

# The Role of Melatonin in the Circadian Rhythm in Health and Disease

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The circadian rhythm has a central role in the energy involved in all metabolic practices. The sleep phase is a necessary aspect of the circadian rhythm. Physicians and the lay public alike have good reason to be excited about the valuable health promoting properties of the master neuro-hormone melatonin. A review of recent research information on melatonin indicates the following values: Anti-stress, antitoxic, anti-arteriosclerotic, anti-aging, anti-infectious, regulates hormone system, regulates immune system, regulates endogenous opioid system, regulates oxidation reduction, regulates mineral metabolism, regulates respiration, a transducer, an overall governor of all energy functions and anticarcinogenic.<sup>1</sup> Just imagine, all of these values applied to human health. Furthermore, consider the self-help values when increasing pineal gland melatonin production by sleeping with a magnet at the crown of the head, or by supplementing with oral melatonin which is nonprescription.

In view of the numerous potential values of magnetic therapy in general and specifically the raising of melatonin by a negative magnetic field at the crown of the head, I did more than imagine the possible therapeutic results, I set up a clinical experiment. The results of exposing the top of the head to a 3,950 gauss magnet using the negative pole resulted in sound sleep, vivid and pleasant dreams, increased energy on awakening, improved hair texture, increased oil of hair and skin, increased growth of fingernails and toenails, improved skin texture, including correction of rough skin areas from former sunburn, improved ability to relax, reduced anxiety, and in a menopausal woman a

regrowth of axillary, leg and pubic hair. One subject with acute infectious mononucleosis had a rapid return of energy and was back to work in four days. A subject weak from a lightning strike recovered within two nights of negative magnetic energy at the crown of the head during sleep. Reactions to environmental substances were reduced. A subject who could not stand sunshine without dark glasses, found that there was no more hypersensitivity to sunshine.<sup>2</sup>

Optimum therapeutic results have been achieved by pacing the circadian rhythm by one-half hour of bright light exposure in the eyes in the morning on awakening and a negative magnetic field at the crown of the head during sleep at night. The therapeutic significance of the bright light spectrum of sunshine has been the subject of considerable research.<sup>3 4 5 6 7 8 9 10</sup> Several articles highlighting the value of bright light have appeared in psychiatric literature and has been the subject of presentations at the annual convention of the American Psychiatric Association. It is estimated that ten percent of Americans would benefit and be less depressed when systematically exposed to bright light in the morning. The further north the person lives, the more likely the need for bright light. It is evident that whether we start the day with the bright light or sleep with the magnets at the crown of the head at night, that either is helping to pace the circadian rhythm. Optimum therapeutic results are achieved by pacing the circadian rhythm with both bright light in the morning and negative magnetic energy at the crown of the head during sleep at night.

The wakeful phase of physiological and mental activity start in the morning with arousal mediated by bright light from the sun and the resulting sky shine. However, one should never look directly into the sun. This bright light must

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shine into the eyes to achieve optimum biological, mental and physical arousal and antidepressant values. Positive magnetic energy is in the ascendancy during the wakeful physiologically and mentally active state. Sky shine is a positive magnetic field. During this wakeful and active state, energy is being used up faster than it is being made and when extended beyond physiological limits, is stressful and result in a state of mental and physical disorganization, toxicity and/or collapse.

Rest, relaxation and especially deep sleep are necessary for recovery of energy expended during the waking period. Negative magnetic energy is in the ascendancy during this energy recovery phase. An anti-stress level magnetic field has been documented as producing the neurohormone melatonin by the pineal gland.<sup>11 12</sup> Melatonin is produced only at night when there is no sunlight or sky shine. Melatonin is essential for energy control expressed during the wakeful period. A deficiency of melatonin leads to numerous physical and emotional disorders. An example of melatonin deficiency is eposodic-apnea in infants and equally in the elderly, which can be responsible for cardiac arrest.<sup>12</sup> I have observed apnea in the elderly to disappear when sleeping with the negative pole of a magnet at the crown of the head. The function of melatonin include, but are not limited to, the regulation of primary neurohormones and endorphins and control of energy expression in all systems which also include the oxidative and aging processes.<sup>1</sup> Melatonin also inhibits the development of infections and neoplasms.

For optimum physical and emotional health, both the waking and sleeping phases need to be optimally functional to prevent or reduce the potential for the development of depression, insomnia, chronic fatigue, mental and emotional disorganization, increased microorganism infection, disorganized biorhythms, premature aging and the degenerative diseases inherent in the aging process.

