UNC | ESHELMAN SCHOOL OF PHARMACY

# High Risk Medication Recommendations

## A guide to evaluate fall risk in older adults

# High Risk Medication Classes and Evidence Linked to Falls in Older Adults

# Anticonvulsants[1-7]

| | | | |
|---|---|---|---|
| Brivaracetam | Felbamate | Oxcarbazepine | Tiagabine |
| Carbamazepine | Fosphenytoin | Perampanel | Topiramate |
| Clobazam | Gabapentin | Phenobarbital | Trimethadione |
| Divalproex sodium | Lacosamide | Phenytoin | Valproate |
| Eslicarbazepine | Lamotrigine | Pregabalin | Vigabatrin |
| Ethosuximide | Levetiracetam | Primidone | Zonisamide |
| Ezogabine | Methsuximide | Rufinamide | |

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| Carbamazepine | Sedation, neutropenia, and hyponatremia |
| Divalproex sodium | Tremor, sedation, parkinsonism, and hearing loss |
| Phenobarbital | Ataxia, memory problems, and sedation |
| Phenytoin | Ataxia, osteopenia, and sedation |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| Seizures | Alternatives depend on the type of seizure. Use the l**owest possible strength** for seizures protection. Monitor serum concentrations of medications.<br><br>**<u>Preferred initial agent for all seizure types</u>**<br>**Lamotrigine: s**tart at 25mg/day, can increase by 25mg/day every 2 weeks; max 100-300mg/day.<br><br>**<u>Other alternatives as adjunct or for select seizure types</u>**<br>**Levetiracetam: s**tart 500mg q12h, can increase by 500mg/day every 2 weeks; max 1500mg q12h. Requires renal dose reduction.<br>G**abapentin: s**tart 300mg TID; max 600mg q8-12 hours. Requires renal dose reduction. |
| Neuropathic Pain and Chronic Pain | **<u>Oral Agents include:</u>**<br>Gabapentin and Pregabalin<br>Duloxetine and Venlafaxine<br><br>**<u>Topical Agents (for localized pain) include:</u>**<br>Lidocaine Patch<br>Capsaicin<br><br>*Refer to opioid medication guide, on page 9, for more Information* |

## Suggested Approach for Changing Anticonvulsants or Discontinuing Therapy

- **Discontinuing Therapy**
  - **Consider slowly tapering patients off the seizure medication if they meet these criteria:**
    i. Seizure-free >2 years with subtherapeutic concentrations
    ii. Taking the medication for a long time and were placed on anticonvulsants prophylactically or for a few seizures, especially after stroke, neurosurgery or head trauma.
- **Changing Anticonvulsants**
  - The new anticonvulsant should be within therapeutic concentration before tapering the old one.
  - If seizures **get worse**, you may have to revert back to the previous dose and slow down the taper.
  - If **adverse effects occur**, lowering the dose of the previous medication may help the patient tolerate the new anticonvulsant.
  - Patients should not drive during the taper and for awhile after.
- NOTE: It may take up to a year to taper an anticonvulsant during discontinuation or crossovers.

**References to Help Guide Medication Changes:**

- <u>https://www.epilepsy.com</u> - Epilepsy Foundation - information about medications and seizures for patients and providers.
- <u>https://cpnp.org/guideline/external/seisure</u> - College of Psychiatric and Neurologic Pharmacists. *Treatment Guidelines for Seizure Disorders.*

# Antidepressants[1,5,8]

**Selective Serotonin Reuptake Inhibitors**
- Citalopram
- Escitalopram
- Fluoxetine
- Fluvoxamine
- Paroxetine
- Sertraline

**Serotonin Norepinephrine Reuptake Inhibitors**
- Desvenlafaxine
- Duloxetine
- Levomilnacipran
- Venlafaxine

**5-HT2 Receptor Antagonists**
- Nefazodone
- Trazodone

**Noradrenergic Agonist**
- Vilazodone

**Dopamine Reuptake Blocking Agents**
- Bupropion

**Anxiolytics**
- Buspirone

**Tetracyclic**
- Mirtazapine

**Monoamine Oxidase Inhibitors**
- Isocarboxazid
- Phenelzine
- Tranylcypromine

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| Paroxetine | Greater anticholinergic properties than other antidepressants, which may increase one's risk for falling. Anticholinergic adverse effects include sedation, confusion, dizziness, gait and balance problems, and weakness. |
| Fluoxetine | Long-half life, which may be even more pronounced in older adults; thereby increasing the risk for excessive CNS stimulation, sleep disturbances, and increasing agitation. |
| Fluvoxamine | Drug interactions and availability of effective and safer agents. |
| Nefazodone | While not directly linked to falls, is associated with hepatotoxicity and significant drug interactions, which limit its use. Alternatives exist that are safer and as effective for treating depression. |
| Isocarboxazid, Phenelzine, and Tranylcypromine | Should be avoided in older adults due to their potential for toxicity and risk of drug-drug and drug-food interactions. |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| Major Depressive Disorder | *Must weigh benefit of treating depression with increased risk for falls associated with antidepressants. Selection of an antidepressant should be individualized, taking into account individual patient factors, concomitant medical conditions, and medications.*<br><br>**Citalopram**: start 10mg daily; max 20mg/day<br>**Escitalopram**: start 5mg daily; max 10mg/day<br>**Sertraline**: start 25mg daily; max 200mg/day<br>**Duloxetine**: avoid if GFR <30mL/min; start 30mg daily x2 weeks, increase to 60mg daily; max 120mg/day<br>**Venlafaxine**: start 37.5mg (XR) or 25mg once or twice daily (IR); max 225mg/day<br>**Bupropion**: start 37.5mg BID (IR), 100mg daily (SR), 150mg daily (XR); max 450mg/day (IR, XR) and 400mg/day (SR)<br>**Buspirone**: as adjunct start 7.5mg daily; max 7.5mg twice daily |

## Key Tips for Changing Therapy

- Educate patient on the potential for increased sedation, dizziness, and postural changes from the antidepressant.
- Monitor closely for adverse effects and falls. Consider switching agent if adverse effects are apparent.
- There is no one antidepressant or class considered the agent or class of choice in reducing one's risk for falls.
- The association with antidepressants and fall risk has been attributed to all antidepressant agents.

