BRAIN HEALTH INGREDIENTS (RESEARCH)

VITAMIN B1

- Vitamin B1 may counteract the Adrenal Insufficiency that occurs as a result of Surgery. references
- Aggressiveness may occur as a result of Vitamin B1 deficiency and supplemental Vitamin B1 may reduce Aggressive behavior. references
- Vitamin B1 may help to reduce the craving for Alcohol in persons afflicted with Alcoholism: references
- Vitamin B1 may help to treat the Delerium (Delirium Tremens) experienced by some Alcoholics during the Alcohol withdrawal period.
- Fursultiamine (an analog of Vitamin B1) - 100 mg per day – may exert a beneficial effect on Alzheimer's Disease patients. It may produce improvement in emotional symptoms, mental function symptoms and intellectual function. references
- Vitamin B1 deficiency may increase the generation of Amyloid-Beta Protein in the Brains of Alzheimer's Disease patients. references
- Anorexia Nervosa may occur as a result of Vitamin B1 deficiency. references
- Anxiety may occur as a result of Vitamin B1 deficiency and Vitamin B1 may alleviate some cases of Anxiety (by activating the Pyruvate Dehydrogenase enzyme, thereby inhibiting the conversion of Pyruvic Acid to Lactic Acid - Lactic Acid is an underlying cause of some cases of Anxiety). references
- Apathy may occur as a result of Vitamin B1 deficiency. references
- Vitamin B1 deficiency may be implicated in Attention Deficit/Hyperactivity Disorder (ADHD). references
- Vitamin B1 (100 mg per day of the Fursultiamine form of Vitamin B1 per day) may cause clinical improvement in Autism patients. references
- Beriberi is the classic symptom of Vitamin B1 deficiency. references
- Vitamin B1 may be required for the optimal function of the Blood-Brain Barrier and Vitamin B1 deficiency may lead to the break down of the Blood-Brain Barrier. references
- High concentrations of Vitamin B1 are found in the Brain. references
- Vitamin B1 may be essential for the optimal function of the Cerebellum. references
  Vitamin B1 deficiency may lead to a reduction in the thickness of the Frontal Lobe and the Parietal Lobe of the Cerebral Cortex. references
- Poor Concentration may occur as a result of Vitamin B1 deficiency. references
- Confusion may occur as a result of Vitamin B1 deficiency. references
- Vitamin B1 deficiency can result in damage (measured as a reduction in the thickness of) the Corpus Callosum of the Brain. references
- Vitamin B1 deficiency may cause Delirium. [more info]
- Depression may occur as a result of Vitamin B1 deficiency. references
- Vitamin B1 is a component of some treatments that claim to alleviate Down's Syndrome. [more info]
- Headaches may occur as a result of Vitamin B1 deficiency and supplemental Vitamin B1 (1,000 - 4,000 mg per day) may alleviate Headaches in up to 78% of patients. references
- Vitamin B1 may facilitate the survival of Neurons in the Hippocampus: references
- Vitamin B1 may prevent and compensate for Alcohol-induced damage to the Hippocampus of the Brain. references
- Insomnia may occur as a result of Vitamin B1 deficiency. references
- Vitamin B1 deficiency may result in lowered Intelligence levels and supplemental Vitamin B1 may increase Intelligence in some cases (e.g. in mentally retarded children). references
- Irritability may occur as a result of Vitamin B1 deficiency. references
- Vitamin B1 may improve Learning ability and Vitamin B1 deficiency may lead to severe impairment in Learning ability. References
- Severe impairment of Memory may occur as a result of Vitamin B1 deficiency: references
- The Sulbutiamine form of Vitamin B1 may improve Long-Term Memory. references
- Vitamin B1 may improve Short-Term Memory (especially in persons whose Short-Term Memory is impaired as a result of excessive Alcohol (ethanol) consumption). references
- Supplemental Vitamin B1 (50 mg per day) may improve Mood and Mood changes may occur as a result of Vitamin B1 deficiency. references
- Vitamin B1 (administered intraspinally via injection) may cause significant (but transient) improvement in the condition of Multiple Sclerosis (MS) patients. references
- Vitamin B1 may be an effective treatment for (the Trigeminal Neuralgia form of) Neuralgia. references
- Neuropathy may occur as a result of Vitamin B1 deficiency: references
- The Benfotiamine and Sulbutiamine forms of Vitamin B1 are particularly useful for the treatment of Diabetic Neuropathy.
- Numbness (especially in the feet and hands) may occur as a result of Vitamin B1 deficiency. [more info]
- Vitamin B1 (1,000 - 4,000 mg per day) may alleviate Pain. References
- Vitamin B1 is present in Synaptic Vesicles (where it is involved in synaptic transmission of Neurotransmitters and Nerve Impulses). References
- Vitamin B1 deficiency may lead to loss of Neurons from the Thalamus area of the Brain. references
- Vitamin B1 may help to prevent Travel Sickness. references
- Wernicke's Encephalopathy is caused by Vitamin B1 deficiency. Intramuscularly-injected Vitamin B1 is the standard treatment for Wernicke's Encephalopathy.

RIBOVLAVIN (VIT B2)

- Vitamin B2 may be a useful adjunct therapy for the treatment of Alzheimer's Disease (when combined with supplemental Taurine and Zinc). [more info]
- Depression may occur as a result of Vitamin B2 deficiency. references
- Vitamin B2 (400 mg per day) may help to prevent Migraine (by improving the efficiency with which Energy is produced by the Mitochondria - reductions in the production of Energy by the Mitochondria is proposed as an underlying cause of Migraine). references
- Numbness (in the form of a tingling or burning sensation) of the feet or hands may occur as a result of Vitamin B2 deficiency. [more info]
- Vitamin B2 (90 mg per day) may be useful for the treatment of Parkinson's Disease. references
- Abnormalities of the Taste Buds may occur as a result of Vitamin B2 deficiency. references

NICOTINAMIDE (VIT B3)

- Niacinamide (1,000 mg per day) may reduce Aggressiveness (by stimulating the conversion of Lactic Acid to Pyruvic Acid). references
- Niacinamide may inhibit the damage to the Deoxyribonucleic Acid (DNA) content of Neurons that occurs during the progression of Alzheimer's Disease. references
- Niacinamide (1,000 - 6,000 mg per day) may alleviate Anxiety (by enhancing the ability of GABA to bind to the Benzodiazepine Receptors within the Brain). references
- Niacinamide (1,000 - 3,000 mg per day) may help to treat Autism. references
- Niacinamide may exert potent Antioxidant effects in the Brain. references
- Niacinamide may help to prevent Parkinson's Disease (by inhibiting the ability of MPTP to damage the Substantia Nigra). references

- Niacinamide (500 - 800 mg per day) may reduce the symptoms of Phobias. Reference
- Niacinamide (1,500 – 3,000 mg per day per day) may alleviate Schizophrenia. references
- Niacinamide (200 - 1,000 mg administered at bedtime) may improve the quality of Sleep (by binding to the Benzodiazepine Receptors of the Brain). references

VITAMIN B5

- Loss of Appetite may occur as a result of Vitamin B5 deficiency. references
- Vitamin B5 may help to treat Autism. references
- Impaired motor Coordination may occur as a result of Vitamin B5 deficiency. references
- Depression may occur as a result of Vitamin B5 deficiency. references
- Vitamin B5 may be a useful adjunct for the treatment of Epilepsy.
- Headache may occur as a result of Vitamin B5 deficiency. references
- Irritability may occur as a result of Vitamin B5 deficiency. references
- Vitamin B5 may be helpful in the treatment of the Neuritis form of Neuropathy.
- Numbness may occur as a result of Vitamin B5 deficiency. references
- Vitamin B5 may help the body to counteract Stress (due to its role in the production of Corticosteroid Adrenal Hormones). references

