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## Advanced Nutrient Therapy

Several common Biochemical Imbalances that are related to Mental Health conditions have been identified and specific treatments discovered by William Walsh, Ph.D. of the Walsh Research Institute. Dr. Walsh has had decades of experience and has been involved in the assessment and treatment of tens of thousands of people with one or more of these imbalances. His treatments often result in a significant reduction or even elimination of the need for prescription psychiatric medications and a great deal of improvement in the mood, behavior and functioning of people who previously had very serious mental health problems. Examples of the conditions the Walsh Protocol has addressed include Autism, Attention Deficit Hyperactivity Disorder, Depression, Anxiety, Obsessive Compulsive Disorder, Bipolar Disorder, Schizophrenia; it has also been helpful for people developing Alzheimer's and other neurological conditions. Identifying and balancing these errors of metabolism is an exciting method of treatment that is not commonly offered, especially in conventional psychiatry.

The process is relatively simple, and includes an interview to determine whether a person has various characteristics and traits that are common to one or more of these imbalances, followed by several blood tests as well as a urine test for pyrroles. The determination of which imbalance(s) are present in any person is a multiple step process. The first phase is generally done through an interview. The person is asked about a series of traits, both related directly to mental health but also to physical traits or symptoms or even personality characteristics. Each imbalance has many traits that are often present in people who have that imbalance. Although few people have all the common traits, it is considered significant if a person has 40% of the traits for that imbalance. A Walsh practitioner, Dr. Heermann, has developed a computerized screening questionnaire that I use to gain the information that the interview provides. The benefit of this Screening Test is that it can be completed outside of the limited time during a session, scores the answers based on an algorithm that ranks the importance of each trait, and provides a physical report that can be charted and referred to in the future to compare how someone is progressing with their treatment.

Treatments for the imbalances vary depending on the person's situation, and responses vary from within a few weeks to taking many months. As these imbalances are generally a combination between an inborn, genetic issue interacting with the person's envi-

ronment, the need is often for the person to remain on the nutrient therapy indefinitely. The treatment is not a “cure” but instead a treatment for a problem with handling metals, vitamins, detoxification, etc. The risk of stopping the therapy because of feeling well is relapse.

Studies have shown that about 80% of people who have any of the common Biochemical Imbalances have a positive benefit with Advanced Nutrient Therapy. The most common reason for lack of benefit is noncompliance with treatment – not taking the nutrients as prescribed or stopping taking them after a period of time. Other reasons include a growth spurt, acute physical injury or illness, emotional stress, malabsorption of the nutrients, anoxia during birth, head injury, active substance abuse and Type A Blood.

In addition to looking for these imbalances, other medical or physical conditions, such as hypothyroidism, anemia, vitamin deficiencies, food allergies, toxins, infections, etc., must be considered and ruled out.

For additional information regarding Advanced Nutrient Therapy, see YouTube videos searched under the term William Walsh, PhD.

## **Specific Biochemical Imbalances**

**Pyrrole Disorder** - Pyrroles are the result of a biochemical imbalance involving an abnormality in hemoglobin synthesis in the bone marrow and spleen, that can be purely genetic or acquired through environmental and emotional stress and especially from ‘leaky gut syndrome’ and the over use of antibiotics. Pyrrole disorder is caused by the overproduction of hydroxyhempyrolin (HPL). Pyrrole disorder (or pyroluria) is detected by the presence of elevated kryptopyrroles in the urine, These are waste products that don’t really serve any useful biological purpose and are normally excreted by most of us uneventfully. In someone with pyroluria, however, these kryptopyrroles don’t get excreted and will tend to build up—even more so under stress of any kind.

Kryptopyrroles have a tendency to bind very strongly with nutrients such as zinc and vitamin B6, making them largely unavailable to the body...which is a very big problem. Zinc and B6 are nutrients critical for the functioning of your entire body and mind—including your digestion, immune system, cognitive functioning and emotions. The HPL binds zinc and B6 preventing their use by the body and causing excretion in the urine and hair. HPL is a biomarker for oxidative stress and is neurotoxic. Stress of any kind will increase production of pyrroles/HPL which in turn decreases zinc and B6. The main biochemical features are of severe zinc and B6 deficiency. Over time deficiencies can majorly affect way you feel and function and have serious consequences. Pyrrole Disorder results in decreased serotonin, decreased dopamine, decreased GABA, and decreased NMDA activity.

