

Informulary

Great news about your drug plan!

How Does Sleep Medication Affect Thinking?

Contribution from: Cambridge Brain Sciences

Lack of sleep can make you mentally foggy, and yet unfortunately, many people don't get enough sleep. It's no surprise that turning to prescription medication to get more sleep is common—but can these drugs impair cognition even more than the sleep loss they attempt to alleviate?

Reformulary Group and Cambridge Brain Sciences team up

Reformulary Group and [Cambridge Brain Sciences](#) are teaming up in an exchange of evidence-based products and tools, and future research. Cambridge Brain Sciences delivers evidence-based brain insights to people everywhere that enable them to get the most out of their brains every day. Reformulary Group delivers an evidence-based formulary (list of drugs) to people that recommends drugs that provide the best healthcare value.

Sleep medication works, for a time

Sleep medication does help people fall asleep. For those suffering from many restless nights, finally getting some sleep can be a relief. However, the benefits often stop there. If the drugs are taken frequently, tolerance can develop and make them ineffective even for their primary purpose of getting to sleep faster.¹

Quick Facts: Sleep loss and prescription sleep medication

Problems with sleep are extremely common.

- Nearly 20% of Canadians are dissatisfied with their sleep.²
- 10% of all Canadians use prescription medications to help with sleep.²
- Roughly 66% of sleeping pill prescriptions are taken by people for 5 years or more.¹

Cognitive impairments are common side effects

When prescribing sleeping pills, doctors will often warn of side effects such as:

- Confusion
- Daytime memory and performance problems
- Mental slowing or problems with attention and memory

Clearly, these medications affect the brain, and ironically, the side effects can resemble symptoms the drug was meant to get rid of!

The assumption that taking a sleeping pill will induce sleep, and therefore improve the daytime performance of your brain, is often mistaken. Memory is the most clearly established aspect of cognition that is negatively affected, with severe and long-lasting effects. The formation and consolidation of new memories is impaired by benzodiazepines, for example, and they can even cause people to completely forget events that happen while on the medication.

The effects on memory appear to run deep. One review³ of the effects of benzodiazepines concluded that memory impairments are not only due to reduced attention or being less motivated—even implicit memory tasks (in which participants don't consciously *try* to remember things) and tasks that simulate real-life memory performance are impaired by this type of sleep drug.



Long-term usage is especially risky for the brain

Though usually prescribed for short-term disruptions to sleep, long-term use of sleep medications is common. Like many drugs, they lose their intended effect over time, but cognitive impairments remain. A review of the literature concluded that long-term users are impaired in many ways—not just memory, but problem solving, verbal ability, and more.⁴

Getting off of sleeping pills presents its own set of challenges. Long-term use can lead to dependency, making users unable to sleep without pills, and on top of that, there are withdrawal effects that impair cognition even after the drugs have left the system.

Prescription sleep medications fall into two broad categories

Reformulary Group has done an evidence-based review of which drugs are the most effective and cost-effective:

1) Benzodiazepine

Active ingredients nitrazepam, temazepam and triazolam all have generics available on tier 1 of the Reformulary

2) Non-benzodiazepine

Active ingredient zopiclone has a generic available on tier 1 of the Reformulary

Getting better sleep without medication

Given the risks of medication, people suffering from sleep loss should consider non-chemical steps to get better sleep. Researchers have identified several “sleep hygiene” habits that help most people get better sleep. These habits include:

- Avoiding caffeine, alcohol, nicotine, eating, and exercise before bed.
- Setting up your bedroom for sleep, by eliminating light, noise, and excessive heat.
- Occasionally giving up. If you can’t get to sleep, or wake up and can’t get back to sleep, get out of bed and do something else until you are tired again.
- Keeping a consistent schedule for sleep—yes, even on weekends.

Sleep medication is a risk/reward decision

Not sleeping has its own set of risks, and sleep deprivation clearly impairs cognition, so despite any negative effects, sleep medication can be the right choice when sleep hygiene improvements are not working, or there is a short-term disruption causing sleep loss.

Newer medications have fewer risks. The type of sleep medication most clearly related to cognitive impairments—benzodiazepines—are considered “older” sedatives, and while they are still used, newer drugs with fewer cognitive side effects are becoming more common.

An opportunity to explore your own sleep and cognition while contributing to science

Knowledge is power when it comes to sleep and cognition. That’s why Cambridge Brain Sciences—a leading platform for cognitive assessment—is launching *The World’s Largest Sleep Study: an unprecedented look at the sleep habits of people all over the planet*. Is memory impaired by sleep loss as much as it is by sleep medication? How much sleep is needed to avoid impairment? Do disruptions to sleep change as we get older? The researchers hope to answer these questions and more.

You can sign up to learn more about your own sleep, test your cognition, and see how they are related, all while contributing to a groundbreaking scientific study. Sign up at www.worldslargestsleepstudy.com to get started. 

For more information, please visit Reformulary.com/Resources

References

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