

Benefits of Red Light Therapy Explained

- 1. Increases Fat Loss and Burns Off Fat**- Red Light triggers the formation of small openings or pores in fat cells, which releases fatty acids known as lipids. One study found that just four minutes of exposure to 635nm red light caused 80% of lipids to be released from fat cells, and by six minutes, almost all of the fat had been released.
- 2. Speeds Up Wound Healing, and Scarring**- Red Light Therapy devices work by emitting wavelengths of light, enabling it to stimulate the production of adenosine triphosphate or ATP, cellular regeneration, and remove oxidative stress. Your body's healing process now becomes faster because of Red Light Therapy.
- 3. Reduces Cellulite**- Red Light stimulates fibroblast production (fibroblasts are the precursors to collagen), which will help thicken skin as well as the underlying connective tissue and restore elasticity. Once skin becomes more elastic and thicker, subcutaneous fat is more contained and less likely to push outward.
- 4. Promotes Firmer, More Radiant, and Smoother Skin**- Red Light Therapy stimulates blood circulation and the development of new capillaries. Because of this, more nutrients and oxygen is delivered to the skin that results in a healthier radiance. This light stimulus gives you that instant glow that people associate with healthy and young skin.
- 5. Reverses Skin Aging, Skin Appears More Youthful**- Because of loss of collagen, wrinkles start to creep up on our face (or neck). Red light therapy helps boost collagen and fibroblasts production to help correct these unsightly tell-tale signs of aging.
- 6. Improves Brain Health & Cognitive Performance**- Red Light stimulates the regrowth of neurons, which is a process known as neurogenesis. It also stimulates synaptogenesis (the formation of synapses between neurons), which influences the brain's neuroplasticity (the brain's natural ability to reorganize itself by forming new neural connections.) This is especially helpful in cases of TBI where cognitive functions have been impaired. Red Light Therapy may be used as part of a comprehensive treatment program that includes behavioral and/or cognitive therapy.
- 7. Slows Hair Loss and Stimulates Hair Growth**- Red Light has been found to be especially effective at treating hair loss; specifically, light in the 620nm (nanometer) to 660nm wavelengths work best. It works by increasing blood flow in the scalp; this stimulates the metabolism in hair follicles, resulting in the production of more hair. Red Light Therapy helps hair grow in a few ways. One, by accessing the mitochondria and stimulating fast hair cell repair and growth. Two, by promoting blood flow and circulation to the scalp and hair follicles which strengthens hair. And three, by helping reduce and prevent scalp inflammation which hinders hair growth.

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8. Improves Sleep Quality, Fall Asleep Faster- During a Red Light therapy session, your eyes' retinal cells perceive the light from the Red Light therapy device, affecting certain chemicals in your brain. These chemicals are melatonin and serotonin, and they are responsible for regulating your sleep-wake cycle. The perception of light delays your brain's melatonin production, waking you up and lifting your mood.

9. Increases Energy Levels and Combats Chronic Fatigue- The primary function of Red Light Therapy is to increase energy production. Red Light strengthens the mitochondria, the part of the cell that creates energy. By doing so, this procedure increases energy levels. The procedure also improves thyroid function.

10. Combats Fibromyalgia and Fights Hashimoto's Hypothyroidism- Researchers in Brazil have been studying the effects of Red Light Therapy on the thyroid gland in Hashimoto's thyroiditis, and the results have been astonishing! Most significantly, they found that all patients who received the therapy were able to reduce their levothyroxine dose, while 47% were able to discontinue levothyroxine and have normal thyroid function during the 9-month follow-up.

11. Decreases Pain- As light penetrates the body, a photochemical reaction is induced in the cells, a process referred to as "photobiomodulation" or "PBM". Cascades of therapeutic chemical processes that support the body's own innate healing capabilities are being released. Radiation of tissue with light causes an increase in mitochondrial products such as ATP, NADH, protein, and RNA. ATP (Adenosine Triphosphate) provides cellular energy and also fights oxidative stress. Nitric oxide is also released, which plays an important role in phototherapy pain relief.

12. Lowers Inflammation and Potential Inflammation Related Diseases- Red Light Therapy alleviates chronic inflammation by increasing blood flow to the damaged tissues, and it has been found in numerous clinical trials to increase the body's antioxidant defenses.

13. Improves Circulation- The diodes in a Red Light Therapy device release photons of light of specific wavelength and intensity, which penetrate deep into the body and trigger a cascade of beneficial chemical reactions, especially the instant release of nitric oxide. Nitric oxide is the human body's natural vasodilator, instantaneously widening the blood vessels and capillaries and allowing for improved circulation in the local area under the Red Light Therapy device. This improved blood flow brings nutrient-rich and oxygen-rich blood into the nerves and other tissues, which reduces pain. This increased flow of blood helps the body to operate in a state of homeostasis, or a stable equilibrium of physical and chemical conditions, thereby promoting optimal functioning where circulation is increased, and pain is reduced.

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- 14. Help Tendonitis, Improves Joint Health, and Combats Arthritis-** As Red and NIR photons enter the cells, they stimulate the production of a high-energy molecule called adenosine triphosphate (ATP), which energizes cells. More cellular energy equals better performance, much the same as you perform at your best when you're filled with energy. Peak cellular functioning is critical to overall health, a strong immune system, reduced inflammation, physical energy, and longevity.
- 15. Improves Body Detoxification Ability-** Red Light works on the lymphatic system to improve your body's detoxification abilities by increasing blood flow
- 16. Improves Oral Health-** Red or Infrared light triggers a regeneration of particular parts of the tooth and gum whilst simultaneously reducing the number of negative bacteria.
- 17. Enhances Muscle Gain, Strength, Endurance, and Recovery-** Red Light Therapy increases muscle torque at the beginning of the exercise and maintained the levels of lactate after resistance exercise. Therefore, light therapy with these parameters can be utilized in rehabilitation to improve muscle performance.
- 18. Delays the Onset of Muscle Fatigue During Workout-** As Red Light Therapy penetrates the skin and stimulates antioxidants; it plays a key role in reducing the oxidative stress that comes with delayed onset muscle soreness
- 19. Increases Oxygen Uptake and Decreases Shortness of Breath-** The emission of the light helps the blood cells take up more oxygen and nutrients to be utilized throughout the body, helping breathe properly
- 20. Reduces Delayed/Onset Muscle Soreness-** Natural Red and Near-Infrared light also increases antioxidant activity in the body. Antioxidants are molecules that help protect cells from damage caused by oxidative stress. Oxidative stress occurs when there is an imbalance between free radical production and antioxidants. This leads to the deterioration of cells. So as Red Light Therapy penetrates the skin and stimulates antioxidants, it plays a key role in reducing the oxidative stress that comes with delayed onset muscle soreness.