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Drugs and Therapeutics Backgrounder

Melatonin: Evidence, Safety Concerns, and the Move to Patient's Own Supply

BOTTOM LINE: Limited clinical evidence exists only for the use of high-quality pharmaceutical grade melatonin, which is currently unavailable in Canada.
Patients will be required to provide their own melatonin supply starting September 2024.

Background:

Melatonin is an endogenous hormone produced in the brain by the pineal gland. It regulates the body's circadian rhythm, endocrine secretions, and sleep patterns.[1] In Canada, melatonin is considered a natural health product (NHP) indicated for adults ≥ 18 years to improve sleep in shift workers, jet lag and delayed sleep phase disorder.[2,3] Following the Drugs and Therapeutics Committee (DTC) decision based on a myriad of clinical and operational concerns, melatonin's formulary status will be changed to non-formulary do not provide (NFDNP) in September 2024.

Efficacy:

The Canadian Agency for Drugs and Technologies in Health (CADTH) reviewed melatonin for delirium[4] and insomnia indications.[5-7] It determined that there is a lack of quality evidence to support the use of over-the-counter melatonin in adults for either indication. However, there is some evidence for high-grade melatonin for the short-term treatment of insomnia in pediatric patients with neurodisabilities, but those products are not currently available in Canada.
Most clinical practice guidelines do not support the use of melatonin for insomnia in adults[8-11] or ICU settings.[12] One British clinical practice guideline supports melatonin for the indication of insomnia in older adults, sleep problems in children and sleep disturbances in adults with intellectual disabilities.[13] The American Academy of Neurology practice guidelines recommend high-grade melatonin when behavioral strategies are not sufficient to address disrupted sleep in children and adolescents with autism spectrum disorders.[14]

Safety:

Content and purity of Canadian over-the-counter melatonin is a safety concern. A scientific investigation quantified melatonin in 30 Canadian commercial supplements, comprising different brands and dosage forms.[15] It found serotonin in concentrations ranging from 1 to 75 mcg in eight out of thirty products tested; in addition, melatonin content in the different samples varied from -83% to +478% of labelled melatonin and did not meet label values within a 10% margin of the label claim in more than 71% of supplements.

Melatonin is generally well tolerated. Most common adverse events include dizziness, drowsiness, headache, and nausea.[1] Although use in children is considered "off-label" in Canada, melatonin is possibly safe in pediatrics when used in low doses, short-term.

Sustainability:

Individual doses of melatonin are inexpensive; however, the volume of use in AHS (over 370,000 defined daily doses dispensed in fiscal year 2022/23) results in considerable operational impact.

Starting in September 2024, melatonin will not be provided in AHS facilities. Patients will be required to bring their own supply.

Refer to AHS POM policy for support.

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