# Red Light Therapy

Presented by: Heidi Osterman

### What is it?

Red light therapy is a type of phototherapy. It involves exposing the body to low-level red and near infrared light (NIR) to promote healing and treat various health conditions. It is a non-invasive treatment. Specific wavelengths of light, typically 630 to 880 nanometers are used to penetrate the skin. The are absorbed by the mitochondria (sometimes referred to as the powerhouse of our cells) and stimulates cellular activity and regeneration.

Once absorbed, the red or near-infrared light energy activates the mitochondria which leads to an increase of adenosine triphosphate (ATP). ATP is the molecule that provides energy to your cells and aids in repairing and overall function. With increased ATP, your cells can complete tasks more efficiently.

### Benefits

- Restore cellular health
- Increased circulation
- Reduction of inflammation
- Improved skin health

- Healthier nerves
- Reduce pain
- Improved sleep

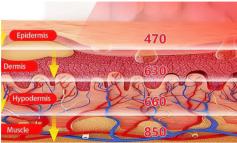
#### How does it affect cell function?

Red light therapy reduces oxidative stress. Oxidative stress occurs when there is an imbalance between the production of free radicals and the ability of the body to neutralize them. The red light increases ATP, promotes cellular activity and stimulates the production of antioxidants within cells. This helps to neutralize the harmful free radicals, reducing the oxidative stress.

Red light therapy has anti-inflammatory effects. Inflammation is a response to infection or trauma in a localized area. The Immune system recognizes the infection or trauma and removes the damaged cells. When inflammation lasts long-term, it can compromise the function of healthy tissue and weaken the immune system. By stimulating cellular activity, it helps to reduce inflammation which helps the body heal.







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### How does it affect circulation and blood flow?

Red light therapy promotes the release of nitric oxide, a molecule that plays a critical role in improving blood flow. It helps dilate blood vessels, allowing for better circulation and oxygenation of tissue. This improved blood blow will help deliver nutrients and remove waste products from the body. It has also been found to stimulate the formation of new blood vessels, know as angiogenesis. Improving the vascular network can help transport nutrients and remove waste materials more efficiently.

#### How does it affect skin health?

Red light therapy stimulates the production of collagen, a protein that provides structure and elasticity to our skin and other tissues. This helps rejuvenate cells, promoting their longevity and vitality. It improves skin tone and texture as well as helping to remove impurities and toxins on the skin's surface. It has been shown to help alleviate skin conditions such as acne and eczema.

#### How can it support detoxification?

Detoxification is a process that helps the body remove harmful toxin and impurities, which improves overall health and well-being. Red light therapy works on the top of the skin but has the ability to promote detoxification throughout the skin, blood and lymphatic system. The targeted areas may enable toxins to pass through the skin due to the increased blood flow.

## How and when to use Red Light detoxification

When you are just starting to use red light therapy, start with shorter sessions (5-15 minutes). This will give your body time to adjust to it. Once your body is adjusted, you can gradually increase the duration. For best results, use it multiple times a week. This will help your body consistently eliminate toxins and impurities, ultimately improving your overall heath.

It is suggested to combine with other detoxification methods such as saunas. To maximize the benefits of red light therapy, it is important to stay hydrated, practice healthy eating and maintain a healthy lifestyle. This will support your body's natural detoxification process

#### Sources:

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