Vitamin B6

- Vitamin B6 may improve the Mental Function of Alzheimer's Disease patients (by inhibiting the Acetylcholinesterase enzyme that is over-active in Alzheimer's Disease patients). Vitamin B6 deficiency may increase the risk of Alzheimer's Disease. references
- Vitamin B6 may alleviate Anxiety. References
- Vitamin B6 may facilitate the production of Serotonin in Attention Deficit/Hyperactivity Disorder (ADHD) patients (Serotonin is often depleted in ADHD patients). References
- Vitamin B6 may reduce the severity of the symptoms of Autism in children. References
- Confusion may occur as a result of Vitamin B6 deficiency. references
- Vitamin B6 deficiency may cause Convulsions. references
- Vitamin B6 may alleviate some types of Depression (due to its participation as a cofactor for the endogenous production of various Neurotransmitters): references
- Vitamin B6 (25 - 50 mg per day) may alleviate many cases of Postpartum Depression. [more info]
- Vitamin B6 may help to rectify some of the underlying biochemical disturbances associated with Down's Syndrome. references
- Vitamin B6 may be useful for the treatment of Epilepsy. references
- Insomnia may occur as a result of Vitamin B6 deficiency. references
- Vitamin B6 may alleviate Irritability and Irritability may occur as a result of Vitamin B6 deficiency. references
- Vitamin B6 may be useful for the treatment of Leukodystrophy (due to its role in supporting the Brain's Myelin Sheaths). [more info]
- Migraine may occur as a result of Vitamin B6 deficiency. references
- Vitamin B6 may help to counteract the Carbon Monoxide poisoning that is strongly implicated in Multiple Sclerosis. Vitamin B6 deficiency may increase the risk of Multiple Sclerosis. references
- Vitamin B6 may alleviate Nervousness. references
- Vitamin B6 deficiency may cause Neuropathy and supplemental Vitamin B6 (100 - 150 mg per day) may alleviate many cases of Neuropathy (including diabetic Neuropathy): references

  Caution: dosages of supplemental Vitamin B6 in excess of 500 mg per day may cause sensory Neuropathy.
- Vitamin B6 may increase the production of Dopamine in Parkinson's Disease patients: [more info]
  10 - 100 mg of supplemental Vitamin B6 per day may result in improved bladder control, steadier gait and decreased cramps, trembling and rigidity in Parkinson's Disease patients.
  Parkinson's Disease patients should not use supplemental Vitamin B6 in conjunction with supplemental L-Dopa as Vitamin B6 may inactivate supplemental L-Dopa in the Intestines. references
- Vitamin B6 may alleviate Schizophrenia. references
- Vitamin B6 may protect the body against the toxic effects of excessive Stress. references
- Vitamin B6 may help to prevent and alleviate Travel Sickness. references
- Vitamin B6 (200 mg taken at bedtime) may improve the ability to recall Dreams and may also increase their intensity and color (effects are usually noticeable three nights after commencing this regime). references
- Vitamin B6 (at least 20 mg per day) may improve Memory: references
- Vitamin B6 (at least 20 mg per day) may improve Long-Term Memory in elderly persons. references
- Vitamin B6 may improve the quality of Sleep. references

Nervous System – Underlying Mechanisms

- Vitamin B6 is essential for the utilization of Glucose in the Brain for the production of Energy. references
- Abnormal Brain Wave patterns (EEG readings) may occur as a result of Vitamin B6 deficiency. [more info]
- Recovery of function to damaged Dopamine Receptors may be impaired in the presence of Vitamin B6 deficiency. [more info]
- Vitamin B6 deficiency during Pregnancy may result in impaired development of the Hippocampus in offspring. references
- Vitamin B6 may facilitate the development and health of the Myelin Sheaths that cover the Nerves which allows them to conduct Nerve Impulses. references
- Vitamin B6 may be required for proper electrical function of the Nervous System. [more info]
- Vitamin B6 deficiency may cause degeneration of the Peripheral Nerves. [more info]

VITAMIN B12

- Impaired Abstract Reasoning may occur as a result of Vitamin B12 deficiency. references
- Aggressiveness may occur as a result of Vitamin B12 deficiency. references
- Vitamin B12 (3 mg per day of the Methylcobalamin form) may increase Alertness. references
- Vitamin B12 (25 mg per day of the Methylcobalamin form) may improve Muscle function in Amyotrophic Lateral Sclerosis (ALS) patients. references
- Vitamin B12 (administered concurrently with Folic Acid) may alleviate Anxiety.

- Vitamin B12 (Methylcobalamin form) may accelerate recovery from Bell's Palsy. References
- Vitamin B12 may help to normalize Circadian Rhythm (probably by facilitating the endogenous production of Melatonin). References
- Vitamin B12 (3 mg per day of the Methylcobalamin form) may improve Concentration ability. references
- Confusion may occur as a result of Vitamin B12 deficiency. References
- Vitamin B12 may alleviate Delayed Sleep Phase Disorder. references
- Vitamin B12 deficiency may cause Delirium.
- Vitamin B12 may improve some aspects (Frontal Lobe function and language skills) of Dementia - Dementia may occur as a result of Vitamin B12 deficiency: references
- Vitamin B12 deficiency may contribute to the development of Alzheimer's Disease: references

  Supplemental Vitamin B12 (administered intravenously via injection by a physician) may improve various aspects of Intelligence in Alzheimer's Disease patients.

  Depression may occur as a result of Vitamin B12 deficiency: references
- Vitamin B12 supplementation alleviates many cases of Major Depression (especially in elderly people). References
- Vitamin B12 (1 mg consumed immediately prior to falling asleep) may (in approximately 50% of people) cause vivid, brightly colored Dreams - note that tolerance quickly develops to this effect. References
- Vitamin B12 may help to rectify some of the underlying biochemical disturbances associated with Down's Syndrome - for this reason it is a component of many innovative treatments for Down's Syndrome. references
- Vitamin B12 may alleviate Insomnia (by increasing endogenous Melatonin levels early in the night and reducing Melatonin levels at then end of a night's Sleep). references
- Vitamin B12 may improve some aspects of Intelligence.
- Vitamin B12 may improve the rate of Learning. references
- Vitamin B12 deficiency may cause Mania. references
- Memory impairment may occur as a result of Vitamin B12 deficiency (due to Vitamin B12 acting as a cofactor in the synthesis of endogenous Ribonucleic Acid within the Neurons of the Brain). references
- Vitamin B12 may help to prevent Migraines and may reduce the severity and duration of Migraines. references
- Mood changes may occur as a result of Vitamin B12 deficiency. references
- Vitamin B12 (Methylcobalamin form) may improve some aspects of Multiple Sclerosis: references

  Supplemental Vitamin B12 may counteract the degeneration of the Myelin Sheaths of the Central Nervous System that occurs during the progression of Multiple Sclerosis.

  Multiple Sclerosis (MS) patients almost always exhibit a Vitamin B12 deficiency.

  Supplementation with massive doses of Vitamin B12 (oral administration of 60 mg of the Methylcobalamin form) may improve visual and brainstem auditory-evoked nerve potentials by up to 30% in MS patients, but does NOT improve motor function.
- Note that forms of Vitamin B12 other than Methylcobalamin are unsuccessful for the Folic Acid
- Imparied Abstract Reasoning may occur as a result of Folic Acid deficiency. references
- Folic Acid deficiency may lead to Age-Related Hearing Loss. references
- Folic Acid (administered concurrently with Vitamin B12) may alleviate Anxiety. [more info]
- Apathy may occur as a result of Folic Acid deficiency. [more info]
- Folic Acid may be useful for the treatment of Autism. references
- Poor Concentration ability may occur as a result of Folic Acid deficiency. [more info]
- Confusion may occur as a result of Folic Acid deficiency. references
- Dementia may occur as a result of Folic Acid deficiency: references
- Folic Acid may help to prevent Alzheimer's Disease (by lowering total serum Homocysteine levels). references
- Folic Acid may help to prevent Multiple-Infarct Dementia. references
- Depression may occur as a result of Folic Acid deficiency and supplemental Folic Acid, by restoring this Folic Acid deficiency may be an effective treatment for Depression: references
- Major Depression may occur as a result of Folic Acid deficiency and supplemental Folic Acid (at the high dose of 10,000 mcg per day), by reversing this Folic Acid deficiency may be an effective treatment for Major Depression. references
- Folic Acid may alleviate Manic Depression and many Manic Depression patients are found to be deficient in Folic Acid. references
- Folic Acid (500 mcg per day or more) increases the effectiveness of Selective Serotonin Reuptake Inhibitors (SSRIs) such as Prozac for the treatment of Depresssion.
- Folic Acid is a component of modern treatments to alleviate Down's Syndrome and abnormal
- Folic Acid metabolism in the mothers of Down's Syndrome is one of the genetic factors that causes Down's Syndrome in offspring. Folic Acid supplementation during Pregnancy may help to prevent Down's Syndrome in offspring. references
- Insomnia may occur as a result of Folic Acid deficiency. References
- Irritability may occur as a result of Folic Acid deficiency. references
- Mania may occur as a result of Folic Acid deficiency. [more info]
- Poor Memory may occur as a result of Folic Acid deficiency (primarily due to Folic Acid deficiency increasing the risk of elevated Homocysteine levels). references
- Many Neuropathy patients are found to be deficient in Folic Acid and supplemental Folic Acid (2.5-15 mg per day) may cause improvement in the condition of Neuropathy patients where
- Folic Acid deficiency is the underlying cause of Neuropathy. references
- Folic Acid may alleviate Pain. [more info]
- Folic Acid (administered concurrently with Vitamin B12) may help to control Panic Disorder. [more info]
- Folic Acid may help to prevent Parkinson's Disease (by lowering elevated Homocysteine levels). References
- Folic Acid (in dosages of up to 5 mg per day) may alleviate (the Mixed Sensorimotor form of)
- Restless Legs Syndrome. references
- Schizophrenia may occur as a result of Folic Acid deficiency. references

Nervous System: Underlying Mechanisms

- Some of Folic Acid's beneficial effects on the Nervous System occur from its ability to stimulate the conversion of Phenylalanine into Tyrosine and Norepinephrine.

