

ENG

THE MEAN MEANING OF MELATONIN

By Anette Harbech Olesen,
writer, nutritionist and contemporary with the book Food, Mind & Magical Moments.
Food writer at Naturli 'and at www.madforlivet.com
(Photo: Sara Galbiati)

Melatonin is a natural signaling substance produced in the brain - at night. It pays to know melatonin, because it's a substance of great importance to your health, quality of life, night sleep, hormonal balance, weight, eyes and aging process.

The first time I learned in more detail about melatonin was when in 2002 I met the Italian doctor Walter Pierpaoli, a key person and one of the world's leading researchers in the field. For almost 50 years, Professor Pierpaoli has been researching the importance of the pineal gland and melatonin. I have just met Dr. Pierpaoli again, 17 years later and the result of these meetings is described in this article.

I am convinced that a well functioning pineal gland and a sufficiently high level of melatonin can help you sleep better, strengthen your bodily balance and help you to be the best version of yourself. Below you will find easily accessible and well-founded knowledge about the pineal gland and tools to - naturally - optimize melatonin levels.

It is the eyes' registration of light and darkness, respectively, that affects the function of the pineal gland and the production of serotonin and melatonin respectively.

Melatonin is formed and secreted primarily when it is dark. Exposing the iris of the eyes to just the slightest light during the night lowers melatonin production. Light, on the other hand, stimulates the formation of serotonin, the messenger of the good mood. It can be handy, because we need to be awake and fresh in the daytime.

When it is time to sleep, melatonin is formed and secreted into the brain and circulation, but only in complete darkness. In this way, it is signaled to the body's systems that it is sleeping time.

The importance of light and darkness for the production and excretion of melatonin also interested Dr. Pierpaoli. He launched experiments with mice that were exposed to light around the clock for four generations. These mice grew older faster, became physically weaker, and lived shorter than other mice allowed to sleep in the dark.

Light and darkness are the dominant factors in the melatonin synthesis. Melatonin levels rise during the evening and usually reach their maximum between 1 and 4 o'clock at night. Then they fall, and during the daytime the level of melatonin is so low that it can hardly be measured.

Artificial light, including LED lights and night lights for children's rooms, can, in combination with the blue light from computers, telephones and other electronic equipment, block the nightly release of melatonin.

Dr. Pierpaoli is a pioneer in melatonin research. His scientific achievements are revolutionary. He discovered, as the first in the world, that the pineal gland, among other things, controls your immune system, your nervous system, your metabolism, your reproductive ability, your circadian rhythm and your aging process.

Pierpaoli started his legendary research with mice and melatonin all the way back in 1985. In his preliminary studies, he divided the mice into two groups, one of which was just given melatonin in their evening drinking water. This small maneuver had a surprisingly large impact on the health

and longevity of the melatonin mice and led to many more studies and trials. Pierpaoli and his team found the relationship between the melatonin levels of the mice and the effectiveness of their immune system, reproductive ability, circadian rhythm and, not least, their life span.

At that time, the research team headed by Pierpaoli knew that they were on the track for something extremely important. Through their experiments, they found that the pineal gland is closely linked to the immune system, the endocrine system and the circadian rhythm. Could the melatonin producing pineal gland also be the bodily mechanism controlling our aging process? Of course, this had to be examined, and this led to a number of years of experiments in which the researchers transplanted pineal glands in mice and among other things reinserted them into the thymus gland. It was innovative, groundbreaking and challenging research back then, because the pineal gland, which in human brains is the size of a pea, is smaller than a puppy seed in mice. It was a stay in Russia and the meeting with the young scientist Vladimir Lesnikov that led to the crucial breakthrough for Pierpaoli's research. Lesnikov joined Pierpaoli's research team, and with him and his brand new stereotactic instruments on board, it was now possible to perform pineal gland transplants in the brain from young mice to old mice and vice versa.

These transplants began in 1990 and the results were groundbreaking. The old mice that were transplanted with young pineal glands were alive, became healthier and healthier and lived on average 25-30% longer than normal mice. The young mice, on the other hand, transplanted with an old pineal were aging faster and died on average 30% earlier than usual.

Pierpaoli's thesis is therefore that the pineal gland and melatonin are involved in a large part of the processes that keep us vital and alive.

Melatonin affects all functions of the body and, for example, indirectly regulates hormone production and the immune system, because both pineal gland and melatonin are closely linked to, for example, the thymus and the thyroid gland. According to Pierpaoli, it is the secret of life that we find in the pineal gland. It is therefore advisable to live by our inner rhythms and give priority to a good night's sleep in complete darkness.

Dr. Walter Pierpaoli: "Our pineal gland on the underside of the brain acts as a kind of life clock. There is cyclic neuroimmune modulation and some form of overall control of the hormones, depending on the circadian rhythm. The pineal gland is of great importance to our internal balance, vitality and health. The same pineal gland also acts as a death bell that shuts down life when the time is right. My research with mice has shown that if we can keep the pineal gland healthy, we can probably live longer."