CEP | Providers

Management of Chronic Insomnia

This clinical tool guides primary care providers to assess and manage chronic insomnia and pharmacological options in the general adult population. An estimated 3.3 million Canadians aged 15 years or older (about one in every seven Canadians) have difficulty going to sleep or staying asleep.[1] This can impact both daily functioning and quality of life. Appropriate management options, such as cognitive behaviour therapy for insomnia (CBT-I) and pharmacotherapy regimens, are discussed in the tool to support primary care providers in their approach.[2,3,4] Considerations and instructions for initiating a benzodiazepine taper are also addressed within the tool.

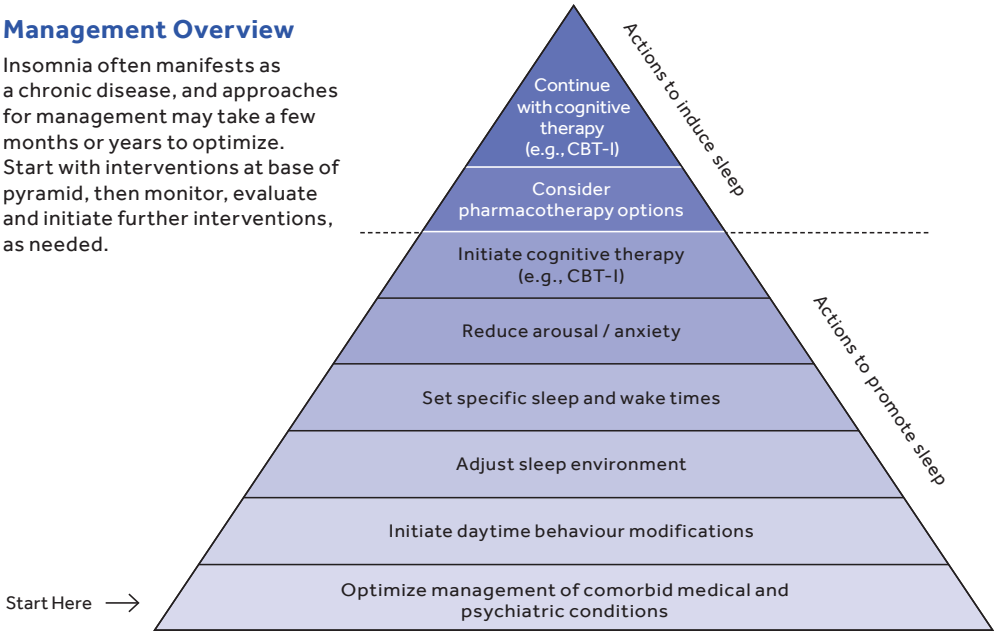
What to do when a patient is concerned about not sleeping:

Assessment

1. Consider using a sleep disorder questionnaire[i]
2. Instruct patient to complete a sleep diary[ii]
3. Assess severity of insomnia using one or more of the following:
   - Insomnia Severity Index[iii]
   - Epworth Sleepiness Scale[iv]
   - STOPBANG[v]
4. Refer to a sleep clinic[vi] for further investigation if necessary (e.g., circadium rhythm disorder, sleep apnea/snoring, movement disorder, or parasomnia)

Management Overview

Insomnia often manifests as a chronic disease, and approaches for management may take a few months or years to optimize. Start with interventions at base of pyramid, then monitor, evaluate and initiate further interventions, as needed.



1. Address and optimize the management of any underlying medical, psychiatric or environmental causes

Comorbid conditions associated with insomnia are very common. In most cases, addressing and optimizing the management of an underlying medical, psychiatric or environmental cause may improve insomnia (e.g., treating hyperthyroidism). In other cases, treating insomnia with CBT-I has offered improvement to comorbid conditions (e.g., depression or chronic pain).[5,6] Discuss with the patient to understand potential underlying causes.

