

# Medications to avoid in the elderly

| Description   | Medications to avoid <sup>1</sup>   | Adverse side effects/concerns  | Formulary alternatives <sup>2, 3</sup>   |
|---|---|--|--|
| Alpha agonists, central   | <ul style="list-style-type: none"><li>• guanfacine</li><li>• methyl dopa</li><li>• reserpine (doses greater than 0.1 mg/day)</li></ul>  | High risk of central nervous system (CNS) effects; may cause bradycardia and orthostatic hypotension; not recommended for routine treatment of hypertension  | amlodipine*, atenolol*, enalapril*, felodipine***, lisinopril*, losartan**, nifedipine long-acting (nifedipine ER)***  |
| Analgesics  | <ul style="list-style-type: none"><li>• indomethacin</li><li>• ketorolac</li></ul>  | Potential for gastrointestinal bleeding, renal failure, high blood pressure and heart failure  | acetaminophen (not in combination product) <sup>Δ</sup> , trisalicylate (Trilisate), topicals (capsaicin) <sup>Δ</sup>   |
| Anti-anxiety  | <ul style="list-style-type: none"><li>• aspirin-meprobamate</li><li>• meprobamate</li></ul>   | Addictive and sedating anxiolytic  | <b>Anxiety:</b> buspirone**, duloxetine***, escitalopram**, fluvoxamine**, sertraline*, venlafaxine*<br><b>Insomnia:</b> See the nonbenzodiazepine hypnotic section for insomnia alternatives.   |
| Antidepressants, tricyclic  | <ul style="list-style-type: none"><li>• amitriptyline</li><li>• clomipramine</li><li>• doxepin (doses greater than 6 mg/day)</li><li>• imipramine</li><li>• trimipramine</li></ul>  | Highly anticholinergic effects; may cause orthostatic hypotension  | <b>Depression:</b> Selective serotonin reuptake inhibitors (SSRIs) <sup>5</sup> – escitalopram**, fluvoxamine**, sertraline*; serotonin and norepinephrine reuptake inhibitors (SNRIs) – duloxetine***, venlafaxine*<br><b>Insomnia:</b> See the nonbenzodiazepine hypnotic section for insomnia alternatives.<br><b>Neuropathic pain:</b> gabapentin*   |
| Antiemetics   | <ul style="list-style-type: none"><li>• trimethobenzamide</li></ul>   | Extrapyramidal adverse effects   | ondansetron***, prochlorperazine*  |
| Antihistamines (includes single entity or as part of a combination product)       | <ul style="list-style-type: none"><li>• brompheniramine</li><li>• carbinoxamine</li><li>• chlorpheniramine</li><li>• clemastine</li><li>• cyproheptadine</li><li>• dexbrompheniramine</li><li>• dexchlorpheniramine</li><li>• triprolidine</li><li>• diphenhydramine (oral)</li><li>• doxylamine</li><li>• hydroxyzine</li><li>• hydrochloride</li><li>• hydroxyzine pamoate</li><li>• promethazine</li></ul> | Highly anticholinergic effects, sedation, weakness, blood pressure changes, dry mouth, urinary retention; clearance reduced in advanced age (Tolerance develops when used as hypnotic.)  | <b>Pruritus/urticaria:</b> cetirizine syrup**, fexofenadine <sup>Δ</sup> , levocetirizine*** <sup>Ε</sup> , loratadine <sup>Δ</sup><br><b>Nausea/vomiting:</b> ondansetron***, prochlorperazine*<br><b>Allergic rhinitis:</b> azelastine***, cetirizine syrup**, fexofenadine <sup>Δ</sup> , fluticasone**, levocetirizine*** <sup>Ε</sup> , loratadine <sup>Δ</sup><br><b>Insomnia:</b> See the nonbenzodiazepine hypnotic section for insomnia alternatives.<br><b>Over-the-counter option:</b> melatonin, if appropriate; regarded as safe in recommended doses (up to 15 mg daily) for up to two years |
| Anti-infectives (when cumulative days’ supply greater than 90 days)               | <ul style="list-style-type: none"><li>• nitrofurantoin</li><li>• nitrofurantoin macrocrystals</li></ul>   | Potential for pulmonary toxicity, hepatotoxicity and peripheral neuropathy; nitrofurantoin causes renal impairment; avoid in persons with a CrCl less than 60 mL/min due to inadequate drug concentration in the urine   | Dependent on the infection: cephalexin*, ciprofloxacin*, sulfamethoxazole/trimethoprim*  |
| Anti-Parkinson agents   | <ul style="list-style-type: none"><li>• benzatropine (oral)</li><li>• trihexyphenidyl</li></ul>   | Not recommended for prevention of extrapyramidal symptoms with antipsychotics  | amantadine+, pramipexole (Mirapex)***, ropinirole (Requip)**   |
