



# BioIndividual Nutrition Strategies for Mental Health

with Julie Matthews and Albert Mensah, MD



**Julie Matthews**  
[BioIndividualNutrition.com](http://BioIndividualNutrition.com)



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## BioIndividual Nutrition Strategies for Mental Health

with Julie Matthews and Albert Mensah, MD



THE SCIENCE AND PRACTICE OF PERSONALIZED NUTRITION  
JULIE MATTHEWS



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Julie Matthews is not a physician. She does not diagnose or treat disease. This information and her statements are not intended to replace a one-on-one relationship with a qualified health-care professional and is not intended to provide medical advice. For medical advice, always seek a physician. This is for informational purposes only and is solely as a sharing of knowledge and information based upon the experience and research of Julie Matthews/Nourishing Hope. The BioIndividual Nutrition Institute does not provide nutrition credentialing at a state or other level. Practitioners must work within the scope of practice provided by their primary nutrition certification and state laws.

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## Julie Matthews

- Certified Nutrition Consultant & Educator
- Author of "Nourishing Hope for Autism"
- 20 years' clinical experience
- Lectured in 60 cities / 3 continents
  - Clinicians and Parents/Individuals
- Founder, *Nourishing Hope* & *BioIndividual Nutrition Institute*
- Television, radio, newspaper, blogs/podcasts



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## Albert Mensah, MD

- Co-founder of Mensah Medical
- Specializes in the treatment of biochemical imbalances, and the cognitive (and physical) disorders caused by those imbalances.
- Focus on autism spectrum disorder, behavior/learning disorders, eating disorders, bipolar disorder, anxiety syndromes, childhood and adult schizophrenia, Alzheimer's Disease and Parkinson's Disease,



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## BioIndividual Nutrition Institute Masters Series Webinar

- Science and practice of personalized nutrition
  - Certification Training in BioIndividual Nutrition
  - Special focus option in Pediatrics/autism
  - Global practitioner directory
- Registered dietitians, nutritionists, health coaches, medical doctors, and physicians
- Knowledge • Confidence • Clinical Results

## Today...

- Increase clinical knowledge
- Expand resources...

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**PERSONALIZED BIOINDIVIDUAL NUTRITION**

*Unique Bodies  
Unique Nutritional Needs*



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**Nutrients...**

- 1) Are powerful
- 2) Need to be bioindividual
- 3) Imbalances cause mental health including anxiety and depression

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**Agenda**

- Personalized Bioindividual Nutrition
- Nutrient Deficiencies and Overloads that Impair Brain Function
- Nutrient Imbalances that Alter Neurotransmitters
- Environmental and Epigenetic Influences
- Therapeutic Diets for Mental Health
- Lab Testing
- Q&A

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**"Personalized Nutrition Holds Tremendous Potential To Improve Human Health"**

*"Biochemistry, metabolism, genetics, and microbiota contribute to the dramatic interindividual differences observed in response to nutrition, nutrient status, dietary patterns, timing of eating, and environmental exposures."*

Bush, C. L., Blumberg, J. B., El-Sohemy, A., Minich, D. M., Ordovás, J. M., Reed, D. G., & Behm, V. A. Y. (2019). Toward the Definition of Personalized Nutrition: A Proposal by The American Nutrition Association. *Journal of the American College of Nutrition*, 1-1.

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**Personalized Nutrition Works**

*"Macronutrient, micronutrient, and non-nutrient recommendations can be optimized at the individual level, depending on a person's biological characteristics and specific goals."*

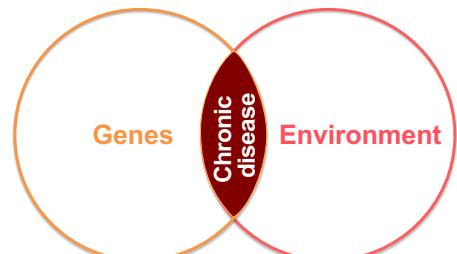
van Ommen, B., van den Broek, T., de Hoogh, I., van Erk, M., van Someren, E., Rouhani-Rankouhi, T., ... & Wopereis, S. (2017). Systems biology of personalized nutrition. *Nutrition Reviews*, 75(8), 579-599.