Common comorbid medical disorders, conditions and symptoms[4]

Potential cause	Examples of disorders, conditions, and symptoms
Cardiovascular	Angina, congestive heart failure, dyspnea, dysrhythmias
Endocrine	Diabetes mellitus, hyperthyroidism, hypothyroidism
Genitourinary	Incontinence, benign prostatic hypertrophy, nocturia, enuresis, interstitial cystitis
Mental Health (psychiatric)	Mood disorders: depression, bipolar, dysthymia Anxiety disorders: generalized anxiety disorder, panic disorder, post-traumatic stress disorder, obsessive compulsive disorder Psychotic disorders: schizophrenia, schizoaffective disorder Amnestic disorders: Alzheimer's disease Other: attention deficit disorder, adjustment disorders, personality disorders, bereavement, stress
Musculoskeletal	Rheumatoid arthritis, osteoarthritis, fibromyalgia, Sjögren's syndrome, kyphosis
Neurological	Stroke, dementia, Parkinson's disease, seizure, headache, traumatic brain injury, peripheral neuropathy, chronic pain disorders, neuromuscular disorders
Reproductive	Menstrual cycle variations, including pregnancy and menopause
Sleep	Obstructive sleep apnea, central sleep apnea, restless legs syndrome, periodic limb movement disorder, circadian rhythm sleep disorders, parasomnias
Environmental	Noise, temperature, disruptive presence of a partner, uncomfortable bed
Other	Allergies, rhinitis, sinusitis, bruxism, alcohol and other substance use/dependence/withdrawal

2. Consider pharmacological causes of insomnia

Change administration of drug(s) to the morning (AM), taper or stop, if possible.

Drugs may cause fragmented sleep, nightmares, nocturia, or stimulation. These include:	
Antidepressants	Bupropion, MAOIs (phenelzine, tranylcypromine), SNRIs (desvenlafaxine, duloxetine, venlafaxine), SSRIs (citalopram, escitalopram, fluoxetine, paroxetine, sertraline)
Cardiovascular	α-blockers (e.g., tamsulosin), β-blockers (e.g., propranolol, metoprolol), diuretics (e.g., furosemide, hydrochlorothiazide), statins
Decongestants	Phenylephrine, pseudoephedrine
Opioids	In combination with caffeine (e.g., Tylenol #1, #2, #3)
Respiratory	β_2-agonists (e.g., salbutamol, salmeterol, formoterol, terbutaline, indacaterol, olodaterol), theophylline
Stimulants	Amphetamine, caffeine, cocaine, ephedrine, methylphenidate, modafinil
Others	Acetylcholinesterase inhibitors (e.g., donepezil), alcohol (fragmented sleep), antineoplastics, corticosteroids (e.g., prednisone), dopamine receptor agonists (e.g., levodopa, rotigotine), nicotine, medroxyprogesterone, phenytoin, thyroid supplements

MAOIs=Monoamine Oxidase Inhibitors, SNRIs=Serotonin Norepinephrine Reuptake Inhibitors, SSRIs=Selective Serotonin Reuptake Inhibitors

Five most common medications likely to disrupt sleep[7]

1. Levodopa
2. Prednisone
3. Venlafaxine
4. Fluvoxamine
5. Rotigotine

3. Non-pharmacological options

CBT-I is recommended as the initial treatment for chronic insomnia[2,3,4,5]

- Components of cognitive behavioural therapy for insomnia (CBT-I) are outlined in the table below[8]
- CBT-I has shown improved Insomnia Severity Index (ISI) scores, sleep onset latency (time to fall asleep), wake after sleep onset, sleep efficiency and quality. Studies show no significant difference in total sleep time compared to placebo group.

Non-pharmacological Interventions		
Interventions	Intended effect	Specific directions for patients
Sleep hygiene	Reduce behaviours that interfere with sleep drive or increase arousal	• Stick to a regular sleep schedule – even on weekends • Get regular exercise – avoid exercising in the late evening[9,10] • Go to bed only when you feel tired • Use your bedroom only for sleep and sexual activity • Avoid large meals just before bedtime • Limit caffeine, alcohol and nicotine • Keep bedroom dark and quiet • Avoid daytime or evening napping • Remove bedroom clock from sight • Avoid light-emitting devices or bright lights in the hours before bedtime (e.g., e-books, cell phones)[11]
Sleep restriction	Increase sleep drive and stabilize circadian rhythm	• Reduce time in bed to your perceived total sleep time (not less than 5-6 hours) • Choose specific hours in bed as per personal preference and circadian timing • Increase time in bed gradually as sleep efficiency improves • Never get into bed earlier than your usual bedtime • Do not get into bed unless you feel tired (e.g., nodding head, yawning, eyes closing), even if it is your usual bedtime • Do not nap when you feel tired during the day. If a nap is necessary, begin napping before 3pm and sleep 1 hour or less. Take 'power naps' to promote alertness when driving or doing other activities in which drowsiness is a hazard.
Stimulus control	Reduce arousal in sleep environment and promote the association between bed and sleep	• Attempt to sleep when feeling tired • Get out of bed when awake and/or anxious at night • Do not stay in bed if you are not able to sleep. Leave the bed within 10-15 minutes and return when you feel tired. Repeat these steps as needed during the night. • Use the bed only for sleep or sexual activity (e.g., no TV, radio, electronic devices, no eating or reading in bed) • Do not stay in bed after the alarm sounds (if you are awake, get out of bed)
Cognitive therapy	Restructure maladaptive beliefs regarding health and daytime consequences of insomnia	• Maintain reasonable expectations about sleep • Review with the patient previous insomnia experiences or challenging perceived catastrophic thinking about the consequences of insomnia
Relaxation therapy	Reduce physical and psychological arousal in sleep environment	• Practice progressive muscle relaxation, breathing exercises, or meditation. • Try relaxation techniques 30-60 minutes prior to sleep. Find a relaxation technique that works well for you.

