

Clinical Practice Guideline

Adult Conditioned Insomnia:

Diagnosis to Management

This guideline was developed by a Clinical Practice Guidelines Working Group to assist physicians in the management of conditioned insomnia in adults. A companion guideline for the assessment of patients with insomnia accompanies this document. This guideline does not address the assessment and management of excessive daytime sleepiness (EDS) or the management of primary sleep disorders.

EXCLUSIONS

- Children under the age of 18
- Pharmacotherapy in pregnant or lactating women

RECOMMENDATIONS

- The management of conditioned insomnia is based on the foundation of behavioural and cognitive non-pharmacologic strategies. Pharmacologic interventions are adjunctive to the non-pharmacologic strategies.
- The treatment of insomnia needs to be individualized and adapted to the patient's situation
- The patient must be an active participant in treatment process. Conditioned insomnia is a chronic illness that requires regular follow-up and monitoring.
- The goal of management is to provide the patient with the tools necessary to manage the chronic nature of the illness and minimize dependence on sedative medications.

Non-pharmacologic

Non-pharmacologic therapies are effective in the management of conditioned insomnia especially when behavioural and cognitive techniques are used in combination.¹ Behavioural techniques include sleep hygiene, sleep consolidation, stimulus control, and relaxation therapies. Cognitive techniques include cognitive behavioural therapy (CBT).²

Behavioural Therapies

Sleep hygiene

The following recommendations should be individualized to address patient needs/situation.

PRACTICE POINT

Initially, it is considered more effective to recommend strict adherence to the principles of sleep hygiene and adapt as the patient improves.

Therapy includes suggestions such as:

- Avoid vigorous exercise within 2 hours of bedtime
- Avoid sleeping-in after a poor night of sleep
- Avoid watching/checking the clock
- Avoid excessive liquids or heavy evening meals
- Avoid caffeine, nicotine, and alcohol before bed
- Maintain a quiet, dark, safe, and comfortable sleep environment
- Schedule a wind-down period before bed

PRACTICE POINT

It is frequently useful to educate the patient that:

- while alcohol helps with sleep initiation, it impairs sleep maintenance and can exacerbate other sleep disorders.
- many patients find smoking relaxing; however nicotine is a potent stimulant.
- smoking cessation aids (nicotine replacement products and bupropion) can cause insomnia.

Sleep consolidation

Some insomnia patients spend excessive time in bed trying to attain more sleep. Sleep consolidation is accomplished by compressing the total time in bed to more closely match the total sleep time of the patient. This improves the sleep efficiency.

- devise a “sleep prescription” with the patient
- determine the average total sleep time

- determine the total time in bed
- prescribe the time in bed to current total sleep time plus 1 hour (max).
- the minimum sleep time should be no less than 5 hours
- set a consistent wake time (= anchor wake time)
- the bed time is determined by counting backwards from the anchor wake time.
- times can vary by 1 hour maximum at weekends.
- advise the patient that napping is counter-productive

Once the patient is sleeping for about 90 percent of the time spent in bed for five consecutive days, then the amount of time spent in bed is slowly increased by 15-30 minute every 5 days. If sleep efficiency of 90 percent is maintained, then therapy is successful. The average total sleep time for most people is between 6 and 8 hours a night.

PRACTICE POINT

Counsel patients that they may suffer from daytime sleepiness in the initiation phase of compressing their sleep schedule.

Stimulus control

Stimulus control is designed to re-associate the bed/bedroom with sleep and to re-establish a consistent sleep-wake schedule. This is achieved by limiting activities that serve as cues for staying awake.

The treatment consists of the following behavioural instructions:

- Avoid arousing activities before bed (late night phone calls, work, watching TV)
- go to bed only when sleepy even if later than prescribed sleep schedule
- set alarm for agreed upon anchor time
- hide the clock
- get out of bed if not able to sleep – go to another room and relax.
 - avoid eating, ingesting caffeine or smoking
 - return to bed only when sleepy.

