CEP | Providers

Managing Benzodiazepine Use in Older Adults

This tool is designed to help primary care providers assess and discuss with their patients 65 years of age or older, the potential risks and benefits of benzodiazepines. This tool also contains steps to support primary care providers in safely discontinuing, starting or continuing to prescribe benzodiazepines for their older patients.

SECTION A: Potential risks and benefits of benzodiazepines

Benzodiazepines are not the preferred treatment for anxiety disorders, insomnia or panic disorder among older adults.[1-4] As patients age, their bodies respond to medications differently, and some medications become less safe than others. It is important to re-evaluate all medications as a patient approaches the age of 65. Re-evaluating the risks and benefits of concurrent medications is a routine part of medicine. It is particularly important to review the use of benzodiazepines, given the patient safety risks associated with the use of this medication in advanced age, as discussed in this tool.

POTENTIAL RISKS	POTENTIAL BENEFITS
• Older adults have an increased sensitivity to benzodiazepines and decreased metabolism of long-acting agents • All benzodiazepines increase the risk of cognitive impairment, delirium, falls, fractures and motor vehicle accidents in older adults • Insomnia - NNH for any harm at 2 weeks = 6[3]	• Anxiety disorders: NNT at 4-6 weeks = 7[5] • Insomnia: NNT at 2 weeks = 13[3] - 34.2 additional minutes of sleep - 0.60 less awakenings per night • Panic disorder: NNT (timeframe unknown) = 5[6]

Determine whether a benzodiazepine is appropriate or problematic[7]

Why is the patient taking/starting a benzodiazepine?

- Anxiety disorders, Insomnia, Panic disorder → See Section B: Discontinuing benzodiazepines → See Section D: Alternatives to benzodiazepines
- Seizure disorders, Alcohol withdrawal, Short-term use (<4 weeks) → See Section C: Starting and continuing benzodiazepines

DISCUSS WITH A PATIENT THEIR USE OF BENZODIAZEPINES WHEN THE PATIENT:[8,9]

- ☐ Is 65 or over
- ☐ Comes in for a preventative health exam
- ☐ Comes in for a prescription renewal or refill
- ☐ Has had a recent hospitalization
- ☐ Is admitted to long-term care
- ☐ Has had a recent fall
- ☐ Presents with new cognitive concerns or early onset dementia
- ☐ Reports driving difficulty or their family, caregivers or friends reports concerns
- ☐ Demonstrates rapid escalation of medication use
- ☐ Has an active substance use disorder that could trigger inappropriate or problematic use of benzodiazepines
- ☐ Has a potential benzodiazepine use disorder

Talking points

Ask patients what they take the benzodiazepine for

"What concerns did you originally start the benzodiazepine for? Have the concerns that led to your initial benzodiazepine prescription changed?"[10]

Highlight the benefits versus risks of benzodiazepine use for older adults

"Although benzodiazepines sometimes offer small benefits in the short term, they stop working and become harder to wean from over time. Despite this, the serious side effects of taking benzodiazepines remain, such as cognitive impairment, delirium, falls, fractures and increased risk of motor vehicle accidents."[7]

"To maintain your independence, it is important to reduce or remove any medications that increase your risk of cognitive impairment, delirium, falls, fractures and motor vehicle accidents."[7]

"While taking a benzodiazepine you have an increased risk of side effects:[11]

- 5 times higher risk of memory and concentration problems
- 4 times higher risk of daytime fatigue
- 2 times higher risk of falls and fractures (hip, wrist)
- 2 times higher risk of experiencing a motor vehicle accident"

"The benzodiazepine may cause problems with your memory and concentration which could result in an assessment of your driving privileges."[9]

POSSIBLE INDICATIONS OF BENZODIAZEPINE USE DISORDER[12]

- Deteriorating function despite increasing dose
- Dishonesty with respect to prescriptions (e.g. frequent reports of loss or theft of medications and/or routine early refill requests)
- Involvement with law-enforcement
- Non-oral route of administration
- Active misuse of another substance
- Diversion or other substance-dealing behaviour

If patient presents with possible indications of a benzodiazepine use disorder, diagnose the patient using the DSM-5 criteria for Sedative, Hypnotic, or Anxiolytic Use Disorder.[13]

☑ **Use validated assessment tools such as:**

Set EMR reminders or patient record flags as a reminder to review a patient's benzodiazepine use during their next appointment.[8]

☑ Encourage patients to bring up their use of benzodiazepines during their next appointment: mail or hand-out patient material to rostered patients ages 65 or over, put waiting room patient posters up or provide screening questions while patients wait for their appointments. This type of patient material is available from the Centre for Effective Practice[i] and the Canadian Deprescribing Network.[ii]

i. Tapering steps

If taking a benzodiazepine is no longer appropriate for a patient, then use the following steps to help them taper off of the medication or to a lower dose.