4. Pharmacotherapy

Key considerations

- Pharmacotherapy should be considered as adjunctive therapy to CBT-I [2,3,4]
- CBT-I combined with medication may produce faster improvements in sleep than CBT-I alone[12]
- The studies that support the use of sedative hypnotics (benzodiazepines and Z-drugs) for insomnia are limited to short-term treatment (<4 weeks)[13]

Pharmacotherapy options for insomnia[2,3,4,14,15] (low to moderate quality of evidence)

	Generic	Notes, adverse effects	Usual dose
NON-BENZODIAZEPINES (Z-drugs)	Zopiclone[x] 5, 7.5mg T	• Indicated for insomnia • Improves sleep onset latency (~19 min), total sleep time (~45 min), wake after sleep onset (~11 min)[3] • Risk of physical tolerance and dependence • A/E: metallic aftertaste	3.75 - 7.5mg **Max:** 5.0mg in elderly or patients with kidney/liver disease
	Zolpidem[X] 5, 10mg S	• Indicated for insomnia • Improves sleep onset latency (~15 min), total sleep time (~23 min)[3] • Oral disintegrating tablet - cannot be split • Less chance of morning hang-over effect • Risk of physical tolerance and dependence • A/E: daytime drowsiness, dizziness/vertigo, amnesia, nausea, headache, falls	5 - 10mg
ANTIDEPRESSANTS	Doxepin 10, 25, 50, 100mg C 3, 6mg T	• 3mg: improve total sleep time (~12 min), wake after sleep onset (~10 min)[3] • 6mg: improve total sleep time (~17 min), wake after sleep onset (~14 min)[3] • Not to be taken within 3 hours of a meal due to delayed absorption and potential for next day drowsiness • Minimal risk of physical tolerance/dependence; consider doxepin if substance abuse or dependence is a concern • A/E: anticholinergic side effects with higher doses	10 - 50mg C 3 - 6mg T
	Trazodone 50, 100, 150mg T	• Trazodone is indicated for depression; **limited evidence** for insomnia • Lower risk of morning hangover effect due to short half-life • Minimal risk of tolerance/dependence • Low anticholinergic activity • A/E: orthostatic hypotension, priapism in men (rare)	25 - 150mg
	L-Tryptophan[x] 500mg C 250, 500, 750, 1g T	• Indicated as an adjunct for affective disorders • **Conflicting evidence** for insomnia • Caution: Serotonin syndrome with SSRI or MAOIs • A/E: dry mouth, drowsiness, dizziness, GI upset	500mg - 2g
BENZODIAZEPINES (BZD)	**Avoid in the elderly due to risk of cognitive and behavioural adverse effects, falls and fractures** Flurazepam, oxazepam, triazolam are indicated for primary insomnia, but are not recommended[2]		
	Temazepam 15, 30mg C	• Indicated for insomnia • Risk of physical tolerance and dependence • Low-to-moderate risk of morning hangover due to intermediate half-life • A/E: dizziness, confusion, memory impairment, falls/fractures	15 - 30mg hs
OVER-THE-COUNTER (limited evidence for use)	Melatonin[x] 1, 3, or 5mg C 2mg controlled release C 3mg S, various formulations	• Modest effect on sleep (may decrease sleep onset latency [~7 min], increase total sleep time [~8 min], and improve sleep quality)[16] • Melatonin has no effect on benzodiazepine discontinuation while the effect of melatonin on sleep quality is inconsistent[17] • No apparent physical tolerance and dependence • Purity concerns • A/E: fatigue, headache, dizziness, irritability, abdominal cramps	0.3 - 5mg (usual dose 1 - 3mg), 30-90 min before hs or if shift in circadian rhythm, take 4-5 hours before hs
	Valerian Root[x] Herbal Sleepwell, Herbal Nerve, etc.	• **Limited evidence for insomnia**[18] • Purity concerns • A/E: dizziness, nausea, headache, upset stomach, hepatotoxicity (rare)	400 - 900mg, 30 - 60min before hs