**References to Help Guide Medication Changes:**


- https://cpnp.org/guideline/external/depression - College of Psychiatric and Neurologic Pharmacists. *Treatment Guidelines: Depression.*
- https://www.pharmacytoday.org/article/S1042-0991(16)30172-4/fulltext - APhA PharmacyToday. *Stopping Antidepressants: Clinical Considerations.*
- https://www.psychiatrictimes.com/strategies-and-solutions-switching-antidepressant-medications - Psychiatric Times. *Strategies and Solutions for Switching Antidepressant Medications.*

# Antihypertensives[1,2,9-16]

**Peripheral Alpha-1 Blockers**
Doxazosin
Prazosin
Terazosin

**Centrally-Acting Medications**
Clonidine
Guanabenz
Guanfacine
Methyldopa
Reserpine

**Direct Arterial Vasodilators**
Hydralazine
Minoxidil

**Calcium Channel Blockers**
Amlodipine
Diltiazem
Felodipine
Isradipine
Nicardipine
Nifedipine
Nimodipine
Nisoldipine
Verapamil

**Diuretics**
Amiloride
Bumetanide
Chlorthalidone
Chlorthiazide
Eplerenone
Furosemide
Hydrochlorothiazide
Indapamide
Metolazone
Spironolactone
Triamterene
Torsemide

**Beta-Blockers**
Acebutolol
Atenolol
Bisoprolol
Carvedilol
Labetolol
Metoprolol
Nadolol
Nebivolol
Penbutolol
Pindolol
Propranolol
Timolol

**ACE-Inhibitors**
Benazepril
Captopril
Enalapril
Fosinopril
Lisinopril
Perindopril
Quinapril
Ramipril
Trandolapril

**ARBs**
Candesartan
Eprosartan
Irbesartan
Losartan
Olmesartan
Telmisartan
Valsartan

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| ALL Peripheral Alpha-1 Blockers | High risk of orthostatic hypotension. Alternative recommended agents have superior risk-benefit profile |
| ALL Centrally-Acting Medications | High risk of adverse CNS effects, bradycardia, and orthostatic hypotension |
| Immediate Release Nifedipine | Potential for hypotension |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| Hypertension | First line agents based on current hypertension guidelines are:<br>**ACE-Inhibitors (angiotensin-converting enzyme inhibitors)**<br>**ARBs (angiotensin II receptor blockers)**<br>**Calcium Channel Blockers**<br>**Thiazide Diuretics**<br><br>Consider a **beta-blocker** if patient has another compelling indication for its use or has resistant hypertension on preferred first-line agents.<br><br>**Selective beta-blockers** (acebutolol, atenolol, betaxolol, bisoprolol, metoprolol, nebivolol) may have lower fall risk than non-selective beta-blockers. |

## Key Tips for Changing Therapy

- There is no clear evidence indicating that one medication or medication class should be preferred over others to reduce fall risk.
- Selection of agents depends on patient's comorbid conditions.
- Remember that antihypertensive medications may be used in cardiovascular conditions as well, be sure to ask your patient what they are using it for before switching to an alternate therapy
- Use guidelines to determine appropriate therapy and dosage based on patient conditions.

- **References to Help Guide Medication Changes:**
  - https://www.acc.org/guidelines/hubs/high-blood-pressure - American College of Cardiology: links to hypertension and other cardiovascular guidelines to help guide clinical recommendations.

# Antipsychotics[1,4,17-22]

| **Typical Antipsychotics** | | **Atypical Antipsychotics** | |
|---|---|---|---|
| Chlorpromazine | Perphenazine | Aripiprazole | Olanzapine |
| Fluphenazine | Pimozide | Asenapine maleate | Paliperidone |
| Haloperidol | Thioridazine | Clozapine | Quetiapine |
| Loxapine | Thiothixene | Iloperidone | Risperidone |
| Molindone | Trifluoroperazine | Lurasidone | Ziprasidone |

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| Thioridazine | Potential for increased CNS and extrapyramidal adverse effects. This drug has a high incidence of sedation, orthostatic hypotension, and anticholinergic adverse effects, which may increase one's risk for falls. |
| Chlorpromazine | High incidence of sedation, orthostatic hypotension, and anticholinergic adverse effects, which may increase one's risk for falls. |
| ALL Antipsychotics | Use of antipsychotics in older adults (especially those with dementia) has been associated with increased mortality. If use is required, use lowest dose for shortest duration. |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| Insomnia | ***Evaluation and Non-Pharmacologic Options:***<br>All possible causes for insomnia should be ruled out and behavioral approaches to sleep management (i.e., sleep hygiene) should be tried before initiating pharmacologic therapy.<br>***Suggested Alternatives***<br>The following agents should only be used when nonpharmacologic therapies have failed. The lowest dose for shortest duration is recommended.<br>Preferred drugs include: **melatonin, ramelteon, trazodone, mirtazapine**<br>*Refer to sedative hypnotics medication guide, on page 10, for more information.* |
| Dementia | ***Evaluation and Non-Pharmacologic Options:***<br>Non-pharmacologic interventions should be tried before starting an antipsychotic. If non-pharmacologic approaches have failed, and symptoms are severe, dangerous, and/or cause significant distress to patient, use of a low-dose agent with lower anticholinergic activity may be acceptable for a short duration. Consider trial discontinuation within 4 months.<br>***Suggested Alternatives***<br>**Aripiprazole:** start 2-5mg/day, can increase every 2 weeks if needed; max 30mg/day<br>**Olanzapine:** start 2.5mg/day; max 10mg/day<br>**Quetiapine:** start 12.5-25mg/day; max 200mg/day in 1-2 doses<br>**Risperidone:** start 0.25mg/day; max 6mg/day in 1-2 doses |
| Other Indications | ***Evaluation and Non-Pharmacologic Options:***<br>- Rule out any other causes of symptoms prior to initiating drug therapy.<br>- For psychiatric conditions such as schizophrenia, schizoaffective disorder, bipolar disorder atypical antipsychotics with less anticholinergic properties may be preferred.<br>- For management of acute psychiatric conditions such as delirium, address any contributing factors and utilize non-pharmacological interventions prior to medications.<br>***Suggested Alternatives***<br>Preferred drugs include: **aripiprazole**, **olanzapine**, **quetiapine**, and **risperidone** |

