

Back in the late 1980s and 1990s, NASA was involved in research to use the light from LEDs as a replacement for sunlight, to grow plants, as they supposedly wanted to cultivate plants in space.

Red and blue LEDs were used, because they are the most efficient wavelengths for driving photosynthesis, and during the studies, the workers started experiencing some unexpected side effects.

Their hands were under the lighting, and they found that any nicks, cuts, or abrasions on their hands would heal faster than normal, and led NASA to investigate whether there were medical uses for LEDs.

For the corresponding experimental research, NASA partnered with the original plant study contractor, Quantum Devices, the Medical College of Wisconsin, and a few other interested parties.

They knew that near-infrared laser light did boost the healing speed of wounds, particularly if the wounds were starved of oxygen, as it produced more growth-factor proteins, collagen, and blood vessels.

But by using LEDs, they would not experienced the drawbacks of lasers, as LEDs could emit multiple wavelengths, were cheaper to build and to run, can cover larger areas, and did not damage tissues.

They used high intensity red and near-infrared LEDs and found the same accelerated healing of oxygen-deprived wounds, as well as enhanced growth of skin, bone, and muscles in their rat subjects.

Interestingly, there was yet another unexpected side effect, with the LEDs preventing methanol induced blindness in the rats, meaning it can be used to treat or prevent glaucoma and macular degeneration.

They then supplied LED devices to the Navy for training injuries, and they found that their trainees experienced a 40% greater healing in musculoskeletal injuries and a 50% faster healing time for lacerations.

The military now uses their devices in battle, such as the WARP 10 (Warfighter Accelerated Recovery by Photobiomodulation), to treat pain, inflammation, and minor injuries.

Of course, NASA did not pioneer healing by light, and the man known as the pioneer of photo therapy is Danish doctor Niels Finsen, for which he received the Nobel Prize in medicine in 1903.

Dr. Finsen was only 42 when he was suffering from Picks disease, and found a solution for his anemia and weakness by sunbathing, and later expanded his studies to look at smallpox, lupus, and tuberculosis.

But using the sun was not enough, as Dr. Finsen wanted to know which wavelengths would best heal the affected skin, and through a filtering out process, found that red light healed smallpox quickly.

For tuberculosis, success was found with particular UV wavelengths, and he went into business with tuberculosis sanitariums, that became so popular they were even fully booked during the 2 world wars.

Unfortunately, these safe and inexpensive treatments have been overtaken by expensive and dangerous pharmaceutical measures, but that hasn't stopped the study of light therapies for health.

The anti-aging industry in particular has used the science to develop a number of anti-aging machines for use on the skin, where they now use safe low-level LEDs, instead of the high-energy powered devices.

For example, <u>this study</u> found low level red and infrared LED lights to significantly increase expression of hyaluronic acid, collagen, and elastin, with all giving excellent anti-aging benefits for the skin.

Another study found red light therapy significantly improved skin complexion and feeling, reduced skin roughness, increased collagen density, and you could distinctly see the difference in the photos.

Light therapy is not exclusively done with red lights, with many other colors of the spectrum being used for different applications, including probably the most famously known condition for it, jaundice.

Like Dr. Finsen's findings above, this treatment had its origin with the use of sunlight, as Sister Ward, as nurse at the Premature Unit at Rochford General Hospital in Essex, accidentally discovered.

It was 1956, and she had a practice of taking the newborns outdoors in the sun, when she noticed that the skin which was exposed to the sun was much paler than the yellow skin left under the sheets.

Researchers at the hospital investigated her discovery by testing bilirubin levels in light versus no light exposure, and they confirmed sunlight had a positive effect in treating jaundice.

Since then there have been experiments to find the best wavelength, and while blue-green colors are mostly used in hospitals, it is possible to treat jaundice with blue, green, and yellow colored light.

It is of course the skin that receives the most attention for light therapy, but it does have the ability to heal both internal conditions, and mental conditions, as evidenced by this recent study.

Researchers used a cranial helmet to deliver infrared light deep into the brain, and found it improved memory, motor function, brain processing speed, brain blood flow, and nitric oxide levels.

The study was headed by Dr. Paul Chazot, who has spent 20 years developing infrared light technology to treat dementia, and he now believes it can be used to treat Parkinson's & motor neurone disease.

The study also showed that the infrared lights reduced the membrane protein beta-amyloid, which is widely believed to be responsible for destroying particular nerve cells and leading to Alzheimer's.

There have been hundreds, if not thousands of studies confirming light therapy is beneficial for these aging related diseases, plus brain injuries and Huntington's, and this <u>review article</u> is a great summary.

Today, the medical journals are full of studies proving LED light therapy can be used to treat practically any disease, including <u>cancer</u>, <u>diabetes</u>, and <u>heart disease</u>, so whatever condition you have, try it out.

For further information on light therapy and other electrical and energetical healing methods, please visit <a href="HealthGlade.com">HealthGlade.com</a>