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**Chronic Disease**



**Genes**

**Environment**

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## Biochemical Individuality

Nutrition - the link between genes & environment  
Genes and Environment

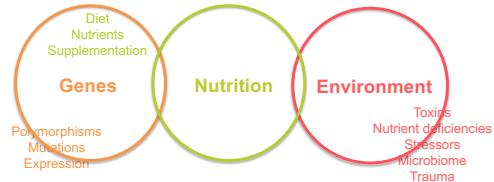


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## Biochemical + Individuality = Bioindividuality



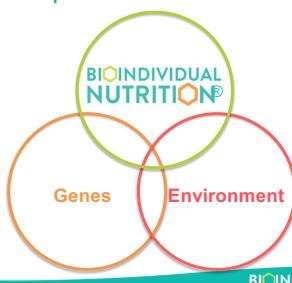
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## BioIndividual Nutrition®

Personalized therapeutic diet and nutrition strategy based upon each person's biochemical Individuality



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Presented by Albert Mensah, MD, BCIP  
Mensah Medical, LLC  
Mensah Research Institute

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*“For every drug that benefits a patient, there is a natural substance that can produce the same effect.”*

- Carl C. Pfeiffer, MD, PhD

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## The Brain is a “Biochemical Factory”

- Given the proper supply of building blocks and co-factors, the brain creates biochemical processes essential for normal brain function.
- Serotonin, dopamine, norepinephrine and other neurotransmitters are synthesized in the brain.
- The raw materials for neurotransmitter synthesis are nutrients: vitamins, minerals, and amino acids.
- Based on genetics and epigenetics, individuals are **biochemically unique**.
- A genetic or epigenetic imbalance in a nutrient can alter brain levels of key neurotransmitters and result in abnormal brain chemistry.
- By understanding science-based biochemical “biotypes”, advanced nutrient therapy aims to heal the brain and correct biochemical imbalances.

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## Nutrient Deficiencies that Impair Brain Function

- Zinc
- Methionine
- Folic Acid
- Vitamins B-6 and B-12
- Niacin/Niacinamide
- DHA, EPA, AA (essential fatty acids)
- Antioxidants: Se, GSH, Vitamins C & E, etc.
- Chromium

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## Nutrient Overloads that Impair Brain Function

- Copper
- Folic Acid
- Iron
- Methionine, SAMe
- Toxins: Lead, Mercury, Cadmium, etc.

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## Nutrient Imbalances that Alter Neurotransmitter Activity

*Distinctive biochemical imbalances are exhibited by most persons with schizophrenia and bipolar disorder, as well as ADHD, behavioral challenges, anxiety, depression, and autism.*

- Copper Overload
- Undermethylation (methyl-deficiency)
- Overmethylation
- Pyrrole Disorder
- Toxic Metal Overload
- Severe Oxidative Stress

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## Copper Overload

Elevated copper levels tends to lower dopamine levels and increase norepinephrine in the brain. Imbalances in these important neurotransmitters have been associated with paranoid schizophrenia, ADHD, bipolar disorder, postpartum depression and violent behavior.