## Key Tips for Discontinuing Antipsychotics

- If low-dose antipsychotic being used, can discontinue without tapering.
- When discontinuing, consider tapering by 25% of original dose every 1-2 weeks.
- **References to Help Guide Medication Changes:**
  - https://psychiatryonline.org/doi/book/10.1176/appi.books.9780890426807 - The American Psychiatric Association Practice Guideline. *The Use Of Antipsychotics To Treat Agitation Or Psychosis In Patients With Dementia*.
  - https://jaoa.org/article.aspx?articleid=2635301#164207687 - Journal of the American Osteopathic Association. *Reducing Off-Label Antipsychotic Use in Older Community-Dwelling Adults With Dementia*.

# Antispasmodics[1,23-28]

**Skeletal Muscle Relaxants**
- Baclofen
- Carisoprodol
- Chlorzoxazone
- Cyclobenzaprine
- Dantrolene
- Metaxalone
- Methocarbamol
- Orphenadrine
- Tizanidine

**Gastrointestinal Antispasmodics**
- Belladonna Alkaloids
- Clidinium-chlordiazepoxide
- Dicyclomine
- Hyoscyamine
- Propantheline

**Urinary Antispasmodics**
- Darifenacin
- Fesoterodine
- Flavoxate
- Oxybutynin (oral or transdermal)
- Solifenacin
- Tolterodine
- Trospium

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| ***Following Skeletal Muscle Relaxants*** Carisoprodol, Chlorzoxazone, Cyclobenzaprine, Dantrolene, Metaxalone, Methocarbamol, Orphenadrine, Tizanidine | These agents cause adverse effects that may increase an individual's risk for falling, including: anticholinergic effects, sedation, confusion, dizziness, gait and balance problems, and weakness.<br><br>Additionally, their effectiveness at doses tolerated by older adults is questionable. |
| ***Following Gastrointestinal Antispasmodics*** Belladonna Alkaloids, Clidinium-Chlordiazepoxide, Dicyclomine, Hyoscyamine, Propantheline | |
| ***Following Urinary Antispasmodics*** Flavoxate, Oxybutynin (oral), Solifenacin, Tolterodine | |

## Suggested Medication Recommendations

| Indication (s) | Suggested Recommendations |
|---|---|
| **Spasms or Pain Associated with Muscle Spasms** | If patient has true spasticity and the decision is made to use one of these agents in an older individual at an increased risk for falls, the following may be considered:<br><br>**FIRST LINE:** Nonpharmacologic Therapies<br>Stretching, massaging, physical therapy, and exercise.<br><br>**Baclofen:** start 5mg 2-3x/day; max 80mg/day<br>Use the lowest dose possible for shortest duration. Limit use to 2-3 weeks.<br>Document need for medication in light of fall risk. |
| **Spasms Associated with Neurogenic Bladder or Urinary Incontinence** | Some newer agents and topical agents have less CNS effects and may be preferred. All agents have similar efficacy. The following may be considered:<br><br>**FIRST LINE:** Nonpharmacologic Therapies<br>- Avoid caffeine and alcohol<br>- Don't drink fluids too close to bedtime<br>- Practice Kegel exercises<br><br>**Darifenacin:** 7.5mg daily, can increase to 15mg after at least 2 weeks<br>**Fesoterodine:** 4mg daily; max 8mg/day<br>**Trospium:** 20mg BID (IR) or 60mg daily (XR)<br>**Oxybutynin Transdermal Patch:** apply one 3.9mg patch q3-4 days |

# Benzodiazepines[1,5,29-31]

| | | | |
|---|---|---|---|
| Alprazolam | Diazepam | Lorazepam | Triazolam |
| Chlorazepate | Estazolam | Oxazepam | Zaleplon |
| Chlordiazepoxide | Eszopiclone | Quazepam | Zolpidem |
| Clonazepam | Flurazepam | Temazepam | |