IMPORTANT INFORMATION TO COLLECT BEFORE STARTING A TAPER

- ☐ **Current dose and duration,** including prn use of benzodiazepine
  - Discontinuation with no taper is possible if the benzodiazepine has been taken for <3 weeks[14]
  - Individuals taking the equivalent of ≥60mg diazepam daily (see Benzodiazepines available in Ontario), or with a history of serious withdrawal reactions, should be hospitalized during acute withdrawal and tapering should be slower[14]
- ☐ **All prescribed and over-the-counter medications** that the patient is currently taking, including supplements, vitamins, and naturopathic treatments
- ☐ **History of previous non-pharmacological and pharmacological alternatives tried** for anxiety disorders, insomnia or panic disorder
  - Understand what the patient means by "tried" and consider if the duration "tried" is long enough to evaluate efficacy/side effects
  - An adequate trial of non-pharmacological and pharmacological alternatives is approximately 6-8 weeks
- ☐ **Substance use history** (e.g. alcohol, cannabinoids, caffeine, nicotine)
- ☐ **History of adverse events** (e.g. delirium, dementia or cognitive impairment, falls, fractures or motor-vehicle accidents)
- ☐ **Baseline assessment of anxiety disorders, insomnia or panic disorder**
  - Use validated assessment tools such as, GAD-7 and PHQ (PHQ section 4 on panic disorder)[15], and the Insomnia Severity Index[16]

Talking points

Discuss tapering and alternatives

"There are more effective treatments than benzodiazepines for your [anxiety/insomnia/panic disorder]."[2, 17]

"Many people have successfully stopped taking their benzodiazepine — the majority of people can stop through tapering."[7, 18]

1. PLAN THE TAPERING

- ☐ **Engage patients** in developing a clear plan for tapering, incorporating goals and preferences regarding benzodiazepine use[7]
  - Discuss a goal of discontinuation versus lowest possible dose
    - If a medication cannot be completely discontinued, a decrease in dose is still a win!
  - Ensure patients know what is required of them (e.g. schedule for primary care provider visits and schedule for picking up prescriptions at designated pharmacy)
  - Reassure patients that they have control in the taper; taper can go as slow as they need and can be paused and adjusted as needed
- ☐ **Establish the formulation** to be used for tapering
  - See Benzodiazepines available in Ontario if switching patient to another benzodiazepine before tapering
  - There is insufficient evidence to support the use of one particular benzodiazepine over another (or for long- vs. short-acting benzodiazepines) for a tapering schedule[7]
- ☐ **Establish the dosing interval**
  - Scheduled doses are preferred over prn doses (to help with the withdrawal)
  - Keep the dosing interval constant (e.g. bid)
- ☐ **Establish the rate of the taper** based on the patient's health and preferences, as well as formulations available for the current benzodiazepine (see Benzodiazepines available in Ontario)
  - For older adults, it is recommended to taper the benzodiazepine dose slowly: **25% reduction every 2 weeks and then a slower taper of 12.5% every 2 weeks near the end**[7]
  - See Alternative rates for tapering
- ☐ **Contact the patient's pharmacy** to discuss the tapering plan (by phone and/or fax depending on what is feasible)
  - Discuss with the pharmacist any pill splitting or liquid formulations necessary to accommodate tapering doses as well as packaging options for older adults (e.g. dosette or blister pack)

2. CONSIDER ADJUNCTIVE THERAPY

- ☐ **Consider cognitive behaviour therapy** to improve tapering success rates
  - Cognitive behaviour therapy has the highest success rate for patients discontinuing benzodiazepines compared to usual care or other prescribing interventions (see Patient resources, services and supports)[7]
  - The use of pharmacological adjunctive agents has limited evidence to support success

3. INITIATE THE TAPER AND MONITOR

- ☐ **Decrease patient's dose** by 25% (or decided upon rate) every 2 weeks until dose is close to end goal (discontinuation or lowest possible dose), then slow the dose reduction to 12.5% (or decided upon rate) every 2 weeks until the end goal is reached[7]
- ☐ **Schedule follow-up appointments** with patient for every 1-2 weeks (in-person or over the phone) to monitor for expected benefits as well as severity and frequency of adverse drug withdrawal symptoms[7]
  - See ii. Monitoring during a taper
  - If withdrawal symptoms are bothersome for a patient or if the taper is not going well, consider maintaining the current dose for an additional 1-2 weeks before attempting the next dose reduction, then continue to taper at a slower rate if appropriate[7]

ALTERNATIVE RATES FOR TAPERING

- Taper by 10% every 1–2 weeks until 20% of the original dose is reached, then taper by 5% every 2–4 weeks[14]
- For those experiencing severe side effects or severe anxiety, consider a slower taper of 10% every 2 weeks[14]
- For those taking a benzodiazepine for panic disorder, taper the weekly dose by a maximum of 10% per week over a period of 2–4 months
- For those who have been taking a long half-life benzodiazepine for only a short-term (e.g. up to 4 weeks of clorazepate or clonazepam), taper over 1 week
- Alprazolam
  - For doses <4mg/day, taper by no more than 0.5mg every 3 days or no more than 0.25mg every week[14]
  - For doses ≥4mg/day, even slower tapers over 3+ months are required (e.g. 0.5mg every 2–3 weeks, then slow to 0.25mg every 2–3 weeks when at 2mg/day)[14]

