

# THE ANTIDOTE

News and Notes from the Blue Ridge Poison Center at UVA Health

## Melatonin Supplements

In the past 10 years, the number of calls to U.S. poison centers for childhood melatonin overdoses is *up 530 percent*. What is going on, and what is the concern?



### WHAT IS MELATONIN?

Melatonin is a hormone that helps your body prepare for sleep. Our brains make melatonin naturally. It is also available as a dietary supplement. People commonly use melatonin supplements for sleep problems such as insomnia, jet lag, or adjusting to night shift schedules. Melatonin is generally safe for most adults when used short-term and in appropriate doses.

The scientific evidence that melatonin really works as a sleep aid is inconclusive, according to the National Institutes of Health (NIH). Nevertheless, melatonin supplement use has increased dramatically in the past twenty years. This was the finding of a research paper published last year in the Journal of the American Medical Association (JAMA). The number of people taking higher-than-recommended doses is also on the rise.

### WHAT IS THE CONCERN?

Some consumers mistakenly believe that “natural” products like melatonin are completely free from harm. But natural products can cause adverse effects just like other drugs or supplements. Risks increase with higher doses.

Melatonin adverse effects include **headache, dizziness, nausea, or drowsiness**. Melatonin can make symptoms of depression worse. And melatonin can cause problems when combined with alcohol or certain

medications, particularly:

- Some diabetes medications
- Blood thinners
- Certain sedatives
- Certain blood pressure medications.

### MELATONIN AND CHILDREN

When a parent believes a product like melatonin is harmless, they may be more likely to give it to a child and less likely to store it in a safe place out of the sight and reach of children. Furthermore, many melatonin products look and taste like candy, which makes them very tempting to children. The combination of these scenarios may be contributing to the huge spike in poison center calls about children and melatonin.



### LACK OF REGULATION

Like all dietary supplements, melatonin is not regulated by the U.S. FDA because it is not considered to be food or drug. There are no requirements for manufacturers to prove a product's purity, effectiveness, or safety.

According to a paper published in the Journal of Clinical Sleep Medicine, researchers tested 30 different over-the-counter melatonin products to find out if the labels were accurate. The results were shocking: 71% of the products contained either a lot less-- or a lot more-- melatonin than was listed on the label. One

product had *over 400 times* more melatonin than what the label proclaimed.

Researchers also discovered that 26% percent of the melatonin products they tested contained the prescription drug *serotonin*, even though serotonin was not listed anywhere on the label. Serotonin drugs are sometimes prescribed to treat mental health conditions such as depression or anxiety. Taking serotonin without a healthcare provider's supervision could be harmful.



### POISON TRIVIA

Schools across the country are banning the *One Chip Challenge*, a social-media challenge which has lead to many people—including students—being hospitalized. What is the *One Chip Challenge* and why is it so dangerous?

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### ADVICE FOR CONSUMERS

- If you are having problems with sleep, talk to your doctor. There are many proven ways to help improve your sleep that do not involve medications.
- If you wish to try melatonin supplements, ask your pharmacist for recommendations of trusted products. Follow the instructions on the label exactly. More is not better.
- If you regularly take other medicines, or are pregnant or nursing, consult your doctor before taking melatonin.
- Do not give melatonin to a child without their pediatrician's approval.
- If you experience any adverse effects after taking melatonin, stop taking it and consult your doctor.



## Secondhand Cannabis Smoke and Vapor: Should Parents Be Concerned?



Cannabis affects children and adolescents differently than adults. This is because the brain and nervous system are still growing and developing until around age 24. Heavy cannabis use in teens and adults under age 24 is linked to problems with learning, behavior, and mental health. But what about secondhand cannabis smoke or vapor? Does this also pose a threat to children or adolescents?

There is limited research about the long term health effects of exposure to secondhand cannabis smoke or vapor. But there are some facts that we do know about related topics which might shed some light on the matter. For example:

- Secondhand tobacco smoke has been shown to be harmful to infants and children.
- Secondhand vape exposure is associated with increased risk of respiratory symptoms and



shortness of breath among young adults.

- Pollutants such as volatile organic compounds (VOCs), ultra-fine particles, and other chemicals known to cause harm when inhaled have been found in the aerosol produced by e-cigarettes and vaping devices. These same pollutants have been detected in the vapor exhaled from the lungs of a person using an e-cigarette or vaping device (secondhand vapor).
- When a person is exposed to extreme amounts of secondhand cannabis smoke, their urine tests positive for cannabis.
- The labels on vape and cannabis products have been shown to be very unreliable. When children breathe these products, it is unclear exactly what they may be consuming.

“Given all these findings, it is reasonable to assume that breathing secondhand cannabis smoke or vape is potentially harmful to children and adolescents,” says Dr. Christopher Holstege, Medical Director of the Blue Ridge Poison Center and emergency department physician at UVA Health. “More studies are needed. Meanwhile, I would avoid smoking or vaping cannabis in the presence of children and adolescents. There is no such thing as a safe amount of childhood cannabis exposure.”



**Poison Trivia answer:** The One-Chip Challenge calls for people to eat one Paqui-brand tortilla chip laced with some of the hottest peppers in existence and waiting to eat or drink anything for as long as possible. Participants are encouraged to post images or video of themselves performing the challenge on social media. Eating the spicy chip can result in mouth or throat pain, nausea, vomiting, diarrhea and abdominal pain, dangerous changes in blood pressure and even heart attack.

Furthermore, the American Academy of Pediatrics advises women who are pregnant and nursing not to smoke, vape, or use cannabis in any form because of potential harm to the baby. Cannabis can be detected in breast milk, and passes through the placenta into the fetus during pregnancy. Cannabis exposure in the womb is linked to lower birth weight, a greater risk of stillbirth or preterm birth, and long-term problems with memory, learning and behavior.

For a list of sources of information used in this article, please reach out to the Blue Ridge Poison Center’s Education Coordinator at [KLW2S@UVAHEALTH.ORG](mailto:KLW2S@UVAHEALTH.ORG).

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