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| ALL Benzodiazepines | These agents are highly anticholinergic and cause sedation, confusion, dizziness, gait and balance problems, and weakness. |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| **Anxiety** | ***Evaluation and NonPharm:***<br>All suggested alternatives may increase a patient's fall risk. One must determine the risk versus the benefit when selecting an alternative.<br><br>In addition, cognitive-behavioral therapy has been shown to be effective in the management of generalized anxiety disorder.<br><br>**Suggested Alternatives:**<br>**SSRIs** (Sertraline, Escitalopram, Citalopram), **SNRIs** (Venlafaxine and Duloxetine), and **Buspirone** can be used to treat anxiety and they are not associated with the same degree of CNS depression as benzodiazepines.<br><br>*Refer to antidepressant medication guide, on page 4, for more information.* |
| **Insomnia** | ***Evaluation and NonPharm:***<br>All possible causes for insomnia should be ruled out and behavioral approaches to sleep management (i.e., sleep hygiene) should be tried before initiating pharmacologic therapy.<br>***Suggested Alternatives***<br>**Melatonin**: start at 1mg QHS; max 10mg/night<br>**Ramelteon**: start at 8mg QHS; max 8mg/night<br>**Trazodone**: start 25mg QHS; max 100mg/night<br>**Mirtazapine**: 7.5mg QHS; max 15mg/night if concomitant depression present<br><br>*Refer to sedative-hypnotics medication guide, on page 10, for more information.* |
| **Other Indications** | ***Evaluation and NonPharm:***<br>Consider re-evaluating need/indication for the benzodiazepine due to potential for adverse events, especially falls. It is likely that the risk associated with these agents outweighs any benefit.<br><br>***Suggested Alternatives***<br>If benzodiazepine is required, **lorazepam, oxazepam, temazepam** may be preferred because metabolism is not affected by impaired liver function and they do not have active metabolites<br>*Treatment at the lowest possible dose and shortest duration is recommended.* |

## Key Tips for Tapering Benzodiazepines

- Slow tapering recommended when stopping benzodiazepines.
- Consider decreasing dose by 25% every two weeks, and if possible, 12.5% reductions near end of taper and/or planned drug-free days. If dosage form doesn't allow for 25% reduction, consider using 50% reduction initially and then drug-free days in the latter part of tapering.
- If symptoms relapse, can consider maintaining current dose for 1-2 weeks then resume taper at slow rate.
- **References to Help Guide Medication Changes:**
  - https://www.aafp.org/afp/2017/1101/p606.html - American Academy of Family Physicians. *Tapering Patients Off of Benzodiazepines*.
  - https://www.jpshealthnet.org/sites/default/files/prescribing_and_tapering_benzodiapines.pdf - Behavioral Health Virtual Resource. *Prescribing and Tapering Benzodiazepines*.
  - https://www.aafp.org/afp/1998/0701/p139.html - American Academy of Family Physicians. *Management of Withdrawal Syndromes and Relapse Prevention in Drug and Alcohol Dependence*.

# Opioids[1,5,32-34]

| | | |
|---|---|---|
| Buprenorphine | Levorphanol | Oxycodone |
| Codeine | Meperidine | Oxymorphone |
| Fentanyl | Methadone | Pentazocine/naloxone |
| Hydrocodone | Morphine | Tapentadol |
| Hydromorphone | | |

*Notes: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| Pentazocine/ naloxone | Causes CNS adverse effects, including confusion and hallucinations, which may increase one's risk for falls. |
| Meperidine | Not an effective oral analgesic at dosages commonly used; may have a higher risk of neurotoxicity, which may increase one's risk for falls. |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| **Nociceptive Pain** | *Must weigh benefit of treating pain and increased risk of adverse effects and falls associated with opioids. If the opioid is continued, educate patient on the potential for increased sedation, dizziness, unsteadiness, and confusion, and closely monitor for the presence of these adverse effects.*<br>**Consider the following:**<br>Limit dose to 1 tablet at a time rather than 1-2 tablets.<br>Switch drug if adverse effects are apparent.<br><br>***Suggested Alternatives***<br>Localized Pain:<br>**Topical Capsaicin**: usually applied 2-4 times daily<br>**Diclofenac gel** (Voltaren): 2-4g up to 4 times daily; max 32g/day<br>Mild-Moderate pain:<br>**Acetaminophen** (Tylenol): dose q6-8hrs; max 3g/day<br>**Salsalate** (Salflex): 500mg q8-12h; max 3g/day<br>**NSAIDs** (ibuprofen, naproxen, diclofenac, celecoxib) use with caution if no HF and eGFR >30mL/min and given with PPI for gastro-protection. Note: avoid indomethacin due to CNS adverse effects; avoid ketorolac due to increased risk of bleeding, renal failure, high blood pressure, and heart failure.<br>Moderate-Severe pain:<br>**Tramadol** (Ultram): avoid if CrCl <30mL/min, start 25mg (IR) QHS; max 300mg/day (divided QID)<br>**Oxycodone**: 2.5mg QHS; max 2.5-5mg q4-6h<br>**Morphine sulfate**: 7.5mg QHS; max15mg q12h<br>*Increase slowly and use the lowest dose possible to control pain.* |
| **Neuropathic Pain** | *All suggested oral alternatives may increase a patient's fall risk. One must determine the risk versus the benefit when selecting an alternative.*<br>***Suggested Alternatives***<br>Topical Agents:<br>**Capsaicin**: usually applied 2-4 times daily<br>**Lidocaine patch** (Lidoderm): apply to affected area for 12 hours, then remove for 12 hours<br>Oral Agents:<br>**Duloxetine** (Cymbalta): avoid if GFR <30mL/min, start 30mg daily; max 60mg/day<br>**Venlafaxine** (Effexor): start 37.5mg daily; max 225mg/day<br>**Gabapentin** (Neurontin): must be renally adjusted, start 100mg QHS, then 100mg q8h; max 3600mg/day<br>**Pregabalin** (Lyrica): must be renally adjusted, start 50mg QHS, then 50mg q8h; max 300mg/day<br><br>*Refer to TCA medication guide, on page 11, for more information.* |

## Reference for Discontinuing Opioids

- https://www.cdc.gov/drugoverdose/pdf/clinical_pocket_guide_tapering-a.pdf - Centers of Disease Control and Prevention. *Pocket Guide for Tapering Opioids for Chronic Pain.*
  - Additional resources: *CDC Guideline for Prescribing Opioids for Chronic Pain*