Zinc is essential for 100’s of processes in the body and is particularly important for healing, immune function, digestion, neurotransmitter activation, physical growth, memory, insulin sensitivity and control of blood sugars, DNA replication and more. Zinc and B6 are essential for production of neurotransmitters such as serotonin (our

happy hormone), melatonin (our sleep hormone), GABA (our relaxation hormone), and acetyl choline which is important for memory. They are also involved in production of our steroid hormones such as cortisol (our anti-inflammatory, anti-allergy hormone and stress hormone) and the conversion of oils in the body (fat metabolism, liver and gall bladder issues and weight control). The oils EPA/DHA but mostly GLA are found to be low in those with pyrrole disorder and are damaged by oxidative stress/free radicals/toxins created by pyrroles. Pyrolurics also have a greater than normal need for omega-6 fatty acids, particularly dietary arachidonic acid (AA—found readily in eggs, butter, red meat and liver) and the essential fatty acid GLA (gamma linolenic acid— found in supplements like black currant seed oil and evening primrose oil). Often people will go for years suffering the effects of pyroluria regardless of what therapies they try or how well they eat.

Some of the Symptom/Traits of people with Pyrrole Disorder include: poor tolerance of physical and emotional stress, poor anger control, frequent mood swings, morning nausea, not remembering dreams, frequent anger and rages, depression and high anxiety, white spots on fingernails, delayed growth, sensitivity to bright lights or loud noises, very dramatic reactions, “night owls”, negative thinking, and underachievement.

20% of people with Schizophrenia have Pyrrole Disorder, as do 15% of depressives. Other common diagnoses include Social Phobia, Rapid Cycling Bipolar Disorder, Conduct Disorder, Intermittent Explosive Disorder or Antisocial Personality Disorder.

The test for this disorder is a specialized urine test, best obtained from DHA Laboratory.

Typical Treatment for Pyrrole Disorder generally includes doses of the following vitamins and minerals, often in higher amounts than taken by the general population and individualized based on the person’s symptoms and lab test results:

Zinc Picolinate

Vitamin B6 and Pyridoxal-5-Phosphate (P5P)

Vitamin C

Evening Primrose Oil

This condition often responds within several weeks to treatment, but the full benefits may take a few months to be obtained.

**Copper Excess** – Copper is an essential trace element that the body requires. Excess copper results in increased norepinephrine activity along with decreased dopamine activity. Copper is necessary for the proper growth, development, and maintenance of bone, connective tissue, brain, heart, and many other body organs. Copper is involved in the formation of red blood cells, the absorption and utilization of iron, the metabolism of cholesterol and glucose, and the synthesis and release of life-sustaining proteins and enzymes. These enzymes in turn produce cellular energy and

regulate nerve transmission, blood clotting, and oxygen transport. Copper stimulates the immune system to fight infections, to repair injured tissues, and to promote healing. Copper also helps to neutralize "free-radicals", which can cause severe damage to cells.

Excessive amounts of copper, however, are toxic to the body. High copper levels have been associated with hypertension, insomnia, possibly some types of cancers, menstrual and estrogen related problems, liver and kidney problems, and neurological conditions. Copper overloads tend to lower dopamine levels and increase norepinephrine in the brain. Imbalances in these important neurotransmitters have been associated with anxiety, postpartum depression, ADHD, autism, violent behavior, paranoid schizophrenia and bipolar disorder.

High levels of copper can come from food, copper pipes, copper sulfate (or even the chlorine can affect the copper balance in some people) in swimming pools. Typically, the body has a system to prevent excessive amounts of metals from building up in the body, no matter how much is eaten or in the water. However, people with a defect in this system should be extra careful about how much copper they ingest. Water should be either highly filtered or bottled. They should avoid or severely limit high copper foods such as shellfish, avocado, nuts and seeds, legumes, beef liver, mushrooms, dried fruits. NO using copper utensils, cups or pots/pans.

Common Symptoms and Traits of Copper Overload include: Hyperactivity, ADHD, Skin sensitivity (tags, rough fabrics, seams), intolerance to estrogen or birth control pills, onset during puberty, pregnancy or menopause, post-partum depression or psychosis, skin intolerance of cheap metals, emotional breakdowns/frequent anger, ringing in ears, high anxiety, sleep problems, poor concentration, poor immune function.

Copper Excess can result in Paranoid delusions. 17% of depressives have excess copper. Other common diagnoses associated with Copper Excess include ADHD, Autism, Impulsive/Hyperactive, Intermittent Explosive Disorder, Antisocial, Non-reading related learning disabilities.

The test for this condition is to get Serum copper and Ceruloplasmin levels.

Typical Treatment includes using other minerals as well as antioxidants to bring down the copper and increase the ceruloplasmin.

Treatment takes 2-4 months to normalize copper levels; more like 6-12 months if the person has Type A Blood.

**Copper/Zinc Imbalance** – both copper and zinc are important minerals for proper functioning of biochemical processes; however, they must be in proper amounts relative to one another. Copper and zinc levels are regulated by metallothionein, a short linear protein composed of 61 amino acid units. When this protein fails to perform its necessary functions, abnormal levels of nutrient metals (such as copper, zinc, and manganese) and toxic metals (such as cadmium, mercury, and lead) can result. Nu-

trient treatment to eliminate these overloads must be cautious and gradual to avoid worsening of symptoms and kidney damage.