TAPERING LONG-ACTING BENZODIAZEPINES

- **Switching to long-acting benzodiazepines for a taper:**
  - Switching to long-acting benzodiazepines may be done (e.g. diazepam, clonazepam), but this has not shown to reduce the incidence of withdrawal symptoms or improve cessation rates more than tapering shorter-acting benzodiazepines[7]
  - Long-acting benzodiazepines do however offer advantages when tapering, including fewer rebound symptoms, constant drug levels and ease of formulation[14, 19, 20]
  - To reduce the severity of withdrawal symptoms, keep a patient on a long-acting benzodiazepine for at least 2 months following a switch (from a short-acting benzodiazepine) and before initiating a taper from the long-acting benzodiazepine[14]
- **To taper long-acting benzodiazepines:**[21]
  - Taper by no more than diazepam 5mg or clonazepam 0.25mg equivalent/week
  - Adjust rate of taper according to patient's symptoms
  - Slow the pace of the taper once the 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 the dose and patient reliability

For additional examples of tapering approaches see The Ashton Manual[iii]

ii. Monitoring during a taper

During a taper, monitor a patient for expected benefits as well as adverse drug withdrawal symptoms and manage accordingly. If a patient is at high risk of withdrawal symptoms, refer to a supervised setting during taper initiation.

MONITOR PATIENTS DURING A TAPER FOR:[7, 12]

Expected benefits	Common withdrawal symptoms	Severe withdrawal symptoms*
☐ Less daytime sedation	☐ Rebound anxiety disorders and/or panic disorder	☐ Agitation
☐ Improved cognition	• Use validated assessment tools such as, the GAD-7 and PHQ (PHQ section 4 on panic disorder)[15]	☐ Confusion
• Use validated assessment tools such as, the Montreal Cognitive Assessment[22]	☐ Rebound insomnia	☐ Disorientation
☐ Fewer falls	• Use a validated assessment tool such as, the Insomnia Severity Index[16]	☐ Depersonalization
☐ Fewer fractures	☐ Irritability	☐ Delirium
☐ Fewer motor vehicle accidents	☐ Sweating	☐ Seizures
☐ Improved function	☐ Gastrointestinal symptoms (i.e. diarrhea, abdominal cramps, nausea and vomiting)	☐ Unstable vital signs
☐ Fewer respiratory exacerbations	☐ Chills	
	☐ Tremors	
	☐ Dizziness	
	☐ Visual distortion (patient should be told to see their primary care provider if they are experiencing visual distortion)	
	☐ Tinnitus	

*Severe withdrawal symptoms do not appear to occur with tapering but have been reported rarely in patients stopping very high doses without tapering or who have underlying seizure disorders[7]

Talking points

Ensure patients (and caregivers) are aware of withdrawal symptoms[7]

"You may experience a night or two of worse sleep."[9]

"To reduce your risk of cognitive impairment, delirium, falls, fractures, and motor vehicle accidents, you might need to get through a few days/weeks of mild withdrawal symptoms."[9]

Use validated assessment tools such as:

- Clinical Institute Withdrawal Assessment-Benzodiazepines[23]
- The Benzodiazepine Withdrawal Symptom Questionnaire[24]

SECTION B: Discontinuing benzodiazepines (continued)

iii Withdrawal symptom management [25, 26]

- If withdrawal symptoms are bothersome for a patient, consider maintaining the current dose for an additional 1–2 weeks before attempting the next dose reduction, then continue to taper at a slower rate if appropriate.[7]
- **Currently, no medications are recommended or approved for the management of benzodiazepine withdrawal after long-term use.**[27] The following are temporary solutions (off-label) for acute relief of withdrawal symptoms that should be used with caution among older adults. These temporary solutions are based on clinical practice as quality evidence in this area is limited. If prescribing any of the following, use clinical judgment regarding the patient's ability to tolerate these medications and closely monitor the patient.

	MANAGEMENT	
WITHDRAWAL SYMPTOM	**TRY FIRST**	**ALTERNATIVES**
Rebound anxiety disorders, insomnia and/or panic disorder	Slow or pause the taper	• See Section D: Alternatives to benzodiazepines
Sweating		• Oxybutynin* 2.5–5mg bid prn (short-term use) • Ensure patient is well-hydrated
Diarrhea		• Stop stool softeners and/or laxatives (e.g. sennosides, docusate sodium, lactulose), if applicable • Loperamide (if necessary) 4mg STAT, then 2mg after each unformed stool up to a maximum of 16mg per day
Abdominal cramps, chills and tremors		• If BP >90/50 mmHg, may give clonidine* 0.1mg (check BP and HR 1 hour later and if BP <90/50, HR <50 or dizziness, do not prescribe further); may titrate up to qid prn, then taper
Nausea and vomiting		• Dimenhydrinate* 25–50mg q4h prn • Prochlorperazine* 5–10mg q6h prn • Haloperidol* 0.5–1mg q12h prn • Metoclopramide* 10mg q4–6h prn

* Appears in 2019 AGS Beers Criteria® - the Beers Criteria is published by the American Geriatrics Society and is a list of potentially inappropriate medications in older adults[28]

SECTION C: Starting and continuing benzodiazepines

i. Starting a benzodiazepine

For patients starting on a benzodiazepine, use the following information to ensure that benzodiazepines are prescribed safely, considering individual patient factors.

