National Institutes of Health

NIH ME/CFS Newsletter

September 2024

Visit the NIH ME/CFS website

This newsletter provides updates and information about new and ongoing activities at the NIH related to myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS).

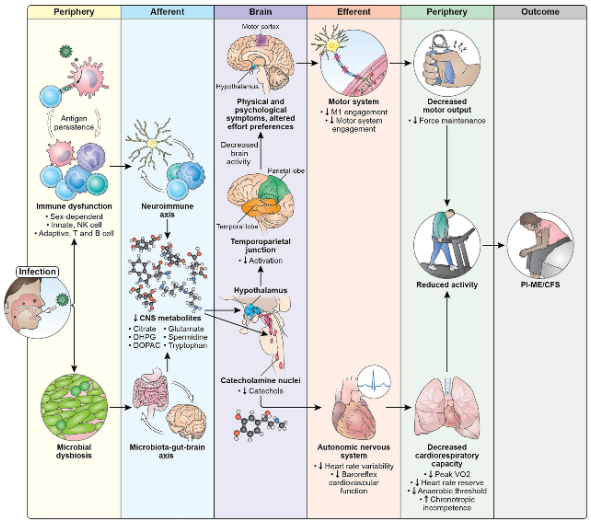
ME/CFS Research Roadmap Update

In May, NINDS approved the ME/CFS Research Roadmap, a report that identifies research priorities across eight areas of ME/CFS research, from the nervous and immune systems, to less studied pathologies. The document aims to set a foundation for advancing our understanding, improving diagnosis, and developing new treatments for ME/CFS. The Trans-NIH ME/CFS Working Group is now considering next steps for the Roadmap. Additional resources:

- Video of the Research Roadmap presentation at the May 15 NINDS Advisory Council meeting
- Webinar series (videos and transcripts are available)

Did you miss an event? Recordings and materials are on the NIH ME/CFS events page

NIH Intramural ME/CFS Study Recap



Earlier this year, NIH's deep phenotyping study on ME/CFS was published in *Nature Communications*. Led by Avindra Nath, M.D., and Brian Walitt, M.D., M.P.H., the team uncovered new differences in the brains, immune, and metabolic systems of people with post-infectious ME/CFS, as well as distinct immunological sex differences.

Recognized as the most in-depth study of ME/CFS to date, the findings validate decades of prior work and open doors to new hypotheses and possible treatment targets. This study is just the beginning—additional publications using data and samples collected from participants are already underway. Future work will continue to untangle disease pathophysiology and may help inform clinical trial design. In May, NIH hosted a symposium during which authors discussed the results, took questions from the audience, and participants shared what it's like living with ME/CFS and their experience in the study.

In the news:

- Neurology® Podcast Dr. Jeff Ratliff talks with Dr. Nath about his deep phenotyping study and the latest ME/CFS research findings.

FUNDING OPPORTUNITIES

- Notices of Intent to Publish Funding Opportunities for infection-associated chronic illnesses: NOT-NS-24-105 (R01) and NOT-NS-24-108 (R21) are expected to publish on Oct 28, 2024 with an application due date of **Feb 3, 2025**.
- Notice of Special Interest: Women's Health Research (NOT-OD-24-079)
- Notice of Special Interest: Stimulate Research on the Diagnosis, Treatment, and Mechanistic Understanding of POTS (NOT-HL-24-018)

UPCOMING EVENTS

RECOVER-Treating Long COVID Kick-off Meeting | Sept 23-25, 2024 (Bethesda, MD and virtual) Visit the event website for details.

PAST EVENTS

NIH ME/CFS Advocacy Call: ME/CFS Intramural Study | May 28, 2024 (video) The webinar included updates from NIH and a scientific presentation by Avindra Nath, M.D., Senior Investigator and NINDS Clinical Director, about the NIH deep phenotyping study.

ME/CFS Intramural Study Symposium | May 2, 2024 (video) The event featured scientific presentations by authors of the deep phenotyping study, study participant and scientific panels, and sessions on data sharing and future directions.

NIH ME/CFS Advocacy Call: Research Roadmap Update | March 4, 2024 (video, transcript, presentation) The webinar included updates on the NIH ME/CFS Research Roadmap by Vicky Whittemore, Ph.D., Maureen Hanson, Ph.D., and Lucinda (Cindy) Bateman, M.D.

NEWS

Advancing Research on ME/CFS | NINDS Director's blog | June 3, 2024
Walter Koroshetz, M.D., discusses the ME/CFS Research Roadmap, the deep phenotyping study, and how increased recognition of post-infectious conditions will lead to new discoveries, both in ME/CFS and Long COVID. He also highlights how patients, caregivers, family members, and other people with lived experience played a key role in developing the roadmap. The hope is that including these perspectives will lead to stronger, more meaningful research and clinical trials.

- Dr. Avindra Nath named to TIME100 Health list of the 100 most influential people in global health | Announcement | May 2, 2024
- NIH study offers new clues into the causes of post-infectious ME/CFS | Press Release | Feb 21, 2024

QUESTION CORNER

How will the Research Roadmap be used to inform clinical trials for ME/CFS?

The Roadmap will help researchers design and carry out high-quality, successful clinical trials, which rely on accurate diagnoses and ensuring that cohorts are representative of individuals with ME/CFS. To achieve this, the report identified several priorities, such as testing treatments in subtypes of ME/CFS, as well as looking at differences in sex, age, length and severity of illness, and comorbidities. Other ideas included repurposing drugs, finding robust biomarkers, expanding the pool of investigators applying for NIH clinical trial funding, and including people with lived experience in ME/CFS research. Studying disease pathophysiology and mechanisms will inform future trials; for example, by identifying new treatment targets.

