Some Physical Causes of Depression, Bipolar Disorder, Schizophrenia And Other Mood, Brain and Physical Diseases

Vitamin D Deficiency can cause:

Depression (as in Depression & Bipolar Disorder), Psychosis & Delusions (as in Schizophrenia, Schizoaffective disorder etc.), Dementia and Cognitive Impairment (as in Alzheimer's), Sleep Disorders (Daytime Sleepiness, Disrupted sleep, Insomnia), SAD (Seasonal Affective Disorder), Migraines, Muscle Weakness & Pain - Bone Aches & Pain – Chronic Pain (as in Arthritis & Fibromyalgia, Lupus, Celiac Disease, Type 1 Diabetes and other Autoimmune Diseases), Attention Deficit (as in ADHD, ADD), Hypothyroidism, Hyperparathyroidism, Gut Trouble – Gastrointestinal Issues (as in Celiac Disease, Gluten Sensitivity, Inflammatory Bowel Syndrome, Leaky Gut Syndrome), High Blood Pressure, Rickets, Bone Fractures, Osteoporosis. Low levels of D have also been associated with: Autism, Psoriasis, Cardiovascular Disease (Heart Problems), Multiple Sclerosis, Asthma, Pneumonia, Diabetes and Cancers – including: Prostate, Breast, Colorectal, and Pancreatic, to name a few.

- Some reports suggest nearly half the world's population suffers from vitamin D deficiency, and this percentage rises in higher risk populations such as the elderly (over 50) and those with darker skin. As much as 70 to 80 percent (or more) of Hispanic-Americans and African-Americans may be deficient in vitamin D.
- It is important to have your vitamin D level tested by a physician. Correcting vitamin D levels with adequate supplementation may help or prevent the above mentioned causes.
- ***Drug induced nutrient depletion is extremely common.*** *Some medications* that deplete vitamin D: Antidepressants, Benzodiazepines, Antipsychotics, Mood Stabilizers, Anti-inflammatories, Antibiotics, Anticonvulsants, Cholesterol-Lowering, Laxatives, & Ulcer Medications, Heartburn & Acid Reflux drugs Etc. **If you are taking *any* medication please find out which nutrients you may be depleted in.**

TESTING D:

- 25-hydroxy vitamin D blood test.
- Testing ranges vary and are often not an accurate assessment of optimal levels. Levels from laboratories may state 20 ng/ml to 100 ng/ml. More accurate optimal levels of Vitamin D: Deficient (less than) <50 ng/ml **Optimal (between) 50-70 ng/ml** Treat Cancer & Heart Disease 70-100 ng/ml Excess (more than) >100 ng/ml. Multiply ng/ml by 2.5 to convert to nmol/litre. (Ranges from Dr. Mercola www.mercola.com)

B Vitamins, Deficiencies can cause:

(B1 (Thiamine), B2 (Riboflavin), B3 (Niacin), B5 (Pantothenic Acid), *B6 (Pyridoxine),* B7 (Biotin), B9 (Folate), B12 *(Methylcobalamin) :*

Depression, Apathy, Psychosis, Delusions, Hallucinations, Dementia, Cognitive Impairment, Mania, Forgetfulness, Memory Loss, Confusion, Paranoia, Hysteria, Low Energy, Fatigue, Insomnia, Anxiety, Restlessness, (OCD Obsessive Compulsive Disorder), Panic Attacks, Aggression, Aggressive Impulses, Impulsivity, Obsessions, Repetitive Unwanted Thoughts, Sensitivity to Light & Sound, Irritability, Blurry Vision, Double Vision, Vision Loss, Dizziness, Weakness, Tingling or Pain in the Hands & Feet, Sensory Neuropathy, Nerve Damage, Low Blood Sugar (Hypoglycemia), Ataxia (Shaky Movements & Unsteady Gait), Poor Coordination, Muscle Weakness, Muscle Pain, Headaches/Migraines, Worsening of PMS Symptoms, Low Blood Pressure, High Blood Pressure, Skin Rashes, Dermatitis/Eczema, Rosacea (reddening of the skin around the nose & cheeks), Stomach Upset, Diarrhea, Unhealthy Appetite, Food Aversions, Hormonal Imbalance, Thyroid imbalance (Hypo or Hyper), Adrenal Fatigue, Nervous System Diseases and Dysfunction, Brain Apathy

(shrinkage), Cardiovascular Disease, Heart Problems, Cerebrovascular Diseases, Stroke, Anemia, Rheumatoid Arthritis, Psoriatic Arthritis, Coeliac Disease, B-12 deficiency has been connected with Breast Cancer, Cervical and other cancers.

- "The B vitamins should always be taken together, but up to two or three times more of one B vitamin than another can be taken for a period of time if need for a particular disorder. There are spray and sublingual forms that are absorbed more easily, which are good choices for older adults and those with absorption problems. Because the B vitamins work together, a deficiency in one often indicates a deficiency in another." (Prescription for Nutritional Healing Fifth Edition by Phyllis A. Balch, CNC)
- Supplement with a good B complex that has the proper form of B-12 (methylcobalamin, methyl B-12) *the proper form of B12 supplementation is called methylcobalamin/methyl B-12. It is pre-methylated. (B-12 vitamins that are cyanocobalamin are not as effective). B12 Deficiency is a BIG "player" in the above mentioned causes.*
- Age increases the risk of B vitamin deficiencies – studies have shown that many people over 50 are B-12 deficient.
- Vegans & Vegetarians – Vitamin B12 supplementation is necessary for Vegans & Vegetarians.
- Conditions that interfere with food absorption - IBS, Leaky Gut, Celiac disease or Crohn's disease - can cause B_{12} and other B vitamin deficiencies (malabsorption). B vitamins are extremely important and help us absorb nutrients from our food, aiding in the metabolism of carbohydrates, fats & proteins. B-3 Niacin is needed for proper blood circulation and in the production of hydrochloric acid for the digestive system.
- B-12 (and B-6) play crucial roles in melatonin production (the body's "sleep hormone"), as you age the body becomes less effective at producing melatonin.
- "Severe deficiency of vitamin B-6 has been associated with irritability, depression, poor short-term memory, and psychosis. This is not surprising since it is required for efficient synthesis of serotonin, dopamine, and GABA, three critically important neurotransmitters." Most B-6 deficient persons exhibit *elevated pyrroles* that can be detected by an inexpensive urine test. (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)
- "B12 acts as a cofactor in synthesis of neurotransmitters such as serotonin and dopamine, thus B12 deficiency affects mood, emotions and sleeping and can lead to psychiatric disorders." Excerpt from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3271502/
- Genetic or acquired imbalances in methyl and folate (B vitamin) may be responsible for more than 50% of all mental illness.
- ***Drug induced nutrient depletion is extremely common.*** *Some* medications cause B-12 (and other B vitamin) deficiencies – including: Psychiatric drugs, Antidepressants, Antipsychotics etc., Birth Control Pills, Hormone Replacement Therapy, Antibiotics, Drugs for heartburn, acid reflux, peptic ulcer disease, H2 blockers (such as Pepcid or Zantac), Antacids (Maalox, Mylanta), Prilosec, Proton Pump inhibitors (Nexium, Prevacid, Protonix & Aciphex). Diabetes medications such as Diabinese, Tolinase, Metforim - brand names Glucophage, Glucophage XR, Fortamet, Riomet, and Glumetza etc. cause B-12 & B9 deficiencies (as well as vitamin C, Magnesium & CoQ10 deficiencies etc.) **If you are taking *any* medication please find out which nutrients you may be depleted in.**

TESTING B12:

- B-12: MMA Urine or Serum testing MMA is a very sensitive test in indicating a B12 deficiency. *It is more specific than homocysteine and is the confirmatory test of choice for a B12 deficiency.* (The regular blood testing of B-12 is very inaccurate, often showing a "normal" or even "high" range and an actual deficiency may take years to show up.) **. High levels (Methylmalonic acid) in your body are a sign of pernicious anemia. (B-12 Deficiency)**

- B-6 "Most B-6 deficient persons exhibit *elevated pyrroles* that can be detected by an inexpensive urine test." (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)
- Other B vitamins can also be tested.

