AAMP Spring 2024 – Neurodiversity Conference

18 AMA Cat-1 CE / ND: WA & HI Cat-1 (6.5 Pharmacology & 4.25 Ethics credits)

***CONO & BC ND Credit Applied for**

FRIDAY

7:00 – 8:00 **Breakfast**

MORNING THEME: Presentations and Approaches to Neurodiversity

8:00 – 8:15 **Jeremy Phillips** **Welcome & Introductory Remarks**

8:15 – 8:45 Dr. Anderson Neurodiversity: It's not what we were all taught (and that's a good thing!)

In medicine we like to keep things as linear and "in a box" as we can to make diagnosis and treatment as streamlined as possible. We often are taught when something is in a "spectrum" that it is like a 0 to 10 scale and a 2 is 'low level" and an 8 is "really bad". The spectra of neurodiversity (whether ASD, ADHD, PANS etc.) are more of a web than a scale. They all overlap, have different triggers, and most importantly being on one end of the spectrum is no better or worse than being on the other end of the spectrum – it's just different. As entrée to the specialty discussions, we need to identify the web that is neurodiversity so we can understand how to approach the patient in the most efficient and caring way possible.

8:45 – 9:15 Dr. Anderson Endogenous Neurotoxicity: An Orthomolecular Approach Part – 1 Sulfites and Salicylates

An area that is easy to overlook clinically, due to all the other demanding facets of the neurodiverse patient, is the triggering effect of endogenous neurotoxins. In this three-part series Dr. Anderson will break down the most common endogenous toxins, their effect on the nervous system, factors that aggravate them (diet, genomics, stress, etc.) and most importantly strategies to lower these toxic influences which are so common in the neurodiverse spectrum. These cross all types of neurodiverse presentations and are applicable to any patient.

9:15 – 10:15 Dr. Mary Rondeau ADHD: Beyond Dopamine

This session focuses on a new paradigm that considers both above-the-neck brain phenotypes and below-the-neck body phenotypes. By integrating assessments of individualized brain wave activity and physiological assessments, we aim to bring ADHD/ADD out of aged-conventional practices and into a more precise and personalized era of treatment. This session will explore how this dual approach can significantly refine the focus of interventions, departing from conventional trial-and-error methods and embracing advancements in neuroscience and personalized medicine.

10:15 – 11:00 **Break**

11:00 – 12:00 Dr. Steve Rondeau Embracing neuro-individuality through EEG

Embracing neuro-individuality through EEG is a transformative talk that delves into the world of neurodiversity, highlighting how quantitative electroencephalogram (qEEG) and machine learning models can be a pivotal tool in understanding and appreciating the unique wiring of neurodivergent brains. This presentation challenges the conventional approach of 'normalization', advocating for a paradigm shift towards recognizing and valuing neurological differences as a spectrum of natural human variation. Attendees will gain insights into how qEEG not only offers a window in the understanding of neurodiverse individuals but also promotes a more inclusive and holistic view of brain health and potential though precision treatment and environmental support. Still, providers need not integrate this tool to utilize key take aways from this discussion that will help in aid to identify unique EEG patterns that present with both talents and challenges clinically.

As the future of mental health moves away from the DSM's symptom-based categories for research and clinical diagnosis, the qEEG paves the trail as a clear tool for elucidating mental health. In support of this movement, the NIMH recently stated it will move away from funding research based on DSM categorizing. Objective measures using modern tools such as EEG and computer learning models providing actionable output that can be integrated into practice to validate both treatment success and predict failures while highlighting the strengths of neurodivergent individuals.

12:00 – 12:30 Medical Presentation – Non-CME Bob Miller

Superoxide, Ferroptosis and Intracellular Calcium in Neuroinflammation

Growing evidence supports a role for dysregulated neuroinflammation in many mental health challenges such as Autism. In this talk, we will examine how epigenetic and genetic mutations often combine to create high levels of intracellular calcium, Ferroptosis (iron-dependent cell death) and high levels of superoxide from multiple sources often combined with diminished reduction of superoxide.

12:30 – 1:45 **Lunch**

AFTERNOON THEME: Initial Targets of Therapeutics

1:45 – 2:45 Dr's Mary and Steve Rondeau Neurodiversity in practice: Case Discussions

This presentation will center around actual case illustrations, examples, including interactive patient input and the strategic formulation of treatment plans, aiming to assist clinicians in translating and transforming objective testing results into a coherent treatment roadmap for optimal and efficient mental health interventions. By integrating evidence-based medicine and showcasing clinical outcomes, clinicians will gain valuable insights to modernize their assessments and treatment guidelines.

