

## **JANUARY 2021: ALZHEIMER'S & COGNITIVE DECLINE**

**\*Please review content and handout materials from A Functional Medicine Approach for Preventing Alzheimer's Disease & Cognitive Decline to prepare for the January Supervisions**

### THE COURSE:

#### A FUNCTIONAL MEDICINE APPROACH FOR PREVENTING ALZHEIMER'S DISEASE and COGNITIVE DECLINE

The global burden of Alzheimer's and other neurodegenerative disorders is massive. Attempts to find viable pharmaceutical cures have, thus far, failed, and the tolls borne by victims and family members remain incalculable.

Research has confirmed Alzheimer's to have a substantial prodrome, which is cause for hope. A prodrome represents an opportunity to steer neurologic aging towards health, and to modify certain etiologic factors while they remain modifiable. Such factors are tools that can be wielded to potentially significant effect in a functional model centered upon prevention.

This course presents a novel paradigm for the prevention of Alzheimer's and cognitive decline. It examines the pathophysiology of neurodegenerative illness from a systems biology framework, focusing on biochemical abnormalities contributing to neuronal dysfunction that are modifiable at prodromal stages and are, accordingly, viable functional treatment targets. Research supporting the use of evidence-based nutritional interventions as part of a preventative approach will be reviewed, and the mechanisms through which these interventions confer neuroprotection elucidated.

### **January 6<sup>th</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Hara Y et al. Evaluation of the neuroprotective potential of N-Acetylcysteine for prevention and treatment of cognitive aging and dementia. *J Prev Alzheimers Dis.* 2017;4(3):201-206.

Jayedi A et al. Vitamin D status and risk of dementia and Alzheimer's disease: a meta-analysis of dose-response<sup>†</sup>. *Nutr Neurosci.* 2019 Nov;22(11):750-759.

Alam P et al. Vitamin B12 offers neuronal cell protection by inhibiting A $\beta$ -42 amyloid fibrillation. *Int J Biol Macromol.* 2017 Jun;99:477-482.

Smith AD et al. Homocysteine and dementia: an international consensus statement. *J Alzheimers Dis.* 2018;62(2):561-570.

### **January 20<sup>th</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Small GW et al. Memory and brain amyloid and tau effects of a bioavailable form of curcumin in non-demented adults: a double-blind, placebo-controlled 18-month trial. *Am J Geriatr Psychiatry.* 2018 Mar;26(3):266-277.

Wang YJ et al. Consumption of grape seed extract prevents amyloid-beta deposition and attenuates inflammation in brain of an Alzheimer's disease mouse. *Neurotox Res.* 2009 Jan;15(1):3-14.

Greenblatt J. Alzheimer's redefined: nutritional lithium as the foundation for prevention. Excerpted from: Greenblatt J. *Integrative medicine for Alzheimer's.* Victoria, BC: FriesenPress; 2018.

# **FEBRUARY 2021: ADDICTION**

**\*Please review content  
and handout materials  
from Functional &  
Integrative Medicine  
for Addiction to  
prepare for the  
February Group  
Supervisions**

## THE COURSE:

### FUNCTIONAL & INTEGRATIVE MEDICINE FOR ADDICTION

This six-module course elucidates a comprehensive functional medicine approach to the treatment of substance use disorders, targeting reward-pathway dysregulation and the many nutritional deficiencies associated with addiction that can alter brain function and further entrench addiction.

Integrating mainstream approaches such as MAT and psychotherapy with evidence-based functional approaches such as nutrient therapy, acupuncture, and mindfulness, this course provides clinicians with a roadmap for navigating disorders of addiction and bringing patients into balance.

## **February 10<sup>th</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

Blum K et al. Neuronutrient amino-acid therapy protects against reward deficiency syndrome: dopaminergic key to homeostasis and neuroplasticity. *Curr Pharm Des.* 2016;22(38):5837-5854.