Relaxation therapies

Relaxation therapy is designed to reduce physiological and psychological arousal to promote sleep. Recommended relaxation therapies must be individualized and include:

- progressive muscle relaxation
- biofeedback
- meditation
- imagery training
- light exercise/light stretching
- deep breathing

Cognitive Therapies

Cognitive behavioural therapy (CBT)

CBT addresses the inappropriate beliefs and attitudes that perpetuate the insomnia. The goal of this technique/process is to identify dysfunctional sleep cognitions, challenge the validity of those cognitions, and replace those beliefs and attitudes with more appropriate and adaptive cognitions.

Common faulty beliefs and expectations that can be modified include:

- unrealistic sleep expectations (e.g., I need to have 9 hours of sleep each night)
- misconceptions about the causes of insomnia (e.g., I have a chemical imbalance causing my insomnia)
- amplifying the consequences (e.g., I cannot do anything after a bad night's sleep)
- performance anxiety and loss of control over ability to sleep (e.g., I am afraid of losing control over my ability to sleep)

Pharmacologic

Pharmacotherapy should be considered an adjunctive therapy to cognitive and behavioural therapies in the comprehensive management of conditioned insomnia.

Principles of Treatment

Pharmacotherapy is generally recommended at the lowest effective dose as short-term treatment lasting less than 7 days. Although long-term use of hypnotic agents is discouraged due to the potential for tolerance and dependence, there are specific situations and circumstances under which long term use of hypnotics may be appropriate.

- Short term (<7 consecutive nights)
 - initially used to break the cycle of chronic insomnia and allow the patient to adapt to cognitive and behavioural interventions
 - used to manage an exacerbation of previously controlled conditioned insomnia.
- Long term intermittent: self administered therapy to decrease arousal and prevent relapse.²
 - used on a limited PRN basis (<3 times/week) for occasional bouts of insomnia
 - used on a scheduled basis (i.e., <3 times/week) to ensure consistent adequate sleep in a patient with chronic conditioned insomnia where the goal of therapy is to prevent relapse.

Therapeutic Options

First-line Pharmacotherapy: Highest level of evidence supporting efficacy and safety		
Agents	Recommended Dose	Comments
Zopiclone	3.75 - 7.5 mg	<ul style="list-style-type: none"> Short half life provides lower risk of morning hang over effect Metallic after-taste most common adverse reaction
Zaleplon	5 - 10 mg (note: 5 mg dose is largely ineffective and not routinely recommended)	<ul style="list-style-type: none"> Ultra-short half-life. Used for sleep initiation and also PRN for night-time awakenings when there is still a minimum of 3 to 4 hours before rising.
Temazepam	15-30 mg	<ul style="list-style-type: none"> Intermediate half-life carries a low-moderate risk of morning hang-over effect.

Second-line Pharmacotherapy		
Moderate level of formal evidence. Extent of current use and favorable tolerability support use as second-line agents		
Agents	Recommended Dose	Comments
Amitriptyline	10 - 50 mg	<ul style="list-style-type: none"> Longer half-life carries risk of morning hang-over effect and cognitive impairment.
Trazodone	25 - 50 mg	<ul style="list-style-type: none"> Shorter half-life carries lower risk of morning hang-over effect.

Variable Evidence		
Agents	Recommended Dose	Comments
L-Tryptophan	500 mg - 2 gm	<ul style="list-style-type: none"> Evidence supporting efficacy is variable and insufficient. May be requested by individual patients looking for a “natural source” agent.
Melatonin	1 - 5 mg	
Valerian	400-900 mg	

