



Michelle Beidelschies, Ph.D.

USA

Michelle Beidelschies, PhD is Assistant Professor of Medicine at Cleveland Clinic Lerner College of Medicine, and Staff at Cleveland Clinic Center for Functional Medicine USA where she is an Investigator.

Dr. Beidelschies is responsible for developing the evidence base for the Functional Medicine model of care which uses a ‘food as medicine’ approach complemented with lifestyle interventions for the management of chronic diseases. Dr. Beidelschies is interested in how this approach can be used to manage or mitigate chronic diseases with an inflammatory etiology in both individual and shared medical appointment (e.g., weight management, autoimmune, diabetes, post-COVID syndrome, etc.) settings. Moreover, she is interested in its effects on symptom burden, biomedical outcomes and patient-reported outcomes (e.g., PROMIS-10). The Center also participates in numerous research studies developed independently or in collaboration with other Cleveland Clinic institutes.

Dr. Beidelschies received her PhD from the Department of Physiology and Biophysics at Case Western Reserve University in 2009. In 2010, she then completed a post-doctoral fellowship in the Department of Nutrition at Case Western Reserve University. Shortly thereafter, Dr. Beidelschies transitioned to industry where she held the position of Director of Education and Clinical Affairs at Cleveland Heart Lab, Inc., A Quest Diagnostics Company, until 2016 before transitioning to her current role at Cleveland Clinic. She has coauthored numerous peer-reviewed research publications in various high impact journals.

Summary of the presentation from Drs. Evans and Beidelschies: Coronavirus disease 2019 (or COVID-19) infection presents across a wide spectrum of severity, from asymptomatic to lethal. In severe cases, it unleashes a powerful, uncontrolled inflammatory response that potentiates underlying systemic, chronic inflammation, which is due to a patient’s exposure history (e.g., viruses, antigens, nutrients, smoking, activity level and stressors) and/or comorbidities (e.g., asthma, diabetes, hypertension, coronary artery disease, etc.). Patients with COVID-19 often experience systemic symptoms, including shortness of breath, muscle aches, runny nose and headache. A subset of patients may experience chronic or delayed symptoms 4-12 weeks after the diagnosis of COVID-19 commonly referred to as Post-Acute Sequelae of COVID-19 (PASC), or long COVID. Interventions which target inflammation and improve the physiologic imbalances associated with the comorbidities may be beneficial for the prevention and management of acute and chronic COVID-19. The functional medicine model of care utilizes a systems-based approach that looks “upstream” of a patient’s signs, symptoms and diagnosis and considers the complex web of interactions within a patient’s history, physiology, genetics, lifestyle and environment that contribute to their physical and mental functional status. In addition to acute allopathic interventions when needed, the foundation of functional medicine is the use of nutrition and lifestyle-based interventions to prevent, treat and reverse chronic diseases, many of which are driven by systemic chronic inflammation. This presentation will overview the functional medicine approach to the prevention and management of acute and chronic COVID-19. Nutrition and lifestyle-based interventions to target comorbidities, inflammation and other biochemical imbalances will be discussed, as well as the importance of maintaining immune system resilience. Moreover, preliminary outcomes associated with the delivery of a functional medicine approach in a virtual shared medical appointment setting will be discussed.