IMPORTANT INFORMATION TO COLLECT BEFORE STARTING A BENZODIAZEPINE

- ☐ **All prescribed and over-the-counter medications** patient is currently taking, including supplements, vitamins, and naturopathic treatments
- ☐ **History of previous non-pharmacological and pharmacological alternatives tried**
  - Understand what the patient means by "tried" and consider if the duration "tried" is long enough to evaluate efficacy/side effects
  - An adequate trial of non-pharmacological and pharmacological alternatives is approximately 6-8 weeks
- ☐ **Substance use history** (e.g. alcohol, cannabinoids, caffeine, nicotine)
- ☐ **History of adverse events** (e.g. delirium, dementia or cognitive impairment, falls, fractures or motor-vehicle accidents)
- ☐ **Baseline assessment of condition**

TIPS FOR SAFE BENZODIAZPINE PRESCRIBING

- "Start low, go slow"
  - Prescribe the lowest dose necessary to control patient's symptoms[12, 14, 29]
- Avoid starting long-acting benzodiazepines
- Limit prescription to 2-4 weeks[29]
- Assess efficacy early and review regularly[29]
- Avoid prescribing benzodiazepines in older adults with a history of delirium, dementia, cognitive impairment, falls, fractures or motor-vehicle accidents [28]
- Put in place safeguards (see Safeguards)

SECTION C: Starting and continuing benzodiazepines (continued)

	BENZODIAZEPINES AVAILABLE IN ONTARIO [7, 21, 30, 31]				
	Benzodiazepine		Formulations	Approximate equivalent oral dose (mg)*	Half-life (hours)**
LONG-ACTING	Chlordiazepoxide	Capsule	**5 mg, 10 mg, 25 mg**	10	100
	Clorazepate	Capsule	**3.75 mg, 7.5 mg, 15 mg**	7.5	100
	Diazepam	Tablet	**2 mg^, 5 mg^, 10 mg^**	5	100
	Flurazepam	Capsule	**15 mg, 30 mg**	15	100
INTERMEDIATE -ACTING	Alprazolam	Tablet	**0.25 mg^, 0.5 mg^,** 1 mg^, 2 mg	0.5	12–15
	Bromazepam	Tablet	**1.5 mg^, 3 mg^, 6 mg^**	3	8–30
	Clobazam	Tablet	**10 mg^**	10	10–46
	Clonazepam	Tablet	0.25 mg, **0.5 mg^,** 1 mg, **2 mg^**	0.25	20–80
	Lorazepam	Tablet	**0.5 mg, 1 mg^, 2 mg^**	1	10–20
	Nitrazepam	Tablet	**5 mg^, 10 mg^**	5	16–55
	Oxazepam	Tablet	**10 mg^, 15 mg^, 30 mg^**	15	5–15
	Temazepam	Capsule	**15 mg, 30 mg**	15	10–20
SHORT-ACTING	Triazolam	Tablet	**0.125 mg^, 0.25 mg^**	0.25	1.5–5

^ Scored * Equivalent to 5mg diazepam ** Parent compound and active metabolite **Bolded** = covered by the Ontario Drug Benefit [30]

ii. Continuing a benzodiazepine

For patients starting and continuing on a benzodiazepine, ensure safeguards are put in place to reduce harms and revisit the tapering conversation if/when appropriate.

SAFEGUARDS FOR BENZODIAZPINE PRESCRIBING

- Avoid prescribing any combination of ≥3 central nervous system-active drugs (i.e. antidepressants, antipsychotics, antiepileptics, nonbenzodiazepine benzodiazepine receptor agonist hypnotics, opioids) [28]
- Use intermittent therapy if appropriate (e.g. limit to 3 nights/week) [14]
- Use limited dispensing [9]
- Collaborate with the patient's pharmacist regarding packaging options for older adults (e.g. dosette or blister pack), pill counts, home visits as well as patient education on safe storage and proper disposal
- Set expectations and confirm an exit strategy with the patient
- Implement treatment agreements
  - A sample benzodiazepine treatment agreement is available from the College of Physicians and Surgeons of Alberta [iv]
- Implement adjunctive non-pharmacological therapy (see Section D: Alternatives to benzodiazepines)
- Educate the patient about side effects and risk of overdose
- Educate the patient about avoiding use with alcohol and over-the-counter sedatives (e.g. acetaminophen, codeine)
- Monitor the patient closely for adverse events, such as cognitive impairment, delirium, falls, fractures and motor vehicle accidents [28]
- Be alert to the development of dependence
  - Tolerance to the effects of benzodiazepines can develop quickly after only 3-6 weeks (i.e. within weeks) and then more of the drug is needed to achieve the same effect [12]
- Consider use of urine drug screening if misuse is suspected (note: urine drug screening does not detect all benzodiazepines)

Increased risk: Benzodiazepines and opioids

The concurrent use of benzodiazepines and opioids is associated with an increased risk of adverse reactions due to the depression of the central nervous system exerted by both types of drugs:

- Increases the risk of cognitive effects, falls, motor vehicle accidents, overdoses and drug-related death [27, 28, 32]
- Risks are increased further when benzodiazepines are taken concurrently with alcohol
- The expert perspective is that opioids and benzodiazepines should rarely be prescribed together [32]
- For patients who may benefit from both an opioid taper and a benzodiazepine taper, consider completing the opioid taper first or taper the medication that the patient is most willing to taper first [9]