El-Hadidy MA, Al-Mogy A, Elsamanoudy AZ, El-Gilany AH. Methylene tetra hydrofolate reductase C677T gene polymorphism in heroin dependence. *J Addict Res Ther.* 2015;6:2.

Ham BJ, Choi IG. Psychiatric implications of nutritional deficiencies in alcoholism. *Psychiatry Investig.* 2005;2(2):44-59.

## **February 24<sup>th</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

Meckel KR, Kiraly DD. A potential role for the gut microbiome in substance use disorders. *Psychopharmacology (Berl).* 2019 May;236(5):1513-1530..

Milton AL, Everitt BJ. The persistence of maladaptive memory: addiction, drug memories and anti-relapse treatments. *Neurosci Biobehav Rev.* 2012 Apr;36(4):1119-39.

Narasimha VL et al. Pellagra and alcohol dependence syndrome: findings from a tertiary care addiction treatment centre in India. *Alcohol Alcohol.* 2019 Mar 1;54(2):148-151.

Pruimboom L, de Punder K. The opioid effects of gluten exorphins: asymptomatic celiac disease. *J Health Popul Nutr.* 2015 Nov 24;33:24.

## **MARCH 2021: BIPOLAR DISORDER**

**\*Please review content and handout materials from Functional & Integrative Medicine for Bipolar Disorder to prepare for the March Group Supervisions**

### THE COURSE:

#### FUNCTIONAL & INTEGRATIVE MEDICINE FOR BIPOLAR DISORDER

This unique course elucidates a novel functional medicine model for the treatment of BD, of which medication is just one of several therapeutic pillars. Approved pharmaceuticals for mania, depression, mixed-episodes, and maintenance will be reviewed in detail, after which the course will explore biochemical abnormalities associated with BD that open the doors to functional interventions. Genetics, nutritional deficiencies that impact neurotransmission and signaling cascades, mitochondrial dysfunction, and other factors will be examined, as will evidence-based interventions that address intrinsic imbalances, support balanced neurochemical signaling, and optimize affective regulation.

Clinical pearls and concept-to-application bridges are proffered throughout the course, which together support a paradigm of patient-provider collaboration wherein the greatest therapeutic successes may be realized.

#### **March 10<sup>th</sup>, 2021 Group Supervision**

##### RECOMMENDED READINGS:

Chakrabarti S. Treatment alliance and adherence in bipolar disorder. *World J Psychiatry*. 2018 Nov 9;8(5):114-124.

Pipich MG. Bipolar disorder and suicide: what 12,000 lives can teach us. *Psychology Today*. <https://www.psychologytoday.com/us/blog/owning-bipolar/201908/bipolar-disorder-and-suicide-what-12000-lives-can-teach-us>. Published August 30, 2019.

Post RM, Altshuler LL, Kupka R et al. Multigenerational transmission of liability of psychiatric illness in offspring of parents with bipolar disorder. *Bipolar Disord*. 2018;20:432-440.

#### **March 24<sup>th</sup>, 2021 Group Supervision**

##### RECOMMENDED READINGS:

Rowland TA, Marwaha S. Epidemiology and risk factors for bipolar disorder. *Ther Adv Psychopharmacol*. 2018 Apr 26;8(9):251-269.

Carta MG et al. The burden of depressive and bipolar disorders in celiac disease. *Clin Pract Epidemiol Ment Health*. 2015 Dec 31;11:180-5.

Rosenblat JD, McIntyre RS. Bipolar disorder and immune dysfunction: epidemiological findings, proposed pathophysiology and clinical implications. *Brain Sci*. 2017 Oct 30;7(11):144.

Łojko D, Owecki M, Suwalska A. Impaired glucose metabolism in bipolar patients: the role of psychiatrists in its detection and management. *Int J Environ Res Public Health*. 2019 Mar 29;16(7):1132.