| Antipsychotics  | <ul style="list-style-type: none"><li>• thioridazine</li></ul>  | Highly anticholinergic; central nervous system and extrapyramidal effects; greater risk of QT interval prolongation; associated with tremors, slurred speech, bradykinesia, dystonia, muscle rigidity and akathisia  | olanzapine (Zyprexa)***, quetiapine (Seroquel)** <sup>Ε</sup> , risperidone (Risperdal)*** <sup>Ε</sup><br><b>Note:</b> All antipsychotics have been associated with increased mortality when used to treat psychosis related to dementia.   |
| Anti-thrombotics  | <ul style="list-style-type: none"><li>• dipyridamole (oral short-acting only)</li><li>• ticlopidine</li></ul>   | Dipyridamole may cause orthostatic hypotension; more effective alternatives are available  | cilostazol**, clopidogrel**, low-dose aspirin <sup>Δ</sup>   |
| Barbiturates  | <ul style="list-style-type: none"><li>• amobarbital</li><li>• butobarbital</li><li>• butalbital</li><li>• mephobarbital</li><li>• pentobarbital</li><li>• phenobarbital</li><li>• secobarbital</li></ul>  | High rate of physical dependence; patients develop tolerance, which reduces sleep benefits; risk of overdose at low dosage due to tolerance and patient choice to over-medicate to achieve therapeutic effect  | <b>Anxiety:</b> SSRIs <sup>5</sup> (escitalopram**, fluvoxamine**, sertraline*); SNRIs (duloxetine***, venlafaxine*); buspirone**<br><b>Insomnia:</b> See nonbenzodiazepine hypnotic section for insomnia alternatives.  |
| Belladonna alkaloids (includes single entity or as part of a combination product) | <ul style="list-style-type: none"><li>• atropine/hyoscyamine/phenobarbital/scopolamine</li><li>• belladonna/phenobarbital</li><li>• butabarbital/hyoscyamine/phenazopyridine</li></ul>  | Anticholinergic effects  | <b>Constipation:</b> linaclotide (Linzess)***, lubiprostone (Amitiza)***, polyethyleneglycol oral <sup>Δ</sup> , psyllium <sup>Δ</sup> , stool softener <sup>Δ</sup><br><b>Diarrhea:</b> aluminum hydroxide <sup>Δ</sup> , loperamide**  |
| Calcium channel blockers  | <ul style="list-style-type: none"><li>• nifedipine – short-acting only</li></ul>  | Potential for hypotension; risk of causing myocardial ischemia   | Use long-acting formulation to avoid adverse effects: felodipine***, nifedipine long-acting (nifedipine ER)***   |
| Cardiovascular  | <ul style="list-style-type: none"><li>• digoxin (doses greater than 0.125 mg/day)</li><li>• disopyramide</li></ul>  | <b>Digoxin:</b> in heart failure, higher doses have increased risk of toxicity; decreased renal clearance<br><b>Disopyramide:</b> potent negative inotrope that may induce heart failure in older adults; anticholinergic effects  | <b>Heart failure:</b> Angiotensin-converting enzyme inhibitors (ACEI) (enalapril, lisinopril, quinapril)* or angiotensin receptor blockers (ARB) (losartan)* and/or a beta blocker (metoprolol succinate XL**, bisoprolol**, carvedilol*) instead of digoxin, aldosterone antagonist (spironolactone**) and digoxin 0.125 mg. Optimize ACEI/ARB, beta blocker and/or aldosterone antagonist prior to digoxin use. Digoxin doesn’t decrease morbidity/mortality.  |
| Endocrine   | <ul style="list-style-type: none"><li>• megestrol</li></ul>   | Increases risk of thrombotic event and possibly death in older adults  | Consider nutritional support and treatment of potential cause (e.g., depression, certain medications); consider dronabinol*** for anorexia associated with weight loss in patients with AIDS or for nausea and vomiting in chemotherapy patients who failed to respond adequately to conventional treatments.  |
| Narcotics   | <ul style="list-style-type: none"><li>• acetaminophen-pentazocine</li><li>• belladonna-opium</li><li>• meperidine</li><li>• meperidine-promethazine</li><li>• naloxone-pentazocine</li><li>• pentazocine</li></ul>  | <b>Meperidine:</b> May not be effective at commonly prescribed doses; side effects include confusion, falls, fractures, dependency and withdrawal<br><b>Pentazocine:</b> Produces central nervous system adverse effects, including confusion and hallucinations and is a mixed agonist and antagonist; safer alternatives are available | acetaminophen (not in combination product) <sup>Δ</sup> , fentanyl transdermal patch+, hydrocodone*, morphine***, oxycodone***, tramadol**   |