The following pages outline many of the non-pharmacological and pharmacological alternative therapy options to benzodiazepines for older adults, along with the level of evidence and adverse effects associated with each therapy. **Non-pharmacological alternatives are the preferred treatment for anxiety disorders, insomnia or panic disorder among older adults.** As patients age, their bodies respond to medications differently, making them more susceptible to adverse events and drug-drug interactions. If using pharmacological alternatives in older patients, consider patient factors and use the "**start low, go slow**" approach.

i. Alternatives for anxiety disorders [1, 2]

- Efficacy of non-pharmacological therapy is similar to that of pharmacological therapy for the treatment of anxiety and related disorders in older adults [2]

Non-pharmacological

Treatment	Level of evidence	Notes
Cognitive behavioural therapy	• • •	• Efficacy of psychological treatment is similar to that of pharmacotherapy for the treatment of anxiety disorders in older patients
Progressive muscle relaxation	• • •	
Psychological therapy (supportive psychotherapy)	• •	
Physical activity	•	• Physical activity: 2.5 hours of moderate to higher intensity aerobic activity/week in bouts of 10 minutes or more [33]
See Patient resources, services and supports for more information		

Pharmacological

Treatment	Level of evidence	Notes	Adverse effects: Insomnia	Sleep disturbances	Somnolence	Sedation	Nausea	GI	Increased appetite and weight	Decreased appetite	Anorexic and stimulating	Priapism in men (rare)	Sexual dysfunction	Increased BP	Orthostatic hypotension	Qt prolongation	Dizziness	Dry mouth	Increased seizure activity	Hyponatremia
Escitalopram and sertraline (SSRIs)	• • •	• Appears in 2019 AGS Beers Criteria®* (SSRIs appear as a class) • First-line treatment	▲		▲	▲	▲	▲					▲			▲	▲	▲		▲
Duloxetine and venlafaxine ER (SNRIs)	• • •	• Appears in 2019 AGS Beers Criteria®* (SNRIs appear as a class) • First-line treatment	▲	▲		▲	▲	▲		▲				▲			▲			▲
Pregabalin	• • •	• First-line treatment • Pregabalin has the most robust data in older patients that demonstrates significant improvements and good tolerability				▲	▲	▲	▲								▲	▲		
Bupropion SR/XL	• •	• Second-line treatment	▲					▲		▲									▲	
Citalopram (SSRI)	•	• Appears in 2019 AGS Beers Criteria®* (SSRIs appear as a class) • Third-line treatment • May increase QT (doses >40mg/day)	▲	▲	▲	▲	▲	▲					▲			▲	▲	▲		▲
Trazodone	• •	• Third-line treatment					▲					▲			▲					
Mirtazapine	•	• Appears in 2019 AGS Beers Criteria®* • Third-line treatment				▲			▲								▲	▲		
Fluoxetine (SNRI)	•	• Appears in 2019 AGS Beers Criteria®* (SNRIs appear as a class) • Third-line treatment • Long half-life (5-week washout)	▲	▲	▲	▲	▲	▲			▲		▲			▲	▲	▲		▲

Notes: *BP = blood pressure, ER = extended release, CR = controlled release, GI = gastrointestinal, SNRIs = serotonin and norepinephrine reuptake inhibitors, SR = sustained release, SSRIs = selective serotonin reuptake inhibitors, XL = extra-long/large*

**Appears in 2019 AGS Beers Criteria® - the Beers Criteria is published by the American Geriatrics Society and is a list of potentially inappropriate medications in older adults [28]*

Level of evidence: • • • = meta-analysis or at least 2 randomized controlled trials that included a placebo condition, • • = at least 1 randomized controlled trial with placebo or active comparison condition, • = uncontrolled trial with at least 10 subjects

ii. Alternatives for insomnia [17, 21, 34]

- Cognitive behavioural therapy for insomnia is more effective than pharmacological therapy for the short- and long-term management of insomnia in older adults [17]
- There are no medications for primary or chronic insomnia in older adults that are proven to be safe and effective [7]

Non-pharmacological

Treatment	Level of evidence	Notes
Cognitive behavioural therapy	• • – • • •	• Restructures maladaptive beliefs regarding health and daytime consequences of insomnia
Good sleep hygiene	• •	• Reduces behaviours that interfere with sleep drive or increased arousal
Sleep restriction	• – • •	• Increases sleep drive and stabilizes circadian rhythm
Stimulus control	• – • •	• Reduces arousal in sleep environment and promotes the association between bed and sleep
Progressive muscle relaxation	• – • •	• Reduces physical and psychological arousal in sleep environment
See Patient resources, services and supports for more information		