### Symptoms may include:

- Impulsivity
- Hyperactivity
- Poor academic performance
- Temper tantrums
- Low self-esteem
- High irritability
- Aggression or violence
- Sleep disorder
- Prior diagnosis of ADHD
- Short attention span
- Tend to be in constant motion
- Verbal outbursts
- Bad behavior in school
- High anxiety
- History of physical assaults
- White spots on fingernails

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## A Note About Copper & Diet

- Many females have low levels of Ceruloplasmin
  - Ceruloplasmin is a carrier protein and acute phase reactant for copper
- Seemingly good diet choices may actually contribute to copper toxicity
  - Ceruloplasmin found in lean meats
  - High copper levels present in many green vegetables
  - High veggie/low meat diets could make body regulation of copper more difficult
- Adding lean meats and cutting back on copper-rich foods can enhance improvement

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## The Critical Role of Methylation

- Nutrient overloads and deficiencies disrupt methylation pathways in the brain.
- To explain: The body's methyl groups turn genes off or on by affecting interactions between DNA and the cell's protein-making genes.
- Because the methylation cycle is essential for mental and physical health, basic nutrients necessary for normal function of this cycle are critical.
- Too much or too little of important methyl groups can cause a methylation imbalance.

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## Overmethylation

Patients who are **overmethylated** have a tendency for high anxiety, panic disorder, depression, and sensitivities to pesticides, toxic chemicals and foods.

### Symptoms may include:

- High anxiety or panic tendency
- Nervous legs, pacing
- Food/chemical sensitivities
- Sleep disorder
- Depression
- Self mutilation
- Dry eyes and mouth
- Adverse reaction to SSRIs
- High pain threshold
- Low motivation in school
- Absence of seasonal allergies
- Artistic or musical ability
- Paranoia
- Belief that everyone thinks ill of them
- Obsessions without compulsions
- Low libido

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## Undermethylation

Patients who are **undermethylated** have a tendency towards depression, eating disorders, OCD, perfectionism and schizoaffective disorder.

### Symptoms may include:

- Obsessive/compulsive tendencies
- Seasonal inhalant allergies
- Low tolerance for pain
- Prior diagnosis of OCD or ODD
- Ritualistic behaviors
- Very strong willed
- Social isolation
- Poor concentration endurance
- History of competitiveness in sports
- Frequent headaches
- Family history of high accomplishment
- Calm demeanor, but high inner tension
- Delusions (thought disorder)
- Slenderness
- Phobias
- Addictiveness

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## Pyrrole Disorder (Pyroluria)

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.

- Pyrrole Disorder (pyroluria) is an abnormality in biochemistry resulting in the overproduction of pyrrole molecules, normal by-products of hemoglobin synthesis and other processes in the body.
- Excess pyrroles have little or no function in the body and are effectively excreted in the urine; however, pyrroles have an affinity for zinc and may contribute to zinc deficiency by increasing its urinary loss.
- When elevated in the urine, they represent a marker for functional deficiencies in Vitamin B-6 and zinc.
- Common symptoms include poor stress control, high irritability or temper, extreme mood swings, severe inner tension, and sensitivity to bright lights and loud noises,

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## Toxic Metal Overload

Patients with **heavy-metal overload** (lead, cadmium, mercury, etc.) or toxic levels of pesticides/organic chemicals exhibit a metallothionein (MT) disorder.

- These persons are especially sensitive to toxic metals and overmethylation is commonly associated with severe chemical sensitivities.
- MT proteins are directly involved in development of brain neurons, detoxification of heavy metals, and immune response.
- Effective treatment requires a three-part approach: (1) avoidance of additional exposures, (2) biochemical treatment to promote the exit of the toxic from the body, and (3) correction of underlying chemical imbalances to minimize future vulnerability to the toxic.

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## Severe Oxidative Stress

Most mental disorders involve **oxidative stress**. Excessive release of free radicals can destroy cells or impair biochemical processes.

- Oxidative stress depletes levels of glutathione (GSH) needed for efficient NMDA receptor site function.
- Severe oxidative stress is evident throughout autism spectrum disorder.
- Oxidative stress can destroy digestive enzymes needed to break down casein and gluten, producing inflammation and often results in a "leaky gut" allowing toxics to enter the bloodstream.
- Additionally, severe oxidative stress can lead to poor immune function and disruption of the methylation cycle.