- Folic Acid may facilitate the growth of Axons (including the regrowth of damaged Axons). references
- Folic Acid may facilitate the production of Energy within the Brain. [more info]
- Folic Acid may enhance the function of the Cerebral Cortex - Folic Acid deficiency may lead to atrophy of the Cerebral Cortex. references
- Folic Acid may facilitate the growth of Neurons in the Hippocampus: references
- Folic Acid may facilitate the growth of Neurons in the Dentate Gyrus. references
- Folic Acid deficiency may result in subacute degeneration of the Spinal Cord. references
- Folic Acid may improve the Sense of Taste. references

VITAMIN C

- Vitamin C may alleviate Adrenal Insufficiency. references
- Vitamin C may help to prevent Altitude Sickness and may reduce the symptoms of Altitude Sickness. references
- Vitamin C may help to prevent Amyotrophic Lateral Sclerosis (ALS). references
- Anxiety may increase the body's requirements for Vitamin C. references
- Vitamin C (1,000 - 3,000 mg per day) may help to treat Autism. references
- Vitamin C may retard cognitive impairment in Dementia patients: references
- Alzheimer's Disease patients have been shown to have lower than average plasma Vitamin C levels (this may indicate that excessive activity of Free Radicals in Alzheimer' Disease patients may be contributing to the degeneration associated with Alzheimer's Disease and that supplemental Vitamin C may help to neutralize this excessive activity of Free Radicals). references
- Vitamin C (1,000 - 3,000 mg per day for at least three weeks) may alleviate Depression: references
- Vitamin C (3,000 mg per day) may improve the condition of Manic Depression patients. references
- Vitamin C may help to rectify some of the underlying biochemical disturbances associated with Down's Syndrome. references
- Vitamin C may counteract the impairment in Nerve conduction that occurs as a result of Hypothermia (when Vitamin C is consumed prior to the occurrence of Hypothermia). references
- Vitamin C may help to prevent and treat Huntington's Disease. references
- Irritability may occur as a result of Vitamin C deficiency. references
- Vitamin C deficiency may cause Mania and Vitamin C may alleviate Mania when Mania is caused by excessive Vanadium. references
- Vitamin C may improve Intelligence in persons with Mental Retardation:
- Human studies have demonstrated that large dosages of Vitamin C over an extended period can increase the IQ scores of Mentally Retarded subjects by 15-20 points.
- Vitamin C may reduce the sensation of Pain (primarily by inhibiting the production of Prostaglandin E2). references
- Vitamin C (combined with Vitamin E) may retard the progression of Parkinson's Disease and defer the period before L-Dopa therapy is required. references
- Vitamin C may alleviate peripheral Neuropathy (when Peripheral Neuropathy is caused by the Charcot-Marie-Tooth Disease form of Muscular Dystrophy).
- Vitamin C (10 - 20 grams per day) may alleviate Schizophrenia. references
- Vitamin C (high dose) may be an effective treatment for Spinal Cord injuries (if administered as soon as possible after the occurrence of a Spinal Cord injury). references
- Vitamin C may protect the body against the toxic effects of Stress. References
- Vitamin C (2,500 mg per day) lowers the production of Cortisol and Corticosterone by the Adrenal Glands during periods of Stress.
- Vitamin C may improve the body's ability to handle the Stress associated with Surgery.
- Sudden Infant Death Syndrome (SIDS) is speculated to occur as a result of Vitamin C deficiency. references

Enhancement of the Nervous System

- Vitamin C may improve some aspects of human Intelligence. references
- Vitamin C may improve Learning ability. references
- Vitamin C may improve Memory. references
- Vitamin C (3,000 mg per day) may improve Mood. references

Underlying Mechanisms

- The Adrenal Glands (especially the Adrenal Medulla) contain the highest concentration (approximately 30 mg) of Vitamin C of any part of the body (where it is utilized in the manufacture of Adrenal Hormones especially Adrenaline): references
- Vitamin C (2,500 mg per day) lowers the production of Cortisol and Corticosterone by the Adrenal Glands during periods of Stress.
- Vitamin C concentrates in the Brain (the Brain contains the second highest concentration of Vitamin C in the body) and supplemental Vitamin C can influence Brain Wave activity: references
- The Ascorbyl Palmitate form of Vitamin C crosses the Blood-Brain Barrier more readily than other forms of Vitamin C. references
- Vitamin C may help to prevent damage to the Brain Stem. references
- Vitamin C concentrates in the Hypothalamus.
- Vitamin C concentrates in the Pituitary Gland.
- Vitamin C may inhibit the ability of Alcohol (ethanol) to damage Glial Cells. References
- Vitamin C may help to prevent damage to the Spinal Cord. references

PHOSPHTIDYLSERINE

- Phosphatidylserine may improve the Memory and Mood of people afflicted with Age Associated Memory Impairment (AAMI) - it is estimated that supplemental PS may reverse approximately 12 years worth of Memory decline: references
- In one human study of Phosphatidylserine for AAMI, 300 mg of Phosphatidylserine per day for 12 weeks caused maximum improvement in those people with the worst Memory impairment. The improvement in Memory was sustained for up to one month after the cessation of Phosphatidylserine treatment.

Nervous System: Enhancement

- Phosphatidylserine may increase Alertness. references
- Phosphatidylserine may improve Attention Span. [more info]

- Phosphatidylserine may improve Concentration (especially in people aged 55 - 80). references
- Phosphatidylserine may increase Intelligence: references
- In one study baby mice were supplemented with PS from birth for two months - after one month of PS supplementation the supplemented mice had higher Intelligence than control mice and after two months, the supplemented mice learned faster and more accurately than control adult mice.
- Phosphatidylserine (200 mg per day) improves Learning ability in normal, healthy subjects: references
- In one study baby mice were supplemented with PS from birth for two months - after one month of PS supplementation the supplemented mice had higher Intelligence than control mice and after two months, the supplemented mice learned faster and more accurately than control adult mice.
- Phosphatidylserine may prevent the decline in Learning capacity that occurs in tandem with the progression of the Aging Process.
- Phosphatidylserine may improve Memory (especially in people affected by Age-Associated Memory Impairment (AAMI)): references
- Phosphatidylserine may improve Short-Term Memory. [more info]
- In one study on humans aged 55 - 80 years with mild cognitive impairment benefits noted were: improved ability to learn and recall names of familiar persons, recall the location of misplaced objects, recall details from the prior week; recall telephone numbers, paragraph recall, ability to concentrate while reading, conversing and performing tasks.
- Phosphatidylserine may improve Mental Function (in persons with Memory impairment). [more info]
- Phosphatidylserine may improve Mood (especially in elderly persons). references
- Phosphatidylserine may improve Reflexes. References

Nervous System: Underlying Mechanisms

- Phosphatidylserine may increase the generation of Alpha Brain Waves by 15% - 20% (indicating elevated Acetylcholine/Cholinergic activity in the Brain). references
- Phosphatidylserine concentrates in the Brain and is the major Phospholipid in the Myelin Sheaths of the Brain's Neurons (the Brain contains the body's highest concentrations of PS). references
- Phosphatidylserine may prevent the age-associated decline in the number of Dendrites within the Brain. references
- Phosphatidylserine may improve the Brain's utilization and metabolism of Glucose. references
- Phosphatidylserine may inhibit the decline in the function of the Hippocampus that occurs in tandem with the progression of the Aging Process. references
- Phosphatidylserine may improve the fluidity of the Neuron's Myelin Sheaths. [more info]
- Phosphatidylserine may counteract the age-related impairment in the function of the Brain's N-methyl-D-aspartate Receptors (NMDA Receptors), increases the density (number) of NMDA Receptors and improves the ability of Glutamic Acid and Glycine to bind to NMDA Receptors. references
- Phosphatidylserine may prevent some degenerative Neuron damage in some parts of the Brain: references
- Phosphatidylserine may help to restore the plasticity of the Synapses of Neurons. References
- Phosphatidylserine may increase the number of Neurotransmitter Receptors (sites for Neurotransmitters) within the Brain. references
- Phosphatidylserine may facilitate the transmission of Nerve Impulses. references

