A cure for mitochondrial disease could impact cures for Autism, Alzheimer's, Muscular Dystrophy and Parkinson's. Learn More >



# Understand: Mitochondrial Disease

Mitochondrial disease is an energy production problem. Almost all cells in the body have mitochondria, which are tiny "power plants" that produce a body's essential energy.

Mitochondrial disease means the power plants in cells don't function properly. When that happens, some functions in the body don't work normally. It's as if the body has a power failure: there is a gradation of effects, like a 'brown out' or a 'black out.'

Scientifically, it is actually a category or group of diseases. That's why mitochondrial disease takes many different forms and no two people may look alike.

It can look like any number of better known diseases: Autism, Parkinson's, Alzheimer's, Lou Gehrig's disease, muscular dystrophy and, chronic fatigue. Power plants provide energy to a large community with each part of the community requiring varying degrees of power; in the same way, mitochondria provide energy to various organs of the body. So, when there is a malfunction, a "black out" looks like Leigh's Disease, severe and fatal, while a "brown out" might be severe, but not lethal.

#### **Treatments and Cures**

Currently there are no highly effective treatments. Though related symptoms, such as seizures or attention problems can be managed with various medications, the mitochondrial disease itself is unchanged. Unfortunately, supplements such as CoQ10 and L-Carnitine have little to no effect on most patients.

Many drug trials take years — and treatment advances happen one small step at a time.

Compounding this challenge is the fact that mitochondrial diseases have many, many causes and will have many, many cures. One cure, one timeline, simply does not exist but with your help we will move forward faster.

# Understand: The Foundation for Mitochondrial Medicine

#### **Our Mission and Priorities**

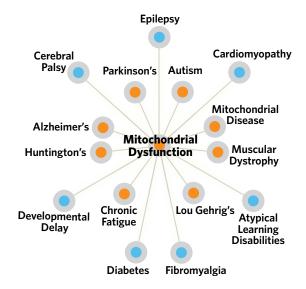
Simply put, our purpose is to support the development of the most promising research and treatments of the many, many forms of mitochondrial disease. We're funding a path to the cure, making connections to other related diseases and leading our stakeholders to the right information and the best answers.

### Ways to Help

**DONATE:** Helping us helps so many others.

#### MAKE THE CONNECTIONS:

1-in-2500 people have mitochondrial disease. And a cure for this disease could impact cures for Autism, Parkinson's disease, Alzheimer's disease, Lou Gehrig's disease, and muscular dystrophy. And it's this web of complexity and connectivity that makes mitochondrial disease research valuable to so many.



**LEAD THE WAY:** We support treatment based research. In addition to functional MRI brain studies on cognitive fatigue, our grants are allowing new drug compounds to be tested, eventually leading to full clinical drug trials. Your support means momentum to accelerate entry into clinical trial phases, which will in turn propel research faster toward the cures.

# **Opportunities to Keep in Touch and Informed**

Contact us via email at: info@mitochondrialdiseases.org

Visit our website to subscribe to our email newsletter and to donate at:

www.mitochondrialdiseases.org

Like us on Facebook at:

www.facebook.com/FoundationforMitochondrialMedicine

# {One Face, One Story}

Each face is one story or one facet of mitochondrial disease. It's a complex, underdiagnosed disease that may appear anytime – at birth, in the teen years or, as an adult. To help you understand, here's the story behind the face of one of our ambassadors, featured on this brochure's cover.

# {Colby, 19}

From the outside, you would never know that Colby has mitochondrial disease. When he practiced and played football games, he would get sick during and after each. Now that he's been diagnosed, he knows mitochondrial disease is just something in his life he has had to learn to manage on a daily basis.



We support the development of the most promising research and treatments of the many, many forms of mitochondrial disease. We're funding the cures. Period.

#### The Foundation for Mitochondrial Medicine

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