# APRIL 2021: IRRITABILITY, NSSI, & AGGRESSION

**\*Please review content and handout materials from Functional & Integrative Medicine for Irritability, Anger, Non-Suicidal Self-Injury & Aggression to prepare for the April Group Supervisions**

## THE COURSE:

### FUNCTIONAL & INTEGRATIVE MEDICINE FOR IRRITABILITY, ANGER, NON-SUICIDAL SELF- INJURY, & AGGRESSION

This course examines the etiology and pathophysiology of chronic **irritability, anger, & aggression**, demonstrated by research to be prognostic of treatment outcomes and thus key targets of functional psychiatry interventions.

Additionally, this course examines **non-suicidal self-injury**, serious behavioral presentations often indicative of biochemical imbalances impacting brain function. Fellows will learn a functional medicine approach to testing and treatment that prioritizes these serious symptoms in order to optimize therapeutic outcomes.

## **April 7<sup>th</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

Elbert T et al. Lust for violence: appetitive aggression as a fundamental part of human nature. *Neuroforum*. 2017;23(2):A77-A84.

Johnson SB et al. Adolescent maturity and the brain: the promise and pitfalls of neuroscience research in adolescent health policy. *J Adolesc Health*. 2009 Sep;45(3):216-21.

Marchant A et al. A systematic review of the relationship between internet use, self-harm and suicidal behaviour in young people: the good, the bad and the unknown. *PLoS One*. 2017 Aug 16;12(8):e0181722.

McDermott J. The connection between concussions, CTE and acts of violence. *MelMagazine*. <https://melmagazine.com/en-us/story/the-connection-between-concussions-cte-and-acts-of-violence-2>.

## **April 21<sup>st</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

Orri M et al. Association of childhood irritability and depressive/anxious mood profiles with adolescent suicidal ideation and attempts. *JAMA Psychiatry*. 2018 May 1;75(5):465-473.

Vilibić M et al. Association between total serum cholesterol and depression, aggression, and suicidal ideations in war veterans with posttraumatic stress disorder: a cross-sectional study. *Croat Med J*. 2014 Oct;55(5):520-9.

Avena NM et al. Evidence for sugar addiction: behavioral and neurochemical effects of intermittent, excessive sugar intake. *Neurosci Biobehav Rev*. 2008;32(1):20-39.

## **MAY 2021: SUICIDE PREVENTION**

**\*Please review content  
and handout materials  
from Biological  
Models for Suicide  
Prevention to prepare  
for the May Group  
Supervisions**

### THE COURSE:

#### BIOLOGICAL MODELS FOR SUICIDE PREVENTION

Suicide is the observable result of what is often a complex array of problems. Strong scientific evidence suggests that suicide risk is moderated by underlying biochemical abnormalities and environmental factors, which together can impact brain structure and function. Brain alterations that accrue as a result can place an individual along a path towards tragedy. In being a phenomenon that science has shown to involve myriad endogenous and exogenous factors, however, suicidality – and psychiatric disorders that confer increased risk – invites an integrative approach that may offer at-risk patients the best opportunity for recovery.

This course introduces a biological model for suicide prevention, one in which the concept of suicidality as the result of underlying biochemical, nutritional, genetic, and environmental factors is explored. Research illustrating the benefits of nutritional supplementation to mitigate risk factors are presented; evidence-based interventions are described; and a treatment approach centered upon objective biologic measurement and a concept of biochemical individuality is presented.

### **May 5<sup>th</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Greenblatt JM. *Suicide prevention redefined: opportunities for change*. Mad in America.

Whitaker R. *Suicide in the age of Prozac*. *Mad in America*. Published August 6, 2018

Du J et al. The role of nutrients in protecting mitochondrial function and neurotransmitter signaling. *Crit Rev Food Sci Nutr*. 2016 Nov 17;56(15):2560-2578.

