS LIPID PEROXIDATION AND THEREBY IMPROVES BRAIN HEALTH

Lipid peroxidation is a process where free radicals destroy the lipids that make up the cell membranes of many tissues in the body, including those of nerve cells in the brain and spinal cord. A group of nutrients called anti-oxidants are thought by scientists to neutralize these free radicals, thereby slowing down the process of lipid peroxidation and protecting the body's cells.

[Green tea](#) is an excellent source of anti-oxidants and studies have shown that treatment with green tea can in fact prevent lipid peroxidation. For example, in a study published in 2004, researchers found that laboratory rats had far lower levels of lipid peroxidation byproducts in their brains and nerves after being given [green tea](#) for five weeks. This indicates that the free radicals in the bodies of these rats were either inhibited or neutralized by the green tea. The researchers also found higher levels of several products of healthy brain function in rats that had been given green tea.

For more than ten years, scientists have been aware of green tea's ability to halt the process of lipid peroxidation. And since this process is something that has a degenerative effect on brain tissue, it is significant that several earlier reports confirm green tea's ability to halt the progress of lipid peroxidation.

For example, a report published in 1994 compared the effectiveness of four different green tea anti-oxidants in preventing lipid peroxidation in mice. The report found that each of these four anti-oxidants, which form a group known as catechins, was at least somewhat effective in preventing lipid peroxidation. However, one catechin called epigallocatechin gallate (EGCg) was especially effective. This compound also happens to be the most prevalent compound in green tea. More importantly, it should be noted that EGCg is found in much greater quantities in whole green tea leaves than in brewed green tea – as much as 100 times greater according to a report by the USDA.

Another study published in 1996 came to similar results in the comparison of the same four catechins from green tea. This study found EGCg to be the most effective, although all of green tea catechins were effective to some extent. In this study, lipid peroxidation was induced in the nerve endings of laboratory rats using supplementation of iron. Once again, catechins from green tea—and EGCg in particular—slowed down the process of lipid peroxidation, thereby protecting nervous tissue similar to that of the human brain. This was accomplished by neutralizing free radicals called hydroxyl radicals which have a corrosive effect on nerve cells such as those in the brain and spinal cord.

All of these findings are very encouraging since catechins and EGCg are so easy to add into the diet in the form of green tea, especially when it is used in its whole leaf form in cooking. By consuming even small amounts of [green tea](#), the body is able to protect itself more fully from the deterioration of nervous system tissues resulting from disease or even normal aging.



References:

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GREEN TEA AND MENTAL HEALTH

Most of us know by now that drinking green tea can be incredibly beneficial to our health, but few of us know just how important it can be. One of the areas that people may not be so aware of is the benefits that green tea can have in relation to mental health (stress, depression and similar conditions), and surprisingly, it can be quite effective.

Several studies have looked at the relationship between green tea and mental health, largely thanks to the acknowledgement that drinking green tea can induce a positive mental state. Scientists wanted to take this one step further to see whether this can be scientifically proven, and if so why this is the case.

One such study was published in *Biological Psychology* in 2006. It looked at the effects that L-Theanine (a chemical found in green tea) had on stress, and found that oral consumption of this chemical could significantly improve the anti-stress response. This seems to indicate that drinking green tea could help to improve the way we react to stress and could help to reduce our overall stress levels.

The fact that green tea contains L-Theanine could make it useful in another area – the treatment of ADHD. ADHD, or attention deficit hyperactivity disorder, is a condition usually associated with children and means that they find it hard to concentrate, focus and even sleep properly. L-Theanine can help to improve children's symptoms as it has a calming effect, with people in Japan having used green tea as a particularly effective ADHD treatment for decades.

More studies need to be carried out to confirm its effectiveness in this area, but one that is currently underway is being conducted by Dr. Lyon and colleagues at the Canadian Centre for Functional Medicine. In the study, boys with ADHD are being given Theanine supplements to see if it has an effect, and although the results aren't published yet the findings so far seem to be promising, with Lyon noting that after administering the supplement the children start to calm down and can sleep better.

Other studies have looked at green tea in relation to depression and psychological distress. One of these, conducted in Japan, had 1,058 elderly Japanese individuals as participants. It looked at (among other things) green tea consumption and overall levels of depressive symptoms, and the findings indicated that increased and frequent consumption of green tea was associated with a lower incidence of depressive symptoms in the individuals studied.

Another Japanese study, this time with 42,093 participants, supported these findings. They found that consumption of green tea significantly improves psychological well-being, and that drinking 5 cups per day can actually reduce the incidence of psychological distress by up to 20%.

All of these studies suggest that drinking green tea regularly can have a marked effect on the incidence of depression, stress and other psychological disorders. But why is this? In a lot of cases it seems to be



the chemicals that are found in green tea, but a lot of people argue that it's the antioxidants found in it that can also have such an astounding effect.