Ideal for having the crown of the head exposed to the negative magnetic field is the holding in a carrier of four of the 3,950 gauss magnets one inch apart and standing upright. These are 4 x 6 x

1/2 inches. It is also useful to place a 2 x 5 x 1/2 inch 3,950 gauss magnet on the sternum for sleep induction. The magnets are solid state magnets with magnetic poles on opposite sides. The negative pole is always placed toward the body. The subject sleeps all night with his head in the negative magnetic field. The negative magnetic field is the same as the negative pole of a D.C. circuit, negative ionization and is the same as the magnetic north pole of the earth.<sup>2</sup> The bright light can be provided for one-half hour exposure in the morning while eating breakfast or doing A.M. chores. This can be provided by a full spectrum light leaving out that aspect of ultraviolet that can be harmful by providing only the bright light spectrum of sunshine.

A useful and accepted role of magnetic energy use in medicine has rapidly been expanding with the introduction of magnetic resonance imagery, magnetoence-phalogram, magnetocardiogram, several magnetic instruments for pain relief, nerve testing instruments and a magnetic hearing aid. These medical instruments have been cleared for safety and claims of value in specific areas of testing and treatment. The area of neurological diagnosis is rapidly expanding with the incorporation of magnetic field energy replacing electrical stimulation as a diagnostic tool. I counted 33 references to magnetic field testing published in the standard peer review journals of neurology with most of these occurring in 1988 and 1989. An example is the published information in the *Journal of American Medical Association*, July 28, 1989, which is a report of Grand Rounds at the Clinical Center of the National Institutes of Health. The title of the article is "Magnetism, a New Method for Stimulation of Nerve and Brain."<sup>13</sup>

There are obvious values beyond the specific values for which specific instruments have been cleared for making claims. The reason these other values have not been cleared yet and considered as proved, is that large scale control studies have not been done as yet. We are hoping for these studies soon. The area of producing improved sleep and energy with all the values of raised melatonin is in the area as yet unproved. The fact that melatonin is raised by an antistress (with magnetic field or negative magnetic field) level of

magnetism is documented.<sup>11 12</sup> Individual cases are observed to be quite brilliant in their value; however, we need long term large control studies to justify placing them in the scientific category considered as proved. Areas that are begging for these large controlled studies are such as the application of magnetic energy to infections, inflammation, reduction of allergic reactions, arthritis, atherosclerosis, increased energy, improved sleep, processing toxins, reducing mental symptoms and cancer therapy. Experience of individual cases in these unproved categories justify the conclusion that even though a claim of cure cannot be made, it is worth a trial to use magnetic energy.

It is the negative magnetic energy that heals.<sup>11 14 15 16 17 18</sup> The body has a direct current system surrounding the nervous system that concentrates negative magnetic energy at the site of injury for the purpose of healing. The negative magnetic pole of a magnet placed over the lesion helps the body in the healing process.

It is important to understand that it is the negative magnetic field, not the positive magnetic field, that evokes the production of melatonin by the pineal gland. Low level gauss strengths such as that from the earth's magnetic field which is 1/2 gauss are anti-stress in their effect and behave the same as negative magnetic energy and therefore the biological response to these magnetic fields is the same as to a single negative magnetic field. However, when 100 gauss of both pole simultaneously was used, it became stressful and behaved the same as the single positive magnetic pole. A number of experiments have demonstrated that initially up to simultaneous exposed gauss strengths of even 850 initially behaved as anti-stress but after use for several days become stressful.<sup>19</sup> This is why it is important to understand that the negative magnetic pole is anti-stressful and the positive magnetic pole is stressful. Fortunately, magnetism is of such a nature that a magnet can be magnetized on opposite sides of a flat surface so that there can be a single magnetic pole exposure.<sup>15 16 17</sup> Much of the experimental work in biomagnetism has to be done over because it did not honor the two pole effect but assumed that magnetism is only one

energy and therefore separating the poles for exposure to a single pole was not important. To understand this, we can illustrate the following: a moving car is one unit of energy but it does have a front end that pushes and a back end that pulls, therefore, there are two effects. Positive magnetic energy pushes and negative magnetic energy pulls. The biological effect is 180 degrees opposite for the two magnetic poles. There are several important health promoting substances that can be magnetically pulled into human cells such as oxygen, potassium and electrons.

### Summary

Based on current information, there is good reason to believe that health is materially augmented by pacing the circadian rhythm by using bright light on awakening and negative magnetic energy at the crown of the head during sleep. The negative magnetic energy evokes the production of melatonin by the pineal gland. Melatonin is a neurohormone that has a master control over the entire energy system of the body. It seems evident that the life span can be increased and the quality of life improved by adequate pacing of the circadian rhythm.

