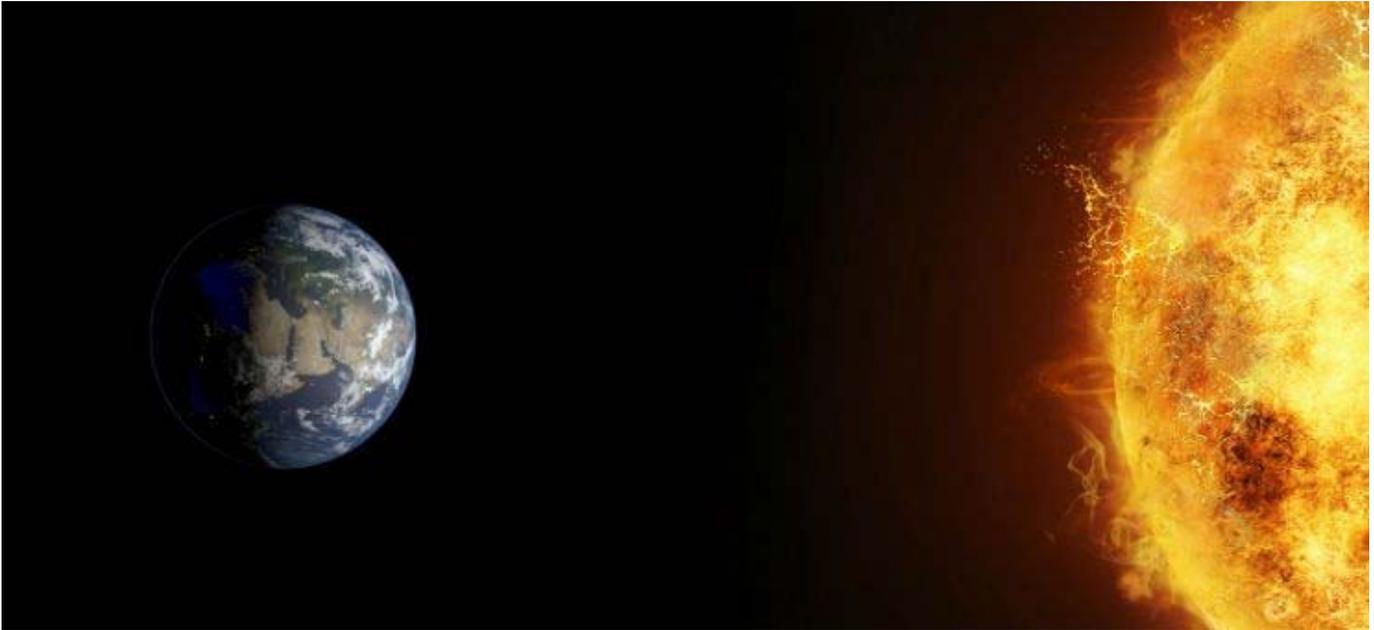


# What is Light Therapy?



To better understand light therapy, it would really help to know what light is in the first place. It all starts with the sun.

The sun emits an unthinkable amount of energy. For example, if you could place a piece of the sun the size of a pinhead on earth, you would not be able to safely stand within 90 miles of it. This energy is called electromagnetic radiation or the **electromagnetic spectrum**. It travels to earth in waves, rather like sound.

Most of the sun's energy (radiation) is harmful to us and so is blocked by our atmosphere. But some of this tremendous energy reaches earth, and we call the visible portion of this energy "light."

## Color is Light Energy

The wavelengths of visible light are tiny, ranging from 400 to 700 billionths of a meter, or nm. Natural daylight contains within it each color of the rainbow. Therefore, a color can be defined by a range of tiny wavelengths:

### **Color – Wavelength**

Violet Light – 380-450 nm

Blue Light – 450-495 nm

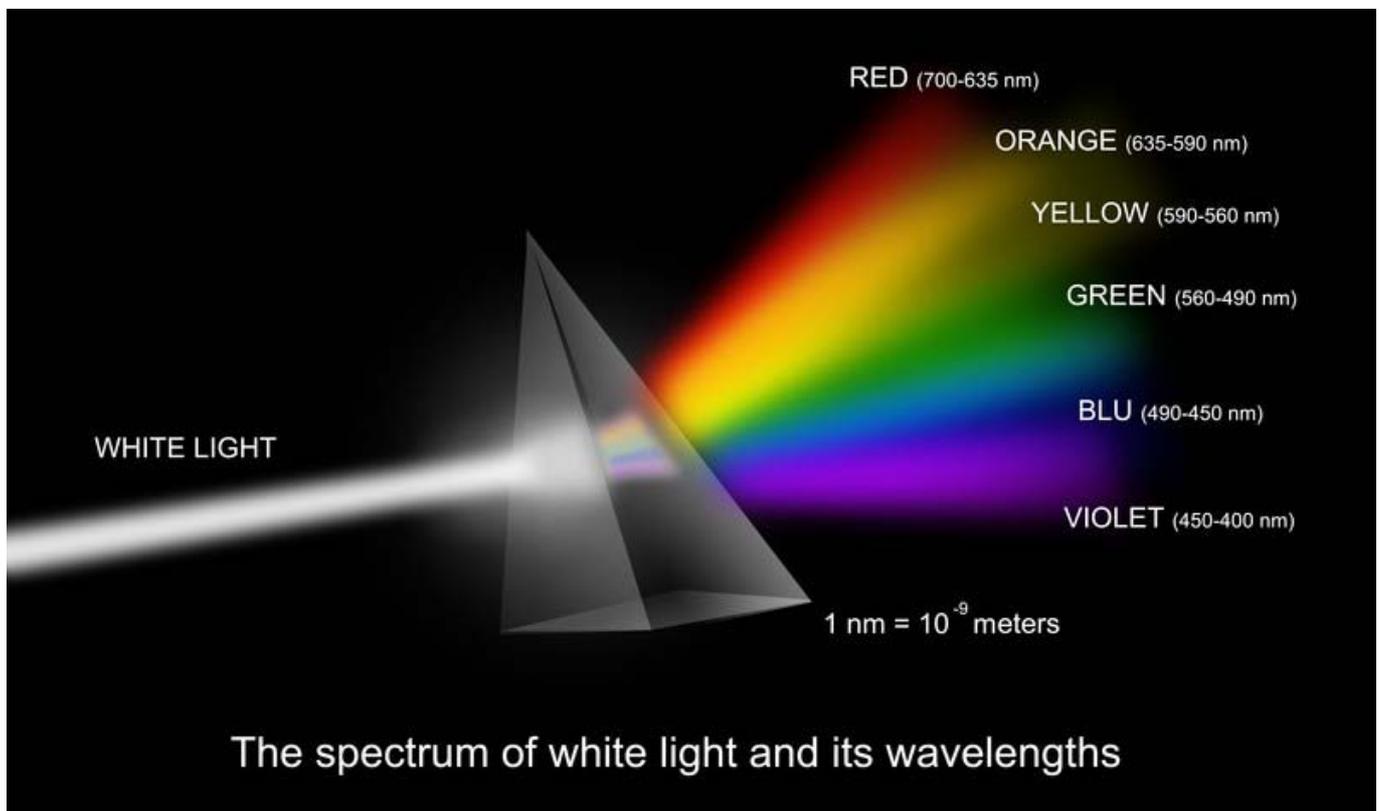
Green Light – 495-570 nm

Yellow Light – 570-590 nm

Orange Light – 590-620 nm

Red Light – 620-750 nm

(non visible) Infrared energy – 750 nm – 100  $\mu$ m



The wavelength of light, expressed in nanometers (nm), simply defines the color as we see it.

So then, whether coming from the Sun or any type of light bulb, **light is actually a powerful electromagnetic energy** traveling at 186,000 miles per second. It is no wonder, then, that light has a powerful effect on living things. What, then, is light therapy?

## What is Light Therapy?

You know how much better you feel on a bright sunny day? You are experiencing light therapy as nature intended it.

Natural daylight contains the full rainbow of colors or, the “full spectrum” of color. **Light therapy is the use of natural daylight, artificial daylight (full spectrum light), or any single color to promote an overall sense of well being, correct the imbalances caused by a lack of natural light, or stimulate a specific healing response in the body.**

Light therapy is not new, but has been used in the medical practice of just about all cultures since the beginning or recorded history. In fact, light therapy of all kinds was used in the medical practice of modern societies until the advent of antibiotics, when most natural remedies were put aside in favor of medical “advancements.” Today, light is once again being recognized as the most advanced form of treatment for an ever growing list of medical conditions.

