



## Could Melatonin be ‘Breast’s New Best Friend’?

Melatonin is the hormone released by the pineal gland in a daily rhythm, with a surge in the middle of the night during sleep, around 2:00 AM. Melatonin controls wake and sleep patterns. While supplementation with melatonin for sleep benefit is well established, its role in breast cancer treatment and prevention is lesser known.

First, a quick overview: estrogen is proliferative, meaning it stimulates growth. In a woman’s menstrual cycle, estradiol (a major estrogen product in the ovaries) is important for the growth and regeneration of the endometrium (the mucous membrane lining the uterus, which thickens during the menstrual cycle in preparation for possible implantation of an embryo). It is also responsible for the development of breast tissue at puberty and influences breast cells throughout life, which might result in fibrocystic breasts, breast swelling or even breast cancer.

Because melatonin has been shown to be capable of disrupting estrogen-mediated cellular pathways, researchers hypothesize that the disruption of melatonin production increases estrogenic stimulation of breast and cancer cells. Studies show that circadian disruption, specifically night shift work, is correlated with an increased risk of developing breast cancer, so much so that women who work night shifts are found to have breast cancer rates well above normal. Additionally, women who live in neighborhoods with large amounts of illumination from outside light have a higher rate of breast cancer than do



women who live in areas with more nighttime darkness. Many studies have demonstrated the inverse correlation between melatonin metabolites and the incidence of breast cancer. As well, melatonin levels tend to be lower in women with an established diagnosis of breast cancer.

Melatonin is breast-protective. It has been shown to disrupt estrogen dependent pathways resulting in an overall reduction of the estrogenic stimulation of breast cells. It also can slowdown cell growth in a wide variety of cancer cells, as well as triggering cancer cell apoptosis (self-destruction). Melatonin also interferes with the blood supply tumors required for their rapid growth (angiogenesis), and it boosts the production of Interleuken-2, an important signaling molecule of the immune system which helps to identify and attack the mutated cells that lead to cancer.

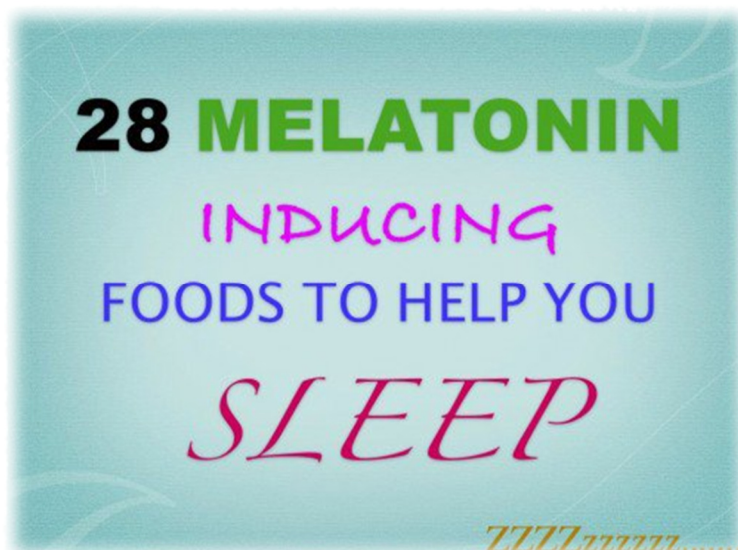
**In short, melatonin is the breast's best ally, and breast cancer's worse enemy.**

Although the body produces melatonin, it is also found in foods and is available as a supplement. While some foods may not contain melatonin, they can trigger its production. Also, light and age can affect melatonin production.

**Supplements:** Supplements have been used to control insomnia, improve the effects of jet lag and to support the non-traditional sleep patterns of those exposed to evening work shifts.

**Light:** Winter months produce shorter days and affects how and when melatonin is produced. This can induce symptoms of Seasonal Affective Disorder (SAD) and it can also lead to winter depression. Interestingly, lack of melatonin does affect the blind. The blind cannot see light and therefore, it affects their respective melatonin production.

**Age:** We usually produce less melatonin as we age. This usually affects sleep length in the elderly. It is not uncommon for this population to wake earlier or to have irregular sleep patterns. This is usually due to lack of melatonin or irregular production of melatonin.



### **28 Foods that Contain or Naturally Produce Melatonin in the Body**

You may be surprised to see coffee, tea, wine and beer on this list. Research shows remarkably high levels of melatonin in these items. The origin comes from the plants used

to produce these products. Melatonin is synthesized in the plants that produce coffee, tea, wine and beer. However, remember coffee beans and tea leaves naturally contain caffeine.

**Foods containing melatonin or induce the natural production of melatonin:**

almonds  
apples  
bananas  
barley  
beer  
cherries  
coffee  
tart cherry juice  
fennel seeds

ginger  
grapes  
grape juice  
kiwi  
milk  
oats  
oranges  
peppers  
pineapple

radishes  
rice  
spinach  
sunflower seeds  
strawberries  
sweet corn  
tea  
turkey  
tomatoes  
wine

**For More Information on This, Call Today to Set Up an Appointment**

