



Tired of being Tired? Mighty Mito to the Rescue!
By Dr. Susanne Bennett

Are you tired of being tired? You sleep enough hours and eat all of the right foods but you just can't get enough energy and by 2:00 in the afternoon you are ready to take a long nap!

The #1 symptom my patients including children complains about is fatigue, chronic fatigue.

Today on Nature's Secrets, I want to talk about the Mighty Mito Mitochondria... The importance of mitochondrial health for boundless energy, optimal vitality and a pain-free and trim body!

The Mighty Mito is the #1 secret to the #1 health complaint!

Now what are mitochondria? In all of our body's cells there are tiny little organelles, that are energy factories that turn the food we eat, such as fat, and carbohydrates and the oxygen we breathe into energy. The most energy intensive cells are the brain, heart, eyes and muscles; there are literally thousands of these little powerhouses, what I call mighty mitos.

In fact 10% of our body mass is made up of mitochondria!

Mitochondria convert the food and oxygen into a chemical called ATP, Adenosine Triphosphate. ATP is the energy currency of our body and without it, our metabolism slows down...we lack energy, our cells will not have the power to function properly, goes into stress and causes cell suicide... our cells die prematurely!

Damaged or low mitochondria levels cause premature cellular aging and death that leads to chronic disease!

This is a super important concept to understand, that mitochondrial dysfunction is a characteristic of aging, and essentially, a root cause of all chronic disease.

These diseases include neurodegenerative diseases, such as Alzheimer's disease, Parkinson's disease, Lou Gehrig's Disease... amyotrophic lateral sclerosis....

All cardiovascular diseases, such as atherosclerosis and other heart and vascular conditions...Diabetes and metabolic syndrome, autoimmune diseases, such as multiple sclerosis, systemic lupus erythematosus...

Neurobehavioral and psychiatric diseases, such as autism spectrum disorders, schizophrenia, and bipolar and mood disorders

Gastrointestinal disorders... and of course fatiguing illnesses, such as chronic fatigue syndrome and Gulf War illnesses

Musculoskeletal diseases, such as fibromyalgia and sarcopenia (age-related muscle loss as well as cancer and chronic infections.

We have trillions of mitochondria throughout our body; they use over 90% percent of the oxygen we breathe to do their vital work.

Here are some Symptoms of mitochondria dysfunction or deficiency:

- Fatigue, lack of energy, feeling burnt out
- Pain and soreness, especially after working out
- Memory loss
- Brain fog
- Mood changes
- Headaches
- Decreased mobility
- Tingling and/or numbness
- Decreased immune function (longer healing time, infections)

The main lifestyle factors that affect our mitochondria and ultimately contribute to chronic illnesses include the following:

- Nutrient deficiencies (especially “empty calories”)
- Sugar, alcohol, smoking, drugs
- Lack of lean protein and healthy fats (vegetarian or following a poor diet)
- Toxins (heavy metals, environmental toxins, even medications)
- Chronic stress emotional, mental and physical stress causes oxidative stress and is thought to be the root of most disease. In particular, mitochondrial DNA can be heavily attacked by free radicals called reactive oxygen species (ROSs), causing DNA mutations.
- Allergens and inflammatory triggers
- Sedentary lifestyle, lack of exercise or you just had surgery, or injury and can't move very well.
- Obesity
- Dehydration

So what can you do to keep your mighty mitos healthy?

One of my favorite quotes when it comes to the human body is:

Use it or you lose it!

Use your brain or you lose your brain, it goes the same with our muscles... use your muscles, or you lose it....

Sedentary lifestyle, not moving and using your muscles results in mitochondrial loss in #'s and function... this leads to the production of free radicals, oxidative stress and ultimately cell death.

The reason why we have such sky rocketing #'s of Type 2 Diabetes is because we don't move and maintain our muscle mass and mitochondria... Studies show that people with type 2 diabetes have a ton of defects in the # and function of mighty mitos... This reduces the aerobic capacity of your muscles...you ability to burn calories... which means that glucose can't go into the muscle cells, stays in the blood stream and causes insulin insensitivity, Diabetes Type 2... . In addition, studies have also shown that defective mitochondrial biogenesis in the heart can predispose individuals to cardiovascular complications, heart disease and the metabolic syndrome.

So many reasons why we have to build our mighty mitos! To prevent these chronic diseases!

#1. Exercise is the Most Effective Way to Make New Mitochondria

Exercise is the strongest trigger mechanism to increase the production of mitochondria in muscle, by increasing the ability of the muscle to burn carbohydrates and fatty acids for energy, ATP.

There are 3 kinds of exercise to make more mitochondria- another name is mitochondrial biogenesis... mitochondria replication.

Aerobic or endurance ex, resistance body weight and weight training, and high intensity interval training what I call Burst to Boost...