Anemias

- **Iron Deficient Anemia**
- **Pernicious Anemia – B12 or Folate/B9 Vitamin Deficient Anemia**

A few symptoms of Anemia: Fatigue, Lethargy, Depression, Trouble Focusing, Memory Loss, Heart Palpitations, Dizziness, Shortness of Breath, Restless Leg Syndrome, Pica (desire to chew ice or non-food items) and much more. See the B vitamin deficiencies above for some other common symptoms of Anemia.

Anemia results from a lack of red blood cells or *dysfunctional* red blood cells in the body. This leads to reduced oxygen flow to all of the body's organs (including the brain –"oxygen deprivation").

- *Anemia is the most common blood disorder, affecting about a third of the global population.*
- Your brain uses 20% of the total oxygen and blood in your body.
- Strict Vegetarians & Vegans are susceptible to iron deficiency and should have regular testing.
- "You should not take extra iron supplements unless you are anemic, menstruating or childbearing age. Choose iron such as ferrous gluconate or ferrous fumarate. Inorganic forms such as ferrous sulfate can oxidize Vitamin E."
- Vitamin C helps iron absorption (as much as 30%). If you have Iron deficient anemia and are taking Iron supplements, note that cow's milk and dairy products may deplete iron absorption, also Calcium (if supplementing) should be taken at a different time of day than Iron. Zinc & Vitamin E should be taken at a different time of day than Iron.
- To produce hemoglobin & red blood cells we need iron, B-12, folate, etc. B vitamins help carry *oxygen to all parts of the body* (heart, muscles and brain).
- "B-12 is needed to prevent anemia; it aids folic acid in regulating the formation of red blood cells, and helps in the utilization of iron." (Prescription for Nutritional Healing A-Z guide to supplements, Phyllis A. Balch, CNC)
- Vegans & Vegetarians – Vitamin B12 supplementation is necessary for Vegans & Vegetarians.
- "Left untreated, pernicious anemia can do permanent, serious damage to your body. It can increase your risk for heart problems and strokes. It can damage your nerve cells and affect everything from your balance to your sense of smell. It can also cause changes to the surface of your digestive tract, increasing your risk of stomach cancer." Dr. Mercola www.mercola.com
- Pernicious Anemia also called Macrocytic/Megaloblastic Anemia. "B12 test is not part of the Full Blood Count that doctors routinely request. Instead doctors look for any enlarged red blood cells that would indicate possible B12 deficiency. However, only around 60% of patients with a B12 deficiency will have enlarged red blood cells (macrocytosis)." Pernicious Anemia Society
- "If you are taking any sorts of B12 Supplement (such as a multivitamin tablet) do tell your doctor about this. Also, be aware that taking folic acid will prevent your red blood cells becoming enlarged so be sure to tell your doctor if you are taking any form of folic acid." Pernicious Anemia Society
- "There are serious shortcomings with the current test used to determine B12 status in patients. The current test, the Combined Binding Luminescence Test is giving false high results in between 22 and 35% of patients (depending on the manufacturer of the test machine). [4] If your test results come back as normal or borderline you may want to ask your doctor for a Therapeutic Trial of B12 injections to judge whether you feel better." Pernicious Anemia Society
- *The current way of testing B-12 is inaccurate, (serum etc.) MMA testing is much more sensitive and can give accurate results.* ***Methylmalonic acid (MMA) levels.*** **High levels (Methylmalonic acid) in your body are a sign of pernicious anemia. (B-12 Deficiency)**

- ***Drug induced nutrient depletion is extremely common.*** *Some* drugs that deplete Iron: Antacids, Anti-inflammatory Medications Nonsteroidal Anti-inflammatory Drugs (NSAIDs), Aspirin, Antibiotic Medications, Cholesterol-Lowering Medications – Bile Acid Sequestrants, Ulcer Medications – Histamine H2 Antagonists and more. (See above for some medications that deplete B vitamins.) **If you are taking *any* medication please find out which nutrients you may be depleted in.**

TESTING Anemia:

- **IRON:** Iron Serum, Iron Saturation, Ferritin Serum, Transferrin Serum
- **B-12: MMA Urine or Serum testing** MMA is a very sensitive test in indicating a B12 deficiency. *It is more specific than homocysteine and is the confirmatory test of choice for a B12 deficiency.* Methylmalonic acid (MMA) levels, high levels in your body are a sign of pernicious anemia. *(The regular blood testing of B-12 is very inaccurate, often showing a "normal" or even "high" range and an actual deficiency may take years to show up.)*
- B-6 "Most B-6 deficient persons exhibit *elevated pyrroles* that can be detected by an inexpensive urine test." (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)

Zinc Deficiencies can cause:

Depression, Psychosis, Neurological disorders, Cognitive Impairment, Memory Loss, Brain Fog, Dementia, Irritability, ADD/ADHD symptoms, Lethargy, Fatigue, Tremors, Diarrhea, Weak Immunity, Increased Susceptibility to Infections (Bacterial & Viral), Recurrent Colds and Flu, Respiratory Infections, Pneumonia, Inflammation, Stunted Growth (in children), Delayed Sexual Maturation, Hair Loss, Fingernails thin/peel/develop white spots, Hearing Loss, Loss of Taste & Smell, Loss of Appetite, Gastrointestinal Disorders, Elevated Blood Ammonia Levels, Impaired Vision, Impaired Night Vision, Allergies to Foods & Environmental Allergies, Acne, Skin Rashes, Skin Lesions, Slow Wound Healing, Sleep Problems, High Cholesterol Levels, Low Blood Pressure, Low Libido, Impotence, Infertility – Men & Women, Prostate Trouble, and Propensity for Diabetes*. Zinc deficiency has been connected with many diseases including:* ADD, ADHD, Psychosis, Depression, Autism, Insomnia, Anorexia, Gastrointestinal Diseases including: Celiac, Crohn's, Irritable Bowel Syndrome etc., Liver Disease, Wilson's Disease (Copper Overload), Diabetes, Heart Disease, Rheumatoid Arthritis, Central Nervous System Diseases including: Parkinson's, Multiple Sclerosis (MS), Amyotrophic lateral sclerosis (ALS), Alzheimer's disease etc., and Cancer's including Lung, Prostate and Ovarian Cancers.