Palmer A, Cates ME, Gorman G. The association between lithium in drinking water and incidence of suicide across 15 Alabama counties. *Crisis*. 2019 Mar;40(2):93-99.

### **May 19<sup>th</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Grudet C et al. Suicidal patients are deficient in Vitamin D, associated with a pro-inflammatory status in the blood. *Psychoneuroendocrinology*. 2014 Dec;50:210.

Dolsen MR et al. Suicidal ideation and suicide attempts: associated with sleep duration, insomnia, and inflammation. *Psychol Med*. 2020 Apr 23:1-10. doi: 10.1017/S0033291720000860

McDermott J. The connection between concussions, CTE and acts of violence. *Melmagazine.com*. nd.

Zhang L et al. Genetic predictor of current suicidal ideation in US service members deployed to Iraq and Afghanistan. *J Psychiatr Res*. 2019 Jun;113:65-71.



## **JUNE 2021: LOW-DOSE NUTRITIONAL LITHIUM**

**\*Please review content  
and handout materials  
from Low-Dose  
Nutritional Lithium to  
prepare for the June  
Group Supervisions**

### THE COURSE:

#### LOW-DOSE NUTRITIONAL LITHIUM

Whenever the word “lithium” is mentioned in medical or psychiatric circles, it tends to inspire more questions than answers. Is it safe, or toxic? Is it a medicine, a nutrient, or both?

As with so many other substances found in nature, lithium possess a dyadic association with human biology. At certain concentrations, lithium is toxic to us; at others, it is a medicine celebrated since the early 20<sup>th</sup> century for its ability to stabilize mood. And yet this is not the end of lithium’s story, for a growing body of research literature and clinical evidence suggests that this humble mineral may in fact be one of the most promising treatments available for a range of psychiatric and neurodegenerative disorders. More, the body of literature underscores an increasingly robust rationale for the existence of a lithium deficiency state in susceptible individuals. The closer we look at lithium, the more essential it reveals itself to be for human health.

This two-module course will take fellows on a fascinating journey in search of the truths and clinical therapeutic potentials of lithium.

### **June 9<sup>th</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Greenblatt JM. Alzheimer’s redefined: nutritional lithium as the foundation for prevention. *Townsend Letter*. 2019 Oct;62-66.

Kerr F, Bjedov I, Sofola-Adesakin O. Molecular mechanisms of lithium action: switching the light on multiple targets for dementia using animal models. *Front Mol Neurosci*. 2018 Aug 28;11:297.

Beurel E, Jope RS. Inflammation and lithium: clues to mechanisms contributing to suicide-linked traits. *Transl Psychiatry*. 2014 Dec 16;4:e488.

### **June 23<sup>rd</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Kanehisa M, Terao T, Shiotsuki I et al. Serum lithium levels and suicide attempts: a case-controlled comparison in lithium therapy-naive individuals. *Psychopharmacology (Berl)*. 2017 Nov;234(22):3335-3342.

Zanni G, Goto S, Fragopoulou AF et al. Lithium treatment reverses irradiation-induced changes in rodent neural progenitors and rescues cognition. *Mol Psychiatry*. 2019 Nov 14. doi: 10.1038/s41380-019-0584-0. [Epub ahead of print]

Szklarska D, Rzymiski P. Is Lithium a micronutrient? From biological activity and epidemiological observation to food fortification. *Biol Trace Elem Res*. 2019 May;189(1):18-27.

## **JULY 2021: DEPRESSION**

**\*Please review content and handout materials from Functional & Integrative Medicine for Depression to prepare for the July Group Supervisions**

### THE COURSE:

#### FUNCTIONAL & INTEGRATIVE MEDICINE FOR DEPRESSION

This course is intended for clinicians of all specialties who seek to redefine the model by which they characterize, assess, and treat depressive illness.

