Northern Light Technologies

THE HISTORY OF LIGHT THERAPY FOR SEASONAL AFFECTIVE DISORDER

The science of light therapy is advancing rapidly as technology is changing and our understanding of how and when to apply light is much better than it was in the past.
The following is a chronological history of the development and advances in light therapy.

YEAR	DEVELOPMENT
1982	The National Institute of Health (NIH) discovers winter depression and coins the term, 'SAD' for Seasonal Affective Disorder.
1984	The NIH determines that SAD is effectively treated with bright therapeutic light. 2,500-lux level of intensity is recommended for 2-3 hour treatment sessions each day.
1987	Seasonal Affective Disorder is determined to be a circadian rhythm disorder. Dr. Lewy and Dr. Sack publish "Circadian Phase-Shift Hypothesis," explaining why people become depressed in the winter.
1989	Researchers recommend bright light as the 'Treatment of choice' for Seasonal Affective Disorder.
1990	Columbia Presbyterian Hospital in New York publishes results showing increased response to 10,000 lux vs. 2,500 lux. Treatment times are reduced from 2 hours to 30 minutes. Up to 50% more patients respond to new treatment protocol. 10,000-lux established as standard for light therapy.
1991	Dose Response Relationship is explored, setting off a decade-long study to determine which bandwidth of light is causing neurochemical reaction.
1992	Researchers report that light travels via the Retino-hypothalamic Tract, a neural pathway connecting the retina of the eye to the Suprachaismatic Nucleus (SCN) or body clock, located in the hypothalamus of the brain. Researchers believe that light triggers the SCN into suppressing the withdrawal hormone, melatonin in the pineal gland, while producing serotonin and other active hormones.
1993	Researchers determine that the SCN is responsible for a myriad of body and hormonal rhythms. Among other things, the SCN controls heart rate and blood pressure, appetite, sleep, mood, menstrual cycles and energy levels.
1994	Dr. Charmane Eastman and colleagues at Rush Presbyterian in Chicago begins extensive study of shift work and light therapy. Light is found to effectively manage shift work problems. Dr. Eastman consults with NASA to regulate astronaut's and crewmember's sleep/wake cycles.
1995	"Consensus Report on Sleep" published by the American Academy of Sleep Medicine (AASM) The consensus report lists several circadian related sleep disorders, accounting for over 25% of all sleep problems. Circadian rhythm sleep disorders are most effectively treated with light therapy.

Northern Light Technologies

1996	Dr. Alexander Neumeister at the University of Vienna discovers that depression is circadian related, since depression sufferers feel worse in the morning as well as in the winter. Dr. Neumeister combines new treatment; sleep deprivation with light therapy for immediate relief from depression. Sleep deprivation's response rates exceed those for medication.
1996	Dr. Barbara Parry, UCSD publishes several studies showing light to be effective at regulating irregular menstrual cycles, treating PMS and PMDD as well as prenatal and postpartum depression. Light is also used in studying perimenopausal depression and menopausal sleep disorders.
1998	Dr. Daniel Kripke at UCSD demonstrates that light therapy is as effective as medication in treating non-seasonal, major depression. Light acts within 1 week as opposed to several weeks for SSRI's.
2001	Dr. George Brainard at Thomas Jefferson Medical University publishes results showing that specific bandwidth is responsible for causing neurochemical reaction (shifting circadian rhythm & suppressing melatonin).
2002	The Journal "The Lancet", shows that bright light significantly increased serotonin levels, while dark or cloudy days caused serotonin to plummet. Serotonin is thought to be a major factor in depression.
2003	Researchers at UCSD confirm Dr. Neumeister's discovery (1996), using sleep deprivation and bright light to treat depression. Sleep deprivation (staying awake all night) is modified to 'wake therapy,' as patients are allowed to sleep until 2:00 am.