CHOLINE

- Choline may increase Alertness (due to its participation in the endogenous production of Acetylcholine). references
- Defective Choline transportation combined with an increased propensity to autocannibalize Phosphatidylcholine from the Cell Membranes of Neurons activates the conversion of Amyloid-Beta-
- Protein Precursor (APP) to Amyloid-Beta Protein (ABP) within the Brains of persons afflicted with Alzheimer's Disease: references
- This abnormal conversion of APP to ABP is theorized to occur when Choline Transportation and Phosphatidylcholine autocannabalism is disturbed to the extent that APP is exposed to Proteolytic Enzymes (which APP is normally protected from) which catalyzes the conversion of APP to ABP
- Alzheimer's Disease patients usually exhibit defective transportation mechanisms for Choline within their Brains.
- The vulnerability of Cholinergic Neurons that occurs during the course of Amyotrophic Lateral Sclerosis (ALS) is speculated to occur as a result of defects in Choline transportation and a tendency for Cholinergic Neurons to autocannibalize Choline from Phosphatidylcholine present within their own Cell Membranes. [more info]
- Choline may alleviate Attention Deficit/Hyperactivity Disorder (ADHD) in children. [more info]
- Large amounts of Choline concentrate in the Brain and impaired Brain function may occur as a result of Choline deficiency. references
- Choline may increase Concentration ability (due to its role in the production of Acetylcholine). references
- Choline deficiency may lead to impaired (Muscle) Coordination (due to Choline's role in the production of Acetylcholine, a Neurotransmitter responsible for Coordination). references
- Supplemental Choline may increase the number of Dendrites within the Cerebral Cortex.
- Supplemental Choline may alleviate Cluster Headaches: references
- Most people who are affected by cluster Headaches exhibit deficient Red Blood Cell Choline levels.
- The vulnerability of Cholinergic Neurons that occurs during the course of Huntington's Disease is speculated to occur as a result of defects in Choline transportation and a tendency for Cholinergic Neurons to autocannibalize Choline from Phosphatidylcholine present within their own Cell Membranes. references
- Choline may help to keep an individual asleep after they have fallen asleep (via its role as a precursor for Acetylcholine, the Neurotransmitter that may help to prevent unnecessary interruptions to Sleep from non-threatening stimuli). It is therefore useful for the treatment of Early-Waking Insomnia. references
- Choline may improve some aspects of human Intelligence and Mental Function. [more info]
- Supplemental Choline may improve Learning ability. references
- Choline may alleviate (both the Manic and Depression phases of) Manic Depression (especially when Choline is used in conjunction with Lithium). References
- Memory loss may occur as a result of Choline deficiency (due to Choline's role as a precursor for the production of Acetylcholine) and supplemental Choline (3,000 mg per day) may improve Memory: references
- Choline supplementation during Pregnancy may cause long-lasting Memory enhancement in offspring (the developing fetus and newly-born infants utilize large quantities of Choline for growth-related membrane and myelin synthesis). References
- Choline is a component of the Myelin Sheaths that insulate the Axons of Neurons of the Nervous System.

- Choline may alleviate Parkinson's Disease. [more info]
- Choline may improve the quality of Sleep. It may help to keep an individual asleep after they have fallen asleep (via its role as a precursor for Acetylcholine, the Neurotransmitter that may help to prevent unnecessary interruptions to Sleep from non-threatening stimuli): references
- Choline may help to govern Rapid Eye Movement (REM) Sleep (via its role as a precursor for the production of Acetylcholine, the Neurotransmitter that governs REM Sleep). references
- Choline is useful in the treatment of Tardive Dyskinesia (due to its ability to stimulate Acetylcholine production). references
- Choline may alleviate Tinnitus. references
- Choline may improve Verbal Fluency. [more info]

MAGNESIUM

- Aggressiveness may occur as a result of Magnesium deficiency and Magnesium may alleviate many cases of (offensive) Aggressiveness (Magnesium supplementation may reduce offensive Aggressiveness and may increase defensive Aggressiveness). references
- Magnesium (most profoundly of all minerals) may improve Memory and may alleviate other symptoms in Alzheimer's Disease patients: references
- The dosage of Magnesium used in trials involving Alzheimer's Disease patients is 1,000 mg per day.
- There is speculation that Magnesium deficiency may also be a cause of Alzheimer's Disease.
- Magnesium achieves its therapeutic effects in Alzheimer's Disease by acting as a Calcium-Channel blocker (in a similar fashion to Nimodipine).
- Anxiety may occur as a symptom of Magnesium deficiency and supplemental Magnesium (400 - 900 mg per day) may alleviate some cases of Anxiety: references
- Panic Disorder may occur as a result of Magnesium deficiency. References
- Apathy may occur as a symptom of Magnesium deficiency. references
- Loss of Appetite may occur as a result of Magnesium deficiency. references
- Attention Deficit/Hyperactivity Disorder (ADHD) may occur as a result of Magnesium deficiency and Magnesium supplementation (200 mg per day) may alleviate the hyperactivity associated with ADD. references
- Reduced Attention Span may occur as a result of Magnesium deficiency. references
- Children afflicted with Autism are often found to be deficient in Magnesium and supplemental Magnesium may be a valuable adjunct for the treatment of Autism with Vitamin B6 (note that most studies have found Magnesium supplementation to be ineffective in the treatment of Autism when used alone: it may, however, increase the effectiveness of Vitamin B6 in the treatment of Autism). references
- Poor Concentration ability may occur as a result of Magnesium deficiency. references
- Mental Confusion may occur as a result of Magnesium deficiency. references
- Loss of Coordination may occur as a result of Magnesium deficiency. references
- Magnesium may help to prevent Depression and Depression patients are often found to be deficient in Magnesium: references
  - Caution: excessive consumption of Magnesium may paradoxically CAUSE Depression.
- Magnesium may be useful for the treatment of Major Depression (as Major Depression patients have been found to have abnormally low serum Magnesium levels). references
- Magnesium (especially the Magnesium Aspartate form) may alleviate Manic Depression. references
- Magnesium may reduce Drug Dependence to Cocaine (by reducing the craving for Cocaine). references
- Epilepsy may occur as a result of Magnesium deficiency - Magnesium may reduce the incidence of Epileptic Seizures caused by excitability, through its ability to relax the nerves and muscles. references
- Hallucinations may occur as a result of severe Magnesium deficiency. [more info]
  Magnesium (administered as soon as possible (preferably within 48 hours) after the occurrence of a Head Injury) may facilitate the recovery from Head Injuries. Magnesium treatment of Head Injuries generally involves the use of intravenous Magnesium Sulfate. References
- Magnesium may alleviate Headaches: references
- Magnesium may alleviate Cluster Headaches. references
- Insomnia patients are often found to be deficient in Magnesium (indicating that supplemental Magnesium may help to prevent or treat Insomnia). Magnesium supplementation may reduce the next- day Fatigue associated with Insomnia. references
- Irritability may occur as a result of Magnesium deficiency. references
- Poor Memory may occur as a result of Magnesium deficiency. references
- Migraine may occur as a result of low Brain levels of Magnesium - many Migraine patients are found to have low Brain Magnesium levels during Migraine attacks and supplemental Magnesium (600 mg per day) may be beneficial for the treatment of Migraine. References
- Supplemental Magnesium may be of benefit to Multiple Sclerosis (MS) patients (total Magnesium levels in MS patients are significantly lower than those of healthy persons with the most significant reduction in Magnesium levels occurring in the white matter of the Brain). references
- Nervousness may occur as a symptom of Magnesium deficiency (and supplemental Magnesium often alleviates Nervousness). References
- Magnesium may alleviate Neuralgia. [more info]
- Nightmares may occur as a result of Magnesium deficiency. references
- Numbness may occur as a result of Magnesium deficiency. references
- Magnesium may alleviate Restless Legs Syndrome. references
- Magnesium deficiency has been speculated to be an underlying cause of Schizophrenia. references
- Magnesium (400 mg per day) may alleviate Stress (by improving the function of the Adrenal Glands). references
- Magnesium deficiency has been speculated to be an underlying cause of Sudden Infant Death Syndrome (SIDS). references
- Magnesium deficiency may be the underlying cause of Tourette's Syndrome. references
- Vertigo may occur as a result of Magnesium deficiency. References
- Magnesium supplementation may be a useful adjunctive treatment for Wernicke's Encephalopathy (Vitamin B1 therapy for Wernicke's Encephalopathy may be ineffective in the presence of Magnesium deficiency).