- It is estimated that Zinc deficiency affects over 2 billion people around the world, however this number is actually much higher. Zinc deficiency affects not only malnourished individuals or people in developing countries, it is widespread in the U.S. and U.K. and it is particularly higher in areas where large amounts of cereals & grains are consumed. (Grains contain phytates which bind to Zinc – and Iron – which prevent the body from absorbing these minerals).
- Vegetarians & Vegans may be at a higher risk of having Zinc deficiency.
- Zinc plays an essential role in numerous biochemical pathways. It affects many organ systems, including the skin, gastrointestinal tract, central nervous system, and immune, skeletal, and reproductive systems.
- More than 300 different enzymes in the body require Zinc to function normally.
- *Zinc is an essential component of protein function in all living cells.*
- "Zinc deficiency is by far the most frequently observed chemical imbalance in mental health populations. More than 90% of persons diagnosed with depression, behavioral disorders, ADHD, autism and schizophrenia exhibit depleted plasma zinc levels, ranging from low-normal to severe deficiency." Nutrient Power, Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PhD
- "Zinc deficiency can cause copper overloads that can alter brain levels of dopamine and norepinephrine" (See more on page 23 of the book: Nutrient Power, Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PhD)
- *"I believe lab testing for plasma zinc should be mandatory for all patients diagnosed with a behavioral disorder, ADHD, autism or a mental illness"* Pg. 24 Nutrient Power, Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PhD
- "Genetic or acquired zinc deficiency can usually be corrected within two months using nutrient therapy. This treatment must be done gradually for persons exhibiting serious overloads of toxic metals or copper in order to prevent temporary blood elevation of toxins as they depart the body." (pg. 23) Nutrient Power, Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PhD

- "Zinc metallothionein is a key component of the blood-brain barrier that prevents harmful chemicals from entering the brain." (pg. 23) Nutrient Power, Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PhD
- "Zinc proteins in the brain combat oxidative free radicals that could destroy brain cells, harm the myelin sheath, and alter neurotransmitter levels" Nutrient Power, Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PhD
- "Zinc is required for the efficient conversion of dietary B-6 into PLP, which is needed for efficient synthesis of serotonin, dopamine, GABA and other neurotransmitters." (pg. 23) Nutrient Power, Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PhD
- Zinc is needed for neurotransmitter functioning i.e. to make "calming" GABA and "happy" serotonin. As well as the sleep hormone melatonin.
- ***Drug induced nutrient depletion is extremely common.*** *Some* drugs that deplete Zinc include: Psychiatric drugs, Antidepressants, Antipsychotics etc., Birth Control Pills, Hormone Replacement Therapy, Acid Reducing Drugs and Antacids, ACE Inhibitors, Thiazide Diuretics, and the list goes on! **If you are taking *any* medication please find out which nutrients you may be depleted in.**

TESTING Zinc:

- Plasma Zinc testing is the best way to test Zinc levels.
- Red blood cells – is the second best method.
- The quickest and easiest **test** for **zinc** sufficiency is a **zinc taste test** (however this testing is less reliable). For an adult, mix 50 mg of zinc sulphate in half a glass of water. (Or you can purchase a liquid zinc sulfate for the taste test.) If it tastes sweet, pleasant, or like water, then your body needs it. If it has a strong metallic or unpleasant taste, you may not need it and may not be zinc-deficient.
- Optimum Healthy range for Zinc: between 90 – 130 micrograms per deciliter. (Labs may suggest a range of 65-140 which is not an accurate range). (Dr. William J. Walsh, Author of Nutrient Power Heal Your Biochemistry and Heal Your Brain)

Copper

Some areas that Copper imbalances have been identified with:

Anxiety, Suicidal Depression, Obsessive-Compulsive Disorder, Bipolar Disorder, Phobias, Violence, Aggression, Tourette's Syndrome, ADD, ADHD, Autism, Delayed Mental or Emotional Development, Schizophrenia, Alzheimer's, Huntington's, Pyroluria (Pyrrole Disorder), Parkinson's, Wilson's Disease, Rheumatoid Arthritis, Cardiovascular Disease, PMS (Pre-Menstrual Syndrome), PPD (Post-Partum Depression), Candida Overgrowth, Addiction, Cancer's including: Breast, Brain, Ovarian, Bladder, Gastric, Lung, Prostate and Colon

- "Copper has special significance in mental health due to its role in metabolism of dopamine and synthesis of norepinephrine (see Chapter 3). Elevated serum copper can alter the synaptic activity of these important neurotransmitters." Nutrient Power Heal Your Biochemistry and Heal Your Brain Dr. William J. Walsh
- "Behavioral Disorders and ADHD: (2004 Outcome Study) "A total of 75.4% of test subjects exhibited elevated serum copper and depressed plasma zinc. Behavioral disorders associated with this imbalance include episodic rage disorder, attention-deficit disorder and hyperactivity." Excerpt from Chapter 8: Nutrient Power Heal Your Biochemistry and Heal Your Brain Dr. William J. Walsh
- "We need copper for blood vessel formation, a healthy heart, and for stabilizing the collagen, or connective tissue, which binds one part of the body to another. Copper is also needed for brain development and for the effective communication between nerve cells in the brain, as well as for healthy bones and teeth." http://copperalliance.org.uk/docs/librariesprovider5/copper-iron-zinc-factsheet-nov-09.pdf?sfvrsn=0
- "It is possible for a person to become copper-toxic, copper-deficient or to have a condition called bio unavailable copper." Excerpt from "Copper and Your Health" by Dr. Lawrence Wilson: http://www.drlwilson.com/articles/copper_toxicity_syndrome.htm

- "What is bio unavailable copper? In this very common situation, copper is present in excess in the body, but it cannot be utilized well. The reason this occurs is that minerals such as copper must be bound and transported within the body. Bio unavailability often occurs due to deficiency of the copper-binding proteins, ceruloplasmin or metallothionein. Without sufficient binding proteins, unbound copper may circulate freely in the body, where it may accumulate primarily in the liver, brain and female organs." Excerpt from "Copper and Your Health" by Dr. Lawrence Wilson: http://www.drlwilson.com/articles/copper_toxicity_syndrome.htm
- Birth Control increases Copper and may cause Copper toxicity, see details at: http://www.coppertoxic.com/iud---the-pill-1.html
- You can learn more about Copper toxicity and view the informative flowchart about Copper on this website: http://www.coppertoxic.com/home-1.html

TESTING Copper:

- Serum Copper - The ideal level for copper, with respect to mental health, is somewhere between 75 and 100 micrograms per deciliter (mcg/dL) in serum. (Dr. William J. Walsh, Author of Nutrient Power Heal Your Biochemistry and Heal Your Brain)
- Serum Ceruloplasmin - this can determine how much free radical copper you have, which gives you a good indication of your level of oxidative stress. "Patients with more than 25% of their copper not bound to ceruloplasmin have a metal metabolism disorder involving elevated oxidative stress. This condition is common in autism, postpartum depression, ADHD, and certain forms of psychosis." The percentage of copper in your ceruloplasmin should be around 85 percent to 90 percent. (Dr. William J. Walsh, Author of Nutrient Power Heal Your Biochemistry and Heal Your Brain)
- "Hair analysis results provide copper levels, but hair analysis is a poor determination of free copper. Copper experts believe the most accurate way to determine copper levels are to measure both copper serum and Ceruloplasmin. Ceruloplasmin is the major copper carrying protein found in the blood. These two results can be plugged into an equation, which reveals the percentage of free copper." Excerpt from DHA Laboratory https://www.dhalab.com/shop/copper-serum/

(Zinc, Copper & Iron – more information)