Through four separate modules, a functional medicine model of depression will be introduced, one in which depression is understood to arise from underlying biologic abnormalities associated with nutritional, metabolic, genetic, and environmental factors. Recommendations for testing and augmentation strategies will be provided alongside research elucidating the roles that key nutrients play in maintaining neurologic health, providing fellows with evidence-based, integrative strategies that can be incorporated into existing therapeutic protocols.

### **July 7<sup>th</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Greenblatt JM. Psychiatry redefined: integrative medicine for depression [excerpts from: *Integrative medicine for depression: a breakthrough treatment plan that eliminates depression naturally*]. Victoria, BC: FriesenPress; 2019.

Liang S, Wu X, Jin F. Gut-brain psychology: rethinking psychology from the microbiota-gut-brain axis. *Front Integr Neurosci*. 2018 Sep 11;12:33.

Hibbeln JR, Gow RV. The potential for military diets to reduce depression, suicide, and impulsive aggression: a review of current evidence for omega-3 and omega-6 fatty acids. *Mil Med*. 2014 Nov;179(11 Suppl):117-28.

### **July 21<sup>st</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Li H, Sun D, Wang A et al. Serum 25-hydroxyvitamin D levels and depression in older adults: a dose-response meta-analysis of prospective cohort studies. *Am J Geriatr Psychiatry*. 2019 Nov;27(11):1192-1202.

Milanlioğlu A. Vitamin B12 deficiency and depression. *J Clin Exp Invest*. 2011;2(4):455–456.

Wang J, Um P, Dickerman BA, Liu J. Zinc, magnesium, selenium and depression: a review of the evidence, potential mechanisms and implications. *Nutrients*. 2018 May 9;10(5). pii: E584. doi: 10.3390/nu10050584.

# **AUGUST 2021: MEDICATION SIDE-EFFECTS**

**\*Please review content and handout materials from Functional & Integrative Protocols for Managing Medication Side-Effects to prepare for the August Group Supervisions**

## **THE COURSE: FUNCTIONAL & INTEGRATIVE PROTOCOLS FOR MANAGING MEDICATION SIDE-EFFECTS**

This course presents a functional medicine model for the reduction and elimination of side-effects in patients taking psychotropic drugs. Fellows will be provided with an overview of pharmaceutical use in mainstream psychiatry, and the unprecedented steps that some patients are now taking to get themselves off medication. A rationale for a slow taper, secondary to functional assessment per THE ZEEBRA approach, will be presented as a protocol for discontinuation and elimination of withdrawal effects. Thereafter, interventions for the amelioration of medication-induced weight gain and sexual dysfunction will be reviewed. Gene variants associated with medication-induced weight gain will be discussed, and the clinical utility of gene testing for minimizing weight-related side-effects will be elucidated. Finally, tardive dyskinesia (TD) will be explored: biologic factors linked to its pathogenesis, mainstream treatment options, and functional medicine approaches for symptom resolution. Nutritional interventions with a proven track record of success in eliminating TD will be introduced, along with recommendations for dosing and titration. The course will conclude with an open-minded discussion about the role medications should play in today's functional psychiatry practice.

### **August 4<sup>th</sup>, 2021 Group Supervision**

#### **RECOMMENDED READINGS:**

Read J et al. How many of 1829 antidepressant users report withdrawal effects or addiction? *Int J Ment Health Nurs*. 2018 Dec;27(6):1805-1815.

Ostrow L et al. Discontinuing psychiatric medications. *Psychiatr Serv*. 2017 Dec 1;68(12):1232-1238.

Carey B, Gebeloff R. Many people taking antidepressants discover they cannot quit. *The New York Times*. Published April 7, 2018.

### **August 18<sup>th</sup>, 2021 Group Supervision**

#### **RECOMMENDED READINGS:**

Forsman J, Masterman T, Ahlner J, Isacson G, Hedström AK. Selective serotonin re-uptake inhibitors and the risk of violent suicide: a nationwide postmortem study. *Eur J Clin Pharmacol*. 2019 Mar;75(3):393-400.