Out of the 3 types, **Burst to Boost is best**, takes less time and activate 1 minute on and 1 minute off... 10 repetitions... makes it 20 minutes! Do this 3x/week only... so what does that mean 1 hour of exercise per week... I know you can do that! The key is to be consistent and do what you love!

I love burst or interval training, which is when you alternate short burst of high intensity exercise with periods of rest. It is great for your mitochondria! And it is good to get rid of belly fat, as well as being protective of heart and lung health.

There are lots of ways to customize your intervals. I typically suggest beginners' start out with something slow and easy/fun to do, such as using a stationary bike. Don't forget to always check with your doctor before starting a new exercise program!

Do a 30 second, "all out" exercise (your choice of what you want to do) and then rest (this should be something like walking or very gentle jogging) for 90 seconds, and then repeat that for 10 sets. As you progress you can increase the "all out" time to 60 seconds, and do fewer reps. Interval training is supposed to take ½ hour or so to complete. You can do this training anywhere by making up "burst" activities depending on what is available, and it truly maximizes your time and effort.

This method of exercise is the most efficient approach to building muscle, improving your cardiovascular health and losing fat. Exercise will keep your mitochondria healthy, too.

The 2nd best way to improve your mighty mitos is through Nutrition and taking mitochondrial supportive supplements.

Today I am only going to go over the *supplements*... if you want more information about how to optimize your nutrition, you can check out my book, [The 7-Day Allergy Makeover](#).

Or get my list of Do's and Don'ts by going to: Drsusanne.com/mm2

You will also get my free Mighty Mito 14 page report!

Mitochondrial Supportive Supplements

1. [Essential Amino Acids](#)

Most of us are protein deficient, especially if you are a vegetarian or vegan.. without the building blocks of proteins, you can't build more muscles!

We end up getting Sarcopenia- age related muscle loss and function

So what I do and prescribe to all of my patients is I take amino acid supplements... even if I take my digestive enzymes and eat animal protein. I take [Super 8 Aminos](#), because it contains all 8 essential amino acids for optimal energy, muscle and immune health. You can find them on my website, drsusanne.com/store

2. Phospholipids

Special class of lipids that are a major component of all cell membranes including the mitochondrial membranes. I recommend you take phospholipids as supplements, and these include- PC, phosphotidylcholine, PS, phosphotidylserine and GPC- my favorite, glycerophosphocholine. You want to take healthy levels of them!

3. Coenzyme Q10 (CoQ10)

An antioxidant that is a very important component of the ability to make more ATP, energy and has been studied for its ability to reduce mitochondrial DNA mutations that contribute to degenerative diseases and aging. My recommendation for my patients is to take at least 100 mg per day, and up to 300 mg per day for any individuals taking a cholesterol reducing drug...

because it is known to reduce CoQ10 levels! If you experience soreness and pain in your muscles after being on the statins... call your doctor and start taking Co Q10 right away!

4. [Carnitine](#)

Helps transport functional lipids (fatty acids) to the mitochondria contributing to metabolic support; may also help remove toxins. I take up to 1000 mg twice a day!

5. **Alpha Lipoic acid**

A potent antioxidant, and critical cofactor for mitochondria to burn fat, and super important for cognitive function as well as mitochondrial function...

6. [B Vitamins](#)

Magnesium and *Manganese* - required as Krebs cycle enzyme cofactors... Has been linked to the reduction of mitochondrial DNA mutation and about 50% of us are deficient.

7. **NADH**

Electron energy rich coenzyme form of B3- One unit of NADH creates 3 units of ATP, and is fundamental in the chemical process of converting food we eat into Cellular energy- APT.

8. **Ribose**

Used to boost muscle strength. Has been shown to reduce symptoms of chronic fatigue syndrome in studies. A nucleotide repletter and direct cellular energy source

9. *Creatine*

To support additional energy production (using Albion's patented Creatine MagnaPower®, which supplies creatine and magnesium together, both needed for healthy mitochondria)

10. *Resveratrol and Curcumin*

Botanicals shown to induce the production of additional mitochondria (mitochondrial biogenesis) through SIRT1 gene signaling and PGC-1-alpha induction. This resveratrol is in the well-absorbed trans form, the form believed to be responsible for activating the SIRT1 gene, which when turned on slows the aging process.

11. *Pantethine*

Necessary to shuttle fats from the blood stream across the cellular membrane for cell entry

12. [Shilajit](#)

Recharges the adrenal glands and a substance in shilajit called fulvic acid provides potent antioxidant properties, and very helpful to recharge the mitochondria. I use a powdered form called [JingJing](#), and add it to my green drink every morning!

So take care of your mighty mitochondria, and keep your metabolism humming. It will help keep your energy level up, brain sharp, keep you more trim, and help your body fight inflammation and diseases!

To your vibrant health,

A handwritten signature in black ink that reads "Dr. Susanne". The signature is written in a cursive, flowing style.

Dr. Susanne