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Melatonin: New wonder-nutrient

What is it...and what does it do?

Melatonin is a substance currently sold in health food stores- at least, still in some of them. If the Food & Drug Administration (FDA) has its way, it will not be available for long in any U.S. health food store. Reason? It's considered by the FDA to be controversial...because it is "safe and effective." In fact, it's so effective for a host of serious medical disorders that the FDA looks harshly upon people buying it without prescription.

The problem is that the FDA has licensed the substance as a food. Unfortunately, the bureaucratic, monolithic, giant eye of the FDA is also monochromatic: it only sees black and white. To the Food & Drug Administration, a substance is either a food... or it's a drug. Obviously, if it helps people, then it must be a drug, right? After all, in this day and age of fast food feasts, whoever heard of any food being *good* for you?

Actually, melatonin is neither a food nor a drug. Rather, it is a natural substance that is not foreign to the human body. And that's why it is so safely used by U.S. consumers for a variety of difficulties ranging from mild insomnia through cancer.

According to a news release issued by the Life Extension Foundation in Hollywood, Florida, health food industry officials have announced a "voluntary" ban on the sale of all melatonin across U.S. counters. Industry spokespersons attributed the ban to heavy pressure applied by the FDA.

Because the ban is voluntary, not all health food stores will be participating. However, those who continue to sell the substance should expect a hard time if their names ever come up on the local, not-so-friendly FDA computer. But your physician can dispense it to you. That is, if he or she find the stuff. It is possible that the FDA will bring sufficient pressure to bear so as to inhibit even the manufacture of the substance in the future.

This most recent bullying activity of the FDA is only one more skirmish in an ongoing major battle between that governmental agency and the vitamin industry. The American consumer is the real loser in such a struggle, since his freedom to purchase health- giving nutrients hangs precariously in the balance. FDA would have nutrients such as melatonin, be reserved for a doctor's prescription. However, such an action would effectively take this nutrient off the shelf, since physicians are notoriously ignorant about nutrition, still living in the dark would characterized by "If you eat two or three meals a day you don't need nutrient supplementation.

But such an attitude has long since been proven to be entirely in error. Scientific study has proven that this stock medical argument against nutritional supplements is invalid for a number of reasons, as follow:

1. One-Crop farming has depleted the soil of valuable nutrients, thereby likewise depleting the edible crops of numerous nutritional factors necessary in the human diet.
2. Pesticides, fertilizers, insecticides, "growth factors," and additives have all had delirious effect on the quality of our foodstuffs, and, therefore, on our bodies and their essential biochemical processes.

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3. The rate of aging- and, most importantly, age- related illness and dysfunction- varies from individual to individual, because of certain generic, environmental, and lifestyle factors, ahte sum total of which impact the organism to an unpredictable and varying degree. For this reason, the best prevention program is not only one which incorporates healthy diet and lifestyle, but also one which includes nutritional supplementation, instituted as early as possible in life.
4. Nearly all leading bio-scientists now acknowledge that **free radicals** are the cause of most chronic non-infectious diseases. (For more about free radicals, ask about the LongLife Medical Health Booklet [Life Extension: What it is.](#))

Without a discussion which is beyond the scope of this report, free radicals are unstable chemicals which are ubiquitous in man's body as a by-product of the process of oxidation. Oxygen is a biologic paradox: we need to live, but its processes create free radicals which gradually kill us.

The good news about free radicals is that that body has a built protection against them: enzyme systems. These neutralize- or quench- free radicals. But the bad news is twofold: free radicals are increasing in our environment, while our enzyme systems are on the decline with aging. It is a simple supply-and- demand situation; and the demand for free radical quenchers is far outstripping the supply. The result is more and earlier immune suppression, and more and more serious disease.

Fortunately, anti-oxidant nutrients are readily available which have excellent free- radical-quenching ability. These can be taken as supplements on a daily basis; the sooner in one's life that he begins taking them, the better. However, it is never too late to start.

5. Studies on aging have shown that, in addition to enzyme decline, referred to above, there are other biochemical factors which diminish with age. These are necessary for normal bodily maintenance, repair, and function. Replacement of such factors by nutritional supplementation has been proven scientifically to offset age- related decline, and there fore the chronic diseases of aging- to varying degrees.

Melatonin, a hormone produced in the brain's pineal gland, is one such factor. At age forty, it starts its gradual downhill course, being released in lesser and lesser concentrations. Up until the last decade, medical scientists did not even know what the pineal gland's function was. A tiny gland tucked away deep in the brain, near the hypothalamus and pituitary, the gland was thought to secrete a chemical hormone. But it was not until recent years that Melatonin was identified as an important substance has many important hormones secreted by the mysterious gland. The substance has many important actions, including a role in sleep and maximal immune function.

Insomnia is a common problem in persons past thirty-five years of age, and becomes increasingly so with increasing years. Many patients suffering from sleep disturbance have seen normal sleep patterns return when taking 2.5 to 6 mg of Melatonin daily. REM sleep in important, since it is that phase of sleep wherein "rest" and "refreshment" of one's organs- especially the brain-occurs. Melatonin is not like most "sleeping drugs" which may produce sleep, but sleep characterized by disrupted REM patterns. REM sleep is not only not disturbed by Melatonin, it is favored by it.