Nervous System Enhancement

- Magnesium may improve the quality of Sleep (when consumed just prior to retiring): references
- Magnesium deficiency may reduce the length (quantity) of Slow-Wave Sleep (an indication that optimal Magnesium is required for optimal Slow-Wave Sleep). references

Underlying Mechansims

- Magnesium may sedate the Central Nervous System. [more info]
- Magnesium is required for the transmission of Nerve Impulses. references
- Magnesium is a component of the structure of Neurons. [more info]

- Magnesium is one of the Ions that are modulated by NMDA Receptors (of the Brain). [more info]
- Magnesium is required for the optimal function of the Pineal Gland. references
- Magnesium is required for the optimal function of the Suprachiasmatic Nucleus (SCN). references

CHROMIUM

- Chromium concentrates in the Brain.
- Chromium may reduce Carbohydrate Cravings. references
- Chromium may alleviate Depression: references
- Chromium may alleviate Major Depression. references
- Chromium may alleviate Minor Depression. references

MANGANESE

- Manganese may improve the Sense of Balance (by acting on the Inner Ear). [more info]
- Convulsions may occur as a result of Manganese deficiency. references
- Manganese may alleviate some cases of Depression. [more info]
- Some forms of Epilepsy may occur as a result of Manganese deficiency and supplemental
- Manganese may control seizures (Convulsions) in Epilepsy patients: references
- Epileptics with the lowest blood Manganese levels have the highest incidence of seizures (Convulsions).
- Manganese may alleviate Irritability. [more info]
- Manganese may improve Memory. references
- Manganese is essential for the structural integrity of the Optic Nerve. References
- Manganese may alleviate Schizophrenia. references
- Manganese may alleviate Tardive Dyskinesia (according to some anecdotal reports). references
- Vertigo may occur as a result of Manganese deficiency. [more info]

ZINC

- Zinc may improve mental function in Alzheimer's Disease patients: references
- Preliminary evidence in four patients demonstrated improved Mental Function in Alzheimer's Disease patients with Zinc supplementation. In a review of Zinc/Alzheimer's Disease research, the most respected zinc researcher in the world concluded that Zinc does not cause or exacerbate Alzheimer's Disease symptoms.
- During the 1990s some evidence implicated excessive Zinc intake or retention as a risk factor for Alzheimer's Disease. References
- As a result of this evidence, Alzheimer's Disease patients were advised to avoid Zinc supplementation above the normal RDA of 15 mg as preliminary studies indicated that Zinc plays a role in the progression of Alzheimer's Disease:
  - Specifically, Zinc was found to bind to Amyloid-Beta Protein (the form of Amyloid that is a major constituent of the plaque that causes neurofibrillary tangles that characterize Alzheimer's Disease).
    Amyloid-Beta Protein normally exists in a soluble form within the Cerebral Cortex, however it rapidly forms less soluble aggregates with Zinc. These Amyloid-Beta Protein aggregates formed with Zinc are similar in size and appearance to the Amyloid-Beta Protein plaques found in the Brains of Alzheimer's Disease patients.
    Cerebral Zinc homeostasis was believed to be altered in Alzheimer's Disease patients.
  - Although the highest levels of Zinc in the body normally occur within the Cerebral Cortex of the Brain, impaired Zinc homeostasis in Alzheimer's Disease patients was believed to account for Zinc's toxicity in Alzheimer's patients. When Zinc levels in the Brain rose even slightly above their normal physiological levels, Amyloid-Beta Protein precipitation occurs.
  - Research relating to the connection between Zinc and Alzheimer's Disease was preliminary and most research was undertaken in-vitro, although two placebo-controlled clinical trials involving humans demonstrated that Alzheimer's Disease patients exhibit significant deterioration in cognitive function within two days of beginning Zinc supplementation.
- Amnesia may occur as a result of Zinc deficiency. references
- Some cases of Anorexia Nervosa may occur as a result of Zinc deficiency and supplemental
- Zinc may restore Appetite and Weight in such patients. references
- Anosmia (loss of the sense of Smell) may occur as a result of Zinc deficiency. references
- Apathy may occur as a result of Zinc deficiency. references
- Poor Appetite may occur as a result of Zinc deficiency and supplemental Zinc can stimulate the Appetite. references
- Many Attention Deficit/Hyperactivity Disorder (ADHD) patients have been found to have low (up to 50% lower) serum Zinc levels. references
- Up to 90% of Autism patients may be deficient in Zinc – Zinc may be useful for Autism patients due to its ability to facilitate the excretion of excessive Copper. references
- Bulimia may occur as a result of Zinc deficiency. references
- Depression may occur as a result of Zinc deficiency. Supplemental Zinc may improve Mood in Depression patients: references
- Zinc may improve Mood in Major Depression patients. References
- Zinc is a component of some treatments for Down's Syndrome. references
- Zinc may help to prevent Dyslexia. Mothers who are deficient in Zinc prior to and during
- pregnancy may have an increased risk of bearing children with Dyslexia. Optimal Zinc intake by children during infancy may help to prevent/treat Dyslexia. references
- Zinc may accelerate recovery from some types of Head Injuries. references
- Irritability may occur as a result of Zinc deficiency. references
- Zinc may be useful for the treatment of (diabetic) Neuropathy. references
- Paranoia may occur as a result of Zinc deficiency. references
- Zinc deficiency may increase the risk of Parkinson's Disease. References
- Schizophrenia patients often excrete abnormally large quantities of Zinc in their Urine. references
- Impaired Sense of Taste may occur as a result of Zinc deficiency. references
- Impaired Sense of Thirst may occur as a result of Zinc deficiency. [more info]

Nervous System: Enhancement

- Zinc may be involved in Abstract Reasoning. references
- Zinc may increase Attention Span. references
- Zinc is involved in the processes that take place during Learning (due to its role as an essential component of Ion Channels). References
- Zinc may be involved in Memory processing. references

Nervous System: Underlying Mechanisms

- Zinc may enhance the function of the Adrenal Glands. [more info]
- Zinc may increase the sensitivity of AMPA Receptors to activation by AMPA Agonists (e.g. Ampakines). References
- Zinc concentrates in the Cerebral Cortex of the Brain. [more info]
- Zinc may enhance the function of the Corpus Callosum of the Brain (due to its essential role in the structure of Ion Channels that transmit Nerve Impulses across the Corpus Callosum). references
- Zinc deficiency may cause malfunctions within the Hippocampus. references
- Optimal Zinc levels may be essential for the conduction of Nerve Impulses (due to Zinc's role in the structure of Ion Channels). references
- Zinc may be required for the optimal function of the Optic Nerve. references

5 HTP

- 5-HTP may reduce Aggressiveness (without decreasing Assertiveness). references
- 5-HTP may alleviate Anxiety. references
- 5-HTP may reduce Appetite in persons afflicted with Obesity: references
- 5-HTP may reduce Carbohydrate Cravings (due to 5-HTP's role in the production of Serotonin). references
- 5-HTP may increase Assertiveness (non-aggressive Assertiveness). [more info]
- 5-HTP may be beneficial for Attention Deficit/Hyperactivity Disorder (ADHD) patients (due to Its role as a precursor for the production of Serotonin, a Neurotransmitter that is commonly depleted in ADD patients). references
- 5-HTP may alleviate various forms of Depression (including Endogenous Depression, Major Depression and Reactive Depression). references
- 5-HTP may be a valuable adjutant therapy for Down's Syndrome. [more info]
- 5-HTP may be a valuable adjutant therapy for Epilepsy. [more info]
- 5-HTP may prevent Headaches (especially Tension Headaches). references
- 5-HTP may alleviate Insomnia. references
- 5-HTP prevents and alleviates the symptoms of Migraines. references
- 5-HTP may improve Mood (due to its ability to increse Serotonin levels): references
- 5-HTP may induce feelings of Happiness (described as elation). references
- 5-HTP may help to prevent Nightmares. References
- 5-HTP (50 - 200 mg per day) may be an effective treatment for Obsessive-Compulsive Disorder (OCD) (according to anecdotal reports).
- 5-HTP may alleviate Panic Disorder. references
- 5-HTP may be a useful adjuvant therapy for Parkinson's Disease. [more info]
- 5-HTP may increase total Sleep time: references
- 5-HTP may increase the amount of REM Sleep. references

