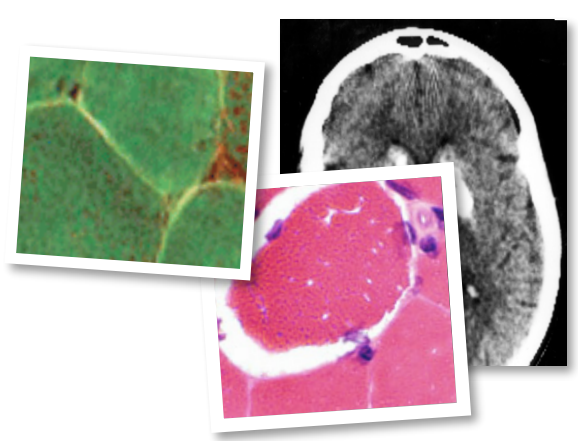


# Ketones & Mitochondrial Heteroplasmy



Dr. Mary Kay Koenig at the University of Texas Houston Mitochondrial Clinic is enrolling volunteers with MELAS in a study to evaluate the potential of medium chain triglycerides as a treatment for MELAS.

## What is the goal of this study?

Evaluate if medium chain triglycerides (MCT) supplements can increase the proportion of good, non-mutated, mitochondrial DNA in cells, possibly delaying the onset or severity of MELAS symptoms.

## What is MELAS?

MELAS—an acronym for Mitochondrial Myopathy, Encephalopathy, Lactic Acidosis, and Stroke-like Syndrome—is a severe mitochondrial disorder. It is thought that the severity and age of onset varies in proportion to the quantity of mutated mitochondrial DNA in different tissues, a phenomenon called heteroplasmy.

## Who can participate?

Adults and children with known 3243A > G MELAS who are free of diabetes.

## What does the treatment consist of?

Participants will be treated with medium chain triglycerides (MCT) for a period of 6 months. Ketosis occurs when fats are broken down by the body into energy. MCTs are fats found in coconut oil. Supplementation with MCTs has been found to cause ketosis. Lab studies have shown that ketosis can decrease the number of mutated mitochondrial DNA in proportion to normal DNA in cells affected with MELAS.

## What will I have to do and for how long?

In order to participate you have to come to Houston 4 times. At your first visit, the study will be explained in detail and consent forms will be reviewed. If you choose to participate, your blood will be drawn for analysis of your mutation. At your second visit, your blood will be drawn again and you will be started on the MCT oil. At your third and fourth visits, your blood will be drawn again.

## Will it cost me anything?

You will be provided with MCT supplements for the duration of this study. Blood draws and laboratory analysis will be covered. Parking expenses will be covered. You will be responsible for all travel expenses associated with your participation.

**If you are interested in participating, please contact the University of Texas Houston Mitochondrial Clinic at [ut.mito@uth.tmc.edu](mailto:ut.mito@uth.tmc.edu) or 713-500-7164.**