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## Environmental and Epigenetic Influences

- **What is epigenetics?** Epigenetics involves the alteration in gene expression due to chemical factors in the womb and the influence of environmental factors throughout life.
- Every cell in our bodies has the potential for expressing any of the 20,000+ genes in our DNA. The production of gene proteins or "gene expression" can be switched on or off (gene silencing or "bookmarking").
- These epigenetic processes are more vulnerable to environmental factors such as radiation, temperature, pesticide exposure, dietary choices, toxic metals, viruses, stressful life events, etc.
- EMF/sleep disturbances

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## Diet and Gastrointestinal (GI) issues

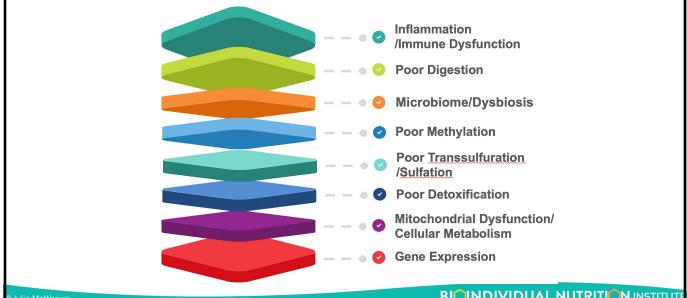
- Food allergies/sensitivities
- Yeast over-growth – Alcohol Intoxification
- Casomorphins and Glucomorphines
- Dysbiosis
- Sugar
- Hypoglycemia
- Malabsorption or poor digestion

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## Underlying Factors of BioIndividual Nutrition

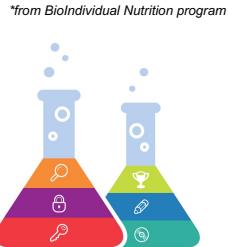
\*from BioIndividual Nutrition program



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## Natural Food Compounds

- Salicylates & phenols
- Histamines & amines
- Glutamate
- Oxalates
- FODMAPS
- Food allergens/sensitivities
- Di- and polysaccharides
- Yeast containing foods
- Nightshades
- Sulfur/thiol foods
- Purines
- Lectins & phytates



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## 28 Diets

- GFCFSF
- SCD
- GAPS
- Paleo
- Autoimmune paleo
- Low salicylate
- Low amine
- Low histamine
- Low glutamate
- Low oxalate
- Low FODMAPs
- Body Ecology Diet
- Ketogenic diet
- MCT ketogenic
- Modified Atkins
- Raw food diet
- Vegetarian diet
- Vegan diet
- Low glycemic diet
- Sugar-free diet
- Low starch diet
- Nightshade free
- Low lectin
- Low sulfur
- Low purine
- Rotation diet
- Elimination diet
- Carnivore diet

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## Reactions to Gluten and Casein

- IgE mediated allergy
- IgG reactions
- Possible opiate response
- Zonulin – leaky gut
- Inflammatory response
- Autoimmune response
- Cerebral Folate Deficiency (from Folate Receptor Antibody)
- Other possible reactions

## SCD/GAPS Diet How the Diets Work

- Removes disaccharides and polysaccharides that without the proper enzymes and absorption can become food for bacteria/dysbiosis, causing inflammation, pain, diarrhea, constipation, gas.
  - Which can affect the brain
- Breaks the cycle of feeding bacteria, helps with gut healing, relief of foods causing damaging, and encourages re-balancing of bacteria.