# Sedative Hypnotics[1,2,4,5,29,35]

| | |
|---|---|
| Amobarbital | Doxylamine |
| Butabarbital | Meprobamate |
| Butalbital | Pentobarbital |
| Diphenhydramine | Secobarbital |

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| ALL Sedative Hypnotics | These agents are highly anticholinergic and cause sedation, confusion, dizziness, gait and balance problems, and weakness. |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| Anxiety | ***Evaluation and NonPharm:***<br>All suggested alternatives may increase a patient's fall risk. One must determine the risk versus the benefit when selecting an alternative.<br><br>In addition, cognitive-behavioral therapy has been shown to be effective in the management of generalized anxiety disorder.<br><br>**Suggested Alternatives:**<br>**SSRIs, SNRIs, and Buspirone.**<br><br>May consider short term use of **benzodiazepines** (lorazepam, oxazepam, and temazepam) for severe anxiety that has not responded to preferred agents.<br><br>*Refer to medication guides for antidepressants (page 4) and benzodiazepines (page 8) for more information.* |
| **Insomnia** | ***Evaluation and NonPharm:***<br>The following agents should only be used when all possible reasons for insomnia have been ruled out and behavioral approaches to sleep management (i.e., sleep hygiene) have been addressed.<br><br>Thoroughly evaluate all OTC products for diphenhydramine and doxylamine.<br>***EXAMPLES:*** Diphenhydramine-containing products (e.g., Tylenol PM, Benadryl, Nytol, Sominex) and doxylamine-containing products (e.g., Unisom Nightime).<br><br>***Suggested Alternatives***<br>**Melatonin**: start at 1mg nightly; max 10mg/day<br>**Ramelteon**: start at 8mg nightly; max 8mg/day<br>**Trazodone**: start 25mg nightly; max 100mg/day<br>**Mirtazapine**: 7.5mg nightly; max 15mg/day if concomitant depression present |
| **Seizures** | ***Suggested Alternatives***<br>Newer anticonvulsants **lamotrigine**, **levetiracetam**, and **gabapentin** are preferred in older adults due to improved safety and better tolerability.<br><br>*Refer to anticonvulsant medication algorithm, on page 3, for more information.* |

## Reference for Discontinuing Sedative Hypnotics


- https://www.aafp.org/afp/1998/0701/p139.html - American Academy of Family Physicians. *Management of Withdrawal Syndrome and Relapse Prevention in Drug and Alcohol Dependence.*

# Tricyclic Antidepressants[1,4,5,29,33]

| | |
|---|---|
| Amitriptyline | Imipramine |
| Amoxapine | Maprotiline |
| Clomipramine | Nortriptyline |
| Desipramine | Protriptyline |
| Doxepine | Trimipramine |

*NOTE: All above medications may increase risk of falls when used in older adults.*

## Highest Risk Medications

| Highest Risk Medications | Reason to Avoid |
|---|---|
| ALL TCAs | These agents are highly anticholinergic and cause sedation. |

## Suggested Medication Recommendations

| Indication(s) | Suggested Recommendations |
|---|---|
| **Depression** | ***Suggested Alternatives***<br>Citalopram<br>Sertraline<br>Escitalopram<br>Bupropion<br>Venlafaxine<br>Duloxetine<br><br>*Refer to antidepressant medication guide, on page 4, for more information.* |
| **Insomnia** | ***Suggested Alternatives***<br>melatonin, ramelteon, trazodone, mirtazapine<br><br>*Refer to sedative hypnotic medication guide, on page 10, for more information.* |
| **Pain** | *Must weigh benefit of treating pain with increased risk for falls.*<br><br>***If a TCA is needed***:<br>If a TCA is used and effectiveness has been demonstrated, ensure that the individual is on the lowest dose possible to control the pain and minimize adverse events. Consider:<br><br>**nortriptyline** (max 30-50mg/day)<br>**desipramine** (max 150mg/day).<br><br>***Suggested Alternatives***<br>Duloxetine (Cymbalta)<br>Venalfaxine (Effexor)<br>Gabapentin<br>Lidocaine patch<br>Topical lidocaine<br>Capsaicin topical<br><br>*Refer to opioid medication guide, on page 9, for more information.* |
| **Other Indications** | ***Evaluate***<br>Consider re-evaluating need/indication for the TCA due to potential for adverse events, especially falls. It is likely that the risk associated with this agent outweighs any benefit. |

## References to Guide Medication Changes


- https://cpnp.org/guideline/external/depression - College of Psychiatric and Neurologic Pharmacists. *Treatment Guidelines: Depression.*
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| Medication | Drug Class |
|---|---|
| **A** | |
| Abilify | Antipsychotics |
| acebutalol | Antihypertensives |
| Aceon | Antihypertensives |
| Accupril | Antihypertensives |
| Actiq | Opioids |
| Aldactazide | Antihypertensives |
| Aldactone | Antihypertensives |
| Aldomet | Antihypertensives |
| alprazolam | Benzodiazepines |
| Altace | Antihypertensives |
| Ambien | Benzodiazepines |
| amiloride | Antihypertensives |
| amitriptyline | Tricyclic Antidepressants |
| amlodipine | Antihypertensives |
| amobarbital | Sedative Hypnotics |
| amoxapine | Tricyclic Antidepressants |
| Amytal | Sedative Hypnotics |
| Anafranil | Tricyclic Antidepressants |
| Apresoline | Antihypertensives |
| Aptiom | Anticonvulsants |
| aripiprazole | Antipsychotics |
| asenapine maleate | Antipsychotics |
| Asendin | Tricyclic Antidepressants |
| Atacand HCT | Antihypertensives |
| atenolol | Antihypertensives |
| Ativan | Benzodiazepines |
| Avalide | Antihypertensives |
| Avapro | Antihypertensives |
| Azor | Antihypertensives |

