Open Medicine Foundation®

HOPE Leading Research. Delivering Hope.

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Studying COVID-19 leading to ME/CFS

OMF-Established Collaborative Research Centers

Collaborative Center
@ Stanford

Collaborative Center
@ Harvard

Collaborative Center
@ Uppsala

Collaborative Center
@ Montreal

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OMF Established Collaborative Research Centers
COVID-19 ME/CFS Research Project

Established in 2012, Open Medicine Foundation (OMF) leads the largest, concerted worldwide nonprofit effort to diagnose, treat, and ultimately prevent ME/CFS and related chronic complex diseases (CCD).

We fund innovation and research with credibility, informed by the knowledge that only serious investment will allow us all to fight these life-altering, devastating, and woefully underfunded diseases.

Within this research project, we seek to understand pathological mechanisms that lead to Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome (ME/CFS) after infection with COVID-19.

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OPPORTUNITIES

1. Through a detailed examination of individuals from the point of early severe COVID-19 illness through their recovery and rehabilitation phase, this study has an opportunity to understand what allows those to fully recover versus those at high risk for ME/CFS.

2. This study design offers the chance to discover precise pathological mechanisms of ME/CFS, uncomplicated by factors associated with the chronicity of the illness.

3. Critically, this study provides potential identification of biomarkers and targets for the development of prevention strategies and treatments for the future.

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Phase 1 / Aim 1 – Hospitalized COVID-19 patients

Conduct an in-depth profiling analysis of blood and cerebrospinal fluid collected from participants during ICU visit using RNA-seq, microRNA assays, metabolomics, proteomics, whole genome sequencing, and others.

We hypothesize that a significant host-response during the ICU visit is comparable to our prior Glue Grant trauma studies and that early markers will be identifiable as predictive of mortality, “recovery”, and prolonged fatigue after discharge from the hospital.

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Phase 2 / Aim 2 – Six months post-discharge

Conduct a 24-month follow up longitudinal study on COVID-19 discharged patients using the same analyses highlighted in Phase 1. This will enable us to observe the differences between COVID-19 patients that fully recover within six months, develop post-viral fatigue syndrome, or at risk for ME/CFS.

This approach serves as a means to understand the mechanisms that may be relevant to the recovery process or the persistence of symptoms.

Following recovery trajectories from an initial trigger event will enable differences to be identified between recovery, post-viral fatigue, and ME/CFS over multiple time points.

There is potential for the development of biomarkers, treatment targets, and preventative strategies.

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Phase 3 / Aim 3 – Six to 24 months post-discharge

Conduct a long-term longitudinal study on COVID-19 patients that become ME/CFS patients, beginning six months post-discharge and continuing through post-ICU clinical follow-ups for 24 months.

The first two groups will have been characterized by Phases 1 and 2; in this final phase, we will continue to collect samples and monitor the health status of ME/CFS patients triggered by COVID-19 using these same analyses as described.

Tracking metabolites and proteins from these patients for 24 months and relating them to their symptoms and wearable health data will enable us to understand what happens in ME/CFS patients along the development of their disease.

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Throughout our study, and as results become available, we will provide meaningful and accessible updates.

We hope to secure $1 Million from an interested Foundation and have already begun the process of collecting samples at all 4 Collaborative Research Centers. Multiple government grant applications have also been submitted to scale up these studies.

As more funding is confirmed, we will accelerate all three phases of these studies.

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Thank you

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