Pharmacological

Treatment	Level of evidence	Notes	Adverse effects: Anticholinergic side effects with higher doses	Orthostatic hypotension	Priapism in men (rare)	Fatigue	Headache	Dizziness	Irritability	Abdominal cramps	Nausea	Upset stomach	Hepatotoxicity (rare)
Zopiclone and zolpidem (Z-drugs)	• – • •	• See Nonbenzodiazepine benzodiazepine receptor agonist hypnotics (Z-drugs)											
Doxepin (TCA)		• Appears in 2019 AGS Beers Criteria®* (for doses greater than 6mg) • 3mg: improves total sleep time (~12 min), wake after sleep onset (~10 min) • 6mg: improves total sleep time (~17 min), wake after sleep onset (~14 min) • Not to be taken within 3 hours of a meal due to delayed absorption and the potential for next day drowsiness • Minimal risk of physical tolerance/dependence; consider doxepin if substance abuse or dependence is a concern	▲										
Trazodone		• Trazodone is indicated for depression; limited evidence for insomnia • Lower risk of morning hangover effect due to a short half-life • Minimal risk of tolerance/dependence • Low anticholinergic activity		▲	▲								
Melatonin		• Modest effect on sleep (may decrease sleep onset latency [~7 min]; increases total sleep time [~8 min], and improves sleep quality) • No apparent physical tolerance and dependence • Purity concerns				▲	▲	▲	▲	▲			
Valerian root		• Limited evidence for insomnia • Purity concerns					▲	▲			▲	▲	▲

Notes: *TCA = tricyclic antidepressant, Z-drugs = non-benzodiazepine benzodiazepine receptor agonist hypnotics*

** Appears in 2019 AGS Beers Criteria® - the Beers Criteria is published by the American Geriatrics Society and is a list of potentially inappropriate medications in older adults [28]*

Level of evidence: • • • = meta-analysis or at least 2 randomized controlled trials that included a placebo condition, • • = at least 1 randomized controlled trial with placebo or active comparison condition, • = uncontrolled trial with at least 10 subjects

Nonbenzodiazepine benzodiazepine receptor agonist hypnotics (Z-drugs)

- Z-drugs have adverse events similar to those of benzodiazepines in older adults (e.g. delirium, falls, fractures, daytime sedation, increased emergency room visits/hospitalizations, motor vehicle crashes and minimal improvement in sleep latency and duration). Z-drugs should be avoided in older adults or those with a history of these adverse events.[28, 35, 36]
- Discontinuing Z-drugs:[14]
  - Tapering is recommended when discontinuing after use for more than 4 weeks
  - To help lessen the more common withdrawal symptom of rebound insomnia:
    - Gradually reduce the dose by 50% every week until lowest available dose is being used, then reduce use to every other day, then use only as needed and then discontinue use completely

      OR
    - Gradually reduce the dose by 25% every 2 weeks and then slow the taper to 12.5% every 2 weeks near the end[7]
- Educate the patient that some sleep difficulty should be expected but that it should resolve within a week

Z-drugs	Level of evidence	Notes[21]	Formulations[36–38]
Zopiclone*	• – • •	• Indicated for insomnia but avoid in older adults[28] • Improves sleep onset latency (~19 min), total sleep time (~45 min), wake after sleep onset (~11 min) • Risk of physical tolerance and dependence	• 3.75mg, 5mg, 7.5mg ^ • Older patient max: 5mg/day
Zolpidem**	• – • •	• Indicated for insomnia but avoid in older adults[28] • Improves sleep onset latency (~15 min), total sleep time (~23 min) • Oral disintegrating tablet – cannot be split • Less chance of morning hang-over effect than zopiclone • Risk of physical tolerance and dependence	• 5mg, 10mg • Older patient max: 5mg/day

*^ Scored * Covered by Exceptional Access Program[39] ** Possibly covered by Exceptional Access Program[40]*

Level of evidence: • • • = meta-analysis or at least 2 randomized controlled trials that included a placebo condition, • • = at least 1 randomized controlled trial with placebo or active comparison condition, • = uncontrolled trial with at least 10 subjects

Increased risk: Z-drugs and complex sleep disorders[41]

- Serious injuries and death from complex sleep behaviors have occurred in patients who have taken Z-drugs with and without a history of such behaviors, even at the lowest recommended doses, and the behaviors can occur after just 1 dose
- Health care professionals should not prescribe Z-drugs to patients who have previously experienced complex sleep behaviors after taking these medications

Medications not recommended for the sole management of insomnia[21, 29]

Treatment	Notes	Adverse effects: Anticholinergic	Sedation	Somnolence	GI	Headache	Cognitive impairment	Extrapyramidal reactions	Hypotension	Weight gain	Impaired function	Falls	Dependence	Edema
Mirtazapine, fluvoxamine (SSRIs) and amitriptyline (TCA)	• Relative lack of evidence • Significant adverse effects	▲	▲	▲	▲	▲								
Antihistamine	• Lack of evidence or excessive risk of daytime sedation, psychomotor impairment and anticholinergic activity	▲					▲	▲	▲					
Antinauseants	• 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)	▲	▲					▲		▲				
Muscle relaxants	• Lack of evidence and risk of central nervous system effects			▲							▲	▲	▲	
Pregabalin, gabapentin	• Lack of evidence			▲	▲					▲				▲

Notes: *GI = gastrointestinal, SSRIs = selective serotonin reuptake inhibitors, TCA = tricyclic antidepressant*

iii. Alternatives for panic disorders [1, 4]

- Cognitive behavioural therapy as the initial treatment for panic disorder is strongly supported by demonstrated efficacy in numerous randomized controlled trials [4]
- If pharmacotherapy is used, use lower starting and therapeutic doses and a slower dose titration of medication than those used for younger patients [4]