2:45 – 3:15 Dr. Anderson Endogenous Neurotoxicity: An Orthomolecular Approach Part – 2 Aldehydes, Histamine, and Pyrroles

In Part-2 of this series Dr. Anderson will break down more endogenous toxins, their effect on the nervous system, factors that aggravate them (diet, genomics, stress, etc.) and most importantly strategies to lower these toxic influences which are so common in the neurodiverse spectrum. These cross all types of neurodiverse presentations and are applicable to any patient.

3:15 – 3:45 Medical Presentation – Non-CME Nayan Patel PharmD

The Use of Glutathione in Brain Health

Lecture will address causes of poor health, Neurodegenerative disease secondary to oxidative stress, Glutathione's role in delaying neurodegenerative disease, various forms of glutathione and PK of glutathione.

3:45 – 4:30 **Break**

4:30 – 5:00 Dr. Anderson Endogenous Neurotoxicity: An Orthomolecular Approach Part – 3 Oxalates and Nitrogen-Ammonia

In Part-3 of this series Dr. Anderson will tie up the discussion of these endogenous toxins, their effect on the nervous system, factors that aggravate them (diet, genomics, stress, etc.) and most importantly strategies to lower these toxic influences which are so common in the neurodiverse spectrum. These cross all types of neurodiverse presentations and are applicable to any patient.

5:00 – 5:30 Dr. Anderson Concepts in well-balanced Depuration and Detoxification

Throughout this conference you will hear each speaker relate the importance and necessity of depuration and detoxification in the neurodiverse patient. This discussion is designed to give you a base to start from even when a patient cannot implement a specific detoxification protocol due to time, finance, or any other reason. All other depuration and detoxification strategies can be built upon these principles.

5:30 – 6:00 **Clinical Panel – The broad, but unified, approach to the neurodiverse patient**

6:00 – 7:30 **Evening Reception and Book Signing**

SATURDAY

7:15 – 8:15 **Breakfast**

MORNING THEME: Neurodiversity Triggers and Treatments

8:15 – 9:35 Dr. Anderson: Dr. Rogers Prize Lecture - Specific Therapies for Brain Mitochondria – Orthomolecular & Beyond

Most pathology starts in the mitochondria. Obviously, there are many mitigating factors but at some point, in supporting the neurodiverse patient mitochondrial repair and support must be considered. In this discussion Dr. Anderson will discuss basic factors such as the nutrients that operate mitochondrial activity as well as specific interventions that may be warranted. These specific interventions include NAD (and NMN, NR, and Nicotinamide), Methylene Blue, Thiol Primers, Hormones, and other factors.

9:35 – 10:20 **Break**

10:20 – 11:50 Dr. Gannage Environmental factors including the impact of pesticides and metals on neurodevelopment

Early life exposures to environmental toxicants have a cumulative effect. The exposures increase the risk not only of neurodevelopmental disorders, but also program for adult neurological conditions. Dr. Gannage's presentation will explain this impact, with particular emphasis on toxic metals and pesticides, as well as strategies for mitigation.

11:50 – 12:00 Special Award Ceremony

12:00 – 12:30 Medical Presentation – Non-CME Maya Shetreat, M.D.

Beyond Pathologizing: How We Can Best Support the Gifts of Neurodivergence

Neurodivergence has been shown to act as a profound portal to greater sensitivity, perception, intuition and even giftedness. Yet those very gifts can mean greater risk of inflammation, reactivity, and other challenges posed by an unaccommodating world. Join pediatric neurologist, herbalist, and ceremonialist Dr. Shetreat to explore practical strategies that can support the unique physical, mental, emotional and spiritual terrain of the neurodivergent community.

12:30 – 1:45 **Lunch**

AFTERNOON THEME: Targets for Interventions

1:45 – 3:15 Dr. Gannage Diet interventions and cellular nutrition for ASD

ASD research points to the benefit of diet therapies and nutrients prescribed specifically for their impact on neurodevelopment. Discussion of oxidative stress, methylation support and mitochondrial dysfunction in ASD, from the perspective of cellular nutrition support, will be a focus. Core nutrients central to an ASD treatment protocol will be emphasized.

3:15 – 3:45 Medical Presentation – Non-CME Michelle Perro, M.D.