Wilson E, Lader M. A review of the management of antidepressant discontinuation symptoms. *Ther Adv Psychopharmacol*. 2015 Dec;5(6):357-68.

Greenfield B. In recovery – from antidepressants. How patients are helping each other withdraw. *Yahoo!Life*.

<https://www.yahoo.com/lifestyle/recovery-antidepressants-patients-helping-withdraw-130646526.html>. Published January 3, 2019.



# SEPTEMBER 2021: ANXIETY

**\*Please review content and handout materials from Functional & Integrative Medicine for Anxiety to prepare for the September Group Supervisions**

## THE COURSE:

### FUNCTIONAL & INTEGRATIVE MEDICINE FOR ANXIETY

This course provides a comprehensive introduction to a functional medicine model for the treatment of anxiety disorders. Following an empirically substantiated rationale for the de-prioritization of symptom classification, and a step away from pharmaceutical approaches, the viability of a functional approach will be elucidated through reviews of recent studies showing anxiety to be associated with nutritional deficiencies, neurotransmitter dysfunction, inflammation, and other endogenous factors. The mechanisms through which these factors affect changes in cognition and behavior will be explored, with an emphasis on the practical ramifications of biochemical individuality.

#### \*September 1<sup>st</sup>, 2021 Session Focus: OCD

In this Supervision, Obsessive-Compulsive Disorder will be examined from a functional medicine perspective, and research revealing compelling evidence for a biologic model of OCD will be presented.

#### \*September 15<sup>th</sup>, 2021 Session Focus: ANXIETY (general)

## **September 1<sup>st</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

Greenblatt J. Integrative therapies for obsessive compulsive disorder. *Psychiatry Redefined*. <https://www.psychiatryredefined.org/integrative-therapies-for-obsessive-compulsive-disorder/>. Published October 14, 2019.

Greenblatt J. Clinical uses of inositol in psychiatry. *ProThera® Nutraceutical News*. 2003 Spring; 1(1):5-6.

Larrieu T, Layé S. Food for mood: relevance of nutritional omega-3 fatty acids for depression and anxiety. *Front Physiol*. 2018 Aug 6;9:1047.

## **September 15<sup>th</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

Aylett E, Small N, Bower P. Exercise in the treatment of clinical anxiety in general practice - a systematic review and meta-analysis. *BMC Health Serv Res*. 2018 Jul 16;18(1):559.

Lee JLC, Bertoglio LJ, Guimarães FS, Stevenson CW. Cannabidiol regulation of emotion and emotional memory processing: relevance for treating anxiety-related and substance abuse disorders. *Br J Pharmacol*. 2017 Oct;174(19):3242-3256.

Shannahoff-Khalsa DS. An introduction to Kundalini yoga meditation techniques that are specific for the treatment of psychiatric disorders. *J Altern Complement Med*. 2004 Feb;10(1):91-101.

# OCTOBER 2021: ADHD

**\*Please review content and handout materials from Functional & Integrative Medicine for ADHD to prepare for the October Group Supervisions**

## THE COURSE:

### FUNCTIONAL & INTEGRATIVE MEDICINE FOR ADHD

Scientific evidence confirms ADHD to be a neurologic, brain-based disorder represented by numerous biological abnormalities. What is observable as atypical behavior is merely the tip of an iceberg that extends down to an individual's unique biochemical makeup. Certain nutritional imbalances, which can profoundly impact cognition and behavior, are significantly correlated with this common disorder. Diet, micronutrient status, and individual biochemistry, however, are frequently overlooked or excluded from "typical" ADHD assessment and treatment protocols.

Fortunately, addressing nutritional imbalances with a functional medicine approach has proven effective in treating ADHD. This three-module course introduces the breakthrough *Plus/Minus Plan* for ADHD and provides a comprehensive overview of the biochemistry 'beneath' the disorder. Dietary interventions and augmentation strategies for the mitigation of specific nutrient deficiencies will be reviewed, as well as recommendations for going "beyond biochemistry" to enhance treatment outcomes.