Non-pharmacological

Treatment	Level of evidence	Notes
Cognitive behavioural therapy	• • •	• Demonstrated efficacy in randomized control trials
Daily diary	• • •	• Allows for monitoring of panic symptoms to gather information about the association between internal stimuli (e.g. emotions) and external stimuli (e.g. substances, particular situations or settings)
Patient education	• • •	• To reassure the patient that their symptoms are not life-threatening and that panic disorders are common (i.e. they are not alone) • Should include general promotion of healthy behaviors (e.g. good nutrition, exercise, good sleep hygiene) as well as decreased use of caffeine, tobacco, alcohol and other potentially deleterious substances
See Patient resources, services and supports for more information		

Pharmacological

Treatment	Level of evidence	Notes	Adverse effects: Insomnia	Sleep disturbances	Somnolence	Sedation	Nausea	GI	Increased appetite	Decreased appetite	Weight gain	Sexual dysfunction	Suicidal ideation	Confusion	Qt prolongation	Hyponatremia	Agitation	Dry mouth	Dizziness	Increased BP	Increased seizure activity	Edema
Citalopram, escitalopram, fluoxetine, fluvoxamine and sertraline (SSRIs)	• • •	• Appears in 2019 AGS Beers Criteria®* (SSRIs appear as a class) • First-line treatment • Few drug interactions	▲		▲		▲	▲			▲	▲			▲	▲		▲	▲			
Mirtazapine	• •	• Appears in 2019 AGS Beers Criteria®* • Second-line treatment				▲			▲		▲							▲	▲			▲
Clomipramine and imipramine (TCAs)	• • •	• Appears in 2019 AGS Beers Criteria®* • Second-line treatment • Caution due to anticholinergic and cardiovascular side effects			▲				▲		▲		▲	▲	▲		▲	▲				
Duloxetine (SNRI)	•	• Third-line treatment		▲			▲	▲		▲								▲	▲	▲		
Bupropion SR	•	• Third-line treatment	▲					▲		▲											▲	
Gabapentin	• •	• Appears in 2019 AGS Beers Criteria®* • Third-line treatment			▲	▲		▲											▲			▲

Notes: *BP = blood pressure, GI = gastrointestinal, SNRIs = serotonin and norepinephrine reuptake inhibitors, SR = sustained release, SSRIs = selective serotonin reuptake inhibitors, TCAs = tricyclic antidepressants*

** Appears in 2019 AGS Beers Criteria® - the Beers Criteria is published by the American Geriatrics Society and is a list of potentially inappropriate medications in older adults [28]*

Level of evidence: • • • = meta-analysis or at least 2 randomized controlled trials that included a placebo condition, • • = at least 1 randomized controlled trial with placebo or active comparison condition, • = uncontrolled trial with at least 10 subjects

Provider resources

i. **Centre for Effective Practice increased risk patient postcard** https://cep.health/media/uploaded/CEP_Increased_Risk_Postcard_20-06-2019_1_1.pdf

ii. **Canadian Deprescribing Network (CaDeN) useful patient resources** https://www.deprescribingnetwork.ca/useful-resources

iii. **The Ashton Manual benzodiazepines tapering approaches** https://www.benzo.org.uk/manual/bzsched.htm

iv. **College of Physicians and Surgeons of Alberta benzodiazepine treatment agreement** http://www.cpsa.ca/wp-content/uploads/2017/10/Benzodiazepine-Tx-Agreement_-1.pdf

v. **GeriMedRisk telemedicine (telephone and eConsult) consultation service for questions regarding medication use in older adult patients from a team of geriatric specialists and pharmacists** https://www.gerimedrisk.com

vi. **Centre for Effective Practice Management of chronic insomnia tool** https://cep.health/clinical-products/insomnia-management-of-chronic-insomnia-tool/

vii. **iAM Medical Guidelines deprescribing.org app** https://deprescribing.org/news/evaluation-of-a-deprescribing-guideline-mobile-application-2/

viii. **Ontario Drug Benefit formulary search** https://www.formulary.health.gov.on.ca/formulary/

ix. **2019 AGS Beers Criteria® list of potentially inappropriate medications in older adults published by the by the American Geriatrics Society** https://geriatricscareonline.org/ProductAbstract/american-geriatrics-society-updated-beers-criteria-for-potentially-inappropriate-medication-use-in-older-adults/CL001

Patient resources, services and supports

PSYCHOLOGICAL THERAPY

☑ Modules of cognitive behavioural therapy can be given as homework for the patient in between appointments.

INDEPENDENT COGNITIVE BEHAVIOURAL THERAPY (BOOK, ONLINE, AND MOBILE APP)

For Anxiety Disorders and Panic Disorder

x. **Mind Over Mood:** A cognitive behavioural therapy hard copy workbook that provides instruction for how to manage anxiety disorders, panic disorder and other mood problems. Cost is $29.64 USD. Available from: https://www.mindovermood.com/info.html

xi. **BounceBack Ontario:** Guided self-help program grounded in cognitive behavioural therapy designed to help adults manage symptoms of anxiety (and depression). Involves 6 telephone sessions with trained coaches who lead the patient through a series of workbooks. Cost is free. Patient is contacted within 5 business days of referral to schedule first appointment. Referral or patient self-referral is required. Available from: https://bouncebackontario.ca

xii. **FearFighter — CCBT:** A 9-week cognitive behavioural therapy for anxiety and panic disorders mobile app. Provided by Magellan Health Services Inc. Cost is free. Available from: https://itunes.apple.com/ca/app/fearfighter-ccbt/id1230258838?mt=8

xiii. **Moodgym:** A 5-session online cognitive behavioural therapy program for anxiety (and depression). Cost is $39 AUD for 12 month access. Available from: https://moodgym.com.au/

