



April 2016

# ELDER CARE

## A Resource for Interprofessional Providers

### Sleep in Older Adults - Pharmacotherapy

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Older adults frequently report sleep-related complaints and have questions about appropriate sleep therapies. A previous edition of *Elder Care*, "Cognitive Behavioral Interventions for Insomnia in Older Adults," discusses the use of non-pharmacological, preventive, and behavioral strategies for treatment of sleep disorders in older adults.

#### The Role of Drug Therapy

Because many sleep agents are not appropriate for older adults as specified in the Beers Criteria, it is vital to remember that non-drug therapy and preventive/behavioral measures should be the first-line approach in this population. One of the preventive measures related to drug therapy is to identify medications or substances used that might be contributing to sleep problems, and avoiding them or adjusting dosing times to avoid interference with sleep (Table 1). Drug therapy should be reserved for when non-pharmacological and preventive measures fail.

#### Risk versus Benefit of Pharmacotherapy

An older adult may receive modest sleep benefit from a sleep agent but also experience adverse effects such as cognitive impairment, confusion, sleep walking, falls, etc. Therefore, benefit-to-risk ratio should be carefully considered and explained to older patients and caregivers before starting pharmacotherapy. Current evidence supports treating underlying causes of the sleep problem and initiating a behavioral intervention or a combination of them as first-line treatment. Pharmacological therapy should be reserved for when those measures fail.

#### Pharmacotherapy Recommendations

The choice of a sleep medication should be directed by several factors including: (a) insomnia pattern, (b) goals of therapy, (c) past treatment responses, (d) comorbidities, (e) contraindications, (f) side effects, (g) drug interactions, (h) cost, and (i) patient preference. The lowest effective dose of the chosen agent should be used with regular follow up to assess effectiveness, adverse effects, and need

**Table 1. Common Medications/Substances that Cause or Aggravate Sleep Disorders in Older Adults**

Agents	Effects and Advice
Alcohol	Sleep induction, subsequent disruption Limit use
Antidepressants (e.g., SSRIs, SNRIs, bupropion)	Insomnia Give stimulating agents in morning
β-blockers, α-agonist (e.g., atenolol, clonidine)	Insomnia, may cause nightmares Use alternative agent if possible
Caffeine, Decongestants (e.g., pseudoephedrine)	Stimulating Avoid evening use
Corticosteroids (e.g., prednisone)	Stimulating, may cause agitation Prescribe lowest dose possible
Diuretics (e.g., furosemide)	Awakening due to nocturia Dose in morning or early afternoon
Levodopa	Insomnia, may cause nightmares Avoid late dosing if possible
Nicotine	Stimulating Smoking cessation
Phenytoin	Insomnia Avoid late dosing if possible
Thyroid supplements	Insomnia Check thyroid function test

SSRI = Selective Serotonin Reuptake Inhibitor, SNRI = Serotonin Norepinephrine Reuptake Inhibitor

for continued use. Intermittent dosing (2-4 times/week) may be used. Again, short-course treatment (3-4 weeks) should be used unless chronic insomnia is present due to a chronic illness. After chronic use, the medication should be tapered to prevent rebound insomnia.

#### TIPS FOR USING SLEEP PHARMACOTHERAPY IN OLDER ADULTS

- Save drug therapy for when nondrug therapy and preventive measures fail.
- Reverse underlying cause(s) of sleep problems and use behavioral interventions as first-line treatment.
- Weigh risk versus benefit of sleep agents with older patients and caregivers when choosing pharmacotherapy.
- Use lowest effective dose of the chosen agent with regular follow up to assess effectiveness, adverse effects, and need for continued pharmacotherapy.
- To improve sleep latency, use a shorter-acting agent (e.g., ramelteon or over-the-counter melatonin).
- To improve sleep maintenance, use a longer-acting agent (e.g., trazodone).

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Table 2 describes sleep pharmacotherapy options, and Table 3 notes medications to avoid in older adults.