Whatever the reasons, the fact is that drinking green tea really can be beneficial to our mental health. Drinking it regularly can help to improve our stress responses, can reduce depressive symptoms and psychological distress, and can even be used as a safe and effective way to treat ADHD. So, make sure to include green tea in your daily diet and see if it can help to improve your psychological well-being.



GREEN TEA AND COGNITIVE FUNCTIONING

[Green tea](#) has been used medicinally by Asian cultures for centuries, and now scientific studies are indicating just how beneficial it can be. Just one of the areas where it's thought to have an effect is in relation to cognitive functioning (including memory, concentration, learning ability and the like), and with Alzheimer's and related illnesses being so debilitating it would definitely be worthwhile to investigate.

In the past there have been several animal studies that looked into the effects of green tea on cognition, with results seeming to indicate that green tea consumption can help to prevent the degenerative processes that lead to illnesses such as Parkinson's disease and Alzheimer's. However, there wasn't a human study published on such effects until 2006, when Japanese researchers published their findings in the American Journal of Clinical Nutrition.

The study took 1003 Japanese people aged 70 and above and looked into their green tea consumption as well as other factors such as their diet and lifestyle. They combined that with a short examination to test their cognitive functioning, known as the Mini Mental State Examination which measured memory, language and attention. The results seemed to indicate that drinking green tea was correlated with a lowered chance of cognitive impairment, with those who drank 1 cup per day having a 38% reduction in cognitive impairment and those who drank over 2 cups per day having a massive 54% reduction in mental decline.

This study gave us the first clear indication that green tea consumption really can help to maintain cognitive functioning and can subsequently prevent the onset of cognitive degeneration, suggesting that people who drink green tea are much more likely to keep their brain healthy for as long as possible.

But how can green tea have such an impact on the brain and cognitive functioning? Once again, it seems to come down to antioxidants. The antioxidants found in green tea, specifically epigallocatechin gallate (EGCG), help to rid the body of free radicals by attacking them and stopping them from taking effect and damaging cells. In terms of helping cognition, when these antioxidants get into the brain's blood stream they're able to stop any free radicals that may be there from damaging the brain, thus helping to maintain a healthy brain and cognition.

So, [green tea](#) really can help with cognitive functioning. Both human and animal studies indicate that drinking green tea regularly can help to maintain cognitive functioning and can reduce the incidence of cognitive impairment, and thanks to animal studies we can also infer that it can help to prevent the onset of dementia and similar illnesses. Given that these illnesses are so hard to treat, any possible way that can prevent their onset would definitely be worth trying out, and because drinking green tea is such an easy thing to incorporate into your daily life it's definitely worth considering. So, make sure to drink green tea as a way to improve cognitive functioning, as well as being a way to improve your health as a whole.



GREEN TEA AND THE PREVENTION OF STROKE

Green tea has numerous health benefits, as noted by the fact that Asian cultures have been drinking it medicinally for centuries. Here in the West plenty of studies are being carried out to confirm the effectiveness of green tea. Among its many other health benefits, it's thought that green tea can be used to prevent strokes.

Strokes are incredibly debilitating to the individual, if not fatal, and knowing that there's a simple way to help prevent their occurrence is sure to be appreciated by countless people in the at-risk category and even by those just wanting to prolong their health. One such study that's looked into the effects of green tea in relation to stroke prevention was conducted by Kuriyama et al, at the Tokyo University Graduate School of Medicine.

The study took 40,530 Japanese participants and followed them for up to 11 years, looking at their lifestyle choices (including green tea consumption) and subsequent mortality rates. The results showed an inverse association between green tea consumption and all-cause mortality, with the results being even stronger when in association with mortality due to stroke. This suggests that the more green tea is consumed the lower the likelihood of suffering a stroke, indicating just how beneficial green tea can be.

Another study found similar results. This one, conducted by Sato et al at the Tokyo University School of Medicine, took 5,910 women who didn't smoke or drink and looked at the prevalence of stroke in their medical histories. It was noted that the occurrence of stroke was significantly lower in those women who regularly consumed green tea, and in the 4-year follow up it was found that the incidence of stroke was twice as high (if not more) in those who drank less than 5 cups of green tea per day than in those who drank 5 cups or more.

Both of these studies indicate that drinking [green tea](#) can be a way to prevent the incidence of stroke, and studies continue to be conducted to confirm the findings. It's even been noted that green tea can help to protect the brain cells from damage following a stroke, suggesting that it could be used to help patients recover and to prevent further damage. It's likely that the results are due to the polyphenols and their protective effects. Although the mechanisms of such antioxidants aren't fully understood data indicates that green tea can be incredibly beneficial to one's health.