

Every 2 hours approximately 99% of the body's new blood volume is exposed to light as it circulates through the blood vessels on the back of the eye, continually altering blood chemistry.

Every substance ingested by the body has a maximum wavelength absorption characteristic. In other words, for any ingested substance to be fully digested and assimilated by the body, it must go through a series of chemical reactions, catalyzed by a specific portion of the electromagnetic spectrum. Blue light, for instance, is required for the breakdown and excretion of bilirubin, while ultraviolet is necessary for the synthesis of vitamin D. Anything we ingest must interact with a precise segment of the electromagnetic spectrum in order for it to be fully metabolized. Therefore, any portion of the spectrum we are not assimilating will affect our ability to fully absorb the nutrients in the food we eat.

Light entering the eyes also travels to the site of the body's biological clock within the hypothalamus. Known as "the brain's brain", the hypothalamus is the body's major integration center for information from the nervous system, endocrine system, immune system, and emotional centers, as well as the initiator and director of our reaction and adaptation to stress. In essence, the hypothalamus uses light activated information to regulate the body's vital functions.

Until recently, the pituitary was referred to as the body's master gland. However, it is now recognized that the body's real master gland is the pineal. Referred to as the "third eye" by Indian mystics and the "seat of the soul" by Descartes, the pineal is considered the body's "regulator of regulators". Acting as the body's "light meter," it simultaneously communicates information about time of day, time of year, spectral characteristics, and the earth's electromagnetic field with every cell in the body. In so doing, each cell orchestrates its internal function and synchronizes itself with Mother Nature. Light's stimulatory and regulatory effect on the human body occurs by way of the eyes.

The human energy system is in a continual homeodynamic state. This critical preservation of harmony is accomplished by constantly linking our vital functions with the chronology of the cosmos. Thus, our receptivity to the full spectrum of sunlight determines our degree of oneness with life.

The Impact of Full Spectrum Light

Just as poor diet can lead to malnutrition, ingesting poor quality light can result in mal-illumination, with similar effects. Dr. John Ott, pioneer in the development of full-spectrum lighting, demonstrated that only the full spectrum of sunlight induces full growth in plants. He also found that chickens living under artificial lights live half as long, are more aggressive, and produce eggs with significantly more cholesterol. Mice living under commonly used fluorescent lights lived half as long as those living under natural daylight. Dr. Ott also found that children in classrooms illuminated with full-spectrum light demonstrated a marked improvement in academic achievement within one month, significantly less hyperactivity, and 33% less incidence of cavities.

Under natural daylight or full spectrum light that duplicates natural light, visual acuity, accuracy, and productivity increase. Students and office workers experience far less fatigue and chance of error. Absenteeism due to illness decreases and people have more energy. When one company redesigned their facility with full spectrum light, they saved \$235,000 annually from reduced computer errors by employees.