<u>Not recommended</u>	
The following agents are not recommended for the management of conditioned insomnia except in cases where the agent is being used specifically to manage a co-morbidity such as depression.	
Agents	Comments
Antidepressants - mirtazapine, fluvoxamine, tricyclics	<ul style="list-style-type: none"> Relative lack of evidence
Antihistamines - chlorpheniramine, diphenhydramine, dimenhydrinate, doxylamine	<ul style="list-style-type: none"> Relative lack of evidence or excessive risk of daytime sedation, psychomotor impairment and anticholinergic toxicity
Antipsychotics (Conventional or 1st-generation) - chlorpromazine, methotrimeprazine, loxapine	<ul style="list-style-type: none"> Relative lack of evidence and unacceptable risk of anticholinergic and neurological toxicity
Antipsychotics (Atypical or 2 nd -Generation) - risperidone, olanzapine, quetiapine	<ul style="list-style-type: none"> Relative lack of evidence and unacceptable cost and risk of metabolic toxicity
Benzodiazepines (Intermediate and Long-Acting) - diazepam, clonazepam, flurazepam, lorazepam, nitrazepam, alprazolam, oxazepam Benzodiazepines (Short-Acting) - triazolam	<ul style="list-style-type: none"> Excessive risk of daytime sedation and psychomotor impairment No longer recommended due to unacceptable risk of memory disturbances, abnormal thinking and psychotic behaviors.
Chloral's - chloral hydrate, ethchlorvinyl	<ul style="list-style-type: none"> Excessive risk of tolerance, dependence and abuse as well as adverse gastrointestinal and CNS effects.
Muscle relaxants - cyclobenzaprine, meprobamate	<ul style="list-style-type: none"> Relative lack of evidence and excessive risk of adverse CNS effects

Management Plan

PRACTICE POINT

The foundation of the management of conditioned insomnia is behavioural and cognitive therapy. Ongoing evaluation of the patient's motivation to adhere to the behavioral and cognitive strategies is an important part of monitoring the patient's progress. Adherence to and compliance with these strategies is usually effective and minimizes their dependence on medication

First visit

- Prescribe behavioural cognitive interventions
- Consider pharmacotherapy

Follow-up at 2 weeks

- Evaluate sleep efficiency and daytime symptoms
- Reinforce behavioural interventions
- Review or reconsider pharmacotherapy

3 month follow-up

- If no/limited progress referral to sleep medicine program or psychologist may be warranted

Credibility

The insomnia guideline working group was comprised of family physicians, sleep medicine specialists, a psychiatrist, and clinical pharmacist. The group developed the guideline using the most comprehensive review of the current state of the science of chronic insomnia produced by the National Institutes of Health in 2005.¹ The Agency for Healthcare Research and Quality also prepared a report based on work submitted by the University of Alberta Evidence-based Practice Center titled "Manifestations and Management of Chronic Insomnia in Adults".⁴ The British National Health Service, National Institute for Clinical Excellence⁵ have also produced a review of the use of non-benzodiazepene drugs for the management of insomnia. The results and recommendations of these documents have been reviewed by the guideline committee and form the basis of the evidence for the background material. The clinical tools have been developed by the guideline committee based on Canadian expert and primary care physician consensus.

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The TOP Program is an initiative directed jointly by the Alberta Medical Association, Alberta Health and Wellness, the College of Physicians and Surgeons, and Alberta's Health Regions. The TOP Program promotes appropriate, effective and quality medical care in Alberta by supporting the use of evidence-based medicine.

TOP Leadership Committee

Alberta Health and Wellness
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TO Provide Feedback

The Guideline Working Group for Insomnia is a multi-disciplinary team composed of family physicians, sleep medicine specialists, a pharmacist, psychiatrist and a psychologist.

The team encourages your feedback. If you have difficulty applying this guideline, if you find the recommendations problematic, or if you need more information on this guideline, please contact:

Clinical Practice Guidelines Manager
 TOP Program
 12230 - 106 Avenue NW
 Edmonton AB T5N 3Z1
 Phone: 780.482.0319
 or toll free 1.866.505.3302
 Fax: 780.482.5445
 Email: cpg@topalbertadoctors.org
 Website: www.topalbertadoctors.org