## **October 6<sup>th</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

Greenblatt J. Finally focused: mineral imbalances and ADHD (part 1: zinc deficiency & copper excess). *Psychiatry Redefined*. <https://www.psychiatryredefined.org/articles/>. Published July 1, 2019.

Greenblatt J, Dimino J, Lee WT. Oligomeric proanthocyanidins (OPCs) for the treatment of Attention-Deficit/Hyperactivity Disorder. *The Neuropsychotherapist*. 2017;5(5):24-42.

Wang LJ, Yang CY, Chou WJ et al. Gut microbiota and dietary patterns in children with attention-deficit/hyperactivity disorder. *Eur Child Adolesc Psychiatry*. 2019 May 22. doi: 10.1007/s00787-019-01352-2. [Epub ahead of print].

## **October 20<sup>th</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

López-Vicente M, Ribas Fitó N, Vilor-Tejedor N et al. Prenatal Omega-6:Omega-3 Ratio and Attention Deficit and Hyperactivity Disorder Symptoms. *J Pediatr*. 2019 Jun;209:204-211.e4.

Arbuckle TE, Davis K, Boylan K, Fisher M, Fu J. Bisphenol A, phthalates and lead and learning and behavioral problems in Canadian children 6-11 years of age: CHMS 2007-2009. *Neurotoxicology*. 2016 May;54:89-98.

Choi WJ, Kwon HJ, Lim MH, Lim JA, Ha M. Blood lead, parental marital status and the risk of attention-deficit/hyperactivity disorder in elementary school children: A longitudinal study. *Psychiatry Res*. 2016 Feb 28;236:42-46.

# NOVEMBER 2021: EATING DISORDERS

**\*Please review content  
and handout materials  
from Functional &  
Integrative Medicine  
for Anorexia and  
Functional &  
Integrative Medicine  
for Binge-Eating  
Disorder to prepare  
for the November  
Group Supervisions**

## THE COURSES:

### FUNCTIONAL & INTEGRATIVE MEDICINE FOR EATING DISORDERS

With a combined mortality rate exceeding that of any other mental illness, eating disorders (EDs) represent a serious challenge to today's clinicians. Whether pharmaceutical or psychologic, interventions comprising mainstream psychiatry's therapeutic arsenal for the treatment of anorexia nervosa, bulimia nervosa, and binge-eating disorder are, together, inadequate, as evidenced by consistently high rates of relapse across diagnoses. *We can do better.*

Instead of focusing exclusively on psychologic factors, we can examine the *body* as well as the mind, for biologic testing reveals EDs to be characterized by a host of physiologic abnormalities that affect brain function and contribute to the emergence of a disease state. While EDs initially present as preoccupation with food and weight, they ultimately become brain-based disorders marked by profound malnutrition.

These courses review current ED models and present a functional medicine approach to treatment. New research illustrating the benefits of nutritional supplementation – with a special emphasis on zinc and essential fatty acids - to enhance treatment outcomes and support relapse prevention is explored.

## **November 3<sup>rd</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

- Greenblatt J, Delane DD. Zinc supplementation in Anorexia Nervosa. *J Orthomol Med.* 2018;33(1).
- Greenblatt J. Integrative medicine for binge eating. *Psychiatry Redefined.* Published 2019.
- Herpertz-Dahlmann B et al. Food matters: how the microbiome and gut-brain interaction might impact the development and course of anorexia nervosa. *Eur Child Adolesc Psychiatry.* 2017 Sep;26(9):1031-1041.
- Torrezan R et al. Monosodium l-glutamate-obesity onset is associated with disruption of central control of the hypothalamic-pituitary-adrenal axis and autonomic nervous system. *J Neuroendocrinol.* 2019 Jun;31(6):e12717.