TAURINE

- Taurine may be a valuable adjunct in the treatment of Alzheimer's Disease - especially when supplemental Taurine is combined with Vitamin B2 and Zinc. references
- Anxiety may occur as a result of Taurine deficiency and supplemental Taurine may alleviate Anxiety. references
- The Hyperactivity associated with Attention Deficit/Hyperactivity Disorder (ADHD) may occur as a result of Taurine deficiency. References
- Autism patients may be deficient in Taurine. references
- Taurine concentrates in the Brain and Central Nervous System (CNS) - Taurine is the second most abundant Amino Acid (after Glutamic Acid) in the Brain. references
- Taurine may help to prevent Convulsions. [more info]
- Taurine may alleviate some cases of Depression. [more info]
- Epilepsy may occur as a result of Taurine deficiency and supplemental Taurine produces anti-convulsant effects in Epilepsy patients. ref
- Taurine concentrates in the Hippocampus (where it plays a role in Memory by increasing Histamine and Acetylcholine levels). references
- Taurine may alleviate Insomnia (by sedating the Central Nervous System). [more info]
- Taurine may help to protect the Brain from the toxic effects of Hypoxia. [more info]
- Taurine may improve Learning ability: references
- Taurine may inhibit Lead-induced impairment of Learning ability.
- Taurine is involved in the maintenance of Memory (within the Brain Taurine increases Histamine, GABA and Acetylcholine levels): references
- Taurine may inhibit Alcohol (ethanol)-induced Memory impairment.
- Taurine may inhibit Lead-induced Memory impairment.
- Taurine may improve Mood. references
- Taurine may stabilize the Myelin in the Myelin Sheaths of Neurons. [more info]
- Within the Brain, Taurine functions as a Neurotransmitter (as an Inhibitory Neurotransmitter). references
- Taurine concentrates in the Olfactory Bulb. References
- Taurine may alleviate some of the symptoms of Parkinson's Disease (by sedating the Central Nervous System). [more info]
- Taurine concentrates in the Pineal Gland. references
- Taurine may alleviate (muscular) Tics. references

ARGININE

- Arginine may be useful for the treatment of Alzheimer's Disease (due to its ability to repair damaged Axons by increasing Polyamines levels). references
- Arginine (combined with Lysine) may reduce Stress-induced Anxiety. references Arginine may be essential for the regeneration of damaged Axons of Neurons (its role appears to be as an agent for degrading Proteins that have been damaged through Axon injury). References
- Arginine may facilitate the potentiation of Long-Term Memory (by stimulating the production of Nitric Oxide (NO) - a Neurotransmitter responsible for the potentiation (storage) of Long-Term Memory. references
- Arginine (combined with Lysine) may reduce Stress-induced Anxiety. references

GLUTAMINE

- Glutamine may alleviate Aggressiveness (however studies that have demonstrated this property of Glutamine have involved the use of very high doses (40 grams per day)). [more info]

- Glutamine may increase Alertness. [more info]
- Glutamine may improve Mental Function in Alzheimer's Disease patients and Alzheimer's Disease patients have been demonstrated to have low Brain levels of Glutamine. references
- Glutamine (250 - 1,000 mg per day) may improve the condition of Attention Deficit/Hyperactivity Disorder (ADHD) patients. references
- Glutamine is a valuable adjunct to the treatment of Autism. references
- Glutamine converts to Glutamic Acid within the Brain in order to provide Energy to the Brain. references
- Glutamine concentrates in the Cerebral Cortex. references
- Glutamine is the most abundant Amino Acid present in the Cerebrospinal Fluid. references
- Glutamine may improve Concentration. [more info]
- Glutamine (250 - 1,000 mg per day) may improve Mood in Depression patients. references
- Glutamine may increase Intelligence. references
- Glutamine may increase Learning ability. references
- Glutamine may improve Memory. References
- Glutamine may alleviate Mental Retardation - supplemental Glutamine has increased the IQ of intellectually impaired children. References
- Glutamine may improve Mood. references
- Glutamine may reduce the sensation of Pain. references
- Glutamine may improve the recovery from Stroke. references

TYROSINE

- Tyrosine may be useful in the treatment of Alzheimer's Disease (Alzheimer's Disease patients frequently exhibit lowered levels of Dopamine and Norepinephrine;
- Tyrosine may help to restore normal levels of these Neurotransmitters). references
- Tyrosine may alleviate Anxiety. references
- Tyrosine depletion may result in Apathy. references
- Tyrosine (up to 5,000 mg per day) may be useful in the treatment of some cases of Attention Deficit/Hyperactivity Disorder (ADHD) (due to its ability to improve Dopamine metabolism). references
- Tyrosine may alleviate Depression (by functioning as a precursor for the production of Norepinephrine): references
- Tyrosine corrects Norepinephrine (NE) deficiency in and alleviates the Depression associated with Amphetamines addiction.
- Tyrosine (6,000 mg per day) may alleviate some cases of Major Depression. references
- Tyrosine may be useful in the treatment of some types of Drug Dependence by facilitating the production of Dopamine and Norepinephrine, which are depleted in some types of Drug Dependence including: references
- Alcohol
- Amphetamines references
- Cocaine references
- Opiates (including Heroin) references
- -Tyrosine (2,000 mg per day) has been reported to help some people to successfully "quit" Tobacco smoking. references
- Tyrosine may increase next-day Alertness and cognitive ability in Insomnia patients (i.e. it may counteract the daytime mental Fatigue often experienced by Insomnia sufferers). references
- Tyrosine may improve the condition of Narcolepsy patients (by stimulating the endogenous production of Dopamine): references
- After six months of oral Tyrosine supplementation some Narcolepsy patients are free from daytime sleep attacks and cataplexy.
- Tyrosine may alleviate Pain by stimulating the body's production of Endorphins.
- Tyrosine may be useful for the treatment of Parkinson's Disease (it may increase the turnover of Dopamine in Parkinson's Disease patients and may enhance the effectiveness of supplemental L-Dopa in the treatment of Parkinson's Disease). References
- Tyrosine may alleviate Seasonal Affective Disorder (SAD).
- Tyrosine may counteract many of the toxic effects of excessive Stress: references
- Tyrosine may help to prevent the Learning difficulties that occur as a result of excessive Stress.
- Tyrosine may supress the rise in plasma Corticosterone following acute Stress. references
- Tyrosine may improve Memory during periods of Stress.
- Tyrosine may counteract the depletion of Norepinephrine that occurs as a result of excessive physical or mental Stress.

Nervous System: Enhancement

- Tyrosine may increase Alertness (due to its function as a precursor for the production of Norepinephrine). references
- Tyrosine may increase Assertiveness (by stimulating the production of Norepinephrine). [more info]
- Tyrosine may improve Concentration ability. references
- Tyrosine may improve Memory under conditions of Stress. references
- Tyrosine may improve Mood. references
- Tyrosine may help to improve Willpower. references

Nervous System: Underlying Mechanisms

- Tyrosine may reduce excessive Stress on the Adrenal Glands (due to its function as a precursor for the endogenous production of Adrenaline). [more info]
- Tyrosine may suppress Appetite. references
- Tyrosine may enhance the function of the Pituitary Gland. [more info]

COENZYME Q10

- Coenzyme Q10 may cause improvement on several Alzheimer's Disease evaluation scales: references
- Coenzyme Q10 may help to prevent the Neuron damage that leads to Alzheimer's Disease.
- Deficiencies in Coenzyme Q10-dependent enzymes may be implicated in the development of the neuronal death that results in Alzheimer's Disease.
- Reversal of Mental Function deterioration has been documented in several studies utilizing supplemental Coenzyme Q10, including documented improvements in Mental Function in people with genetically-confirmed Alzheimer's Disease.

- Supplemental Coenzyme Q10 may increase the survival time of Amyotrophic Lateral Sclerosis (ALS) patients. references
- Supplemental Coenzyme Q10 (in high, expensive dosages of 600 - 1,200 mg per day) may improve some aspects of Huntington's Disease. references
- Coenzyme Q10 (150 mg per day) may help to prevent Migraine. references
- Coenzyme Q10 may be useful for the treatment of Multiple Sclerosis. references
- Coenzyme Q10 may help to prevent the Neuron damage that leads to Parkinson's Disease. It may also be useful in the treatment of Parkinson's Disease: references
- Parkinson's Disease patients have been found to have significantly lower levels (approximately 35%) of Coenzyme Q10 compared to normal, healthy people.
- Coenzyme Q10 may alleviate Schizophrenia and many Schizophrenia patients are found to have abnormally low Coenzyme Q10 levels. References
- Spinocerebellar Ataxia patients have been found to have abnormally low levels of Coenzyme Q10 and supplemental Coenzyme Q10 may reduce Muscle Weakness and increase walking ability in Spinocerebellar Ataxia patients. references

Nervous System: Enhancement

- Coenzyme Q10 may improve Coordination in Cerebellar Ataxia patients. references
- Coenzyme Q10 (when used in conjunction with Vitamin E) may improve Learning ability. References

