SleepHealth FOUNDATION

Melatonin and Children

Melatonin is a hormone which helps regulate sleep.

If your child cannot sleep, begin with strategies for behaviour change. If these do not succeed, melatonin may be suggested by your healthcare professional.

If melatonin is required, it is recommended to use a prescription formulation, as this is the safest approach compared to online sourcing.

THINGS YOU SHOULD KNOW

Short term use is effective and safe and side effects are rare. Long-term side effects are not known.

What is melatonin?

Melatonin is a hormone produced in the body. Over a 24-hour period, it is secreted in the evening and during the night. It is not normally secreted during the day. For more general information on melatonin, please see our melatonin fact sheet.

What can children use melatonin for?

In children, melatonin is typically used to treat difficulties with going to sleep or staying asleep. It may benefit children with Attention Deficit Hyperactivity Disorder, autism, other developmental disabilities or visual impairment. There is some evidence that it is beneficial in helping some typically developing children and adolescents with chronic insomnia to sleep faster, but should be used only after or in conjunction with behavioural strategies and in special cases under the supervision of a healthcare professional.

For most children with sleep problems, there is a specific cause which should be identified and treated with successful behaviour strategies before melatonin is considered as an option. For example, a child might not be able to get to sleep due to their anxiety. If the child is anxious, there are things to try first such as relaxation techniques and visual imagery. See our Anxiety and Sleep fact sheet. In some cases, the sleep problem may be related to the child's behaviour. If this is the case, the parents should try to change the child's behaviour at bedtime. See our Behavioural Sleep Problems in School Aged Children fact sheet for some tips on how to do this. Other sleep disorders in children are described in our Sleep Problems and Sleep Disorders in

School Aged Children fact sheet.

Even if children are prescribed melatonin, the behaviour strategies need to still be used.

When not to use melatonin

- Melatonin shouldn't be given to children under 2 years old
- Melatonin should not be used to treat other sleep problems in children such as sleepwalking, nightmares, and restless sleep
- Melatonin should not be used to 'make sleep better' in children with symptoms of a sleep disorder

How much melatonin should my child take?

If your child's paediatrician, GP or sleep specialist has recommended melatonin, the dose will depend on your child's age. It is important to start at the lowest dose. A young child needs less than an older child. In most cases a dosage of 0.5mg to 5mg will be sufficient, but in certain situations, your doctor may prescribe a higher dose. Melatonin comes in two main formulations; immediate-release (tablet, gummy, liquid) and modified-release/prolonged-release (tablet). All forms of melatonin administered to children need a doctor's prescription in Australia. Immediate-release melatonin is best used to help with initial sleep onset, whilst modified-release/prolonged-release melatonin lasts throughout the night and can be of benefit in those with difficulty maintaining sleep. In Australia, children with Smith-Magenis syndrome can access modified-release melatonin through the PBS, however, for all other children, melatonin is not subsidised (it is privately funded). The modified-release form of melatonin has also shown to be particularly effective in improving sleep in children with autism spectrum disorder (See our Autism in Children and Sleep factsheet).

All forms of melatonin should not be used without medical supervision. Whilst melatonin can be purchased online in various forms, it is strongly recommended that prescription only preparations are used in children. This is because the majority of online melatonin products are not tightly regulated and have been shown to contain varying amounts of active melatonin as well as other contaminants. Melatonin from a pharmacy that is either compounded or prescription-regulated is safest. In typically developing children, the goal should be to use melatonin short-term only.

When should my child take it?

To help your child go to sleep, the best time to take the melatonin is around 30-60 minutes before you want them to go to bed. You may need to try giving it at different times to work out when is best for them. Discuss this with your child's doctor. Be sure to use it along with a good pre-bed routine. The bedroom should be dark and comfortable. It is important that it is free from electronic media (such as TVs, electronic games and phones) which may distract the child and make it difficult to sleep. See also Good Sleep Habits.

Children should not use computers for at least an hour before going to bed. A light snack before bed is OK, but drinking and eating should be avoided if possible for at least 2 hours before bed.

Can melatonin cause problems?

In the short term, melatonin seems to work well and be safe in the children who have been studied. We do not know if it is safe in the normally developing children as yet. Only a few studies have looked at its long term use in children. But those that have, suggest that it is safe. Animal studies have raised concerns about the effects of melatonin on timing of puberty but these effects have not been found in children. Long term use is only appropriate if it is because of a specific sleep issue, such as may be seen in children with developmental problems or visual impairment. Side effects in children are very rare. When people report them, it is not yet certain if they are caused by melatonin or by something else. You should talk about this with your doctor. Concerns about the purity of online melatonin have been raised and several studies have confirmed a wide variation in the actual amount of melatonin and other compounds being present. Typically, melatonin gummies have the most variability in the amount of melatonin.

Where can I find out more?

Most research about melatonin in children has focussed on children with specific conditions or developmental problems. The following links are to short summaries of scholarly articles:

- https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1600-079X.2009.00681.x
- https://jcn.sagepub.com/content/23/5/482.short

Other useful links:

- Melatonin
- Autism in Children and Sleep
- ADHD and Sleep in Children
- Delayed Sleep-Wake Phase Disorder (DSWPS)
- Sleep Problems and Sleep Disorders in School Aged Children
- Behavioural Sleep Problems in School Aged Children
- Sleep Tips for Children
- Anxiety and Sleep

This information is produced by:

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The peak national association of clinicians and scientists devoted to investigation of sleep and its disorders.

Disclaimer: Information provided here is general in nature and should not be seen as a substitute for professional medical advice. Ongoing concerns about sleep or other medical conditions should be discussed with your local doctor.