## **November 17<sup>th</sup>, 2021 Group Supervision**

### RECOMMENDED READINGS:

- Watson HJ et al. Genome-wide association study identifies eight risk loci and implicates metabo-psychiatric origins for anorexia nervosa. *Nat Genet.* 2019 Aug;51(8):1207-1214.
- Shih PB. Integrating multi-omics biomarkers and postprandial metabolism to develop personalized treatment for anorexia nervosa. *Prostaglandins Other Lipid Mediat.* 2017 Sep;132:69-76.
- Smith KA et al. Symptomatic relapse in bulimia nervosa following acute tryptophan depletion. *Arch Gen Psychiatry.* 1999 Feb;56(2):171-6.

## **DECEMBER 2021: SCHIZOPHRENIA & PSYCHOSIS**

**\*Please review content  
and handout materials  
from Functional &  
Integrative Medicine  
for Schizophrenia &  
Psychosis to prepare  
for the December  
Group Supervisions**

### THE COURSE:

#### FUNCTIONAL & INTEGRATIVE MEDICINE FOR SCHIZOPHRENIA & PSYCHOSIS

Schizophrenia is a multifactorial psychiatric disorder producing a spectrum of symptoms that range from odd-but-harmless behavioral abnormalities to full clinical psychosis. Such variable symptomatic presentations, in tandem with research supporting a biologic model of schizophrenia pathogenesis, invite functional medicine approaches to treatment that emphasize biochemical individuality and the mitigation of etiologic risk factors.

This five-module course incorporates the classical theories of orthomolecular medicine into modern nutritional psychiatry, presenting decades of research evidence supporting the efficacy of functional approaches to the treatment of schizophrenia. Micronutrient deficiencies, toxic neurochemical aggregations, systemic inflammation, and other etiologic factors will be elucidated in regard to the mechanisms through which they precipitate neurologic dysfunction, and addressed through comprehensive functional protocols that can be applied in clinical practice.

### **December 1<sup>st</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Leucht S et al. Sixty years of placebo-controlled antipsychotic drug trials in acute schizophrenia: systematic review, Bayesian meta-analysis, and meta-regression of efficacy predictors. *Am J Psychiatry*. 2017 Oct 1;174(10):927-942.

Firth J et al. Adjunctive nutrients in first-episode psychosis: a systematic review of efficacy, tolerability and neurobiological mechanisms. *Early Interv Psychiatry*. 2018 Oct;12(5):774-783.

Hoffer A. Nutrition and schizophrenia. *Can Fam Physician*. 1975 Apr;21(4):78-82.

Goff DC et al. The long-term effects of antipsychotic medication on clinical course in schizophrenia. *Am J Psychiatry*. 2017 Sep 1;174(9):840-849.

### **December 15<sup>th</sup>, 2021 Group Supervision**

#### RECOMMENDED READINGS:

Greenblatt J, Delane D. A functional perspective on gluten, psychosis and schizophrenia. *Psychiatry Redefined*. Published October 14, 2019.

Eyles DW et al. The association between neonatal vitamin D status and risk of schizophrenia. *Sci Rep*. 2018 Dec 6;8(1):17692.

Nguyen TT et al. Overview and systematic review of studies of microbiome in schizophrenia and bipolar disorder. *J Psychiatr Res*. 2018 Apr;99:50-61.

El-Hadidy MA et al. MTHFR gene polymorphism and age of onset of schizophrenia and bipolar disorder. *Biomed Res Int*. 2014;2014:318483.

## **IMPORTANT NOTICES REGARDING THE GROUP SUPERVISION SCHEDULE**

- **Dates for Group Supervision sessions are subject to change.** Any/all changes will be communicated to Fellows via email with as much advance notice as possible. We endeavor to confirm Group Supervisions up to four (4) months in advance.
- **Group Supervision dates for the 2022 calendar year will be confirmed by the end of September 2021.**