Neuroinflammation and the Microbiome - The Role of Botanicals in Modulating the Gut-Brain Axis

The gut-brain axis (GBA) connects the enteric nervous system and central nervous system through multiple communication pathways. It is bidirectional, meaning the microbiome and gastrointestinal tract influence the brain, and the brain, in turn, affects the gastrointestinal tract. This type of bidirectional communication is called "microbial endocrinology" or "interkingdom signaling" and describes the symbiotic and pathogenic relationships between the bacteria and mammalian host. Join Dr. Perro for a review of the fascinating relationship between the microbiome and neurological health. She will also share case studies, and botanical solutions for supporting microbial balance and the GBA.

3:45 – 4:30 **Break**

4:30 – 5:30 Dr. Crista PANS-PANDAS Part 1: Infectious and Environmental Triggers

PANS and PANDAS are changing the mental health landscape as we begin to understand that immune activity in the body affects the brain, its function, and a child's behavior. Part 1 of our discussion will cover the infectious and environmental triggers for PANDAS and PANS and their related mechanisms, as well as how to distinguish between each diagnosis.

5:30 – 6:00 **Clinical Panel – How do we clinically think about this population?**

6:00 – 7:30 **Evening Demonstration, Hors d'oeuvres & Interactive Workshops**

SUNDAY

7:30 – 8:30 **Breakfast**

MORNING THEME: The Neurodiverse Spectra of Autism and PANS-PANDAS

8:30 – 9:30 Dr. Crista PANS-PANDAS Part 2: Conventional Treatment Approaches

The diagnoses of PANS and PANDAS are only recently being recognized and identified in the medical literature, and unfortunately there's a paucity of clinical trial research. Part 2 of PANS/PANDAS will cover the currently accepted conventional treatment approach, primarily focusing on infection prevention, managing inflammation, and immune modulation. We'll cover the two sides of the tonsillectomy debate, and how to discern if it's appropriate for your patient.

9:30 – 10:30 Dr. Crista PANS-PANDAS Part 3: An Integrative Approach to Treatment

There is room and need for emerging treatments, as the current convention alone is not fully addressing the needs of many children with PANS or PANDAS. In Part 3, we'll review an integrative approach to treatment, building an understanding of how to weave in appropriate, safe, and effective natural therapeutics into the conventional approach.

10:30 – 11:15 **Break**

11:15 – 12:15 Dr. Kruppstadt Assessment and Diagnosis: From the current accepted definition of autism and the standard of medical care for evaluation and treatment, to a systems biology approach using case examples.

During this lecture, we will define the current accepted definition of autism and the standard of medical care for evaluation and treatment. Then, we will discuss from a systems biology approach the common deficiencies in BROAD terms involving inflammation, autophagy, detoxification, methylation, and mitochondria that help move a patient with autism away from imbalance and dysfunction. Several cases will be discussed showing the various causes of autism and treatment courses. You will have some take aways for Monday morning, when you return to your office!

12:15 – 1:15 **Lunch**

AFTERNOON THEME: Clinical Strategies you can take home and use

1:15 – 2:15 Dr. Kruppstadt Utilizing nutrigenomics in a "boots on the ground" systems biology approach (not overwhelming, like so many introductions to genetics) to intervene early on.

This discussion will be a deep dive into nutrigenomics covering specific areas that can be modulated to help correct deficiencies that are present. You'll also have some tips about how to recognize deficiencies without having precision genetics…such as, your patients get hangry….that means their autophagy is impaired! You'll walk away with tools to modulate inflammation without KNOWING their specific genetics…recognition without the genetics to BEGIN treatment when they walk in the door! However, testing is imperative.

2:15 – 3:15 Dr. Kruppstadt Testing echelons and alternative therapies that are needle movers:

This session will include examples of how to determine what testing to do when evaluating the patient presenting with neurodevelopmental challenges from basic labs (i.e. "standard insurance covered labs") to subspecialty testing. This session will help you prioritize your evaluation so that the patient receives the best return on investment, without adding to their inflammation!

3:15 – 3:30 **Brief Comfort Break**

3:30 – 4:00 Dr. Anderson What do we do Monday Morning?

These three days will have been a "drinking from the firehose" experience at times. That's natural as we have rearranged a lot of our prior thinking about neurodiversity, its causes, and approaches to helping the patients. In this session Dr. Anderson will present the main common threads anyone can use to anchor their assessment and approach to any patient in the neurodiverse spectrum.

4:00 – 4:30 **Clinical Panel – Coming to a unified concept of neurodiversity and employing that to help the most people possible.**

4:30 **Closing Remarks & Adjourn**