- These three minerals are *essential* and they must be in balance – *excess of one can cause deficiency in another.* If you are supplementing with Zinc or Iron – you should have your levels tested for all three minerals as *they compete with each other*. Supplementation should be taken at different times of day, for example, if you are Iron deficient (Anemic) and also Zinc deficient – it is best to take these at different times for absorption. (Multi-vitamins which contain all three are not the best choice for absorption, especially if you are significantly deficient in Iron or Zinc or overloaded in copper as most multivitamins include copper.)
- Iron supplementation can reduce Zinc and Copper. "Copper-dependent enzymes are needed to transport iron in the body, and a lack of copper causes secondary iron deficiency." http://copperalliance.org.uk/docs/librariesprovider5/copper-iron-zinc-factsheet-nov-09.pdf?sfvrsn=0
- Excess Copper and/or Iron can be toxic.
- Zinc is effective in reducing Iron and Copper, "In fact, zinc is so effective in reducing copper that it is the standard treatment for Wilson Disease, a rare genetic disorder in which copper accumulates in the liver, brain, and cornea." http://copperalliance.org.uk/docs/librariesprovider5/copper-iron-zinc-factsheet-nov-09.pdf?sfvrsn=0
- ***Drug induced nutrient depletion is extremely common.*** **If you are taking *any* medication please find out which nutrients you may be depleted in.**

Pyrrole Disorder

High Incidences of Pyrrole Disorder: Alcoholism, Autism/Asperger's, Anxiety disorder, Antisocial Personality Disorder, ADD, ADHD, Bipolar Disorder, Criminal behavior, Depression, Tourette syndrome, Down syndrome, Epilepsy, Learning disability, Mood Swings, Neuroses, Psychosis, Oppositional Defiant Disorder, Substance abuse, Schizophrenia, ETC.

- "Identification of pyrrole disorder, a medical condition associated with extreme deficiencies of B-6 and Zinc. Assessment of oxidative stress in an individual." (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)
- "Pyrrole Disorder is an alternate name for the condition known as Pyroluria, which is also known by various other names including Kryptopyrrole, Kryptopyrroluria, Pyrroluria, Pyrolle Disorder, Mauve Factor and Hemepyrrole. Pyrrole Disorder is the abnormal synthesis and metabolism of any heme producing molecule, including the oxygen-carrying molecule hemoglobin." Excerpt from "What is Pyrrole Disorder" http://www.conqueringpyroluria.com/about-pyrrole-disorder#
- "About 10% of the population is unknowingly affected by this condition, and is commonly found in individuals with anxiety, depression, schizophrenia, bipolar disorder, substance abuse, alcoholism, ODD, and ADHD. Discover how pyrrole disorder can be easily diagnosed and treated by restoring the body with necessary nutrients." Excerpt from "Facts and Myths about Pyrrole Disorder, Dr. Mensah answers your questions" http://www.mensahmedical.com/wp-content/uploads/2016/01/Pyrrole_Disorder_Webinar.pdf
- B-6 "Most B-6 deficient persons exhibit *elevated pyrroles* that can be detected by an inexpensive urine test." (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)
- "Vitamin B-6 (Pyridoxine) is involved in more bodily functions than almost any other single nutrient. It affects both physical and mental health". Excerpt from Prescription for Nutritional Healing (fifth edition), A Practical A-Z Reference to Drug-Free Remedies Using Vitamins, Minerals, Herbs & Food Supplements by Phyllis A. Balch, CNC

TESTING Pyrrole Disorder:

- **URINE PYRROLES**
  Elevated pyrroles indicates pyrrole disorder and the deficiency of B-6 and Zinc.

Under/Over Methylation – Histamine Complications, (Histadelia & Histapenia)

The intent of the information I have provided is to cover some of the basics on the main influencers of mental illness/mental health. As with the other information that I have attempted to shed light on, methylation status and Histamine levels can be tested and may help understand underlying issues/causes of mental illnesses and other diseases.

Depending on your methylation status (if *over* or *under* methylated) the treatment for depression and use of supplementations such as SAMe, methionine and folic acid *differs* – as should the use of SSRI's (Selective Serotonin Reuptake Inhibitors, Antidepressants) which doctors do not test for (methylation status) before prescribing these powerful drugs that alter brain & gut ("second brain") chemistry.

- There are some common symptoms and personality traits for under methylation and over methylation. See the lists and brief videos from William J. Walsh author of Nutrient Power Heal Your Biochemistry and Heal Your Brain for under methylation traits here: http://www.mensahmedical.com/common-symptoms-of-undermethylation/ and over methylation common symptoms here: http://www.mensahmedical.com/common-symptoms-of-overmethylation/
- "Diagnosis of overall methyl status is very important in clinical treatment of mental disorders. Two lab assays that directly measure the net effect of the competing SNPs (single nucleotide polymorphisms) are SAMe/SAH ratio and whole-blood histamine. "(Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)

- Excerpts from "MTHFR and Mental Health, Understanding the Overall Effect of Individual Genetic Mutations (SNPs)". Learn how overall methylation status is critical for the treatment of autism, anxiety, behavioral/ learning disorders, depression, bipolar, eating disorders, and schizophrenia.
  Why Not Genetic Testing? • Genetic testing can identify predispositions for many disorders such as breast cancer and Alzheimer's disease. • However, the reliability of genetic testing such as "23andMe" for assessing methylation is not quite limited at present – it is not targeted to any one condition in particular, therefore, it is not a guide to treatment therapies. • Identifying SNP weaknesses in MTHFR and other methylation-cycle enzymes does not necessarily mean that individual is undermethylated since there are SNPs that produce overmethylation. • Since genetic testing is qualitative and not quantitative, it is improbable by genetic testing alone to either determine the net methylation potential (under or overmethylation) or to direct treatment management. (See more at this link) http://www.mensahmedical.com/wp-content/uploads/2016/01/YouTube-Notes-MTHFR-and-Mental-Health.pdf
- There is plenty of information online about MTHFR gene mutations and overall health/illness – including mental illness symptoms. Excerpt from www.MTHFR.net "I believe the MTHFR gene mutation is a highly significant public health problem that is completely ignored. Yet, millions are suffering from pulmonary embolisms, addictions, fibromyalgia, miscarriages, schizophrenia, severe depression, cancer and autism to name a few. What do these conditions have in common? They all may be linked to a MTHFR gene mutation in the individual expressing these symptoms and health conditions."
- "Undermethylated persons were prone to depression that usually could be lessened by SSRI's. Overmethylated persons were prone to high-anxiety depression that usually worsened after SSRI's." Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD
- "In effect, methionine and SAMe are natural serotonin reuptake inhibitors." (SSRI's) Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD
- "With respect to mental health, folic acid supplements generally must be avoided for undermethylated patients and emphasized for overmethylated patients." Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD
- There is a difference between Folate and Folic Acid (even though these two words are often used interchangeably) and *how the body metabolizes them*. Folate is the natural form of B-9, and Folic Acid is the synthetic form. As mentioned in the B vitamin section, the B's as supplementation should be taken together. There is concern that the fortification of folic acid masks B12 deficiency (pernicious anemia). It is possible that too much folic acid may cause imbalance (deficiencies) in other important B vitamins such as B12. In January 1998, the U.S. Food and Drug Administration (FDA) began requiring manufacturers to add folic acid to enriched breads, cereals, flours, cornmeals, pastas, rice, and other grain products.
- Excerpts from the book - Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD): … "Over the past 35 years, wherein I collected a database of more than three million blood, urine and tissue chemistries from 30,000 patients diagnosed with a variety of mental disorders. Methylation status was assessed from each of these patients based on lab chemistries and medical history. I discovered that the incidence of a methylation disorder approaches 100% in certain psychiatric conditions." **Autism:** "My data confirmed previous reports of disordered metal metabolism, B-6 deficiency, and elevated toxic metals, but the data also produced the surprising finding that more than 95% of autistics exhibited undermehthylation." **Schizoaffective disorder**: "A review of the chemistry database for 500 persons with this diagnosis revealed that virtually all had evidence of undermethylation." **Paranoid Schizophrenia:** "This condition is often misdiagnosed, and a careful study of 250 patients with classic symptoms indicated overmethylation in 94% of the patients. With more accurate diagnosis, the incidence of this chemical imbalance could approach 100%." **Obsessive-compulsive disorder (OCD):** "My chemistry database contains 92 individuals diagnosed with severe OCD. All but five exhibited severe undermethylation." **Anorexia:** "Examination of chemistry information for 145 persons diagnosed with anorexia