For Insomnia

xiv. **Sink into Sleep:** A 6-step cognitive behavioural therapy hard copy workbook that provides instruction for how to manage insomnia. Cost is $23.58 CAD. Available from: http://sinkintosleep.com

xv. **CBT-i Coach:** Cognitive behavioural therapy for insomnia mobile app. Provided by the US Department of Veterans Affairs. Cost is free. Available from: https://itunes.apple.com/ca/app/cbt-i-coach/id655918660?mt=8

xvi. **Restore CBT-I:** A 6-week cognitive behavioural therapy for insomnia mobile app. Provided by Magellan Health Services Inc. Cost is free. Available from: https://itunes.apple.com/ca/app/restore-ccbt/id1210519199?mt=8

xvii. **Go! To Sleep:** A 6-week cognitive behavioural therapy for insomnia online and mobile app program. Provided by the Cleveland Clinic of Wellness. Cost is $3.99 USD for app or $40 USD for online. Available from: http://www.clevelandclinicwellness.com/Programs/Pages/Sleep.aspx

xviii **CBT for Insomnia:** A 5-session online cognitive behavioural therapy program for insomnia. Cost ranges from $24.95 USD to $49.95 USD. Available from: http://www.cbtforinsomnia.com

xix **Sleep Training System:** A 6-week online cognitive behavioural therapy for insomnia program with money-back guarantee and personalized feedback. Cost is $29.95 USD. Available from: http://www.sleeptrainingsystem.com/index.php

xx **Sleepio:** Cognitive behavioural therapy for insomnia online and mobile app program. Cost is $300 USD for a 12-month subscription. Available from: https://www.sleepio.com/

IN-PERSON COGNITIVE BEHAVIOURAL THERAPY

xxi **Canadian Association of Cognitive and Behavioural Therapy — Find a certified therapist webpage:** Online search tool to find a certified therapist who provides cognitive behavioural therapy in Canada. Available from: https://cacbt.ca/en/certification/find-a-certified-therapist/

OTHER PSYCHOLOGICAL THERAPY

xxii **Big White Wall**: Online mental health and wellbeing service offering online peer support and self-management tool. This anonymous service is funded by the government, is available 24 hours a day and has no wait times. Cost is free. No referral needed; valid Ontario postal code required. Available from: https://www.bigwhitewall.ca

xxiii **Ontario Psychological Association — Find a psychologist search webpage**: Online search tool to find a psychologist or psychological associate in Ontario. Available from: https://www.psych.on.ca/Utilities/Find-a-psychologist.aspx

xxiv **Psychology Today — Find a therapist webpage:** Online search tool to find a therapist. Available from: https://www.psychologytoday.com/ca/therapists/ontario

PROGRESSIVE MUSCLE RELAXATION FOR ANXIETY

xxv **Progressive muscle relaxation instructions:** Free online/printable instructions for patients on how to conduct progressive muscle relaxation. Available from: https://www.anxietycanada.com/adults/how-do-progressive-muscle-relaxation

PHYSICAL ACTIVITY

xxvi **Exercise prescription:** Free online/printable patient take-home prescription for aerobic activity or strength training. Available from: https://exerciseismedicine.org/assets/page_documents/EIM%20Prescription%20pad%201-up.pdf

xxvii **Tips to get active:** Free online/printable physical activity tips for older adults. Available from: https://www.canada.ca/en/public-health/services/publications/healthy-living/physical-activity-tips-older-adults-65-years-older.html

xxviii **Seniors Active Living Centres:** Map of in-person Seniors Active Living Centres that offer social, cultural, learning and recreational programs for older adults (minimal membership fees). Available from: https://www.ontario.ca/page/find-seniors-active-living-centre-near-you

xxix **YMCA:** List of in-person YMCA locations across Ontario (senior membership approximately $50/month for individuals or $77/month for couples). Available from: https://ymca.ca/Locations

GOOD SLEEP HYGIENE, SLEEP RESTRICTION, STIMULUS CONTROL AND PROGRESSIVE MUSCLE RELAXATION FOR INSOMNIA

xxx **Sleepwell:** Free online supports for sleep, including sleep hygiene checklist, instructions for sleep restriction instructions, stimulus control and progressive muscle relaxation as well as sleep diaries and sleep calculators. Available from: https://mysleepwell.ca

DAILY DIARY

xxxi **Sleep Diary:** Free online/printable template for patients to use to keep track of their daily sleep patterns. Available from: http://www.topalbertadoctors.org/download/1922/Sleep%20Diary. pdf?_20160406091338

xxxii **Worry diary:** Free online/printable template for patients to use to keep track of their panic symptoms. Available from: https://www.anxietycanada.com/sites/default/files/WorryDiary.pdf

For local services for older adults visit the https://www.thehealthline.ca/

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