

Benefits of Red Light Therapy

Red light therapy is starting to gain massive attention in the mainstream and for good reason. It has been scientifically proven to be incredibly beneficial for human health and to benefit us in so many ways. It can turn genes on and off now using light in a process called **optogenetics** so by using certain frequencies of red light for instance you can improve your sleep and cellular functioning.

Don't forget infra-red is one of the most powerful frequencies for healing as it mimics the body's natural output. There are various infra-red devices you can purchase to use at home which claim to relieve allergies and brain function. Whilst I cannot attest to this, I have personally used them for clearing the sinuses (very effective) and enhancing memory. I cover the more technological uses of light therapy in the next chapter on modern advances.

So, what is red light therapy?

Simply put, red light therapy involves standing (or lying) in front of large (or small) red light devices and exposing your skin and body to the powerful healing ability of red light therapy. It only takes between 10 and 20 minutes per day!

Red light therapy devices generally use only 2 very powerful wavelengths of light. RED light - this is the light we actually see as red light and this wavelength (**660nm**) has been shown to be really good for skin, hair, eyes and tends to benefit the surface areas of the body.

NIR or Near Infrared light (850nm) is invisible to the human eye but this is the powerful wavelength of light that penetrates deep into the body, about 5cm or 2 inches, and brings those fantastic healing benefits to those deep tissues, like muscles, bones, organs, glands, the brain, blood and deep into the joints.

How does it work?

When the RED and NIR light penetrates our cells it causes 2 very important reactions!

1. The mitochondria of our cells are able to absorb the light and use it to increase their ability to produce **more cellular energy**, giving the cell more energy to work with and as a result, the tissue itself has more energy to work with.
2. When penetrated by the light, the cells of our body will also release natural anti-inflammatory molecules into the bloodstream which will circulate around the body and contribute to **reducing inflammation** wherever it may be found in the body.

So if you think about it a little more, if the cells of our bodies have more energy AND we have more anti-inflammatory molecules moving around our bodies, it is easy to understand how RLT can benefit so many different aspects of our health!

There is a vast body of research showing very significant gains in energy and function. Regular red light therapy treatments have been shown to result in a reduction in delayed onset of muscle soreness, less fatigue, less potential for injury and general all over increased recovery.

RLT has been shown to provide many positive changes in conditions which may have caused joint pain including - Osteoarthritic Knee Pain, improving poor range of motion in joints , cartilage regeneration, treating meniscus tears, general knee pain, hand and wrist pain and spinal pain. There is also great evidence about the benefits of RLT for sufferers of Rheumatoid Arthritis. The most promising study showed a 70% reduction in pain.

Red light therapy has been shown to increase the body's own **melatonin production** in the skin and in the brain.(1) Red light therapy has also been shown to ease the symptoms of certain brain injuries, which can also have a positive effect on sleep. (9,10,11) Red light does not suppress melatonin production in the brain, like blue light from screens does, therefore using red light at night will allow us to gently unwind and prepare for sleep.

Red light therapy drives the cells of our bodies to boost production of endogenous anti-inflammatory molecules and anti-oxidants which get released into our blood to circulate through our entire bodies!

Skin and Eyes

RLT is well known to **promote collagen production** in our skin cells which could reduce the appearance of fine lines and wrinkles. (7) Combined with increased energy production and anti-inflammatory signalling molecules, RLT has great potential to improve skin appearance, reduce the symptoms of a host of **skin disorders** from acne to psoriasis to rosacea and increase the repair rate of damaged skin!



RLT is great for your eyes! Research has shown RLT may slow or **stop eye degeneration**, improve healing outcomes for damaged eyes and decrease inflammation which might lead to vision impairment. See [below](#) for new product of blue-blocking glasses. An amazing study came out in 2020 showing the remarkable healing benefits of deep red light /670nm for eye health! The study concluded that those subjects that looked into a red light device for only 3 minutes a day showed significant improvement in overall eyesight!

