# **Red Light Therapy** to support you're pet's healing

* Red Light Therapy Depression, COVID, AIDS & other Viruses, Alzheimer's, Autism, Cancer, Heart Disease, Cognitive, Brain function (CNS issues - central nervous system) ... Targeting Mitochondrial Dysfunction
https://www.amazon.com.au/Ultimate-Guide-Methylene-Blue-Mitochondrial-ebook/dp/B09513NX6G

* Red Light Therapy improves Mitochondria Function, Eye Health, And Lifespan
https://youtu.be/9Amma2y8UD0?si=McXcburGsvuf1U5g

Sitting close in front for an hour or so as there is no point.
There is a minimum and that is 1.5 minutes. And weirdly enough the effect lasts for 5 days. Don't do it longer than 10 minutes. If you do 3 or 4 minutes in the morning every day of the week, that's fine too.
You can buy different size portable red light panels so your pet can sit and sleep in front of it on floor or bed etc.
Look for a combo **Red Spectrum** with the power of l650 and **Infrared** 880 something like that.
A talks about the different brands
https://www.youtube.com/watch?v=ee4GsKxSstk
and another person talks about the Red Light
https://youtu.be/T8Z1hmRosyE?si=c13k3BNCxE1-KQHN

## Red Light Therapy helps the Mitochondria Function

Science writer Mark Sloan
Depression, COVID, AIDS & other Viruses, Alzheimer's, Autism, Cancer, Heart Disease, Cognitive ...
A Mitochondrial Dysfunction, Brain Function (CNS issues - central nervous system damages)
20th Century scientific breakthroughs have revealed that virtually all diseases in existence are metabolic in origin, and that improving cellular mitochondrial function is the fastest way to restore health.
Reference: https://www.amazon.com.au/Ultimate-Guide-Methylene-Blue-Mitochondrial-ebook/dp/B09513NX6G

**Imagine a world without toxic drugs and endless lists of side effects. A world where a revolutionary new technology is used to remedy virtually all illnesses. Imagine red light therapy.**
Science writer Mark Sloan is the author of 3 bestselling books and is the creator of a popular blog delivering evidence-based health information which has helped tens of thousands of people get well. After losing his mother to cancer at age 12, Mark has committed his life to finding safer and better treatments for cancer and disease.
Red Light Therapy: Miracle Medicine is your complete guide to learning everything you need to know to begin using red light immediately to maximize your health. In part 1, you'll learn what red light therapy is, how it works and all the remarkable things it can do for your health. Backed by literally hundreds of scientific and clinical studies, you'll learn how to use near-infrared and red light therapy to: Reference:
https://www.amazon.com.au/gp/product/B07CZ1YYHR?ref_=dbs_p_pwh_rwt_cpsb_cl_2&storeType=ebooks

Dr Glen Jeffery PhD Professor of the London University

Red Light Therapy improves Mitochondria Function, Eye Health, And Lifespan

e.g Parkinsons symptoms (CNS issues - central nervous system) having Mitrochrondia function depleted this also happens with people with dementia

Reference: https://youtu.be/9Amma2y8UD0?si=McXcburGsvuf1U5g

## The Relationship Between Sunlight, Artificial Lighting, and Mitochondria

As we transition from natural sunlight to **artificial LED lighting**, I find it fascinating to explore how our **evolution** has been influenced by light and how **mitochondria**, the "batteries" of our cells, play a crucial role in our health and energy production. For billions of years, life on Earth existed in its simplest forms—just microbial slime. Over time, we evolved into complex organisms, largely due to the **energy-producing capabilities of mitochondria**. These tiny powerhouses consume **oxygen and sugar**, allowing us to function as highly developed beings.

## Mitochondria: The Key to Energy and Aging

Think of mitochondria as **little batteries** inside our cells. They generate **ATP (adenosine triphosphate)**—the molecule that fuels nearly every function in our body. To put this into perspective, our bodies produce approximately **our own weight in ATP every day**—demonstrating just how vital this process is. However, as we age or develop diseases, **ATP production declines**. When mitochondria lose their charge, they don't just produce less energy—they also start to **leak harmful byproducts** known as **reactive oxygen species (ROS)**, leading to **inflammation**.

**This contributes to common age-related issues such as:**

- Joint pain
- Muscle soreness
- Slower recovery

Additionally, **certain organs require significantly more energy** than others.

For example:

- **The Retina**: The **most energy-demanding organ**, making it highly susceptible to aging & inflammation.
- **The Brain**: A massive ATP consumer.

When ATP declines, we see an increase in **neurodegenerative diseases** like **Alzheimer's and Parkinson's**, which are fundamentally linked to mitochondrial dysfunction.

## The Role of Light in Mitochondrial Function

What many people don't realize is that **mitochondria are highly sensitive to light**. Our modern environment exposes us to a drastically different **light spectrum** compared to the natural sunlight under which we evolved. Historically, early humans lived near the equator, exposed to a **12-hour light-dark cycle**, with no artificial lighting and minimal clothing. Today, our **LED and fluorescent lighting lacks the full spectrum of natural light**, potentially affecting mitochondrial health. Research shows that exposure to **red and near-infrared light** can significantly **boost ATP production**.

*Replace your globes with Incandescent globes. Can order from Ebay.

**For example:**

- **Red light therapy** has been shown to **increase energy in the retina**, improving vision and reducing inflammation.
- The **same effect occurs in the brain**, enhancing cognitive function and potentially slowing neurodegeneration.