Nervous System: Underlying Mechanisms

- Supplemental Coenzyme Q10 may increase the production of Energy within the Brain and may retard the Aging Process within the Brain: references
- Supplemental Coenzyme Q10 concentrates in the Cerebral Cortex and may increase the production of Energy within the Cerebral Cortex.
- Coenzyme Q10 may help to prevent the death of the Brain's Neurons that can occur as a result of the Hypoxia associated with Ischemia. references
- Coenzyme Q10 may retard the ability of Tumor Necrosis Factor (TNF) to inhibit the maturation of Oligodendroglia. references
- Coenzyme Q10 may protect the Striatum of the Brain from the toxic effects of Neurotoxins. references

BETAINE

- Betaine (TMG form) may retard the progression of Alzheimer's Disease (by lowering elevated Homocysteine levels). references
- Betaine (TMG form) may improve the condition of Autism patients. References
- Betaine may improve the behavior and Mental Function of children afflicted with Down's Syndrome (this improvement may be due to Betaine functioning as a methyl donor). [more info]

GINKO BILOBA

- Ginkgo biloba may alleviate the Cerebral Insufficiency that usually accompanies Age Associated Memory Impairment (AAMI) and improves some aspects of Mental Function (e.g. the ability to evaluate auditory stimuli) in persons afflicted with AAMI. references
- Ginkgo biloba may improve motor performance and prolong survival in Amyotrophic Lateral Sclerosis (ALS) patients. references
- Ginkgo biloba may alleviate some cases of Anxiety (especially when Anxiety is caused by Cerebral Insufficiency). references
- Ginkgo biloba may alleviate the symptoms of Attention Deficit/Hyperactivity Disorder (ADHD). References
- Ginkgo biloba helps to prevent the Brain damage that can occur as a result of Concussion. references
- Ginkgo biloba may alleviate Confusion (when Confusion is caused by Cerebral Insufficiency). references
- Ginkgo biloba may improve many of the symptoms of Dementia: references
- Ginkgo biloba (240 mg per day) may improve Attention Span, Mental Function, Mood and Memory, and may decrease Anxiety in Alzheimer's Disease patients. references
- Ginkgo biloba may improve many of the symptoms of Multiple-Infarct Dementia. references
- Ginkgo biloba may alleviate Depression (especially where Depression is caused by Cerebral Insufficiency). references
- Ginkgo biloba may alleviate (and often cures) Migraines. references
- Ginkgo biloba may alleviate some of the symptoms of Multiple Sclerosis (MS) (by counteracting the toxic effects of excessive Platelet Aggregating Factor (PAF) in MS patients) (due to the Ginkgolide-B content of Ginkgo biloba). references
- Ginkgo biloba may alleviate Neuropathy (by accelerating the healing of damaged Motor Nerves). references
- Ginkgo biloba may be useful for the treatment of (ischemic) injuries to the Spinal Cord (due to the Antioxidant properties of Ginkgo biloba): references
- Ginkgo biloba improves the condition of Paraplegia patients. References
- Ginkgo biloba may be useful for the treatment of Schizophrenia (it may enhance the effectiveness of the Pharmaceutical Drugs used for the treatment of Schizophrenia). references
- Ginkgo biloba may help to prevent Parkinson's Disease. references
- Ginkgo biloba may counteract some of the toxic effects associated with excessive Stress. references
- Ginkgo biloba may alleviate Vertigo. References

Nervous System: Enhancement

- Ginkgo biloba may improve Alertness by increasing the Brain's Alpha Wave rhythms and decreasing the Brain's Theta Wave activity. references
- Ginkgo biloba may increase Attention Span. references
- Ginkgo biloba may improve Concentration ability. references
- Ginkgo biloba may increase Intelligence in persons with cognitive impairment and in normal, healthy persons. References
- Ginkgo biloba may improve Learning ability (by stimulating the production of Nerve Growth Factor (NGF) and by enhancing Blood Circulation to the Brain). references
- Ginkgo biloba may improve Memory: references
- Ginkgo biloba may improve Long-Term Memory in elderly persons. references
- Ginkgo biloba may improve Short-Term Memory in normal, healthy and age-impaired persons. references
- Ginkgo biloba may improve Mental Function (especially in elderly persons). References

- Ginkgo biloba may improve Mood: references
- Ginkgo biloba may improve subjective feelings of Happiness. references
- Ginkgo biloba may rectify impaired Sleep quality in persons using Tricyclic Antidepressants and may also improve Sleep quality in normal, healthy persons: references
- Ginkgo biloba may reduce the duration of Stage 1 Sleep in persons using Tricyclic Antidepressants and may also reduce the duration of Stage 1 Sleep in normal, healthy persons.
- Ginkgo biloba may enhance the quality of Slow-Wave Sleep (deep Sleep) in persons using Tricyclic Antidepressants and may also enhance the quality of Slow-Wave Sleep in normal, healthy persons. references
- Ginkgo biloba may improve Willpower. references

Nervous System: Underlying Mechanisms

- Ginkgo biloba may increase the number of 5-HT1A Receptors (in elderly persons) - the number of 5-HT1A Receptors declines in tandem with the progression of the Aging Process and this decline may be reversed with Ginkgo biloba use. ref
- Ginkgo biloba may inhibit the reduction in the number Alpha-2 Adrenergic Receptors in the Brain that normally occurs in tandem with the progression of the Aging Process. references
- Ginkgo biloba may improve Blood Circulation to the Brain and may improve Oxygen supply to the Brain: references
- Ginkgo biloba may protect the Cerebral Cortex of the Brain from the toxic effects of Free Radicals and may reactivate the Neurons of the Cerebral Cortex. references
- Ginkgo biloba may inhibit the age-related decline in Cholinergic Receptors: references
- Ginkgo biloba may inhibit the reduction in the number of Muscarinic Receptors (a group of Cholinergic Receptors) that normally occurs in tandem with the progression of the Aging Process. References
- Ginkgo biloba may facilitate the uptake of Acetylcholine and Choline into the Hippocampus of the Brain and may also protect the structural integrity of the Hippocampus. Ginkgo biloba may inhibit the ability of Amyloid-Beta Protein to damage the Neurons of the Hippocampus. Ginkgo Biloba may increase Gamma Aminobutyric Acid (GABA) levels in the Hippocampus. references
- Ginkgo biloba may protect the Brain's Neurons from destruction: references
- Ginkgo biloba may inhibit the destruction of Neurons by Amyloid-Beta Protein.
- Ginkgo biloba may inhibit the destruction of Neurons by Hydroxyl Free Radicals.
- Ginkgo biloba may counteract the toxic effects of Glutamic Acid on Neurons (primarily due to the Ginkgolide B content of Ginkgo biloba). ref
- Ginkgo biloba may increase the number of Neurotransmitter Receptors in the Brain. references
- Ginkgo biloba may improve the transmission of Nerve Impulses through the Nervous System. references
- Ginkgo biloba may accelerate the repair of damaged Peripheral Nerves: references
- Ginkgo biloba may accelerate the repair of damaged Motor Nerves (due to the Bilobalide content of Ginkgo biloba). references
- Ginkgo biloba may enhance the function of Schwann Cells. references

LECITHIN

- Lecithin (15,000 mg per day) may help to prevent and treat Age Associated Memory Impairment (AAMI). references
- Lecithin (10,000 - 20,000 mg per day) may be a valuable adjunct for the treatment of Alzheimer's Disease - it may retard the further progression of Alzheimer's Disease (due to the Phosphatidylcholine component of Lecithin enhancing the endogenous production of Acetylcholine). References
- Lecithin (15,000 mg per day) may improve Memory (especially in older people, e.g. people aged 50 - 80 years). References
- Lecithin may be useful for the treatment of Multiple Sclerosis (primarily due to the Phosphatidylserine content of Lecithin). references
- Lecithin may reduce abnormal movements in Tardive Dyskinesia patients. references

OMEGA 3

- Omega-3 Fatty Acids may help to prevent Alzheimer's Disease. references
- Most Autism patients are found to be deficient in Omega-3 Fatty Acids. references
- An excessive ratio of Polyunsaturated Fatty Acids to Omega-3 Fatty Acids may be a risk factor for Depression: reference
- Major Depression patients are often found to have sub-optimal levels of Omega-3 Fatty Acids. references
- Postpartum Depression may occur as a result of Omega-3 Fatty Acids deficiency. [more info]
- Omega-3 Fatty Acids may reduce the frequency of seizures in Epilepsy patients. references
- Omega-3 Fatty Acids may reduce the incidence and pain of Migraines, and may increase the duration between Migraine attacks. [more info]
- Multiple Sclerosis patients are often found to be deficient in Omega-3 Fatty Acids (especially Docosahexaenoic Acid (DHA)), indicating that supplemental Omega-3 Fatty Acids may be beneficial for Multiple Sclerosis patients. references
- Omega-3 Fatty Acids may inhibit the ability of excessive Stress to initiate Inflammation and may counteract the toxic effects of excessive (mental) Stress. references