revealed that all but five were undermethylated. Nutrient therapy to enhance methylation together with counseling has produced many reports of recovery." **Paraphilias:** "My chemistry database includes a few dozen persons with abnormal sexual behaviors including pedophiles, sexual sadists, masochists, and peeping toms. All of these patients were male and most were in trouble with the law. They complained of overwhelming intrusive thoughts that interfered with daily life. Only two said they had been sexually abused as children. In most cases, they first became aware of their condition between the ages of 14-16. More than 90% were undermethylated, suggesting that paraphilias may be epigenetic in origin. I believe that the term obsessive-compulsive perversion or OCP is more appropriate than paraphilia. It's well know that child molesters rarely reform regardless of medications, counseling interventions, or threat of imprisonment. Perhaps future epigenetic therapies may rid the world of this devastating and criminal disorder."

- Histamine: "Elevated blood histamine indicates undermethylation, and low histamine is evidence of overmethylation."
- Histamine intolerance is common and there are many symptoms: headaches, migraines, allergies (food/seasonal), rapid heartbeat, rashes/hives, dysfunctional sleep/wake cycles, runny nose, bloody nose, asthma, motion sickness, nausea, vomiting, anxiety - the list goes on! Do the research on the foods that increase histamine which should avoided (when high in histamine/under methylated) such as alcohol, fermented foods (Kombucha, sauerkraut, yogurt, tempeh, pickles etc.), aged foods (cheese, processed meats, wine etc.) High histamine/under methylated people benefit from supplementing with SAMe. Zinc is an antioxidant and reduces histamines. As is Quercetin. Please do your own research.

If you are suffering from a mental or physical illness, do yourself a favor and get your methylation (histamine) status tested. Then you can seek the advice from professionals that have the knowledge to help. *A list of practitioners (and telemedicine, practitioner's that are available through skype/phone appointments) is provided on the Walsh Institute website: https://www.walshinstitute.org/clinical-resources.html*

TESTING Under/Over Methylation – Whole Blood Histamine:

- **WHOLE BLOOD HISTAMINE: METHYLATION –** "Elevated blood histamine indicates undermethylation, and low histamine is evidence of overmethylation. Antihistamine treatments can artificially lower blood histamine and should be avoided for several days prior to sampling. Laboratory assays for SAMe/SAH ratio are more decisive, but they are not widely available in commercial laboratories". (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)
- ***Walsh/Pfeiffer Functional Range for Histamine Determination 40-70 ng/mL.*** (Lab Corp reference range 12-127 ng/mL - The functional range is used when determining biochemical imbalances based on the Carl Pfeiffer M.d./William Walsh Ph.D. model)

TESTING – ***FOUR TESTS "The repeat offenders"*****: Pyrroles, Copper, Zinc & Histamine (Methylation):**

- ***Pyrroles, Copper, Zinc, & Histamine (can be ordered online and include everything you need in one order for these four tests. Also note - more testing options are offered on this same website – see below)*:** If you do not have a practitioner that can order this testing for you then you can order this directly online & then go to a lab (they provide you with -"Several patient service centers centrally located around the shipping address, instructions, and a laboratory requisition.") The Pyrrole test is a urine sample which you can do at home, it has easy to follow directions and includes the shipping to send back to DHA laboratory for the results. ***Pyrroles, Copper, Zinc, & Histamine -THE REPEAT OFFENDERS:*** *"For several years I was perplexed by the repeated presence of certain biochemical imbalances in completely different mental disorders. For example, copper overload is present in most cases of hyperactivity, learning disability, post-partum depression, autism, and paranoid schizophrenia. In another example, undermethylation is often present in antisocial personality disorder,*

clinical depression, anorexia, obsessive-compulsive disorder, and schizoaffective disorder. The primary repeat offenders are copper overload, B-6 deficiency, zinc deficiency, methyl/folate Imbalances, pyrrole disorder, and amino acid imbalances. Eventually I realized these factors had something in common and a direct role in the synthesis or functioning of a major neurotransmitter." **– Dr. William J. Walsh Author of: Nutrient Power Heal Your Biochemistry and Heal Your Brain**

- **Metabolic Panel** (Kryptopyrrole, Serum Copper, Zinc Plasma, Whole Blood Histamine)
  DHA Laboratory $248.00
  https://www.pyroluriatesting.com/shop/metabolic-panel-includes-kryptopyrrole-serum-copper-zinc-plasma-whole-blood-histamine/

❖ *This same website also offers other testing options that can be ordered online separately (Vitamin D, Thyroid, Ceruloplasmin etc.) and in groups* **Metabolic Panel Plus, Advanced Metabolic Panel Plus**:
https://www.pyroluriatesting.com/shop/

❖ ***Healthcare providers can go to their home page to order testing https://www.dhalab.com***

TESTING Thyroid:

- **THYROID PANEL** "A surprisingly high number of patients with chemical imbalances also exhibit hypothyroidism. Normalizing thyroid levels is essential to treatment success for these persons. In rare cases, hypothyroidism alone can cause clinical depression or psychosis." (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)

TESTING Liver:

- **LIVER ENZYMES** "The presence of elevated liver enzymes suggest this organ is under significant stress, and nutrient therapy should be modified to avoid aggravating the condition. Liver enzyme elevations are a common side effect of psychiatric medications. In any case, high dosages of niacinamide and fat-soluble vitamins such as A, D, and E should be avoided for these patients." (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)
- Please note that in the above statement is says "high dosages", this does not mean that any supplementation of fat-soluble vitamins should be avoided – only if the liver is stressed then *high dosages should be avoided.*

Magnesium Deficiencies:

Depression, Hallucinations, Anxiety, Panic attacks, Heart palpitations, Irritability, Nervousness, Hyperactivity, Mood swings, Apathy, Confusion, Insomnia, Headaches, Migraines, Memory loss, Seizures, Muscle tremors, Muscular weakness, Muscle pain/tension, Back & Neck aches, Cramps, Restless Leg Syndrome, Loss of appetite, Nausea, Vomiting, Constipation, Fatigue, Weakness, Tooth decay, Calcification of bones & joints and soft tissues. Magnesium deficiency is associated with: Acute myocardial infarction, ADD/ADHD, Alzheimer's, Angina, Anxiety disorders, Arthritis – Rheumatoid and Osteoarthritis, Asthma and chronic obstructive pulmonary disease, Autism, Auto immune disorders, Blood clots, Cardiac arrhythmias, Cardiomyopathy, Cardiovascular disease, Cavities, Cerebral Palsy – in children from magnesium deficient mothers, Chronic Fatigue Syndrome, Congestive heart failure, Constipation, Depression, Diabetes – Type I and II, Eating disorders – Bulimia, Anorexia, Fibromyalgia, Glaucoma, Gut disorders – including peptic ulcer, Crohn's disease, Colitis and food allergies, Glaucoma, Hearing loss, Heart Disease – Arteriosclerosis, High cholesterol and High triglycerides, Heart disease in infants born to magnesium deficient mothers, High Blood Pressure (Hypertension), Hypoglycemia, Insomnia, Kidney stones, Lou Gehrig's disease (ALS – amyotrophic lateral sclerosis), Low HDL-cholesterol levels, Migraines, Mitral Valve Prolapse, Multiple Sclerosis, Myopia – in children from magnesium deficient mothers, Osteoporosis, Parkinson's Disease, Primary Pulmonary Hypertension, Raynaud's syndrome, SIDS (Sudden Infant Death

Syndrome), Premenstrual Syndrome (PMS), Pregnancy complications (toxemia, premature delivery, preeclampsia, eclampsia etc.), Stroke, Syndrome X-insulin resistance, Thyroid disorders- low, high and auto-immune; low magnesium reduces T4. Etc.