| Medication | Drug Class |
|---|---|
| **B** | |
| baclofen | Antispasmodics |
| Banzel | Anticonvulsants |
| belladonna alkaloids | Antispasmodics |
| Benicar HCT | Antihypertensives |
| Bentyl | Antispasmodics |
| benazepril | Antihypertensives |
| bisoprolol | Antihypertensives |
| Blocadren | Antihypertensives |
| brivaracetam | Anticonvulsants |
| Briviact | Anticonvulsants |
| bumetanide | Antihypertensives |
| Bumex | Antihypertensives |
| buprenorphine | Opioids |
| bupropion | Antidepressants |
| Buspar | Antidepressants |
| buspirone | Antidepressants |
| butabarbital | Sedative Hypnotics |
| butalbital | Sedative Hypnotics |
| Butisol | Sedative Hypnotics |
| Butrans | Opioids |
| Bystolic | Antihypertensives |
| Byvalson | Antihypertensives |
| **C** | |
| Caduet | Antihypertensives |
| Calan | Antihypertensives |
| candesartan | Antihypertensives |
| captopril | Antihypertensives |
| carbamazepine | Anticonvulsants |
| Carbatrol | Anticonvulsants |

| Medication | Drug Class |
|---|---|
| Cardene | Antihypertensives |
| Cardizem | Antihypertensives |
| Cardura | Antihypertensives |
| carisoprodol | Antispasmodics |
| Cartia | Antihypertensives |
| carvedilol | Antihypertensives |
| Catapres | Antihypertensives |
| Celexa | Antidepressants |
| Celontin | Anticonvulsants |
| Cerebryx | Anticonvulsants |
| chlorazepate | Benzodiazepines |
| chlordiazepoxide | Benzodiazepines |
| chlorthiazide | Antihypertensives |
| chlorpromazine | Antipsychotics |
| chlorthalidone | Antihypertensives |
| chlorzoxazone | Antispasmodics |
| citalopram | Antidepressants |
| clidinium-chloridazepoxide | Antispasmodics |
| clobazam | Anticonvulsants |
| clomipramine | Tricyclic Antidepressants |
| clonazepam | Benzodiazepines |
| clonidine | Antihypertensives |
| clozapine | Antipsychotics |
| Clozaril | Antipsychotics |
| codeine | Opioids |
| Coreg | Antihypertensives |
| Corgard | Antihypertensives |
| Cozaar | Antihypertensives |
| cyclobenzaprine | Antispasmodics |
| Cymbalta | Antidepressants |

| Medication | Drug Class |
|---|---|
| D | |
| Dalmane | Benzodiazepines |
| Dantrium | Antispasmodics |
| dantrolene | Antispasmodics |
| darifenacin | Antispasmodics |
| Demadex | Antihypertensives |
| Demerol | Opioids |
| Depakene | Anticonvulsants |
| Depakote | Anticonvulsants |
| desipramine | Tricyclic Antidepressants |
| desvenlafaxine | Antidepressants |
| Desyrel | Antidepressants |
| Detrol | Antispasmodics |
| diazepam | Benzodiazepines |
| dicyclomine | Antispasmodics |
| Dilacor | Antihypertensives |
| Dilantin | Anticonvulsants |
| Dilaudid | Opioids |
| diltiazem | Antihypertensives |
| Diltzac | Antihypertensives |
| Diovan HCT | Antihypertensives |
| diphenhydramine | Sedative Hypnotics |
| Ditropan | Antispasmodics |
| Diuril | Antihypertensives |
| divalproex sodium | Anticonvulsants |
| Dolophine | Opioids |
| Donnatol | Antispasmodics |
| Doral | Benzodiazepines |
| doxazosin | Antihypertensives |
| doxepin | Tricyclic Antidepressants |

| Medication | Drug Class |
|---|---|
| doxylamine | Sedative Hypnotics |
| duloxetine | Antidepressants |
| Duragesic | Opioids |
| Dyazide | Antihypertensives |
| Dynacirc | Antihypertensives |
| Dyrenium | Antihypertensives |
| **E** | |
| Effexor (Effexor XR) | Antidepressants |
| Elavil | Tricyclic Antidepressants |
| Enablex | Antispasmodics |
| enalapril | Antihypertensives |
| Entresto | Antihypertensives |
| eplerenone | Antihypertensives |
| eprosartan | Antihypertensives |
| Equanil | Sedative Hypnotics |
| escitalopram | Antidepressants |
| Esidrix | Antihypertensives |
| eslicarbazepine | Anticonvulsants |
| estazolam | Benzodiazepines |
| eszopiclone | Benzodiazepines |
| ethosuximide | Anticonvulsants |
| Exforge | Antihypertensives |
| ezogabine | Anticonvulsants |
| **F** | |
| Fanapt | Antipsychotics |
| felbamate | Anticonvulsants |
| Felbatol | Anticonvulsants |
| felodipine | Antihypertensives |
| fentanyl | Opioids |
| Fentora | Opioids |

| Medication | Drug Class |
|---|---|
| fesoterodine | Antispasmodics |
| Fetzima | Antidepressants |
| Fioricet | Sedative Hypnotics |
| Fiorinal | sedative hypotics |
| flavoxate | Antispasmodics |
| Flexeril | Antispasmodics |
| fluoxetine | Antidepressants & Antipsychotics |
| fluphenazine | Antipsychotics |
| flurazepam | Benzodiazepines |
| fluvoxamine | Antidepressants |
| fosinopril | Antihypertensives |
| fosphenytoin | Anticonvulsants |
| furosemide | Antihypertensives |
| Fycompa | Anticonvulsants |
| **G** | |
| gabapentin | Anticonvulsants |
| Gabitril | Anticonvulsants |
| Geodon | Antipsychotics |
| guanabenz | Antihypertensives |
| guanfacine | Antihypertensives |
| **H** | |
| Halcion | Benzodiazepines |
| Haldol | Antipsychotics |
| haloperidol | Antipsychotics |
| hydralazine | Antihypertensives |
| hydrochlorothiazide | Antihypertensives |
| hydrocodone | Opioids |
| Hydrodiuril | Antihypertensives |
| hydromorphone | Opioids |
| Hygroton | Antihypertensives |

