

How Light Therapy Works

Light therapy works by exposing the eyes to intense or bright light. After bright light hits our eyes, it travels along the retinohypothalamic tracts to the Suprachiasmatic Nucleus located in the center in the brain's hypothalamus. The Suprachiasmatic Nucleus is also called the "Body Clock", as it regulates our sleep, mood and energy.

From there, it moves to the pineal gland. When the light hits the retina, the light is transmitted by nerve impulses to the pineal gland which is responsible for melatonin secretion. This function can help moderate the body's internal clock, also known as the circadian rhythm.

This complex process triggers hormonal and neurochemical changes that alter:

- core body temperature
- melatonin secretion
- serotonin
- related neurotransmitter levels

These biological changes ultimately result in fairly rapid changes in our body clock and circadian rhythm that affects how we think, feel, and function.

Light actually produces hormones and neurotransmitters that affect our mood and well being. One of these hormones, serotonin, is thought to be a major factor in depression. One recent study that was reprinted in the Journal, The Lancet, showed that bright light significantly increased serotonin levels, while dark or cloudy days caused serotonin to plummet.

Light therapy is also able to reduce the daytime melatonin levels, while also enhancing the effectiveness of serotonin and other neuro-transmitters - which explains its ability to be able to effectively treat seasonal affective disorder, Alzheimer's and other mental disorders.

The reason light is so effective is that it appears to correct some of the root causes of depression. One reason people become depressed is because their brain center that controls these hormone cycles has malfunctioned. The brain center or Suprachiasmatic Nucleus or body clock, can easily become imbalanced from trauma, stress, surgery, age or the lack of light. When the body clock becomes imbalanced, it produces the wrong hormones, causing insomnia, energy and mood problems.

Light Therapy utilizing 10,000 lux provides a measured amount of balanced spectrum light equivalent to standing outdoors on a clear spring day. This has been shown to help regulate the body clock.

Comparing Lux

Direct Sun	100,000lux
Bright Light Therapy	10,000ux
Home/Office Lighting	300 – 600lux
Desk Lamp	100lux