- It is estimated that 50-80% of people are deficient in magnesium.
- Over 300 enzymes are dependent on magnesium.
- Stress, alcohol, sodas/carbonated drinks, fluoride (in drinking water) cause magnesium depletion.
- Eating/drinking a lot of dairy can cause magnesium depletion. Calcium and Magnesium must be present in balanced amounts for either to function normally in the body. High levels of Calcium block Magnesium absorption.
- Informative article "Magnesium: An Invisible Deficiency That Could Be Harming Your Health": Calcium, Vitamin K2, and Vitamin D Must Be Balanced with Magnesium
  https://articles.mercola.com/sites/articles/archive/2015/01/19/magnesium-deficiency.aspx
- Excerpt: "high levels of zinc and vitamin D increase the body's need for magnesium. The consumption of large amounts of fats, cod liver oil, calcium, vitamin D and protein decrease magnesium absorption." (Prescription for Nutritional Healing Fifth Edition by Phyllis A. Balch, CNC)
- Informative article: "Magnificent Magnesium" https://www.westonaprice.org/health-topics/abcs-of-nutrition/magnificent-magnesium/
- "Magnesium deficiencies are at the root of many cardiovascular problems." (Prescription for Nutritional Healing Fifth Edition by Phyllis A. Balch, CNC)
- Heart Disease is the leading cause of death in the United States.
- "Even a *moderate* magnesium deficiency can cause profound changes in how the heart, blood vessels, blood cells, intestinal tract, and other tissues function.[6] This is because magnesium is critical for tissues that have electrical or mechanical activity, such as nerves, muscles (including the heart), and blood vessels." Excerpt from: http://www.lifeextension.com/magazine/2014/12/magnesium-the-missing-link-to-a-healthy-heart/page-01
- It is our heart that pumps blood (which carries oxygen and nutrients) throughout our body. If the heart is distressed or diseased – doesn't it make sense that our other organs suffer as well? "Normal function of the **brain's** control centers is dependent upon adequate supply of oxygen and nutrients through a dense network of **blood vessels**."
- Your brain uses 20% of the total oxygen and blood in your body.
- Older age increases the risk of magnesium deficiency.
- Magnesium "is effective in preventing premature labor and convulsions in pregnant women. "Studies have shown that taking magnesium supplements during pregnancy has a dramatic effect in reducing birth defects. A study reported by the *Journal of the American Medical Association* reported a 70 percent lower incidence of mental retardation in the children of mothers who had taken magnesium supplements during pregnancy. The incidence of cerebral palsy was 90 percent lower."(excerpts from Prescription for Nutritional Healing Fifth Edition by Phyllis A. Balch, CNC)
- According to some research about supplementing with Magnesium, Magnesium Oxide is the most common but *least effective* form (very low absorption rate and causes diarrhea). Better options may be Ionized Magnesium or Chelated forms such as Magnesium Glycinate. However, I suggest you do your own research if you choose to supplement.
- ***Drug induced nutrient depletion is extremely common:*** *Some* drugs that deplete Magnesium: Psychiatric drugs, Diuretics, Certain Antibiotics, Corticosteroids, Bronchodilators (for Asthma), Antacids, Insulin, Oral Contraceptives (Birth Control), Anti-Ulcer or Heartburn Medications, Anti-cancer drugs ETC. **If you are taking *any* medication please find out which nutrients you may be depleted in.**

TESTING Magnesium:

- The serum magnesium test (which is the common test) is *not an accurate way* to test for magnesium deficiency. It can show "normal" even when deficient in magnesium. If this test is done and it shows a low magnesium serum level this can indicate a *significant (severe)* magnesium deficiency.
- RBC Red Blood Cell Magnesium test may also be used, this may be somewhat more accurate than the serum testing. (However, Only 1% of magnesium in the body is actually found in blood and only .3% is found in blood serum.)
- Best: Intracellular or sublingual epithelial test. "To test for magnesium deficiency, a procedure called an intracellular (mononuclear cell) magnesium screen should be performed. This is a more sensitive test than the typical serum magnesium screen, and can detect a deficiency with more accuracy. Magnesium screening should be a routine test, as a low magnesium level makes nearly every disease worse." (Prescription for Nutritional Healing Fifth Edition by Phyllis A. Balch, CNC)
- Testing for magnesium (the most accurate way) may be expensive – If you suspect that you are deficient you may want to consider taking a magnesium supplement for preventing the diseases that are associated with magnesium deficiency and to ease current symptoms.

The Gut (Enteric Nervous System) "The Second Brain"

Millions of people are affected by gut disorders, gastrointestinal diseases, Inflammatory Bowel Disease (IBD), Crohn's, Ulcerative Colitis, Celiac Disease, Acid Reflux, Heartburn, GERD, Intestinal Permeability, Leaky Gut Syndrome, Irritable Bowel Syndrome (IBS), Diverticulitis, Diverticulosis etc.

- Depression, Anxiety, Diarrhea, Constipation, Food sensitivities, Food allergies, Lactose intolerance, Dairy allergies, Nutrient Malabsorption, Skin Disorders, Rashes, Eczema, Psoriasis, Seasonal Allergies, Auto-Immune disease, Thyroid problems ETC!
- An estimated 10-15% of people worldwide have IBS (Irritable Bowel Syndrome) and it affects between 25 and 45 million people in the United States. (International Foundation for Functional Gastrointestinal Disorders)
- Even if you *have not* been diagnosed with a disorder of the Enteric nervous system/Gastrointestinal tract (gut), please consider that through poor diet, stress, environmental factors & medications there is a high percentage of people who have been diagnosed with mental (or physical) illness that could benefit from nutritional supplements to improve absorption of the necessary vitamins and minerals vital for brain and body health.
- Many studies have found an association between mental illness and bowel dysfunction, 60 – 94%.
- "Nutritional deficiencies play a prominent role in IBD. Malabsorption, diarrhea, and GI blood loss are common features of IBD. **Deficiencies of B vitamins, fat-soluble vitamins, essential fatty acids, and key minerals such as magnesium, zinc, and selenium are extremely common and benefit from replacement therapy.**" https://en.wikipedia.org/wiki/Inflammatory_bowel_disease
- "Disorders such as anxiety, major depression, and chronic fatigue syndrome are common among people with IBS."[1][8] (Another excerpt): Neurological/psychiatric: A study of 97,593 individuals with IBS identified comorbidities such as headache, fibromyalgia, and depression.[65] IBS occurs in 51% of chronic fatigue syndrome patients and 49% of fibromyalgia patients, and **psychiatric disorders occur in 94% of IBS patients**.[8] https://en.wikipedia.org/wiki/Irritable_bowel_syndrome
- Serotonin – "The happy" neurotransmitter – 95% is found in the gut.
- **"The enteric nervous system uses more than 30 neurotransmitters, just like the brain**, and in fact 95 percent of the body's serotonin is found in the bowels. Because antidepressant medications called selective serotonin reuptake inhibitors (SSRIs) increase serotonin levels, it's little wonder that meds meant to cause chemical changes in the mind often provoke GI issues as a side effect. Irritable bowel syndrome—which afflicts more than two million Americans—also arises in part from too much serotonin in our entrails, and could perhaps be regarded as a "mental illness" of the second brain." Excerpt from Scientific America article "Think Twice: How the Gut's "Second Brain" Influences Mood and Well-Being": https://www.scientificamerican.com/article/gut-second-brain/

