

Columbia University Medical Center

The MiSBIE study is a research study taking place at the College of Physicians and Surgeons at the **Columbia University Medical Center (CUMC)**, a leading medical institution of care and research.

The partnering Department of Neurology and Department of Psychiatry have a long history of clinical care and research in studying the effects of stress on the body and in mitochondrial disease.

CUMC is located at 168th Street and Broadway in Upper Manhattan, by the Hudson River in New York City, NY.



Contact Information

**Do you have any questions about the study?
Would you like to participate?**

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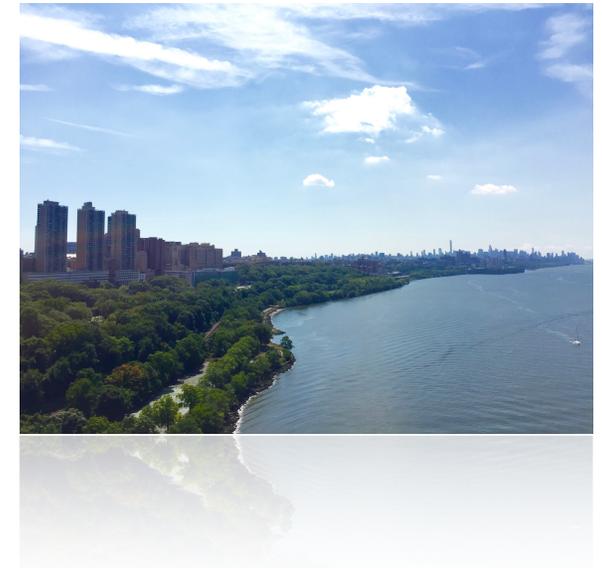
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The MiSBIE Study

**Mitochondrial Stress Brain Imaging
and Epigenetics**

Investigating the link between
the mind and the body



 **COLUMBIA UNIVERSITY**
IN THE CITY OF NEW YORK



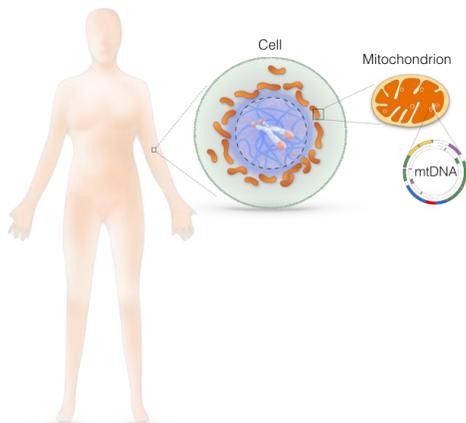
Understanding Mitochondrial Disease

Researchers are just starting to understand the factors that influence aging and the progression of various diseases. Life stress can change the function of the body and influence the development of certain age-related diseases, such as cardiovascular disease and neurodegeneration.

The goal of the MiSBIE study is to understand how an individual's life experience and emotions affect physical health, psychological functioning, and disease risk.

Each cell of the body contains hundreds of mitochondria, which have their own DNA: mitochondrial DNA (mtDNA). Mitochondria produce energy and signals enabling cells to function normally. The MiSBIE study investigates the link between mitochondria, brain function, and different organs to understand their interaction, and *the person as a whole*.

This study also aims to understand the behavior of genes, whether they are turned “on” or “off”. This is called “epigenetics” and is measured in DNA from different cells.



The MiSBIE Study

A two-day visit

This research includes two visits of about 8 hours each. Participants stay overnight at a nearby hotel.

Breakfast and lunch are provided.

Transport

Would you need to travel to NYC? If so, the MiSBIE Team will arrange your travel and reimburse your expenses associated with the study.



Study tests

On Day 1, participants undergo a laboratory evaluation. Saliva and blood samples, and a small clip of hair are collected. Heart rate and blood pressure are monitored. Participants will complete a medical exam with a doctor.

Participants also collect urine and saliva at home.

On Day 2, magnetic resonance imaging (MRI, picture above) is used to safely measure brain activity, participants complete questionnaires on a computer, and meet with a neuropsychologist.

Confidentiality

All results and biological samples are kept **strictly confidential**.

Eligibility

You are eligible if you are a woman or man between the ages of 18 and 55, and willing to visit Columbia University Medical Center (CUMC) for a two-day visit.

We are recruiting individuals without any diagnosis, and individuals with the following mtDNA mutations:

- m.3243A>G (MELAS)
- Single, large scale deletion (CPEO)

Compensation

Participants who complete the study receive a compensation of \$600.

The MiSBIE Team

The MiSBIE team is a group of caring clinicians and researchers from academic disciplines including mitochondrial medicine, physiology, neuroscience, epigenetics, and psychology.

For more information about the study, please contact the study coordinator (see contact information on the back).

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