How can individuals living with ME/CFS and others with lived experience help move ME/CFS research forward?

People with lived experience can attend and participate in NIH ME/CFS events, connect with a local or national advocacy organization, raise awareness about ME/CFS and other post-infectious illnesses, and/or learn about or participate in clinical studies and trials. Sign up for the NIH ME/CFS email listserv for updates on how to get involved.

NINDS invites the community to be active in the design and decision-making of research by joining working groups, planning committees, advisory groups, and other projects. Join the NINDS lived experience expert list to be contacted as opportunities arise.

NIH INTRAMURAL ME/CFS STUDY PUBLICATIONS

- **Mixed methods system for the assessment of post-exertional malaise in myalgic encephalomyelitis/chronic fatigue syndrome: an exploratory study** *(BMJ Neurol Open, Feb 2024)* Stussman B, Calco B, Norato G, Gavin A, Chigurupati S, Nath A, Walitt B
- **WASF3 disrupts mitochondrial respiration and may mediate exercise intolerance in myalgic encephalomyelitis/chronic fatigue syndrome** *(PNAS, Aug 2023)* Wang PY, Ma J, Kim YC, Son AY, Syed AM, Liu C, Mori MP, Huffstutler RD, Stolinski JL, Talagala SL, Kang JG, Walitt BT, Nath A, Hwang PM
- **Characterization of Post-exertional Malaise in Patients With Myalgic Encephalomyelitis/Chronic Fatigue Syndrome** (*Front Neurol,* 2020) Stussman B, Williams A, Snow J, Gavin A, Scott R, Nath A, Walitt B

PUBLICATIONS SUPPORTED BY NIH FUNDING

- **Hyperadrenergic Postural Tachycardia Syndrome: Clinical Biomarkers and Response to Guanfacine** (*Hypertension, Aug 2024*) Okamoto LE, Urechie V, Rigo S, Abner JJ, Giesecke M, Muldowney JAS, Furlan R, Shibao CA, Shirey-Rice JK, Pulley JM, Diedrich A, Biaggioni I
- **Myalgic Encephalomyelitis/Chronic Fatigue Syndrome After SARS-CoV-2 Infection** *(JAMA Network Open, July 2024)* Unger ER, *et al.*; Innovative Support for Patients with SARS-CoV-2 Infections Registry (INSPIRE) Group.
- **Cardiopulmonary and metabolic responses during a 2-day CPET in myalgic encephalomyelitis/chronic fatigue syndrome: translating reduced oxygen consumption to impairment status to treatment**

considerations *(J Transl Med, July 2024)* Okamoto LE, Urechie V, Rigo S, Abner JJ, Giesecke M, Muldowney JAS, Furlan R, Shibao CA, Shirey-Rice JK, Pulley JM, Diedrich A, Biaggioni I

- **Phenylephrine alters phase synchronization between cerebral blood velocity and blood pressure in ME/CFS with orthostatic intolerance** (*Am J Physiol Regul Integr Comp Physiol, June 2024)* Medow MS, Stewart JM
- **Mitochondrial DNA Missense Mutations ChrMT: 8981A > G and ChrMT: 6268C > T Identified in a Caucasian Female with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) Triggered by the Epstein-Barr Virus** *(Case Rep Genet, May 2024)* Tang-Siegel GG, Maughan DW, Frownfelter MB, Light AR
- **Do people with ME/CFS and joint hypermobility represent a disease subgroup? An analysis using registry data.** *(Front Neurol, March 2024)* Mudie K, Ramiller A, Whittaker S, Phillips LE.

Read More Publications

RESOURCES FOR RESEARCHERS

- **Interested in applying for ME/CFS funding?** Contact Dr. Vicky Whittemore or another scientific/research expert at NIH for guidance on developing grant applications.
- **mapMECFS:** an interactive data portal providing access to research results across many biological disciplines from studies of ME/CFS. mapMECFS is now listed as a domain-specific data sharing repository on the National Library of Medicine's website.
- **searchMECFS:** an interactive search tool for navigating biospecimens available for research purposes from studies of ME/CFS.
- **ME/CFS Common Data Elements (CDEs):** CDEs are data standards that can be used in clinical studies and clinical trials for ME/CFS.
- **ME/CFSnet:** information about the ME/CFS Collaborative Research Network, which supports the ME/CFS Data Management Coordinating Center and the ME/CFS Collaborative Research Centers.

RESOURCES FOR THE ME/CFS COMMUNITY

Drs. Avindra Nath, Brian Walitt and Vicky Whittemore from the NIH spoke at the Invest in ME Research International Conference and Colloquium held in the UK in June 2024. Additional speakers funded by the NIH included Drs. Ron Davis, Gunnar Gottschalk, Andrew Grimson, Maureen Hanson, Michelle James, Leonard Jason, and Michael VanElzakker, as well as our colleague from the CDC, Dr. Elizabeth Unger. An event summary and videos are available on the Invest in ME website.

Do you have suggestions for our newsletter? Contact us!

Thanks to our newsletter editors Nina Lichtenberg, Ph.D., Rebekah Corlew, Ph.D., Barbara McMakin, M.S, and Vicky Whittemore, Ph.D. at the NIH/NINDS!