- Increased intestinal permeability is a factor in several diseases, such as Crohn's disease, celiac disease,[12] type 1 diabetes,[13] type 2 diabetes,[12] rheumatoid arthritis, spondyloarthropathies,[14] inflammatory bowel disease,[8][15]irritable bowel syndrome,[9] schizophrenia,[16][17] certain types of cancer,[8] obesity,[18] fatty liver,[19] atopy and allergic diseases,[13] among others. In the majority of cases, increased permeability develops prior to disease, [8] but the cause–effect relationship between increased intestinal permeability in most of these diseases is not clear.[15][20] excerpt from: https://en.wikipedia.org/wiki/Intestinal_permeability
- Things to consider adding to your diet: Pre-biotics, Pro-biotics, Digestive Enzymes, Essential Fatty Acids, B Vitamin Complex, Zinc (if deficient), etc.
- Zinc deficiency is extremely common in gastrointestinal diseases and Zinc supplementation is helpful in treating intestinal permeability (leaky gut), Crohn's disease etc.
- The gut breaks down the nutrients and they go into the bloodstream – carrying the oxygen and available nutrients throughout the body – including the brain.
- Gluten intolerance. "Many cases of childhood schizophrenia can be traced to celiac disease that involves intolerance to gluten grains." "Thousands of persons have tragically suffered a lifetime of severe mental illness that could have been completely overcome by a special diet." Excerpts from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD
- Gluten-related disorders "is the umbrella term for all diseases triggered by gluten. Gluten-related disorders include celiac disease (CD), non-celiac gluten sensitivity (NCGS), gluten ataxia, dermatitis herpetiformis (DH) and wheat allergy." https://en.wikipedia.org/wiki/Gluten-related_disorders
- Some symptoms of Gluten sensitivity or "Non Celiac gluten sensitivity": Irritable bowel syndrome-like symptoms, fatigue, headache, fibromyalgia, atopic disorders, neurological diseases, psychiatric problems. https://en.wikipedia.org/wiki/Non-celiac_gluten_sensitivity
- Dairy sensitivities and allergies to dairy. "Most dairy reactions are not lactose intolerance. Many people are lactose intolerant, but millions more have an immune reaction to dairy. Unfortunately, most people don't recognize that there is a difference between the two issues. These people usually do not figure out that dairy is causing their symptoms because they never actually eliminate dairy from their diet, only lactose. If you haven't ever tried eliminating dairy from your diet, but suspect that it may be a problem for you, you really should get tested for a dairy allergy. Your health is worth it! *It is by far the most problematic food seen at our clinic and readily shows up as positive lab work with the advanced food allergy testing we use*." Excerpts from https://ibstreatmentcenter.com/2012/06/most-dairy-reactions-are-not-lactose-intolerance.html
- "Nonsteroidal anti-inflammatory drugs (NSAIDs) aspirin, ibuprofen, naproxen. The widespread use of NSAIDs has meant that the adverse effects of these drugs have become increasingly common. Use of NSAIDs increases risk of having a range of gastrointestinal (GI) problems." https://en.wikipedia.org/wiki/Nonsteroidal_anti-inflammatory_drug
- Aspirin, Ibuprofen, Naproxen, and Acetaminophen – deplete the body of vital nutrients.

Drug induced nutrient depletion is extremely common. Psychiatric medications and the gut; *common side effects* such as diarrhea, nausea, vomiting, constipation, significant weight gain & changes in appetite. Drugs that are used to treat Irritable Bowel Syndrome and Inflammatory Bowel Disease (etc.) such as antibiotics – which disrupt the bowels of necessary healthy bacteria - (Rixafimin, metronidazole and ciprofloxacin) and deplete vital nutrients. Anticholinergics, Antidiarrheals, and Laxatives. Corticosteroids – steroid hormones (Such as: bethamethasone, (Celestone), prednisone (Prednisone Intensol), prednisolone (Orapred, Prelone), triamcinolone (Aristospan Intra-Articular, Aristospan Intralesional, Kenalog), methylprednisolone (Medrol, Depo-Medrol, Solu-Medrol), dexamethasone (Dexamethasone Intensol) - used to treat autoimmune and inflammatory diseases, including asthma, bursitis, Crohn's disease, tendinitis, ulcerative colitis, rheumatoid arthritis, and lupus, and skin conditions, such as eczema and psoriasis Etc., And other anti-inflammatory drugs deplete the body of vital nutrients some of which include: B-6, B-9, Magnesium, Potassium, Vitamin D, Calcium, Chromium, Vitamin C, Vitamin A, Vitamin E, Melatonin, Selenium, Zinc etc. and the list goes on. **If you are taking *any* medication please find out which nutrients you may be depleted in.**

Insomnia/Sleep Disorders

Sleep problems and mental disorders are codependent conditions. Some nutrients etc. that affect sleep:

Melatonin (sleep hormone) needs proper utilization of vitamins, minerals & amino acids such as: B-12, B-1, B-6, B-3, (and more B's?) Zinc, L-Tryptophan an essential amino acid we get from our food, which turns into 5HTP and then into Serotonin (the "happy" mood & sleep neurotransmitter, which is necessary in the production of Melatonin). Magnesium, Calcium, Potassium, Inositol etc. There is plenty of information on how to not sabotage your sleep hormone, such as from: Dr. Mercola - Melatonin Regulates Our Cycles, Mood, Reproduction, Weight and May Help Combat Cancer http://articles.mercola.com/sites/articles/archive/2013/10/10/melatonin.aspx

Mental Health – Other Things to Consider (Do the research):