## Evidence from Research: Restoring Energy with Light

### MICE Studies

In mice have demonstrated that **red light therapy can restore ATP levels** in aging retinal cells. Older mice exposed to red light exhibited **stronger retinal signals**, resembling those of much younger mice. Similar studies in humans suggest **potential benefits in vision and brain function**.

### BEE Studies

Additionally, mitochondrial dysfunction isn't just a human issue. Studies on **bees exposed to neurotoxic insecticides** spray, revealed Parkinson's-like symptoms, further linking **mitochondrial damage to neurological diseases**. * Unknowingly we are damaging our pets with these herbicide and pesticides on the market as sprays, drops, tables, washes etc.**A company called B futures in the USA** Are now putting red lights in those trucks and I understand the loss of Bees is very much reduced we've reduced the stress in the B population because we've improved their mitochondria. Improved Mitrochondria also means more resistant to the insecticides spraying.

## Conclusion: Light Matters for Our Health

**In a world increasingly dominated by** artificial lighting**, understanding the** impact of different light Wave lengths on mitochondria **is critical. By reintroducing** incandescent light sources and red light exposure**, we may be able to** support mitochondrial health, reduce inflammation, and slow the aging process**. Parkinson's symptoms** (CNS issues - central nervous system) have had the **Mitrochrondia** function depleted this also happens with people with dementia

Inflammation What runs Inflammation is the Mitochondria, as inflammation is an acid build up in the joints. All inflammatory markers will go down if you treat the ATP – Mitochondria Function.

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# The Mitochondria: A Review

By Dr Lauren Deville

https://www.drlaurendeville.com/red-light-therapy-improves-mitochondrial-function

Mitochondria are the powerhouse of the cells, producing the vast majority of ATP, the body's energy currency, from food and oxygen.

Your body runs on ATP, of course. If you don't have enough of it, you can't repair damaged tissue and heal.

But it's not just low ATP production (or the lack thereof) that's the problem.

ATP gets made via an electron pump in the inner mitochondrial membrane, called the Electron Transport Chain (ETC). If any part of the five complexes that make up the ETC aren't working properly, electrons can "leak out" as free radicals, creating local **oxidative damage** in the cell. **This is one of the major theories of both aging and degenerative disease.**

Even the most efficient mitochondria will still have some leakage of electrons out into the cytosol, and this is actually a good thing in small doses (it's *hormetic*—more on this here - https://www.drlaurendeville.com/hormesis-the-dose-makes-the-poison/

But if the mitochondria lack the building blocks they need to do their job properly, or if they are otherwise dysfunctional, this means both too much oxidative stress, and too little ATP.

If this happens to only an occasional mitochondrion here or there, the body sends the signal to it to self-destruct, in a process called *mitophagy*.
https://www.drlaurendeville.com/how-to-stimulate-autophagy-to-live-longer-and-healthier/

This is exactly how things are supposed to work; the body breaks down the dysfunctional mitochondria, and replaces them with brand new ones that can do their job properly.

But if there's a tipping point, where there are too many dysfunctional mitochondria, or the signals for mitophagy don't get sent or received, tissue healing is dramatically impaired.

## Mitochondrial Support for Function

Most mitochondrial support products include building blocks to help mitochondria do their job directly—cofactors for the various complexes in the electron transport chain for instance, especially CoQ10. Supports to shuttle fatty acids inside the mitochondria for breakdown, like carnitine. Electron donors, like Vitamins B2 and B3, especially in the form of NADH+ and niacinamide. Most of the time these products also include some antioxidants to help quench oxidative stress from inefficient mitochondria, especially glutathione and NAC.

All of these things are good, but they're only game changers when the problem is the lack of those ingredients. When those aren't the issue, and the problem is more dysfunction, due to age or toxicity, these approaches don't move the needle very impressively.

## Ways to Stimulate Mitophagy

Mitophagy is a major focus in the longevity world at the moment, and for good reason—but we don't have that many known tools to trigger it. The main one is to incorporate fasting into your regular routine, intermittent or otherwise. A few supplements can be useful to this end too. One that has been studied to directly stimulate production of new mitochondria is PQQ.

## Ways to Improve Existing Mitochondrial Function

1 Methylene blue also can help toxic or otherwise dysfunctional mitochondria to work more efficiently—it's one of very few things I know of that has this potential.
https://www.drlaurendeville.com/methylene-blue/

2 Visible red light is another, stimulating up to 190% more ATP production about twenty minutes after red light therapy is completed (and in fact, methylene blue and red light therapy together have a synergistic effect). This study also points out that red light therapy is another way to optimize functionality in otherwise toxic cells.
https://www.drlaurendeville.com/?s=red+light+therapy

This study postulates that visible red light gets absorbed by cytochrome c oxidase, the enzyme at the fourth complex inside the mitochondrial electron transport chain, and the last step before ATP production. This study agrees that the same enzyme is a photoreceptor, meaning that it can directly interact with the light. In the process, the efficiency of the fourth complex speeds up, leading to more ATP production, and less oxidative damage.

This study shows that exposing fruit flies to red light at 670 nm wavelength increased ATP production, decreased inflammation (inflammation tends to be secondary to oxidative stress), and significantly increased average lifespan. This study also shows that along with increasing activity of cytochrome c oxidase, red light therapy also stimulates superoxide dismutase, an enzyme that quenches free radicals produced by oxygen that doesn't get consumed in the production of ATP.

**The Upsho tI'm excited to find another minimally invasive approach to at least locally stimulating dysfunctional, toxic, or injured mitochondria to greater efficiency**.

**Reference**: https://www.drlaurendeville.com/red-light-therapy-improves-mitochondrial-function/