

Health Bits and Pieces (HFN 34:4) Written By Dan C. Kenner

Third Eye Blind

Abnormal sleep patterns are associated with many types of neurological disorders. These include anxiety disorder, autism, dementia, depression, and Parkinson's disease, which are directly linked to dysfunction of the pineal gland. The pineal gland secretes melatonin, the sleep hormone. The pineal gland is very sensitive to environmental poisons. Furthermore, melatonin is derived from tryptophan, whose synthesis in plants and microbes is blocked by glyphosate (Roundup). Glyphosate also disrupts gut flora, which promotes overgrowth of *Clostridium difficile*, a bacterium that causes a serious life-threatening infection. A toxic product of clostridium, p-cresol, is linked to autism in both human and mouse models; furthermore, it enhances uptake of aluminum, another environmental toxin, and allows it to pass through the intestinal barrier. A recent research paper shows how these two toxins work synergistically to induce neurological damage. The deadly combination leads to anemia-induced hypoxia (linked to autism), causing damage to the nerves and the pineal gland. Both glyphosate and aluminum also disrupt cytochrome P450 enzymes, which are involved in melatonin metabolism.

Persico A, Napolioni V, "Urinary p-cresol in autism spectrum disorder," Neurotoxicology and Teratology, Mar-Apr 36:82-90. doi: 10.1016/j.ntt.2012.09.002. Epub 2012 Sep 10 (2013); Seneff S, Swanson N, Li C, "Aluminum and Glyphosate Can Synergistically Induce Pineal Gland Pathology: Connection to Gut Dysbiosis and Neurological Disease," Agricultural Sciences, 6, 42-70 (2015). doi: [10.4236/as.2015.61005](https://doi.org/10.4236/as.2015.61005).

Balm of hurt minds, great nature's second course (*Macbeth*: Act 2, Scene 2)

Sleep researchers have found that sleep helps restore the brain by flushing out toxins that build up during the day. This discovery may finally explain the physiological role that sleep plays in mental and physical health. A research team at the University of Rochester Medical Center discovered a physiological mechanism that drains waste products from the brain.

During sleep, brain tissues contract allowing a greater flow of cerebrospinal fluid (CSF), the clear liquid surrounding the brain and spinal cord. CSF moves through the brain along a series of channels that surround blood vessels. The system removes a toxic protein called beta-amyloid from brain tissue. Beta-amyloid is renowned for accumulating in the brains of patients with Alzheimer's disease. Inadequate sleep could therefore result in accumulation of toxins in the central nervous system. Sleep disturbances can cause or exacerbate attention deficit as well as various categories of psychiatric disorders.

Xie L, Kang H, Xu Q, et al., "Sleep drives metabolite clearance from the adult brain," Science, Oct 18;342 (6156):373-7. doi: 10.1126/science.1241224. PMID: 24136970 (2013); Bartholemew K, Owens J, "Sleep and ADHD: A Review," Medicine and Health Rhode Island 89: 91-93 (2006); Benca R, Obermeyer W, Thisted R, Gillin J, "Sleep and Psychiatric Disorders: A Meta-Analysis," Archives of General Psychiatry, 49: 651-668 (1992), at <http://dx.doi.org/10.1001/archpsyc.1992.01820080059010>.

Sleep Apnea and Then Some

Bronchial asthma has been linked to smoking, obesity, and air pollution; but more recently poor sleep leading to anxiety and depression has been identified as a possible cause of adults developing asthma. Linn Beate Strand, who led a team of sleep researchers at the

Norwegian University of Science and Technology explains, “Insomnia, defined as having difficulties initiating or maintaining sleep, or having poor sleep quality, is common among asthma patients, but whether insomnia patients have a higher risk of developing asthma at a later stage has not been thoroughly investigated.” The study analyzed data from 17,927 people aged 20 to 65 taking part in a long-term health study.

Brumpton B, Mai X-M, Langhammer A, et al., “Prospective study of insomnia and incident asthma in adults: the HUNT study,” European Respiratory Journal 49: 1601327 (2017), DOI: 10.1183/13993003.01327-2016.

Obesity-Prevention Hormone

Most of the body’s supply of serotonin, a brain neurotransmitter, is actually found in the gut. Serotonin has a known relationship with appetite for food. One of the brain's neural circuits synthesizes serotonin from sensory cues; this triggers the production of a newly-discovered brain hormone, FLP-7, which activates a receptor in intestinal cells. The intestinal cells then convert fat into energy. The experimenters uncovered the gene that codes for FLP-7. This is the first time researchers have identified a brain hormone that selectively triggers fat metabolism apart from the influence of food intake.

