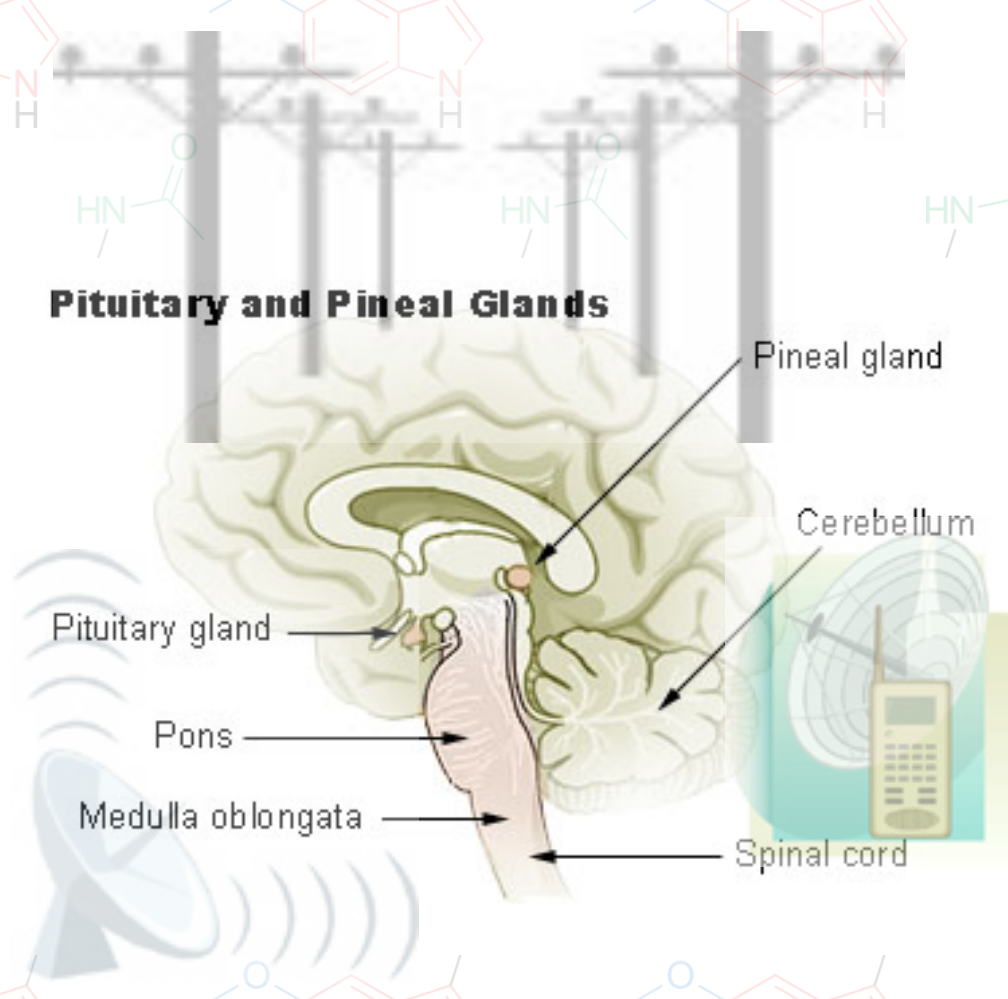


Melatonin is a hormone produced in the pineal gland in the center of the brain during the absence of light at night, peaking for a few hours after midnight. It is found in every cell in the body.

It helps enhance immune system function, maintain circadian rhythms, lower body temperature during REM sleep, scavenge free radicals (oxidative and nitrosative), alter the production of free radicals, upregulate other antioxidants -- protecting us against cancer, aging, and Alzheimer's disease. It is particularly protective to neuronal mitochondria (where many oxidants are produced).

While it is not certain that melatonin decreases are directly responsible for the EMF-related higher risk for breast cancer, it is a strongly suggested possibility; both increased risk and decreased melatonin are associated with EMF exposures (particularly occupational) in some studies.

It is interesting to note that melatonin (related to our biologic clock) is produced in the same gland in which magnetite (related to our geomagnetic map) is concentrated, but there is little, if any, research on the relationship between them (together) and EMF. Separately, they are affected by EMF.