| Medication | Drug Class |
|---|---|
| hyoscyamine | Antispasmodics |
| Hypovase | Antihypertensives |
| Hytrin | Antihypertensives |
| Hyzaar | Antihypertensives |
| **I** | |
| iloperidone | Antipsychotics |
| imipramine | Tricyclic Antidepressants |
| indapamide | Antihypertensives |
| Inderal | Antihypertensives |
| Innopran | Antihypertensives |
| Inspra | Antihypertensives |
| Intuniv | Antihypertensives |
| Invega | Antipsychotics |
| irbesartan | Antihypertensives |
| isocarboxazid | Antidepressants |
| Isoptin | Antihypertensives |
| isradipine | Antihypertensives |
| **K** | |
| Keppra | Anticonvulsants |
| Klonopin | Benzodiazepines |
| **L** | |
| labetalol | Antihypertensives |
| lacosamide | Anticonvulsants |
| Lamictal | Anticonvulsants |
| lamotrigine | Anticonvulsants |
| Lasix | Antihypertensives |
| Latuda | Antipsychotics |
| Lentopres | Antihypertensives |
| Levatol | Antihypertensives |
| Levbid | Antispasmodics |

| Medication | Drug Class |
|---|---|
| levetiracetam | Anticonvulsants |
| Levo-Dromoran | Opioids |
| levomilnacipran | Antidepressants |
| levorphanol | Opioids |
| Levsin | Antispasmodics |
| Levsinex | Antispasmodics |
| Lexapro | Antidepressants |
| Librax | Antispasmodics |
| Librax | Benzodiazepines |
| Librium | Benzodiazepines |
| Limbitrol | Benzodiazepines |
| Lioresal | Antispasmodics |
| lisinopril | Antihypertensives |
| Loniten | Antihypertensives |
| Lopressor | Antihypertensives |
| lorazepam | Benzodiazepines |
| Lorcet | Opioids |
| Lortab | Opioids |
| losartan | Antihypertensives |
| Lotensin | Antihypertensives |
| Lotrel | Antihypertensives |
| loxapine | Antipsychotics |
| Loxitane | Antipsychotics |
| Lozol | Antihypertensives |
| Ludiomil | Tricyclic Antidepressants |
| Lunesta | Benzodiazepines |
| lurasidone | Antipsychotics |
| Luvox | Antidepressants |
| Lyrica | Anticonvulsants |

| Medication | Drug Class |
|---|---|
| **M** | |
| maprotiline | Tricyclic Antidepressants |
| Marplan | Antidepressants |
| Mavik | Antihypertensives |
| Maxzide | Antihypertensives |
| Mellaril | Antipsychotics |
| meperidine | Opioids |
| meprobamate | Sedative Hypnotics |
| metaxalone | Antispasmodics |
| methadone | Opioids |
| methocarbamol | Antispasmodics |
| methsuximide | Anticonvulsants |
| methyldopa | Antihypertensives |
| metolazone | Antihypertensives |
| metoprolol | Antihypertensives |
| Micardis | Antihypertensives |
| Microzide | Antihypertensives |
| Midamor | Antihypertensives |
| Miltown | Sedative Hypnotics |
| Minipress | Antihypertensives |
| minoxidil | Antihypertensives |
| mirtazapine | Antidepressants |
| Moban | Antipsychotics |
| molindone | Antipsychotics |
| morphine | Opioids |
| MS Contin | Opioids |
| Mysoline | Anticonvulsants |
| **N** | |
| nadalol | Antihypertensives |
| Nardil | Antidepressants |
| Navane | Antipsychotics |
| Nebilet | Antihypertensives |
| nebivolol | Antihypertensives |
| nebivolol/valsartan | Antihypertensives |
| nefazodone | Antidepressants |
| Nembutal | Sedative Hypnotics |
| Neurontin | Anticonvulsants |
| nicardipine | Antihypertensives |
| Nifedipine | Antihypertensives |
| nimodipine | Antihypertensives |
| Nimotop | Antihypertensives |
| nisoldipine | Antihypertensives |
| Norco | Opioids |
| Norflex | Antispasmodics |
| Normodyne | Antihypertensives |
| Norpramine | Tricyclic Antidepressants |
| nortriptyline | Tricyclic Antidepressants |
| Norvasc | Antihypertensives |
| Nucynta | Opioids |
| **O** | |
| olanzapine | Antipsychotics |
| olmesartan | Antihypertensives |
| Onfi | Anticonvulsants |
| Opana | Opioids |
| Orap | Antipsychotics |
| Oretic | Antihypertensives |
| orphenadrine | Antispasmodics |
| oxazepam | Benzodiazepines |
| oxcarbazepine | Anticonvulsants |
| oxybutynin | Antispasmodics |

| Medication | Drug Class |
|---|---|
| oxycodone | Opioids |
| OxyContin | Opioids |
| oxymorphone | Opioids |
| **P** | |
| paliperidone | Antipsychotics |
| Pamelor | Tricyclic Antidepressants |
| Paraflex | Antispasmodics |
| Parnate | Antidepressants |
| paroxetine | Antidepressants |
| Paxil | Antidepressants |
| penbutolol | Antihypertensives |
| pentobarbital | Sedative Hypnotics |
| pentazocine | Opioids |
| perampanel | Anticonvulsants |
| Percocet | Opioids |
| perindopril | Antihypertensives |
| Permitil | Antipsychotics |
| perphenazine | Antipsychotics |
| phenelzine | Antidepressants |
| phenobarbital | Anticonvulsants |
| phenytoin | Anticonvulsants |
| pimozide | Antipsychotics |
| pindolol | Antihypertensives |
| Plendil | Antihypertensives |
| Potiga | Anticonvulsants |
| prazosin | Antihypertensives |
| pregabalin | Anticonvulsants |
| primidone | Anticonvulsants |
| Prinivil | Antihypertensives |
| Pristiq | Antidepressants |