Palamiuc L, Noble T, Witham E, et al., “A tachykinin-like neuroendocrine signalling axis couples central serotonin action and nutrient sensing with peripheral lipid metabolism,” Nature Communications 8: 14237 (2017), DOI: 10.1038/ncomms14237.

Nutrition for Cancer

One-third of breast tumors lack estrogen receptors and are called “ER-negative.” They are aggressive cancers that resist treatment and often have a poor prognosis. About 15% of these ER-negative cancers are called “triple-negative” tumors, because they lack receptors for any of the three hormones that drive ER-positive cancers: estrogen (ER), progesterone (PR), and human epidermal growth factor (hEGF). Omega-3 fatty acids from fish and other seafood sources were found to curb growth in triple-negative tumors by 90%. Diets high in omega-6 fats from vegetable oils, however, seem to increase the risk of breast cancer.

Fox Chase Cancer Center (FCCC), “Omega-3 Fatty Acids More Effective at Inhibiting Growth of Triple-Negative Breast Cancer than of Luminal Breast Cancers,” April 9, 2013, at <https://www.fccc.edu/information/news/press-releases/2013/2013-04-09-aacr-omega3-fatty-acids.html>; Maillard V, Bougnoux P, Ferrari P, et al., “N-3 and N-6 fatty acids in breast adipose tissue and relative risk of breast cancer in a case-control study in Tours, France,” International Journal of Cancer, Mar 1;98(1):78-83 (2002).

Bite the Mushroom Before the Dust

So-called psychedelic drugs could be the most compassionate way to face death. The use of psilocybin in a controlled setting has been found to decrease anxiety and promote acceptance of impending death. Mood improved for two weeks after administration of psilocybin. Although not statistically significant, there was a definite trend toward positive outcomes in relief of anxiety and depression. Researchers proposed further investigation with a larger group of subjects and a higher dose of psilocybin for more decisive beneficial results. According to Charles Grob, M.D., “the careful and controlled use of psilocybin may provide an alternative model for the treatment of conditions that are often minimally responsive to conventional therapies, including the profound existential anxiety and despair that often accompany advanced-stage cancers.”

Grob C, Danforth A, Chopra G, et al., "Pilot Study of Psilocybin Treatment for Anxiety in Patients with Advanced-Stage Cancer," *Archives of General Psychiatry*, 11;68(1):71-78 (2011), doi:10.1001/archgenpsychiatry.2010.116.

Cholesterol Curbin' Myth

For decades, high cholesterol has been considered a marker for cardiovascular risk, despite the lack of supporting data. The marketing of so-called "heart-healthy" seed oils and statin drugs has helped to cultivate the myth. In the latest edition of the 2015-2020 Dietary Guidelines for Americans, the U.S. Department of Health and Human Services dropped this bombshell: "The Key Recommendation from the *2010 Dietary Guidelines* to limit consumption of dietary cholesterol to 300 mg per day is not included in the 2015 edition. ... More research is needed regarding the dose-response relationship between dietary cholesterol and blood cholesterol levels. Adequate evidence is not available for a quantitative limit for dietary cholesterol specific to the *Dietary Guidelines*."

The origin of this cholesterol curbin' myth was the Framingham Heart Study, long considered to be the gold standard of dietary lifestyle research. Although the Framingham study indicated that high cholesterol is a risk factor for heart disease, it is a very weak one. This led to the belief that consumption of cholesterol and saturated fats is a *cause* of heart disease. A quote from the study clearly refutes this: "There is a considerable range of serum cholesterol levels within the Framingham Study Group. Something explains this inter-individual variation, but it is not the diet."

U.S. Government, "2015-2020 Dietary Guidelines for Americans," Office of Disease Prevention and Health Promotion, at <https://health.gov/dietaryguidelines/2015/>; Kannell W, Gordon T, The Framingham diet study: diet and the regulation of serum cholesterol. The Framingham Study: An Epidemiologic Investigation of Cardiovascular Disease. Section 24, Washington, DC, 1970; Uffe Ravnskov, M.D., Ph.D., The Cholesterol Myths, NewTrends Publishing, Washington, D.C., 2000.