

Melatonin – The Sleep Hormone

What is Melatonin?

Melatonin is a hormone that is released by the brain and it helps us to feel sleepy. If the parts of the brain that are involved in sleep (mainly the SCN and pineal gland) are not working as they normally do (i.e. in some brain-related conditions) then melatonin may not be released, either at all, at the right amounts, or at the right times of the day (e.g. some children with Autism and other conditions may release melatonin later on than children without the condition).

This means that other interventions may be needed, such as keeping a good sleep pattern, using “sleep triggers” (such as a consistent routine), and in some instances it may mean taking melatonin as a supplement on prescription.

Variations of melatonin through childhood

Between the ages 1 and 3, melatonin levels peak, and then start declining at this point. During puberty, levels decrease at a higher rate, and the time of release also changes, meaning that teenagers often feel sleepy later (delayed sleep phase syndrome), which means that they often go to bed later and wake up later.

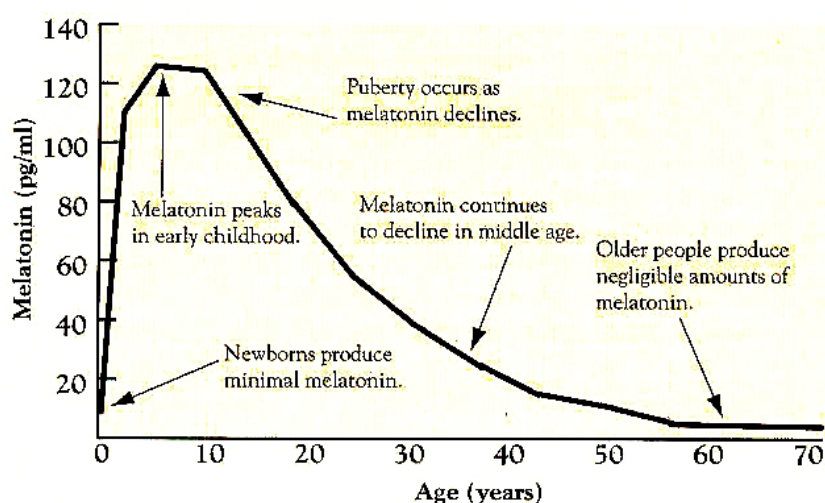


Fig. A chart to show how melatonin levels vary with age. Source: www.benbest.com/nutrceut/melatonin.html

Melatonin on Prescription

In the UK, melatonin is available on prescription, normally by a consultant, but it is currently unlicensed, due to the fact that there is not enough research into long term usage. So far, there have been few proven side effects so it is sometimes more appealing than taking other sleep medications, which are not normally recommended for tackling sleep problems unless it is for short term use to help the individual get into a good sleep pattern.

There is also not a great deal of research on how well it works, and it varies from person to person. It only normally helps with getting off to sleep, so it not usually given for night waking or early rising. It is sometimes used in individuals whose sleep pattern is disrupted, for example people who are not falling asleep until late and are still sleepy when it is time to wake. It is normally used when all other strategies (routine etc) have been tried and failed, and if the sleep problem has been present for a long time. It only seems to work in some children.

Functions of melatonin

As well as controlling sleep, melatonin can also affect other systems in the body:

1. It can have an effect on the female reproductive hormones. It helps determine when menstruation begins, how often and long each period occurs, and when menopause begins.
2. There is some evidence to suggest that melatonin has some antioxidant effects, and may strengthen the immune system.
3. It can stimulate the cells, osteoblasts, which promote bone growth. Since older people have lower levels of melatonin, the question has arisen as to whether treating people with melatonin could help treat osteoporosis.
4. It causes the release of the hormone ADH (anti-diuretic hormone/ vasopressin) which increases the absorption of water from the kidneys to the bloodstream, which means lower levels of urine are produced at night time. In individuals who have lower levels of melatonin, this may be a factor causing bedwetting, or needing to go to the toilet at night.

Foods containing tryptophan (an amino acid that forms serotonin which makes up melatonin)

Foods that contain a substance called tryptophan are thought to promote sleep, although there is currently little evidence on this. Tryptophan is subject to various changes by enzymes making the L-tryptophan produce serotonin.

Foods high in tryptophan include:

Milk

Eggs

Meat

Nuts

Beans

Fish

Cheese (in particular Cheddar, Gruyere, and Swiss cheese)

(<http://www.psychics.co.uk/dreams/sleep.html>)

References

Ben Best

www.benbest.com/nutrceut/melatonin.html. Retrieved: 12/06/09

The Psychic Mediums Network

www.psychics.co.uk/dreams/sleep.html. Retrieved: 12/06/09



INVESTOR IN PEOPLE

Community
Legal Service



For more information please contact:

Patricia Everitt, RN

SLEEP NURSE

Cerebra, Second Floor Offices, The Lyric Building, King Street
Carmarthen, SA31 1BD, Wales UK

Tel: +44 (0) 1267 244200, Fax: +44 (0) 1267 244201

Email – sleep@cerebra.org.uk

Every effort is made to ensure accuracy, but Cerebra does not guarantee the adequacy of information given and makes no representations, recommendations or warranties on the basis of it. Seek professional advice before embarking on any therapies or entering into any agreement.