It has been said that Melatonin may be helpful for **depression**, particularly in those depressed individuals who also have sleep disturbance. However, the author advises that depression is a serious chemical imbalance that should be fully evaluated by a physician. *Therefore, he urges anyone to take this nutrient for depression only after first consulting a knowledgeable physician and surgeon to explore the depression. Obviously, a doctor who has studied in and/or understands life extension medicine would be preferable.*

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Studies have shown that melatonin is a very potent free radical quencher. It is particularly effective in this, because its chemical properties provide for its easy passage through cell membranes. It is not blocked by the sluggish cell membranes characteristic of advanced free radical disease or aging.

A strong **immune stimulant**, Melatonin's steady decline in the body after age 40 may have much to do with the dropping off of immune function to 50% of total capacity by the age 55 years.

Further there is evidence accumulating that a **deficiency in Melatonin may lead to certain kinds of cancers!** Writing in 1992 issue of the International Journal of Neuroscience, medical researchers concluded that *"deficient melatonin functions may be an additional endocrine (hormonal) factor implicated in the pathogenesis (causation) of endometrial carcinoma (cancer of the uterus.)"*

In most cancer research, Melatonin is used in conjunction with other agents, such as cell poisons, radiation, or other immunosuppressants. However, it may yet prove most useful when used alone.

A 1992 article in the cancer journal, Oncology is a case in point. Researchers in an Italian hospital's Division of Radiation Oncology used Melatonin for advanced lung cancer patients whose cancer had progressed following chemotherapy. In other words, they used Melatonin for hopeless cases: those for whom no further effective therapy was available. The results were most thought-provoking.

These researchers concluded: "The percentage of both stabilizations of disease and survival at 1 year was significantly higher in patients treated with Melatonin than in those treated only with supportive care." One can only surmise as to the response Melatonin alone, without prior treatment with chemo therapy- which depresses immune function- might have had on these lung cancer patients with respect to survival and improvement.

A 1994 research article reporting another Italian medical study, and appearing in the journal, Cancer shed light on how Melatonin might help in the treatment of cancer. These researchers related that the hormone is shown to stimulate the immune system by causing the release of cytokines from activated T-cells. Cytokines are chemicals which kill bad cells. T-cells are special white blood cells which defend against cancer cells, viruses, bacteria, and the like.

In the 1994 study reported in Cancer, Italian researchers used Melatonin in conjunction with interferon in the treatment of patients with advanced kidney cancer (i.e. the cancer was spread to other organs.) Toxic side effects in these patients were similar to those experienced with interferon alone, but appeared to be made less severe by the presence of Melatonin. This combined therapy gave much improved treatment to results over that achieved with interferon alone. Of the 21 advanced cancer patients treated with both agents, seven were brought into remission, and nine were "stabilized" (no medical evidence of a worsening of their cancer.)

In other words, a remarkable 77% of the Melatonin-treated patients in this study saw their advanced kidney cancers either gone or held in check!

In yet another 1994 Italian research effort- this reported in The European Journal of Cancer- patients with inoperable liver cancer were treated with Melatonin in conjunction with interleukin-2. Results were again remarkable: 78% of patients went into remission or were stabilized.

The discovery of Interleukin-2 caused a great stir in the medical community. The substance was highly touted for its probable effective role in cancer treatment. Yet, a separate study of interleukin-2 alone for certain solid cancer tumors was undertaken in Italy, and was disappointing. Solid tumors are those with a particularly bad prognosis due to treatment resistance.

When used alone, interleukin-2 brought about a regression in only one patient of 39 studied. This was compared to a parallel study wherein interleukin-2 was given, along with Melatonin, to 41

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patients with particularly resistant cancers. The addition of Melatonin provided tumor regression (shrinkage) in 11 of 41 cancer patients. The scorecard looked like this (from British J. Cancer, 1994:)

The 1992 Oncology research article which the author to earlier, testified as to the lack of toxicity, or safety, of Melatonin.

Still another cancer study involved the influence of Melatonin on estrogen-dependant breast tumor. A research project at University of California at Berkley showed that Melatonin inhibited the growth of human breast cancer cells. (Jnl of Pineal Research: 1993.)

One can safely deduce from such works, therefore that **taking Melatonin supplement daily may give protection against cancer!**

Melatonin is currently nor available in the U.S. as a prescription drug. This means that without the health food store supple. U.S. citizens would be unable to benefit from this powerful but safe substance. When one notes that 90% of the research on Melatonin's anti-cancer effect comes from studies done abroad, one has to wonder if the FDA might better direct its comforts at helping Americans get the research and product to these shores, rather than trying to force it off the market.

Doses of Melatonin for cancer in the studies discussed herein ranged from 10 mg to 50 mg daily. As a health food supplement, it is available in does ranging from 2.5 mg to 3.0 mg. Women at risk for breast cancer should probably take 7.5 to 9.0 mg totals daily. The average dose for sleep is 2.5-6 mg daily. For immune stimulation, and protection against cancer and the ravages of aging, the author suggests 2.5-6mg daily. Cost at those health food stores where Melatonin can still be found will run from \$12-20 for sixty (60) 3 mg capsules.

It should be noted that all Melatonin doses should be taken after dark, around 8 P.M.

LongLife Medical Inc., can supply you with Melatonin from its offices, depending upon your medical need as determined by you LongLife physician. If you are interested in knowing more about Melatonin and whether you should take it, please ask the nurse, or schedule an appointment to see the physician.