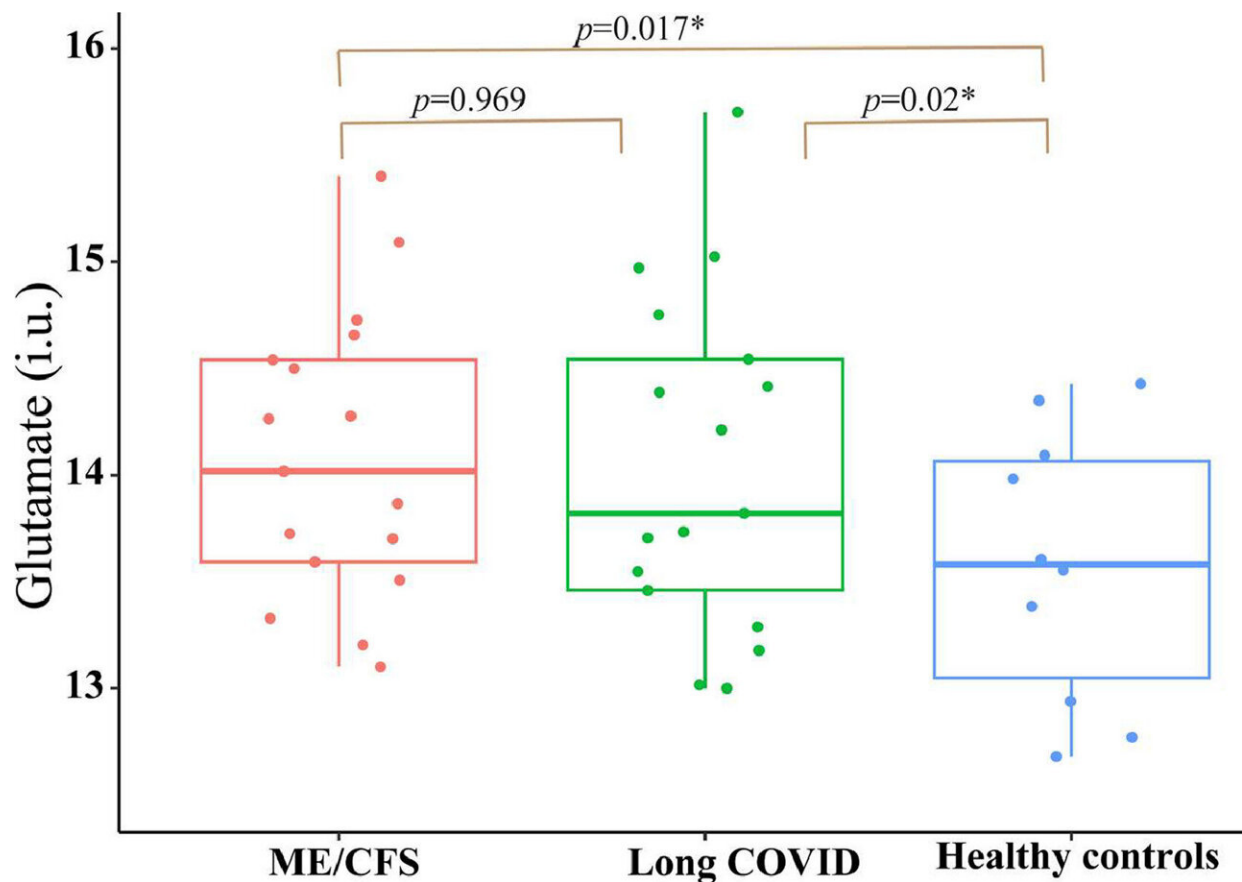


Study finds significant overlap in neurochemicals from long COVID and ME/CFS patients

April 15 2024, by Carley Rosengreen



Plots show absolute glutamate levels in the posterior cingulate cortex in ME/CFS (red) and long COVID (green) were greater than healthy controls (blue) and were

similar for ME/CFS and long COVID. Credit: *The American Journal of Medicine* (2024). DOI: 10.1016/j.amjmed.2024.04.007

Researchers at the National Center for Neuroimmunology and Emerging Diseases (NCNED) at Griffith University have directly compared brain neurochemical levels in long COVID and ME/CFS patients with healthy controls using MRI. The study, "Imbalanced Brain Neurochemicals in long COVID and ME/CFS: A Preliminary Study using MRI," has been [published](#) in the *American Journal of Medicine*.

The study's first author Dr. Kiran Thapaliya said "People with long COVID and ME/CFS have significantly elevated neurochemical levels, compared with healthy controls potentially causing multiple symptoms in both conditions.

"Long COVID and ME/CFS have a remarkably similar neurochemical signature, providing further evidence for a significant link between the two conditions.

"This novel study reveals the level of neurochemicals in the brain were associated with symptoms such as [cognitive impairment](#), unrefreshing sleep, pain, and physical limitation in long COVID and ME/CFS patients."

Director of the NCNED, Professor Sonya Marshall-Gradisnik, said, "These findings build upon our published novel findings in ME/CFS and long COVID.

"These latest findings published in *The American Journal of Medicine*,

provide greater insight into how neurochemicals may play a key role in the development and progression of these conditions.

"The NCNED has a critical mass of exceptionally talented researchers and clinicians who are committed to these patients.

"We are incredibly fortunate to have access to state-of-the-art technologies that enable us to produce wonderful scientific discoveries.

"We are uniquely positioned internationally to undertake scientific laboratory and MRI research in long COVID and ME/CFS in tandem, and monitor the health and economic impact of the patients as well as undertake [clinical trials](#)."

More information: Kiran Thapaliya et al, Imbalanced Brain Neurochemicals in long COVID and ME/CFS: A Preliminary Study using MRI, *The American Journal of Medicine* (2024). [DOI: 10.1016/j.amjmed.2024.04.007](#)

Provided by Griffith University

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