Red light has been found to stimulate energy production in all the cells of the body and as you might know, the eyes are VERY dense in mitochondria. Red light also causes a decrease in inflammation throughout the body and it is these 2 mechanisms that contribute to improving eye health. If the eyes have more energy and less inflammation, they heal and get stronger! We already know that mitochondrial health begins to decline in humans as we age with up to 70% drop off of cellular energy production over a lifespan. This means that all systems of the body begin to age and deteriorate at an acceleration rate. The eyes are the most mitochondrially dense organs in the body, which means they not only require the most energy to function AKA allow us to see, but they are also the most susceptible to a deterioration in function as the mitochondria begin to decline naturally with age.

A lot of talk is also coming to the forefront of the negative effects of all the blue light we are exposed to, by cell phones and other devices, to our skin and on our eyes and how this leads to increased damage to eyes. Lead author of [the study](#), Professor Glen Jeffery said: "As you age your visual system declines significantly, particularly once over 40." In humans around 40 years of age, cells in the eye's retina begin to age, and the pace of this aging is caused, in part, when the cell's mitochondria, whose role is to produce energy (known as ATP) and boost cell function, also start to decline. If you or anyone you know has poor eye health, this is your answer! Non-invasive, non-surgical, no nasty medication, just a pure, scientific method of red light therapy.

Hormones

RLT is showing very positive results with **balancing natural hormone production** in the body, including thyroid hormones, mood boosting hormones and there are promising studies showing an improvement in sex hormones in men and women.

Hair

RLT is great for **stimulating hair growth**. Research has shown that RLT may extend hair growing time, improve hair thickness and may even prevent male and female pattern balding!

Brain and Nervous System

Initial trials are showing amazing results for RLT and **brain health** with positive effects on improved executive function and enhanced recall memory. RLT also has great benefits for sufferers of dementia and Traumatic Brain Injuries (TBI) and concussions. And it may also work indirectly via interaction with the endogenous IR light that human beings produce. Many different scientists and practitioners including the American surgeon, E. Babbit, M.D proved that treatment with coloured light could achieve very significant healing results through its effect on the human energy field, the light receptive autonomic nerve fibres in the skin and via the nerves that connect the eye directly with the limbic system, changing mood and physiological function.

Circadian rhythm

You may already have heard of the Circadian Rhythm and you may be aware that it is this rhythm that makes you feel sleepy at night and helps you open your eyes in the morning. What you may be surprised to learn, is that the Circadian Rhythm is responsible for A LOT more than that! In fact, almost everything!

The Circadian Rhythm is a daily rhythmic activity cycle, based on 24-hour intervals, that is exhibited by many organisms. Circadian Rhythm is controlled and can be optimised by 2 main inputs, namely, light and food, or the absence thereof. At night, we feel sleepy, we go to sleep and sleep for around 8 hours, hopefully! During those 8 hours of sleep, the brain and body go through a variety of processes at roughly the same time every night:



- 1) Your Brain Sorts and Processes The Day's Information.
- 2) Hormones Flood Your Body
- 3) Your Sympathetic Nervous System Chills Out
- 4) Cortisol Levels Lower
- 5) Your Muscles Paralyse
- 6) Anti-Diuretic Hormone (ADH) Helps You Not Have To Pee
- 7) Your Immune System Releases Anti-inflammatory Cytokines

All this and this is only the tip of the iceberg when it comes to how important the Circadian Rhythm and why it is so important to optimise it!

The good news is, red light therapy and blue blocking eyewear are both very powerful tools that we can use to improve our sleep quality, optimize our Circadian Rhythms. They can be used separately or combined for even greater benefits!

There are many other benefits and info which you can access from [this link](#).

[Blog post + Scientific references](#)

[Infographics of Target Light 670](#)

SOURCE DOCUMENT WITH ALL STUDIES REFERENCED - [SOURCE](#)

Infographic about [BENEFITS OF RLT](#)

Based on information from Red Light Rising and included in my book [Life Illuminated: How Light and Energy Underlie Life](#) available from amazon [here](#).