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## Salicylates, Amines, Glutamates



- Artificial Phenols
  - Artificial colors, flavors, preservatives, propionic acid
- Salicylates
  - Phenols occurring in plant foods
  - Poor sulfation – depression and other mental health challenges
- Amines
  - Histamine, inflammatory
  - Tyramine - amine containing foods
- Glutamate - Excitatory

## Salicylate, Amine, and Glutamate Foods

### Salicylates

- Berries
- Apples
- Grapes
- Tomato
- Almonds
- Honey
- Avocado
- Spinach
- Cantaloupe
- Watermelon
- Dates
- Herbs and spices

### Amines

- Banana
- Cheese, yellow
- Aged or blue cheese
- Chocolate/cocoa
- Wine/beer
- Fermented foods: sauerkraut, yogurt, tempeh
- Soy sauce
- Bone broths
- Meat and aged meat

### Glutamates

- MSG
- Autolyzed yeast
- Soy sauce
- Parmesan cheese
- Vegemite/Marmite
- Sauerkraut
- Bone broths
- Gelatin
- Peas
- Corn
- Tomatoes

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## Reactions with Oxalate

- Oxalate can bind calcium forming crystals that may have sharp edges – causing pain and inflammation
- When not bound to calcium, oxalate impairs mitochondrial function, disrupts minerals, and creates oxidative stress
- 3-fold greater plasma oxalate in children with autism and 2.5 fold in urine. 1

Konstantynowicz, J., et al. (2012). A potential pathogenic role of oxalate in autism. European Journal of Paediatric Neurology, 16(5), 485-491.

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## High Oxalate Foods

- Nuts
- Beans, most
- Beets
- Figs
- Rhubarb
- Swiss chard
- Field greens
- Spinach
- Amaranth & buckwheat
- Soy
- Sweet potatoes
- Some berries - Goose berries, raspberries and blackberries
- Chocolate
- Citrus peel
- Kiwi and starfruit
- Tea

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## An Orthomolecular Approach to Treatment

- All natural (non-pharmaceutical) approach
- Targeted Nutrient Therapy
- Singular treatment modality at Mensah Medical since 2008
- 85% of patients see significant improvement, if not complete elimination, in symptoms
  - Some of the 15% failure rate is attributable to non-compliance

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## Comprehensive Evaluation

- What is out of balance?
  - Nutrient overloads and deficiencies
- Metal regulation and dysregulation
- Environmental and epigenetic factors
- Gastrointestinal (GI) issues including food allergies/sensitivities and malabsorption
- Testing for methylation disorders
  - Histamine evaluation
- Pyrrole Disorder
  - Oxidative Stress/Inflammation

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## Overview of Treatment

- Physical Examination
- Extensive Patient History
- Specialized Laboratory Testing (blood and urine)
- Diet and Gastro-intestinal (GI) issues
- **Advanced Nutrient Therapy** protocols are prescribed at the appropriate therapeutic level to target the patient's specific needs in order to correct underlying biochemical imbalances
- Complimentary/combined pharmacological and biochemical treatments may be necessary
- Nurse/Physician Follow-Up Care



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## Benefits (and Risks) of Nutrient Therapy

- Supplements are all-natural
- Minimal side effects
- Complementary to “traditional” Medicine
- Customizable to individual biochemistry
- Typically less expensive than pharmaceutical treatments
- Based on decades of research and treatment history
- 85% success rate (some of 15% attributed to non-compliance)
- Must be prescribed by experienced orthomolecular doctor

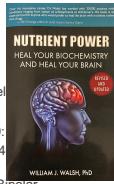


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## The Evidence Is Out There!

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## Conclusions...

### Nutrients...

1. Are Powerful
2. Need to be Bioindividual
3. Imbalances cause mental health including anxiety and depression

➤ **Addressing specific, bioindividual needs can bring about profound improvement in our clients or patients.**

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## Resources

- Advanced Training in BioIndividual Nutrition and Pediatrics/Autism with Julie Matthews
  - BioindividualNutrition.com (Practitioner training)
  - NourishingHope.com (Parents/individuals with autism & ADHD)
- Nutrition & Special Diets
  - MensahMedical.com
  - MensahResearch.org
- Clinical support and research with Dr. Mensah
  - MensahMedical.com
  - MensahResearch.org
- Advanced Lab Testing with DHA Lab
  - dhalab.com
- Customized Supplementation with Village Green
  - MyVillageGreen.com

## Contact us....

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