

## TESTING

### 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

### 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](http://www.mercola.com))

### 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.

### 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)

### **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)

### **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/>

### **TESTING Pyrrole Disorder:**

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

### **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
- **Metabolic Panel** (Kryptopyrrole, Serum Copper, Zinc Plasma, Whole Blood Histamine)  
DHA Laboratory \$248.00  
**<https://www.pyroluriateesting.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.pyroluriateesting.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.*

### **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.