LEGEND:

A/E=adverse effects; **C**=Capsule; **GI**=gastrointestinal; **hs**=bedtime; **MAOIs**=monoamine oxidase inhibitors; **S**=Sublingual tablet; **SSRI**=selective serotonin reuptake inhibitor; **T**=Tablet; [x]=not covered under Ontario Drug Benefit (ODB) Program

4. Pharmacotherapy

General principles of treatment[2]

- Start at the lowest effective dose and initiate a short-term duration of treatment (e.g., 1-2 weeks)
- Evidence suggests that pharmacotherapy should be used no longer than ~1 month due to the risk of dependence and tolerance
- Principles of behavioural management should remain the focus, even if medication is used
- Long-term use of hypnotics may be appropriate in some cases (e.g., severe or refractory insomnia resistant to CBT-I, existing medical or mental health comorbidities). Regular follow-up and reassessment are beneficial to ensure that comorbidities, tolerance, and/or dependence do not emerge.

Risks vs. benefits of benzodiazepines & Z-drugs (zopiclone and zolpidem)

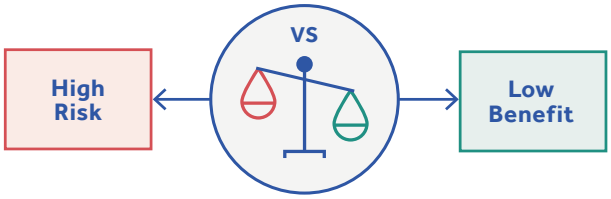
Meta-analyses* of sedative hypnotics identified that:[19,20]

- **The number needed to harm (NNH) = 6** (95% CI [4.7, 7.1] compared to placebo (drowsiness, fatigue, headache, nightmares, nausea, GI disturbances and cognitive effects))
- Other serious adverse events such as falls and motor vehicle accidents have been reported after benzodiazepine use
- New use of sedative hypnotics is associated with approximately two times the risk of motor vehicle accidents[21,22,23,24,25]

- **The number needed to treat (NNT) = 13** (95% CI [6.7, 62.9] for a sedative to improve sleep quality)
- **Sedative hypnotics can increase total sleep time by 25 minutes** (95% CI [13,38 minutes] compared with placebo)
- Sedative hypnotics can decrease sleep latency by ~10 minutes
- The mean number of awakenings decreased by 0.63 (95% CI [-0.48, -0.77])

*Length of treatment in studies ranged from 5 days to 9 weeks

Sedatives



Talking points when initiating benzodiazepines or Z-drugs

"Before we initiate a medication, could you fill out this sleep diary for 2 weeks so I can review which medication (if any) would be most appropriate for you?"

"If we are to start a medication, it would only be for a short-term period (e.g., a few weeks). The benefits of this drug may increase your sleep by about 25 minutes throughout the night and it may reduce 1 nighttime awakening. The medication may also cause some daytime drowsiness, fatigue, headache, nightmares, nausea and/or upset stomach."

"It is also important to know that the use of this type of medication will increase your risk of having a traffic accident, a work accident or a fall. These risks are especially high when alcohol is consumed during the weeks you are using the medication."

Drugs not recommended for the sole management of insomnia[2]

The following agents are not recommended for the management of insomnia alone, except in cases where the agent is being used specifically to manage a comorbidity, such as depression.

