

MELATONIN AND IMMUNOTEC RESEARCH

TART CHERRY CONCENTRATE

gathered from lab research and articles by
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Melatonin is a hormone produced in your body by your pineal gland, in the dark. It is a potent antioxidant and is known as the "darkness" hormone or "sleep" hormone, because of extensive evidence that it has a significant role in **improving the body's "circadian rhythms" and natural sleep patterns.**

As we grow older we produce less and less melatonin. If we experience some sort of trauma in our lives at any time, our melatonin production is reduced. Normal, melatonin cycles are disrupted when we are exposed to excessive light in the evening or too little light during the daytime. For example, jet lag, shift work, and poor vision can disrupt melatonin cycles. In addition, some experts claim that exposure to low-frequency electromagnetic fields (as is common in household appliances) may disrupt normal cycles and production of melatonin.

All of this could have a great deal to do with why people are not sleeping well. It may be more than "stress". It may be because they are **not producing enough Melatonin** to tell them that it is "time" to sleep.

Some people take melatonin supplements (this form is a **synthetic hormone that doesn't work well for many people**). Melatonin is found in very small quantities in some foods -- the exception is **tart red cherries**, especially the Montmorency variety, in which high quantities of melatonin have been identified.

The University of Texas Health Science Center recently began to quantify the availability and activity of the melatonin in cherry products. Dr. Russell Reiter, said to be the Dean of Melatonin Research, gives cherries high marks. "We were surprised at how much Melatonin was in cherries, specifically the Montmorency variety," says Reiter. And Tart Cherry Juice Concentrate, which involves greatly reducing the water content, has ten times the Melatonin of the raw fruit. **Tart Cherries contain an extremely significant quantity of melatonin**, enough to produce positive results in the body.

Other researchers confirm that adding tart cherries to your diet will increase melatonin levels in your blood, thereby **improving your body's natural sleep patterns** and normalizing the "circadian rhythm."

Why is sleep so important, anyhow?

There are many reasons, and I'll begin with the following, taken from a recent CNN article. Scientists are finding more evidence that **sleep deprivation can affect appetite, weight gain, diabetes risk, the strength of your immune system, and even your chance of developing depression.**

In 2004, University of Chicago researchers restricted a group of men to only 4 hours of sleep per night. After just 2 nights, the men had an 18

percent decrease in leptin, a hormone that tells your brain when you are full, and a 28 percent increase in ghrelin, a hormone that triggers hunger. These results were reinforced last October by a study of almost 10,000 adults that found that people who slept fewer than 7 hours a night were more likely to be obese than those who got 7 hours of shut-eye.

Chronic sleep deprivation causes changes in metabolism that produce a state that stimulates hunger. Sleep deprivation can also affect how your

body handles insulin; insulin resistance puts you at risk for weight gain and diabetes.

(See entire CNN article, for more information, including my comments.)

As you continue reading, keep in mind that Immunotec Research's Tart Montmerency Cherry Juice Concentrate is loaded with naturally-occurring Melatonin.

What about "Circadian Rhythms"?

Circadian rhythms are extremely important, for **all hormones** are regulated to some extent by these rhythms. Disruptions in circadian rhythms are believed to have **significant adverse health consequences**, especially in development of or exacerbation of **cardio-vascular disease**.

Research shows that women who work predominantly at night and are exposed to light, which inhibits melatonin production and alters the

circadian rhythm, have an **increased risk of breast cancer development**. Research also indicates the circadian rhythm is a significant predictor of survival time for breast cancer patients.

REM (rapid eye movement) sleep is part of the normal circadian rhythm, and REM sleep is necessary for **proper nervous system development**. It is also believed that much of the body's repair takes place during REM sleep.

Antioxidant Level of Tart Cherries and Melatonin

Montmorency cherries, which account for the majority of tart cherries produced in the United States, contain up to 13.5 nanograms (ng) of melatonin per gram of cherries, more than is normally found in the blood.