**Table 2. Medications to Use**

<b>Medications to Consider Using</b>
<b>Melatonin Receptor Agonists -</b> No abuse potential or morning-after effects <ul style="list-style-type: none"><li>• Ramelteon (Rozerem®) 8 mg within 30 mins of bedtime (avoid high-fat meal)</li><li>• Over-the-counter melatonin</li></ul>
<b>Antidepressants -</b> especially for patients with comorbid depression. These drugs have orthostatic side effect. Tricyclic antidepressants should not be used. <ul style="list-style-type: none"><li>• Trazodone (Desyrel®) 25-100 mg</li><li>• Mirtazapine (Remeron®) 7.5-15 mg Has side effect of stimulating appetite, a potential benefit for some patients. Beers Criteria recommend use with caution because of potential to cause SIADH.</li><li>• Doxepin (Silenor®) 3-6 mg (Beers Criteria limit dose to &lt;6mg/day; many potential drug interactions).</li></ul>
<b>Gabapentin (Neurontin®) -</b> For patients with neuropathic pain or restless legs syndrome, use gabapentin 100 mg to start and then titrate as needed. Dose must be adjusted in renal insufficiency.

**Table 3. Medications to Avoid**

<ul style="list-style-type: none"><li>• Antihistamines, including over-the-counter antihistamines (e.g., diphenhydramine)</li><li>• Antipsychotics (all classes)</li><li>• Benzodiazepines (short, intermediate, or long-acting)</li><li>• Benzodiazepine receptor agonists: eszopiclone (Lunesta®), Zaleplon (Sonata®), Zolpidem (Ambien®), Zolpidem ER (Ambien CR®)</li><li>• Barbiturates (e.g., phenobarbital)</li><li>• Tricyclic Antidepressants (e.g., amitriptyline)</li></ul>
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To improve sleep latency, use a shorter-acting agent (e.g., ramelteon or over-the-counter melatonin). To improve sleep maintenance, use a longer-acting agent like trazodone. Most pharmacotherapies have potential drug/herbal/food interactions and adverse effects that need close monitoring. Patient education is key: (a) expectation and treatment goals, (b) safety concerns, (c) potential adverse effects, (d) potential drug interactions, (e) dose escalation plan, (f) rebound insomnia, and (g) consider non-pharmacological approaches (e.g., cognitive behavioral therapy).

## Supplements for Sleep

Complementary and alternative medicine (CAM) use increases with age. A 2005 report found that 30% of people over 65 report using CAM, and 70% of those are 85 and older. Several supplements are used for sleep.

**Melatonin** Synthesized endogenously in the pineal gland, evidence suggests that older adults may have melatonin deficiency when compared to younger adults, and melatonin supplementation may be beneficial for insomnia. It is generally well tolerated, but may exacerbate dysphoria in depressed patients, and have an additive effect with sedatives. Melatonin can also increase the effectiveness of anti-coagulants, may reduce glucose tolerance and insulin sensitivity, and may cause orthostatic hypotension.

**Valerian** Thought to have sedative-hypnotic, anxiolytic, antidepressant, anticonvulsant and antispasmodic effects, valerian modestly reduces sleep latency and improves subjective sleep quality. It is generally well tolerated, but cases of headache, gastrointestinal upset, excitability, and cardiac problems have been reported. It may have hypotensive effects, and has an additive effect with sedatives.

**Passionflower** The FDA has given passionflower a “generally recognized as safe” status for use in foods. Preliminary research indicates that drinking one cup of passionflower tea an hour before going to bed improves sleep quality. It has no effect on sleep latency or nighttime awakenings, however. It can cause dizziness, confusion, sedation, and ataxia in some patients. One case of cardiac side effects has been reported. Passionflower may have an additive effect with sedatives.

## References and Resources

American Geriatrics Society 2015 Beers Criteria Update: <http://geriatricscareonline.org/ProductAbstract/american-geriatrics-society-updated-beers-criteria-for-potentially-inappropriate-medication-use-in-older-adults/CL001>

Natural Medicines Comprehensive Database <http://naturaldatabase.therapeuticresearch.com>

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Supported by: Donald W. Reynolds Foundation, Arizona Geriatric Education Center and Arizona Center on Aging

This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U1QHP28721, Arizona Geriatrics Workforce Enhancement Program. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.