Agents	Notes, adverse effects
Antidepressants (e.g., mirtazapine, fluvoxamine, tricyclics, such as amitriptyline)	• Relative lack of evidence and significant adverse effects (e.g., weight gain)
Antihistamines (e.g., chlorpheniramine, diphenhydramine)	• Lack of evidence or excessive risk of daytime sedation, psychomotor impairment and anticholinergic activity
Antinauseants (e.g., dimenhydrinate)	• Lack of evidence or excessive risk of daytime sedation, psychomotor impairment and anticholinergic activity
Antipsychotics (conventional or atypical)	• Lack of evidence; risk of anticholinergic and neurological toxicity (conventional) and metabolic toxicity (atypicals); possible increased risk of stroke/mortality in patients with behavioural and psychological symptoms of dementia (NNH = 100 in 12 weeks)[26]
Benzodiazepines (e.g., diazepam, clonazepam, flurazepam, lorazepam, nitrazepam, alprazolam, oxazepam, triazolam)	• Excessive risk of daytime sedation and psychomotor impairment • No longer recommended due to unacceptable risk of memory disturbances, abnormal thinking, motor vehicle accidents, falls and fractures
Muscle relaxants (e.g., cyclobenzaprine, meprobamate)	• Lack of evidence and risk of CNS effects
Pregabalin, gabapentin	• Lack of evidence

5. Benzodiazepine or Z-drug tapering

Talking points[vii] for patients reluctant to discontinue the use of sleeping pills[27]

Discontinuing the use of sleeping pills can increase alertness, energy, daily function and can also reduce the risk of falls and traffic accidents.

- Sleeping pills can have serious or deadly side effects, including:
  - confusion, memory problems, falls and hip fractures
  - increase the risk of car accidents
- Sleeping pills can be addictive
- Sleeping pills may only help a little. On average, individuals who take these drugs sleep only a little longer and better than those who do not take the drug.

Tips to assist patients[viii] that want to STOP taking benzodiazepines, Z-drugs or other sleeping pills

- Ask the patient regularly (e.g., every 3-6 months) if it is a suitable time to stop the use of sleeping pills
- Tapering and/or discontinuing benzodiazepine can be done with or without switching to diazepam
- A gradual and flexible drug tapering schedule may be negotiated
- Ask the pharmacy to dispense using weekly dosette or blisterpack
- Check-in with the patient frequently (e.g., every 2-4 weeks) to detect/manage problems and to provide encouragement
- If a patient does not succeed on their first attempt, encourage them to try again

General approach to tapering

- Schedule follow-up visits every 1–4 weeks depending on the patient's response to the taper.
- At each visit, ask the patient about the benefits of tapering (e.g., increased energy, increased alertness).
- Provide quantity-limited prescriptions and no refills. This will require the patient to return for follow-up.
- Discontinue or reverse taper if severe anxiety, depression, or withdrawal symptoms occur.
  - Examples of withdrawal symptoms include rebound anxiety, restlessness, tremor, sweating, agitation, insomnia, or seizures (particularly when benzodiazepines are used >8 weeks)
  - Onset of withdrawal symptoms: 1-2 days for benzodiazepines

There is limited evidence to support one tapering schedule over another.[28]

A slow tapering schedule is more likely to be successful; use scheduled rather than PRN doses.

Benzodiazepine or Z-drug tapering approach[29]

Step 1: Initiate tapering

- Taper with a longer-acting agent, such as diazepam or clonazepam, or taper with the drug that the patient is currently taking. (Note: *diazepam can cause prolonged sedation in the elderly and those with liver impairment*).
- There is insufficient evidence to support the use of one particular benzodiazepine or Z-drug for a tapering schedule.
- Convert to equivalent doses and adjust initial dose according to symptoms (refer to Benzodiazepine equivalency table, page 6).

Step 2: Decreasing the dose

- Taper by no more than diazepam 5mg or clonazepam 0.25mg equivalent per week.
- Adjust rate of taper according to symptoms.
- Slow the pace of the taper once dose is below 20mg of diazepam equivalent (e.g., 1–2 mg/week).
- Instruct the pharmacist to dispense daily, weekly, or every 2 weeks depending on dose and patient reliability (e.g., suggest dosette or blisterpack).

Another tapering approach

- Taper according to the proportional dose remaining:
  - taper by 10% of the dose every 1–2 weeks, until the dose is at 20% of the original dose
  - then taper by 5% every 2–4 weeks

Step 3: Try adjunctive therapy

- **Consider using cognitive therapy and adjunctive agents to improve success rates**
- **Cognitive behavior therapy (CBT)** has the highest success rate for patients discontinuing benzodiazepines compared to usual care or other prescribing interventions, such as individualized relaxation therapy, medication review, or education.[30,31,32]
- **The use of adjunctive agents has limited evidence to support success.** Examples include: anticonvulsants (e.g., carbamazepine, pregabalin, valproate), antidepressants (e.g., SSRIs, mirtazapine, imipramine, trazodone), beta-blockers, buspirone, and melatonin