Zinc enhances resistance to stress and help maintain intellectual function, memory and mood levels. More than 90% of persons diagnosed with depression, behavior disorder, ADHD, autism and schizophrenia exhibit depleted zinc levels. Zinc deficiency has been associated with delayed growth, temper control problems, poor immune function, depression, poor wound healing, epilepsy, anxiety, neurodegenerative disorders, hormone imbalances and learning problems.

Laboratory testing adds a plasma Zinc level to the above copper and ceruloplasmin levels to determine the relationship between these metals.

Nutrient Treatment similar to that of Copper Excess.

**Methylation Problems** – This biochemical process, which occurs constantly in all of the cells in our bodies, is the result of a combination of our genetic makeup interacting with our environment. Thus, stressors as well as positive situations can turn genes on or off, and thus help or hinder the body's natural ability to repair. Methylation is the process of taking a single carbon and three hydrogens, known as a methyl group, and applying it to countless critical functions in your body such as: thinking, repairing DNA, turning on and off genes, fighting infections and getting rid of environmental toxins. Methylation is involved in many of our most vital bodily functions, by offering support and/or managing, such processes as: 1) Detoxification; 2) Controlling inflammation; 3) Maintaining DNA; 4) Immune function; 5) Energy production; 6) Mood balancing.

- **Undermethylation** – (i.e. not enough methylation occurring in the cells); for these people there is decreased activity at dopamine and serotonin receptors.
- clinical features include: Strong will/ controlling; Obsessive; Seasonal Allergies; SSRIs helpful; Chronic Depression; OCD; High achiever; ODD; Antisocial Personality; Addictions; Low serotonin activity; Calm exterior, tense interior; Competitive & perfectionistic; seasonal allergies; High libido; Poor reaction to lithium; Seasonal affective disorder; Thin body and long fingers and toes

Only 20% of people with undermethylation develop problems related to it. Increased cancer risk. 25-30% of undermethylated depressives report little or no improvement following nutrient therapy (i.e., 70-75% do report improvement). 28% of people with Schizophrenia are undermethylated, while 95% of people with Autism or on the Autistic Spectrum and 38% of depressives are as well. Other diagnoses associated with undermethylation include schizoaffective disorder, Bipolar II Disorder, Delusional Disorder, ODD, OCK, Anorexia/Bulimia, Addictions, Suicidal Thoughts, Intermittent Explosive Disorder, Paraphillias and Antisocial Personality Disorder.

Some of the nutrients used to treat Undermethylation include:

SAM-e or Methionine

Methyl B12 (also known as Vitamin B12)

Calcium/Magnesium

Along with antioxidant vitamins and other minerals

Elevated homocysteine level should be lowered before working on the undermethylation in order to avoid increased inflammation.

People with undermethylation benefit from a diet higher in protein.

- **Overmethylation/Folate Deficiency** – (i.e. excessive methylation occurring in the cells); in these people there is increased activity at serotonin and dopamine receptors.
- there is a tendency for: High, labile anxiety; Sleep disorders; Poor reaction to SSRIs (worse, hypomania, suicidal/homicidal ideation); Non-competitive; Can't stop talking; Moving body more/in motion; Hyperactive (especially with Benadryl); Intermittent explosive disorder; High energy/verbosity; Artistic/musical ability; Sensitive to food/chemicals; Low libido; Dry eyes/mouth; Adverse reaction to SAMe/methionine; Like extreme sports, Piercings & Tattoos; Cutters; Eeyore males: "I can't..."; Eczema; Estrogen intolerant; Hairy (men); Tend to be copper intolerant; High pain threshold; Improve with benzos & lithium

Caring, generous; History of volunteer work; Good neighbors

42% of people with schizophrenia have overmethylation, and 20% of depressives. Other associated diagnoses include Mania, Intrusive thoughts, Obsessions without rituals or compulsions and stuttering.

Beneficial Nutrients for Overmethylation include:

Folate or Folinic Acid

Hydroxy or Adenosyl B12

Niacinamide

As well as other vitamins, minerals and antioxidants

Overmethylated people benefit from Vegetables or Vegetarian Diet

**Heavy Metals and other toxins** – proper brain function requires the complex interaction of chemicals; it is well established that certain toxic substances have the potential to disrupt normal brain physiology and to impair neurological function. As well as headache, cognitive dysfunction, memory disturbance, and other

neurological signs and symptoms, disruption of brain function may also manifest as subtle or overt alteration in thoughts, moods, or behaviors. Over the last four decades, there has been the unprecedented development and release of a swelling repertoire of potentially toxic chemicals, such as heavy metals, pesticides, plasticizers and other endocrine disrupting or neurotoxic compounds, which have the capability to inflict brain compromise.

There are other causes as well for Mental Health symptoms and conditions, so if a person does not have any of these imbalances, there are still helpful treatments available. It is helpful to have another way to both understand and treat some of the issues that previously either did not or only partially responded to conventional treatments.