**Not coincidentally, many of the conditions that light therapy treats have been caused by a lack of natural light in the first place.** This deficiency is being called, “malillumination.” As a result, full spectrum light therapy is gaining popularity type of light therapy today. Read on to discover what full spectrum light therapy is and why you probably need it.

***There two general ways that light therapy treatments are administered:***

1. Light taken in through your eyes.
2. Light shone on your skin.

## Light Through Your Eyes

Light travels through your eyes **directly** into the hypothalamus of the brain, thereafter having an effect on every system of your body. Forms of light therapy that employ this fact include bright light therapy, dawn simulators, color tinted glasses and syntonics.

## Light on Your Skin

The skin is the largest organ of your body and has been designed to absorb light in many different ways. **Sunlight on your skin** is the only natural way of Vitamin D production. The result of the sunscare has been epidemic Vitamin D deficiency. **Colored light** shone on the skin is the basis for a wide variety of light and color therapy techniques including:

## Conventional Medical Use

Blue light therapy and red light therapy have a number of highly beneficial uses in conventional medicine. Among the examples are jaundice, which is treated in many hospitals in the United States, Canada, and around the world using blue light. Acne bacteria can be painlessly eliminated with blue and red light therapy, which can also be used to maintain the complexion once the pimples have cleared up. MRSA bacteria that is resistant to antibiotics can be effectively killed using blue light therapy without negative side effects. Similarly, these lights can be used to help to reduce pain levels, and to improve and speed the healing of wounds. This can be accomplished both safely and effectively.

## What is Red Light Therapy?

Red light therapy has been proven effective for a wide range of healing and rejuvenating uses including anti-aging, hair loss prevention & regrowth, skin conditions, wound care, pain relief, and much more. It is a 100% natural therapy with zero side effects. What red light therapy is depends on who you ask. There are two very different ways to look at it: first, from the viewpoint of Western traditional medicine; and second, from the viewpoint of Eastern, energy medicine.

## Red Light Therapy & Western Medicine – Photobiomodulation

Western traditional medicine likes to deal with what we can measure in a lab and prove to the FDA. Once NASA came down with undeniable wound healing results from red light therapy, conventional medicine started paying attention. Over 10 years later, red light therapy has now been thoroughly researched and FDA approved for anti-aging and pain relief, with wound care applications soon to follow.

## Red Light Therapy & Eastern Medicine

Red light therapy is also used in Eastern medicine practices which focus on the energy systems of the body, specifically meridian points and chakra zones. For example, “**Colorpuncture**” uses a narrow beam of red light to stimulate acupuncture points instead of needles. A brand name “**Photonic Light Therapy**” does the same thing for animals. Red light therapy could also be called **red color therapy** and used to fuel overall vitality.

***While western science and eastern medicine may not often agree, the facts remain: light is energy, and our body is energy. Red and infrared light energy penetrate deep into the body, and has profound effects***

*in the hands of both western and eastern healing professionals alike. The good news is, it will likely have the same rejuvenating, healing and balancing effects in your hands as well, at a fraction of the cost.*

## How Red Light Therapy Works

Visible red light is capable of penetrating the skin to a depth of about 8 to 10 mm. Once absorbed, the light energy is converted to cellular energy, stimulating the body's natural processes on a cellular level and triggers a number of responses including;

- Increased circulation and the formation of new capillaries. <sup>1</sup>
- Increased lymph system activity.
- Increased production of collagen and fibroblasts. <sup>2</sup>
- Increased release of ATP, or raw cellular energy. <sup>3</sup>
- Increased phagocytosis, or cellular clean up.
- Tissue granulation stimulated. <sup>4</sup>
- Inflammation reduced. <sup>5</sup>

All of these things work together to produce many benefits for you in the areas of anti-aging, the healing of wounds and injuries, and the relief of pain, as we'll see below. But no matter what the application, red and infrared light therapy **share the same benefits overall.**