Scientists have identified **17 different antioxidants** in Montmorency cherries.

Researchers agree that Melatonin is by far the most potent of the antioxidants, much more so

than vitamins C, E and A because melatonin is soluble both in fat and water and can therefore enter some cells that vitamins cannot. For example, vitamin E is soluble in the lipid part of the cell only and vitamin C in the aqueous part. Melatonin is soluble in both.

In other words, eating cherries with high melatonin concentrations will increase the antioxidant capacity in your body.

Anti-inflammatory Activity of Melatonin and Tart Cherries

Michigan State University (MSU) was the first to identify **"anthocyanins", and their anti-inflammatory properties**, in tart cherries. Anthocyanins are plant pigments responsible for the bright red color of cherries. These pigments are known to have antioxidant activity and 17 antioxidants are believed to play a role in reducing

the risk of various human degenerative diseases. Anthocyanins 1 and 2 **inhibit the cyclooxygenase (COX) enzymes that are associated with the pain of arthritis and gout**. In comparing 10 small fruits, cherries had the highest level of anthocyanins 1 and 2. These are **NOT present in blueberries or cranberries**. Dr. Mauraleedharan

Nair, of MSU says, "Twenty cherries provide 25 mg of anthocyanins which help shut down the enzymes that cause tissue inflammation in the first place, so cherries can prevent and treat many kinds of pain".

Tart cherries contain both anthocyanins and flavonoids that inhibit the enzymes and prevent

inflammation in the body. These compounds have similar activity as aspirin, naproxen, and ibuprofen. Anthocyanins may also protect artery walls from the damage that leads to plaque buildup and heart disease. Recent studies show that anthocyanins do a better job of protecting arteries than vitamins C and E.

Tart Cherries Inhibit Tumor Development

New studies at MSU that were recently published in Cancer Letters, suggest that tart cherries may reduce the risk of colon cancer because of the anthocyanins and cyanidin contained in the cherry. Dr. Nair and Dr. Leslie Bourguin, along with several graduate students, worked on experiments that are part of ongoing research on the components of tart cherries.

According to Raymond Holm, M.D. at the

University of Iowa, tart cherries contain perillyl alcohol (POH), a natural compound that is extremely powerful in reducing the incidence of all types of cancer. Perillyl alcohol "shuts down the growth of cancer cells by depriving them of the proteins they need to grow," explains Dr. Hohl. "It works on every kind of cancer we've tested it against."

Independent Lab Verifies Cancer Fighting Agents in Tart Cherries

Researchers at Brunswick Laboratories (Wareham, Mass.) verified the natural antioxidants present in Montmorency tart cherries, the leading U.S. tart cherry variety, will be available for use in products soon (NOTE: It's available NOW, in Immunotec Research's Tart Montmorency Cherry Juice Concentrate.) Lead researcher Dr. Boxin Ou also confirmed the presence of substantial quantities of melatonin, and identified two important flavonoids - isoqueritrin and queritrin. These flavonoids act as antioxidants, as do the anthocyanins. They work to eliminate by-products of oxidative stress - which means they SLOW DOWN the aging process.

Dr. Ou also documented the presence of ellagic acid in cherries. Ellagic acid is a naturally-occurring plant phenolic that is known as a potent anti-carcinogenic/ anti-mutagenic compound. Clinical tests conducted at the Hollings Cancer Institute at the Medical University of South Carolina show that ellagic acid may be the most potent way to prevent cancer.

Melatonin may inhibit the growth of cancer cells and arrest the growth of cancer in subjects with a genetic predisposition for the disease.

Do you need any other reasons to add Immunotec Research's "Tart Montmorency Cherry Juice Concentrate" to your daily diet? (The fact that it tastes like tart "cherry pie" is just a bonus.)

Beverly says: "My personal experience? Oh, I sleep like a baby, and the "normal" backache I had upon awakening in the morning is GONE - after only 2 weeks!"