| Medication | Drug Class |
|---|---|
| Pro-Banthine | Antispasmodics |
| Prolixin | Antipsychotics |
| propantheline | Antispasmodics |
| propranolol | Antihypertensives |
| protriptyline | Tricyclic Antidepressants |
| Prozac | Antidepressants |
| **Q** | |
| quazepam | Benzodiazepines |
| quetiapine | Antipsychotics |
| quinapril | Antihypertensives |
| **R** | |
| ramipril | Antihypertensives |
| Raudixin | Antihypertensives |
| Remeron | Antidepressants |
| reserpine | Antihypertensives |
| Restoril | Benzodiazepines |
| Risperdal | Antipsychotics |
| risperidone | Antipsychotics |
| Robaxin | Antispasmodics |
| Roxidone | Opioids |
| rufinamide | Anticonvulsants |
| **S** | |
| Sabril | Anticonvulsants |
| sacubitril/valsartan | Antihypertensives |
| Sanctura | Antispasmodics |
| Sapris | Antipsychotics |
| Sarafem | Antidepressants |
| secobarbital | Sedative Hypnotics |
| Seconal | Sedative Hypnotics |
| Sectral | Antihypertensives |

| Medication | Drug Class |
|---|---|
| Serax | Benzodiazepines |
| Seroquel | Antipsychotics |
| Serpalan | Antihypertensives |
| Serpasil | Antihypertensives |
| sertraline | Antidepressants |
| Serzone | Antidepressants |
| Sinequan | Tricyclic Antidepressants |
| Skelaxin | Antispasmodics |
| solifenacin | Antispasmodics |
| Soma | Antispasmodics |
| Sonata | Benzodiazepines |
| spironolactone | Antihypertensives |
| Stelazine | Antipsychotics |
| Sular | Antihypertensives |
| Surmontil | Tricyclic Antidepressants |
| Symbyax | Antipsychotics |
| **T** | |
| tapentadol | Opioids |
| Taztia | Antihypertensives |
| Tekturna HCT | Antihypertensives |
| Tegretol | Anticonvulsants |
| telmisartan | Antihypertensives |
| temazepam | Benzodiazepines |
| Tenex | Antihypertensives |
| Tenoretic | Antihypertensives |
| Tenormin | Antihypertensives |
| terazosin | Antihypertensives |
| Thalidone | Antihypertensives |
| thioridazine | Antipsychotics |
| thiothixene | Antipsychotics |

| Medication | Drug Class |
|---|---|
| Thorazine | Antipsychotics |
| tiagabine | Anticonvulsants |
| Tiazac | Antihypertensives |
| timolol | Antihypertensives |
| tizanidine | Antispasmodics |
| Tofranil | Tricyclic Antidepressants |
| tolterodine | Antispasmodics |
| Topamax | Anticonvulsants |
| topiramate | Anticonvulsants |
| Toprol XL | Antihypertensives |
| torsemide | Antihypertensives |
| Toviaz | Antispasmodics |
| Trancot | Sedative Hypnotics |
| Trandate | Antihypertensives |
| trandolapril | Antihypertensives |
| Tranxene | Benzodiazepines |
| tranylcypromine | Antidepressants |
| trazodone | Antidepressants |
| triamterene | Antihypertensives |
| triazolam | Benzodiazepines |
| Tribenzor | Antihypertensives |
| Tridione | Anticonvulsants |
| trifluoroperazine | Antipsychotics |
| Trilafon | Antipsychotics |
| Trileptal | Anticonvulsants |
| trimethadione | Anticonvulsants |
| trimipramine | Tricyclic Antidepressants |
| trospium | Antispasmodics |
| Tussionex | Opioids |
| Tylenol #3 | Opioids |

| Medication | Drug Class |
|---|---|
| **U** | |
| Urispas | Antispasmodics |
| **V** | |
| Valium | Benzodiazepines |
| valproate | Anticonvulsants |
| valsartan | Antihypertensives |
| Vasoflex | Antihypertensives |
| Vasotec | Antihypertensives |
| venlafaxine | Antidepressants |
| verapamil | Antihypertensives |
| Vesicare | Antispasmodics |
| Vicodin | Opioids |
| Vicoprofen | Opioids |
| vigabatrin | Anticonvulsants |
| Viibryd | Antidepressants |
| vilazodone | Antidepressants |
| Vimpat | Anticonvulsants |
| Visken | Antihypertensives |
| Vivactil | Tricyclic Antidepressants |
| **W** | |
| Wellbutrin/Wellbutrin SR | Antidepressants |
| Wytensin | Antihypertensives |
| **X** | |
| Xanax | Benzodiazepines |
| **Z** | |
| zaleplon | Benzodiazepines |
| Zanaflex | Antispasmodics |
| Zarotin | Anticonvulsants |
| Zaroxolyn | Antihypertensives |
| Zayasel | Antihypertensives |
| Zebeta | Antihypertensives |
| Zestril | Antihypertensives |
| Ziac | Antihypertensives |
| ziprasidone | Antipsychotics |
| Zoloft | Antidepressants |
| zolpidem | Benzodiazepines |
| Zonegran | Anticonvulsants |
| zonisamide | Anticonvulsants |
| Zyprexa | Antipsychotics |

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