EPA

- EPA concentrates in the Cell Membranes of the Adrenal Glands and may enhance their function. [more info]
- EPA concentrates in the Cell Membranes of the Inner Ear.
- Depression may occur as a result of EPA deficiency: references
- EPA may alleviate Major Depression. references
- EPA (6,200 mg per day)) (alone or combined with Docosahexaenoic Acid (DHA) (3,400 mg per day)) may alleviate Manic Depression. references
- EPA may reduce the frequency of seizures in Epilepsy patients. references
- EPA may inhibit the ability of Gamma-Rays to damage the Hippocampus. References
- EPA concentrates in the Myelin Sheaths of the Brain's Neurons where it attracts the Oxygen necessary for the chemical activities of Neurons.
- EPA may reduce the incidence of Migraine attacks by 50% and may increase the duration between Migraine attacks by 100% (by stimulating the production of beneficial Prostaglandins). [more info]
- EPA may reduce the symptoms of Schizophrenia. references

DHA

- Aggressiveness may occur as a result of DHA deficiency and DHA supplementation (1,500 - 1,800 mg per day) may help to prevent and treat Aggressiveness. references
- DHA may reduce the severity of the Dementia that often occurs as a result of Strokes and supplemental DHA may help to prevent Dementia: references
- DHA deficiency has been associated with Alzheimer's Disease and supplemental DHA (1,400 mg per day) may improve the condition of Alzheimer's Disease patients: references
- DHA may increase the removal of Amyloid-Beta Protein by increasing Transthyretin levels.
- DHA may reduce Apathy (especially in elderly persons). references
- Attention Deficit/Hyperactivity Disorder (ADHD) patients often exhibit low DHA levels (and for this reason supplemental DHA, by raising lowered levels of DHA, may alleviate ADHD). references
- Autism patients have been found to have an average of 23% lower DHA levels compared with normal, healthy persons. ref
- Depression may occur as a result of DHA deficiency: references
- DHA may be useful for the treatment of Major Depression. references
- DHA (3,400 mg per day) (combined with Eicosapentaenoic Acid (EPA) (6,200 mg per day)) may alleviate Manic Depression. references
- DHA may be useful for the treatment of Postpartum Depression. references
- DHA (480 mg per day) may improve dark adaptation and motor skills in Dyslexia patients. references
- DHA may reduce the frequency of seizures in Epilepsy patients. references
- DHA may help to prevent the Brain damage that occurs as a result of Head Injuries (if DHA is supplemented prior to the occurrence of a Head Injury). references
- Multiple Sclerosis patients are often found to be deficient in DHA. references
- Some cases of Neuropathy may be caused by DHA deficiency (and in these cases supplemental DHA may cause regression of Neuropathy). References
- Many Schizophrenia patients have low levels of DHA (due to the lack of Delta-4 Desaturase (the enzyme that catalyzes the conversion of Clupanodonic Acid to DHA) in Schizophrenia patients). references
- Docosahexaeoic Acid (DHA) may improve the outcome of injuries to the Spinal Cord (if administered asap after the occurrence of a Spinal Cord injury). references
- DHA may counteract the toxic effects of excessive Stress – DHA may counteract Stress-induced Aggressiveness and may inhibit the excessive secretion of Norepinephrine that occurs as a result of excessive Stress. references

Nervous System: Enhancement

- DHA supplementation to mothers during Pregnancy and during the Lactation period may increase Intelligence in offspring. References
- DHA deficiency during fetal development and early infancy may result in permanent Learning disabilities. Supplemental DHA during infancy may improve Learning ability. DHA supplementation in adults may also improve improve Learning ability. references
- DHA may improve Memory in normal, healthy adults: references
- DHA may improve Spatial Memory. References

Nervous System: Underlying Mechanisms

- DHA may enhance Nerve Growth Factor (NGF)-induced outgrowth of Axons. references
- DHA is highly concentrated in the Brain: references
- The Brain's content of DHA declines in tandem with the progression of the Aging Process (supplemental DHA may retard this decline).
- DHA is required during the development stages of life (i.e. prior to birth and during early infancy) for the optimal development of the Cerebral Cortex of the Brain and high concentrations of DHA are present in the Cerebral Cortex throughout life. references
- DHA may protect the Brain from many of the toxic after-effects of Stroke (this means that people who supplement with or consume high dietary quantities of DHA prior to experiencing a Stroke may experience less cognitive impairment and Brain damage following a Stroke).
- DHA may help to prevent the damage caused to the Hippocampus by subsequent Cerebral Insufficiency, Hypoxia or Stroke (DHA is only effective for this purpose if it is administered daily for an extended period prior to Cerebral Insufficiency, Hypoxia or Stroke). DHA deficiency may result in the shrinkage of the Neurons of the Hippocampus. references
- DHA deficiency may cause shrinkage of the Neurons of the Hypothalamus. references
- DHA concentrates in the Myelin Sheaths of the Brain's Neurons where it attracts the Oxygen necessary for the chemical activities of Neurons. DHA deficiency may result in the shrinkage of Neurons. references
- DHA may facilitate the transmission of Nerve Impulses: [more info]
- The Presynaptic Membranes and Postsynaptic Membranes of Neurons contain very high levels of DHA - more DHA than almost every other type of tissue. references

VITAMIN E

- Vitamin E may help to prevent Altitude Sickness and may reduce the symptoms of Altitude Sickness. references
- Vitamin E (especially when administered in conjunction with Vitamin B1) may improve the condition of Amyotrophic Lateral Sclerosis (ALS) patients and helps to prevent ALS (although it does NOT increase the survival time of ALS patients). references
- Vitamin E may be useful for the treatment of Attention Deficit/Hyperactivity Disorder (ADHD). references
- Vitamin E may be useful for the prevention or treatment of Bovine Spongiform Encephalopathy (Mad Cow Disease) (due to its Antioxidant properties). References
- Vitamin E may help to control some types of Convulsions (especially Complex Partial Seizures). references
- Poor Coordination may occur as a result of Vitamin E deficiency. references
- Vitamin E may help to prevent Dementia: references
- Alzheimer's Disease patients often exhibit low blood Vitamin E levels and Vitamin E helps to prevent Alzheimer's Disease: references
- Vitamin E may help to restore Choline Acetylase (the enzyme that generates Acetylcholine) activity in Alzheimer's Disease patients.
- Vitamin E may improve the control of Convulsions in Epilepsy patients. references
- Vitamin E may help to prevent the Brain damage that occurs as a result of Head Injuries. references
- Vitamin E may help to prevent the Brain damage that occurs as a result of Concussion. references
- Vitamin E (at least 800 IU per day) significantly improve the condition of Huntington's Disease patients. references
- Multiple Sclerosis patients are often found to have low serum Vitamin E levels. References

- Vitamin E (1,200 - 1,600 IU per day) may reduce the Pain associated with the (postherpetic) Neuralgia associated with Shingles. References
- Vitamin E may alleviate and may help to prevent (diabetic) Neuropathy in Diabetes Mellitus (Type 1 and Type 2) patients and may also improve Nerve Conduction Velocity in Diabetes Mellitus patients. references
- Vitamin E (3,200 IU per day combined with Vitamin C) may retard the progression of Parkinson's Disease and may defer the period before L-Dopa therapy is required. references
- Vitamin E may help to counteract the toxic effects of excessive Stress. references
- Vitamin E (1,600 IU per day) significantly alleviates the symptoms of Tardive Dyskinesia: references
- 85% of Tardive Dyskinesia patients experience a reduction of 50% in their symptoms after four weeks of supplementation with Vitamin E.

Nervous System: Enhancement

- Vitamin E (when used in conjunction with Coenzyme Q10) may improve Learning ability. references
- Vitamin E may help to preserve Memory and poor Memory may occur as a result of Vitamin E deficiency. references
- Vitamin E may improve the quality of Sleep. [more info]

Nervous System: Underlying Mechanisms

- Vitamin E concentrates in the Adrenal Cortex of the Adrenal Glands (the Adrenal Glands contain 132 micrograms of Vitamin E per gram). references
- Vitamin E may help to prevent damage to the Brain Stem. References
- Vitamin E may help to protect the Neurons of the Hippocampus. references
- Vitamin E may help to protect the Fatty Acids in the Nervous System from oxidation.
- Vitamin E may enhance the function of the Adrenergic Nervous System (a component of the Autonomic Nervous System). [more info]
- Vitamin E may protect Neurons from the degenerative effects of various toxins (including Amyloid-Beta Protein). references
- Vitamin E concentrates in the Pituitary Gland (the Pituitary Gland contains 40 micrograms of Vitamin E per gram). references
- Vitamin E may help to prevent damage to the Spinal Cord. references