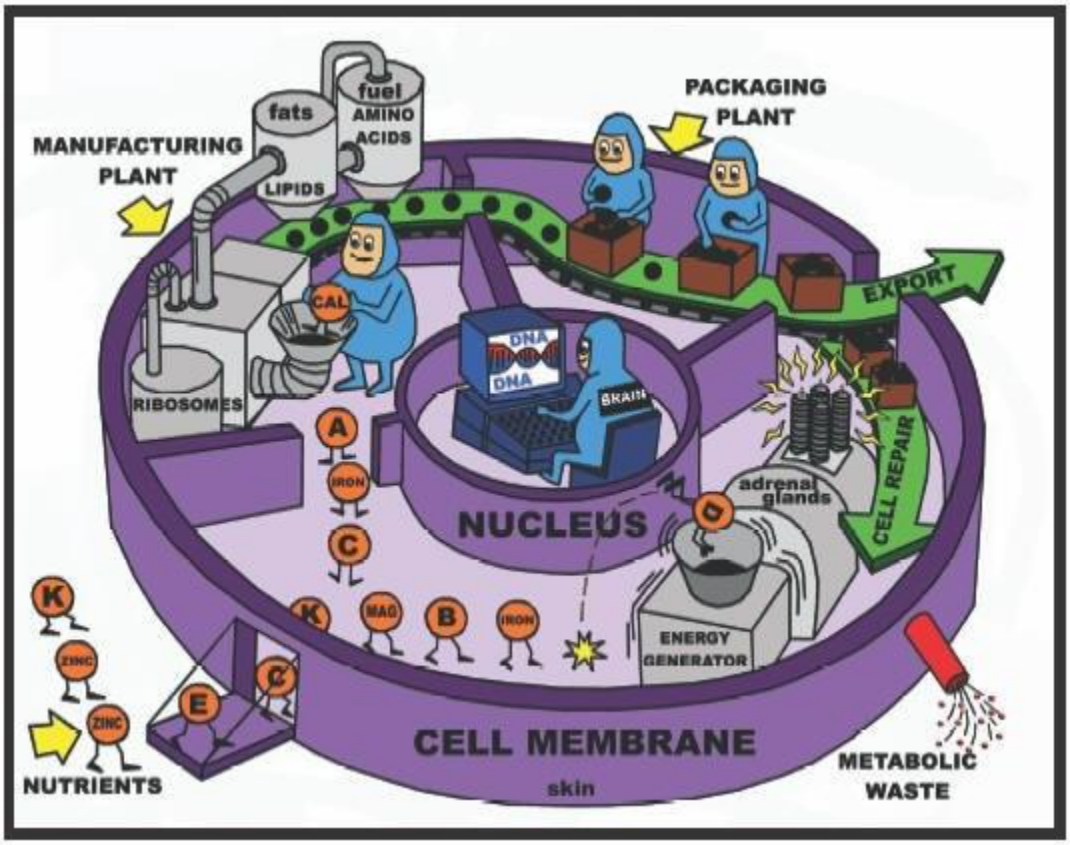
How Do Mitochondria Impact Your Energy?

You've probably heard the word "mitochondria" and thought to yourself, "This sounds strangely familiar." You might have thought back to your old biology class. You might have wondered if you heard it in Star Wars. To be honest, you might have even questioned if 2020 was throwing out *one* last scare.

What Are Mitochondria?

While you'd be right on one of those things (and not *too* far off with another), the simplest way to explain mitochondria would be to imagine your body as a big factory, one made up of little machines, with each of those machines having a special function and "workers" to help keep things running smoothly.

In fact, your body is made up of trillions upon trillions of cells. These cells power your body's daily functions (like little machines), and each cell has departments of "workers" called organelles that run 24/7 to keep you feeling happy, healthy, and at your best. Some of those organelles work to store your DNA, while others are in charge of making protein to keep your body's cells running smoothly. Others, like mitochondria, are in charge of converting the foods you eat into energy that the body can use. Like one big factory, every cell and every organelle of that cell has its own purpose for the greater good of your health. (1) (2)



How Do Mitochondria Work?

We all have days where we feel a bit sluggish. Perhaps it's a lack of sleep, or perhaps you've spent all day working, enjoying a hobby, or chasing a toddler around. No matter the reason, your body's energy levels are in need of a boost, so you grab a snack, a meal, or even some caffeine to bring those energy levels back up. Consuming those nutrients starts a process within your body's cells, wherein mitochondria break down the nutrients into tiny energy-producing molecules called adenosine triphosphate, or ATP for short. (2)

Boosting Your Mitochondria and Energy Levels

It's no secret that as we age, our energy levels decrease. We move slower, our sleep and eating patterns might differ, and we generally have to adjust to the body's natural decline of certain functions. Because this aging process also affects our mitochondria count, as in we have fewer mitochondria than when we were younger, the importance of a healthy lifestyle becomes an even greater concern. Therefore, we can keep our cells (and our bodies) happy and healthy for longer via the following: (3)

- **Maintain a Healthy Diet –** Boost your energy levels (mitochondria ATP production) by consuming fatty acids from lean meats like chicken and turkey, fatty fish like salmon and tuna, protein, and nuts. Enjoy these in moderation with an exercise regimen, as overconsumption can lead to other issues. Optimizing your diet greatly improves your overall health as you age, just as a poor diet contributes to the opposite effect. (4)

- **Drink Plenty of Water –** Water is fundamental to your overall health, so consuming lots of clean, pure water is a surefire way to keep your cells, your mitochondria, and your body happy, healthy, and at their best. From digestive benefits to liver and kidney detoxification, the importance of proper water intake (8 glasses a day minimum) cannot be overstated. Adding fluids from liquid-heavy fruits and veggies such as cucumbers, squash, and strawberries can also have a major positive impact, as do citrus fruits and melons. (5) (6) (7)

- **Get Plenty of Sleep –** Just as sleeping naturally recharges your energy levels, so too does a good night's rest recharge your mitochondria and ATP levels. Anyone who's had a bout of insomnia knows the struggle of getting back into a regular sleep pattern, and doctors likewise stress the importance of maintaining a healthy circadian rhythm, aka the body's way of regulating sleep and waking. Too little sleep, and you feel the effects of sleep depravation (mood swings, thinking, and judgement impairment). Too much, and our sleep patterns get mixed up as we struggle to maintain a consistent bedtime the following night. For this reason, it is always suggested to get as close to 7 or 8 hours of sleep as possible. (8) (9)

- **Find and Stick to an Exercise Regimen –** Exercise on its own is always healthy for the body and mind, yet when combined with all of the above, the *felt* effect is that much greater. Ever wonder why you feel so great after a workout? The primary reason is that exercise boosts your dopamine, norepinephrine, and serotonin levels. Likewise, exercise boosts your *energy* levels, which in turn strengthen your muscles. Those strengthened muscles then require less ATP, so you feel boosted for longer. No matter your chosen exercise regimen, consistency is key. (10) (11) (12)

In conclusion, while thinking about or understanding mitochondria might seem overwhelming or even complicated, the truth is that it's really quite simple! Your body wants to thrive, so fueling your cells with a healthy dose of quality foods, exercises, and lifestyle choices is all it takes. Whether you're just starting out, a veteran of the practice, or somewhere in-between, it's never too late to learn, adapt, and embrace the miracles of mitochondria into your everyday life.