### Therapeutic Regulations of Circadian Rhythm

#### A. Sleep

Sleep with a negative magnetic field at the top of the head. Ideal is placing a Sleeper-Energizer (carrier holding upright four 4 x 6 x 1/2 inch 3950 gauss magnets 1 inch apart) at the crown of the head during sleeping hours. It is also useful to place one 2 x 5 x 1/2 inch 3950 gauss magnet mid-sternum for sleep induction. Magnets are solid state magnets with magnetic poles on opposite sides of the magnet. The negative pole is always placed toward the body. Sleep all night with the head in the negative magnetic field.

#### B. Wakeful Period

Start the day with 30 minutes exposure to bright light. Ideal is a bright light system composed of a portable holder 18 x 26 x 5 inches containing bright light tubes. This is placed so the light

shines in the eyes for 30 minutes such as during breakfast or other A.M. chores.

### References

1. Fontenat J and Levine S: Melatonin Deficiency: Its Role in Oncogenesis & Age-related Pathology. *Journal of Orthomolecular Medicine*, 5:1, 1990.
2. Philpott WH: *Biomagnetic Handbook. A guide to Medical Magnets, the Energy Medicine of Tomorrow*. Enviro Tech Products, 17171 S.E. 29th, Choctaw, OK 73020, 1990.
3. Hellekson DJ, et al: Phototherapy for Seasonal Affective Disorder in Alaska, *American Journal of Psychiatry*, 143(8), August 1986.
4. Jacobsen FM, et al: Seasonal Affective Disorder: a Review of the Syndrome and Its Public Health Implications. *American Journal of Psychiatry*, 77(1), January 1987.
5. Parry BL, et al: Treatment of a Patient with Seasonal Premenstrual Syndrome, *American Journal of Psychiatry*, 244(6), June 1987.
6. Rosenthal NE, et al: Antidepressant Effects of Light in Seasonal Affective Disorder, *Archives General Psychiatry*, 41(1), January, 1984.
7. Van Cauter E and Turek FW: Strategies for Resetting the Human Circadian Clock, *New England Journal of Medicine*, 322:18, May 3, 1990.
8. Wirz-Justice A, et al: Light Treatment of Seasonal Affective Disorder in Switzerland, *Acta, Psychiatry Scand.*, 74(2), August 1986.
9. Czeisler CA, et al: Exposure to Bright Light and Darkness to Treat Physiologic Maladaptation to Night Work, *New England Journal of Medicine*, 322:18, May 3, 1990.
10. Ott JN: *Light, Radiation and You*. Devin-Adair, Greenwich, CN, 1990.
11. Becker RO: *Cross Currents*. Jeremy P. Tarcher, Inc.: Los Angeles, CA, 1990.
12. Watson S and Madden J IV: (Usdin, Earl, Hamburg, David, Barchas, Jack, Eds.) Melatonin & Other Pineal Substances: Psychiatric & Neurological Implications. *Neuroregulations & Psychiatric Disorders*, Oxford University Press, NY, NY, 1977.
13. Hallett M and Cohen L: *Journal of American Medical Association*, Vol. 262:47-2, July 29, 1989.
14. Philpott WH: *Cancer Prevention and Reversal — The Magnetism of Healing*. Philpott Medical Services, 17171 S.E. 29th, Choctaw, OK 73020, 1990.
15. Davis AR and Rawls W: *The Magnetic Blueprint of Life*. Acres USA: Kansas City, MO, 1979.

16. Davis AR and Rawls W: *The Magnetic Effect*. Acres USA: Kansas City, MO, 1975.
17. Davis AR and Rawls W: *Magnetism and Its Effect on the Living System*. Acres USA: Kansas City, MO, 1976.
18. Becker RO and Selden G: *The Body Electric: Electromagnetism in the Foundation of Life*. William Morrow & Co.: New York, 1986.
19. Nakaema K: Magnetic Field Deficiency Syndrome and Magnetic Treatment, *Japanese Medical Journal*. No. 2745, December 4, 1976.

### Other Suggested Reading Material

1. Philpott, WH: *Biomagnetic Handbook: A Guide to Medical Magnetics, the Energy Medicine of Tomorrow*. Enviro-Tech Products, Publisher, 17171 S.E. 29th St., Choctaw, OK 73020, 1990.
2. Philpott WH & Kalita D: *Brain Allergies: the PsychoNutrient Connection*. Keats Publishing, New Canaan, CT, 1981.
3. Philpott WH & Kalita D: *Victory Over Diabetes: a BioEcologic Triumph*. Keats Publishing, New Canaan, CT, 1983.
4. Becker RO and Marino AA: *Electromagnetism & Life*. State University of New York Press: Albany, NY, 1982.
5. Becker RO: *Cross Currents*. Jeremy P. Tarcher, Ind., Los Angeles, CA, 1990.
6. McAuliffe K: Live 20 Years Longer, Look 20 Years Younger. *Longevity*, October, 1990, Longevity International, Ltd., 1965 Broadway, N.Y. 10023-3965.