- *Essential Fatty Acids* – *Healthy fats and proteins* are necessary for our brain & body to function properly. "The brain is 60% fat by weight and requires ongoing supplies of essential fatty acids (EFAs) to function. The body cannot manufacture them, so they must come from diet, and they are the basic ingredient of nerve cells, cellular membranes, and prostaglandins (hormone like molecules) throughout the body." Excerpt from the book "Healing Depression & Bipolar Disorder Without Drugs" by Gracelyn Guyol
- *Essential Fatty Acids*: "There is strong evidence of the important roles for omega-3 oils (especially EPA and DHA) and omega-6 oils (especially AA and DGLA) in ADHD, depression, and schizophrenia. A famous Harvard study showed EPA and DHA supplements to be more effective than psychiatric medications in combating bipolar depression. Typical American diets usually result in insufficient omega-3 and excessive omega-6, and some nutritionists routinely recommend supplements of omega-3 oils. However, biochemical individuality also exists with oils and certain persons are innately low in omega-6 oils. A review of symptoms and specialized lab tests can identify individual needs." Excerpt from article Biochemical Individuality and Nutrition By William J. Walsh, PhD, FACN https://www.walshinstitute.org/biochemical-individuality--nutrition.html
- Essential Amino Acids – *We only get these from the foods we eat (or supplementation)*. They are named ESSENTIAL for a reason. They are the "building blocks of proteins" and our entire system/body & brain requires essential amino acids to function properly. Testing can be done to check Amino Acids levels.
- Toxic Metal Overload
- Oxidative stress – Antioxidants are needed for a healthy brain and body. "An increasing number of experts have proposed that oxidative stress is the primary cause of schizophrenia, bipolar disorder, autism, Alzheimer's disease and Parkinson's disease. Advanced antioxidant therapies hold great promise for patients challenged by these disorders." (Book excerpt from Nutrient Power Heal Your Biochemistry and Heal Your Brain by William J. Walsh, PHD)
- Candida/Yeast overgrowth – This can affect the entire body.
- Sugars/Alcohol/Dairy/Gluten: breads, cereals, pasta – gluten is present in many things and just because it says "gluten free" – doesn't mean it is healthy.
- Processed foods. Often contain preservatives, pesticides, dyes, additives, MSG (Monosodium Glutamate rarely listed as MSG – it is disguised with other names), and many other chemicals that can interfere with the brain and body health.
- Caffeine affects and/or depletes iron, magnesium, potassium, zinc, B vitamin absorption. We all know smoking is bad for us, and the chemicals in cigarettes. Did you know smoking depletes vital nutrients as well? Vitamin C, Vitamin E, B 12, B5 etc. Approximately 90% of people diagnosed with Schizophrenia are smokers and approximately 70% diagnosed with Bipolar disorder smoke cigarettes.
- *Please be aware* that the dairy, grain & meat industries give a lot of miss-information on the internet and elsewhere (advertising etc.). *Similar to the pharmaceutical companies and their multibillion dollar industry that misinforms the public.*

- *This cannot be emphasized enough:* ***Drug induced nutrient depletion is extremely common*****. In the information provided here, have you noticed how many of the symptoms/diseases that are linked with specific nutrient deficiencies – (these very same nutrients that are needed) – and** ***are actually depleted by some of the medications used to treat the symptoms/diseases? (Diabetes, Cardiovascular problems, High Blood Pressure, Asthma Etc.)***
- Even if you are not taking any medications (over the counter or prescribed), do you eat meat or dairy? What about the *antibiotics* & *growth hormones* that are given to the cows (that eat the *pesticide* sprayed grains) that make the milk/dairy? How do the antibiotics, etc. that you are consuming affect your health? Craving a McDonald's burger? Why is that? *What if our brain/body becomes addicted to the additives and unhealthy foods that actually harm us?* By the way - Grass fed organic beef has more nutritional value (higher vitamins/minerals and healthy fats – Omega 3 etc.) and if labeled organic they are not fed antibiotics, hormones & pesticides.
- ***Psychiatric Drugs*** **(Antipsychotics & Antidepressants Etc.)** Affect the blood, the body (with major side effects) & can cause life threatening conditions. "Almost all classes of psychiatric drugs (typical and atypical antipsychotics, antidepressants, mood stabilizers, benzodiazepines) have been reported as possible causes of hematological (blood related) toxicity" *(Remember - Your brain uses 20% of the total oxygen and blood in your body.)*: "neutropenia, aplastic anemia, hemolytic anemia, leukopenia, agranulocytosis, leukocytosis, eosinophilia, thrombocytosis, thrombocytopenia, anemia, purpura disordered platelet function and impaired coagulation." ***They can also deplete vital nutrients that our body and brain require.*** **IF YOU ARE TAKING PSYCHIATRIC MEDICATION PLEASE HAVE YOUR NUTRIENTS, BLOOD ETC. TESTED. (See the testing listed in this article to know where to start).**
  People with mental challenges/disorders are often depleted in vital nutrients that are necessary for mental health. **Psychiatric medications can deplete some of the very nutrients** ***that may already be deficient. Psychiatric medications can also contribute to cravings of sugars, unhealthy (simple) carbohydrates (breads/cereals/pastas) and result in blood sugar swings (highs/lows) along with huge lists of other major side effects.***
  Some of the vitamins & minerals that may be depleted (or blocking absorption of) by psychiatric and other medications: B Vitamins (Several of the B's), CoQ10, Magnesium, Calcium, Potassium, Zinc, Iron, Selenium, Manganese, C vitamin, Vitamin K (which aids in D vitamin absorption), D vitamins, Melatonin (sleep hormone), ETC.
  Antidepressants including: Fluoxetine (Prozac), Paroxetine (Paxil), Sertraline (Zoloft), Citalopram (Celexa), Escitalopram (Lexapro), Bupropion (Wellbutrin), Mirtazapine (Remeron), Venlafaxine (Effexor), Amitriptyline (Elavil), Doxepin (Adapin), Imipramine (Tofranil), Desipramine (Norpramin), Nortriptyline (Aventyl), Protriptyline (Vivactil)
  Benzodiazepines including: Diazepam (Valium), clorazepate (Tranxene), lorazepam (Ativan), Clonazepam (Klonopin), Alprazolam (Xanax)
  Antipsychotics including: Aripiprazole (Abilify), Quetiapine (Seroquel), Risperidone (Risperdal), Olanzapine (Zyprexa), Clozapine (Clozaril), Haloperidol (Haldol), Paliperidone (Invega), Ziprasidone (Geodon)
  Anticonvulsants and Mood Stabilizers, including: Lithium (Lithobid), Phenytoin (Dilantin), carbamazepine (Tegretol), Primidone (Mysoline), Methsuxamide (Elontin), Valproic acid (Depakote), topiramate (Topomax) and Gabapentin (Neurontin)
  PSYCHIATRIC DRUGS DO NOT HEAL. Psychiatric drugs subject a human to unnatural body and brain altering chemicals. The epidemic of overprescribing these medications that cause debilitating (and even life threatening) side effects must be looked at in truth.

Some of the main culprits in no particular order:

- D vitamins deficiencies
- B vitamins deficiencies – B12, B6 and more.
- Anemia – Iron and/or B vitamin deficient anemia
- Zinc, Iron, Copper (Deficiencies and/or Excess)
- Pyrrole disorder (B6/Zinc deficiencies)
- Under & Over Methylation (Histamine imbalance)
- Magnesium deficiency
- The Gut (the "Second Brain") – malabsorption, nutrient deficiencies
- Essential Amino Acids - Deficiencies (building blocks for proteins)
- Essential Fatty Acids deficiencies/Healthy fats and proteins
- Drug induced nutrient depletion

*PLEASE NOTE. The information provided here is for educational purposes. I, Melissa Joyfully (legal name Melissa Kunz) am not a doctor, psychiatrist, nutritionist etc. and I do not claim any responsibility for your health/illnesses or what you choose to do (or not do) with the information I have provided. I am a clairvoyant spiritual teacher, healer & artist. *I began doing extensive research on mental illness, the brain, nutrients, neurotransmitters etc. because my daughter has suffered the horrific consequences of the current way we "treat" people with mental health challenges.* In my research I discovered some basic truths that I've felt compelled to share with everyone who has a mental or physical illness. I do not sell nutrients or vitamins, I also have not received any compensation from the authors/websites I've quoted. I have done my best to break down just some of the basics that I feel the majority of people may be unaware of. Approximately 1 in 4 people suffer from a mental illness, depression, bipolar disorder, schizophrenia, schizoaffective disorder, OCD, ADD, ADHD, addictions and the list goes on. Our physical and mental health is in jeopardy with the current system of treatments. It is my hope and prayer that the information I've provided here will guide you and your loved ones to do your own research and empower you to heal.