5. Benzodiazepine or Z-drug tapering

Some approaches to tapering benzodiazepines or Z-drugs[33]

Duration of use	Recommended taper length	Comments
< 8 weeks	Taper may not be required	• Depending on clinical judgment and patient stability/preference, consider implementing a taper, particularly if patient is using a high-dose benzodiazepine or an agent with a short-intermediate half-life (e.g., alprazolam, triazolam).
8 weeks - 6 months	Slowly over 2 to 3 weeks	• Go slower during the latter half of taper. Tapering will reduce, not eliminate, withdrawal symptoms. Patients should avoid alcohol and stimulants during benzodiazepine or Z-drug withdrawal.
6 months - 1 yr	Slowly over 4 to 8 weeks	
> 1 year	Slowly over 2 to 4 months or longer	• Reduce dose by 10% a week, until 10mg diazepam equivalent is reached. Maintain reduced dose for months before final taper. For the final taper, decrease dose by 10% every 1-2 weeks. When 20% of the dosage remains, begin a 5% dose reduction every 2-4 weeks.

Benzodiazepine equivalency table[34]

Benzodiazepine		Approximate equivalent oral dose (mg)	Half-life[a] (hours)
Long-acting	Chlordiazepoxide	10	100
	Clorazepate	7.5	100
	Diazepam	5	100
	Flurazepam	15	100
Intermediate-acting	Alprazolam	0.5	12-15
	Bromazepam	3	8-30
	Clobazam	10	10-46
	Clonazepam	0.25	20-80
	Lorazepam	1	10-20
	Nitrazepam	5	16-55
	Oxazepam	15	5-15
	Temazepam	15	10-20
Short-acting	Triazolam	0.25	1.5-5

[a]parent compound & active metabolite

6. Special populations

Pregnancy & postpartum[2]

- There are no studies examining the efficacy of CBT-I during pregnancy and the postpartum period. Based on expert opinion and experience, CBT-I may be effective and should be used as a first approach to manage insomnia if available and appropriate to a patient's individual situation.
- Use of non-benodiazepine hypnotics (zopiclone or zolpidem) may cause adverse pregnancy outcomes (e.g., low birth weight infants, preterm deliveries, small for gestational age infants and cesarean delivery). Use with caution.
- Use of benzodiazepines during pregnancy remains controversial at this time:
  - If a benzodiazepine must be prescribed, lorazepam is preferred during pregnancy and lactation because it lacks active metabolites and has low levels in breast milk. Lorazepam is less likely to be associated with withdrawal syndrome in the neonate.
  - When used during the first trimester, trazodone may be beneficial for reducing sleep onset latency, with no difference in pregnancy outcome when compared to other non-teratogenic antidepressants/drugs.
- There are insufficient studies to support the use of melatonin in pregnancy

Elderly[2]

- Advanced Sleep Phase Syndrome results in an urge to sleep much earlier then the regular time and is common in the elderly.
- Treating insomnia in elderly patients can be more challenging. There is an increased likelihood of medical and mental health comorbidities, polypharmacy, drug interaction, CNS or anticholinergic load, and a potential for cognitive impairment due to sedating medication
- As people age, they may not require the same number of sleep hours as when they were younger. This is due to various reasons (e.g., more active at a younger age, the change in "body clock" where older adults sleep earlier and wake earlier)
- Sometimes, letting the patient know that less sleep is "normal" as he/she gets older (e.g., 6 hours for those aged 60 or older) may help the patient sleep better without the use of medications
- CBT-I is more effective than medication for the short- and long-term management of insomnia in older adults.[35] When medication is indicated, the safest and best studied sleep medication for use in the elderly is doxepin (≤ 6mg/day).[36,37] Other drugs to consider are melatonin or zolpidem[2,38]

Teenagers[39]

- Exposure to bright light therapy in the morning can be helpful for a teenager to normalize their sleep pattern
- Other factors that may contribute to insomnia in the teenager may include: stress, genetic disposition, underlying medical/psychiatric conditions, substance abuse, sleep apnea and/or poor sleep hygiene