MELATONIN METABOLISM AS ONE BIOMARKER FOR MW/RF EXPOSURE
MELATONIN, MICROWAVE, BRAIN DAMAGE

INDEX (PDF) OF ALL MAPS RELATED TO MELATONIN FUNCTION

VIMEO:
RESONANCE
MAGNETITE, CRYPTOCHROME, MELATONIN, EMF



[Let There Be Dark](#)

[Melatonin, Human Biological Clock](#)

[Melatonin protects liver against MW effects](#)

[Melatonin protects rat cerebellar cells, RF damage](#)

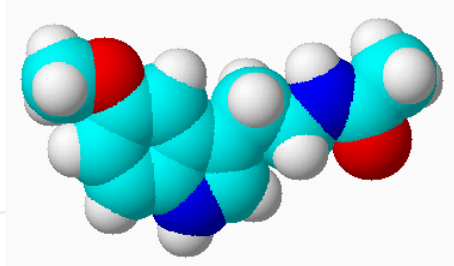
[Melatonin may protect against Alzheimer's disease](#)

[Melatonin protects against oxidative injury, 2.45 GHz](#)

[Melatonin, Alzheimer's and neurodegenerative diseases](#)

[Melatonin protects against oxi. stress, DNA damage from MW](#)

Importance of Melatonin



Melatonin molecule

Light is EMF,
MF plus light

[Light pollution, melatonin](#)

[Electrical workers, light, MF](#)

[Day exposure, night melatonin](#)

★ [Blue light, melatonin, insomnia](#)

★ [Blue light, EMF, wireless, breast cancer](#)

EMF-Melatonin Studies

[ELF, melatonin](#)

[Light, ELF, circadian rhythm](#)

★ [EMF, melatonin, cell tower](#)

[Video display units, melatonin](#)

[Cellphone use, ELF, melatonin](#)

[EMF reduces melatonin effects](#)

[Night exposure, night melatonin](#)

[ELF, melatonin, tamoxifen effects](#)

[Railway workers, ELF, melatonin](#)

[High power lines, female melatonin](#)

[ELF, calves, melatonin effects seasonal](#)

[MF blocks melatonin function at junction](#)

[Melatonin protects against phone damage](#)

★ [MW, melatonin, heart, blood, anti-oxidants](#)

[EMF, disturbed sleep, melatonin as biomarker](#)

[EMF, signal transduction, melatonin receptors](#)

★ [EMF, sleep disturbance, melatonin as bio-marker](#)

[MW, radar, occupational workers, melatonin, serotonin](#)

[EMF, signal transduction, melatonin receptors disrupted](#)

[Melatonin reduces stress caused by microwave exposure,](#)

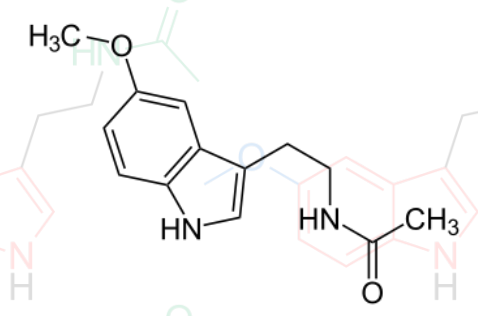
[Atmospheric Zeitgeber, electric field, melatonin production](#)

★ [Avoiding light at night may suppress breast cancer rate](#)

[Melatonin in newborns exposed to incubator magnetic fields](#)

[Exposure to EMF in utero affects post-natal melatonin production](#)

[ELF, electrical workers, oxidative stress, melatonin, sleep problems](#)



Melatonin formula

MELATONIN AND EMF: THE MELATONIN HYPOTHESIS

*Melatonin... has numerous properties which indicate that it helps prevent both Alzheimer's disease and breast cancer. There is strong evidence from epidemiologic studies that high (≥ 10 milligauss or mG), longterm exposure to extremely low frequency (ELF, ≤ 60 Hz) magnetic fields (MF) is associated with a decrease in melatonin production. **BioInitiative Section 12***

*ELF-EMF levels between 0.6 and 1.2 μT have been shown to consistently block the protective effects of melatonin. **BioInitiative Section 13***

THE MELATONIN HYPOTHESIS

BIOINITIATIVE 2012: MELATONIN

★ **BIO-EFFECTS OF EMF: CHAPTER 3 – MELATONIN**



Occupational exposures in melatonin studies

[Melatonin](#) EMF-Pineal gland

[Neuroendocrine EMF effects](#)

[Pineal melatonin disruption, EMF](#)

[EMFs, melatonin, the pineal gland](#)

[EMF, Light, Melatonin, Cancer](#) Symposium

[EMF, railway workers](#) EMF Articles

[iPad could cause insomnia](#)

[Cellphone might be culprit in insomnia](#)

[Melatonin hypothesis revisited: comment](#)

★ [Why Electronics Don't Belong in Bedroom](#)

Home: [Oscillatorium](#)
Newest version [this map](#)
Date of this update: 02-24-18

INFLUENCE OF E, M, EM FIELDS ON CIRCADIAN SYSTEM

CHANGES IN SLEEP ARCHITECTURE

[Spindle spectral power](#)

[Spindle frequency range](#)