Supporting Material*

[i] **Sleep Disorders Questionnaire**
https://link.cep.health/mci1

[ii] **Sleep Diary (patient can fill out)**
https://link.cep.health/mci2

[iii] **Insomnia Severity Index (patient can fill out)**
C. M. Morin, G. Belleville, L. Belanger, H. Ivers (2011). The Insomnia Severity Index: Psychometric indicators to detect insomnia cases and evaluate treatment response. Sleep, 34, 601-608.
https://link.cep.health/mci3

[iv] **Epworth Sleepiness Scale**
https://link.cep.health/mci4

[v] **STOPBANG**
https://link.cep.health/mci5

[vi] **Sleep Clinic Map**
https://link.cep.health/mci6

[vii] **Choosing Wisely Canada**
Insomnia and anxiety in older people: Sleeping pills are usually not the best solution.
https://link.cep.health/mci34

[viii] **Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal**
Sedative-Hypnotic Medication Deprescribing Brochure
https://link.cep.health/mci8

Additional supporting materials and resources that may be useful for providers:

[ix] **MySleep101 - animated educational modules on sleep disorders**
Johns Hopkins Mobile medicine. Cost $5.49 CAD for mobile application.
https://link.cep.health/mci9

[x] **Sleepio Clinic:**
sleep medicine resources for healthcare professionals and researchers.
https://link.cep.health/mci10

[xi] **Evidence-based desprescribing algorithm for benzodiazepine receptor agonists.**
Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B (2016). Evidence-based clinical practice guideline for deprescribing benzodiazepine receptor agonists. [Unpublished manuscript].
https://link.cep.health/mci11

[xii] **Insomnia in Adults and Children**
This booklet reviews the pathology, the psychological and physical treatments of insomnia in adults, children and teens
https://link.cep.health/mci12

[xiii] **Canadian Sleep Society**
The Canadian Sleep Society provides resources for clinicians and patients to treat insomnia.
https://link.cep.health/mci13

[xiv] **Top Ten Sleep Tips (patient handout)**
https://link.cep.health/mci14

[xv] **National Sleep Foundation**
https://link.cep.health/mci15

[xvi] **Canadian Books on Sleep**
The Canadian Sleep Society has a list of Canadian books and workbook(s) on sleep
https://link.cep.health/mci16

[xvii] **Toxnet**
Toxicology Data Network
https://link.cep.health/mci17

[xviii] **Motherisk**
https://link.cep.health/mci18

Online CBT-I & Apps

[xix] **CBT for Insomnia**
This website offers 5-session on-line cognitive behavioural therapy (CBT) program for insomnia. Cost ranges from $24.95 US to $49.95 US.
https://link.cep.health/mci19

[xx] **CBT-i Coach**
CBT-i Coach provides a structured program that teaches strategies to improve sleep and help alleviate symptoms of insomnia.
https://link.cep.health/mci20

[xxi] **Sleepio**
An evidence-based CBT-I online and mobile app programme. Cost is $300 US for a 12-month subscription.
https://link.cep.health/mci21

[xxii] **SlumberPRO**
A self-help program based out of Queensland Australia that requires about 30-60 minutes each day. The program lasts 4-8 weeks. Cost $39 AUS.
https://link.cep.health/mci22

[xxiii] **Go! To Sleep**
A 6-week CBT-I program available through Cleveland Clinic of Wellness. A mobile app is also available. Cost $3.99 US for app or $40 US for web.
https://link.cep.health/mci23

[xxiv] **SHUTi**
A 6-week CBT-I program that has been evaluated in 2 randomized trials involving adults with insomnia and cancer survivors. Cost $135 US for 16 weeks access or $156 US for 20 weeks access.
https://link.cep.health/mci24

[xxv] **Restore CBT-I**
A 6-week CBT-I program evaluated in a randomized trial (developed by Canadian psychologist, Dr. Norah Vincent). Price varies from £99 to £199.
https://link.cep.health/mci25

[xxvi] **Sleep Training System**
6-week on-line CBT-I program with money-back guarantee and personalized feedback. Cost $29.95 US.
https://link.cep.health/mci26

[xxvii] **Meditation Oasis**
Relax & Rest Guided Mediation apps. Cost $2.79 US.
https://link.cep.health/mci27

[xxviii] **Centre for Mindfulness Studies**
Provides mindfulness-based cognitive therapy, mindfulness-based stressed reduction, mindful self-compassion and specialized mindfulness training
https://link.cep.health/mci35

*These supporting materials are hosted by external organizations and as such, the accuracy and accessibility of their links are not guaranteed. CEP will make every effort to keep these links up to date.

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