

Selected High Risk Medications to Avoid in Patients Aged 65 Years or Older.

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Drugs to Avoid ^{a,1}	Concern ¹	Potential Alternatives ^b
Antidepressants, tricyclic (eg, amitriptyline, clomipramine, doxepin at >6 mg/day)	Highly anticholinergic, sedating, and causes orthostatic hypertension	For depression: pharmacotherapy with SSRI (citalopram, escitalopram, sertraline), SNRI (venlafaxine), or others (bupropion, duloxetine) can be selected based on adverse effect profiles, cost, and patient preferences. Consider psychotherapy, ECT, or light therapy. ²
Antihistamines, first generation (eg, clemastine, hydroxyzine, promethazine)	Potent anticholinergic properties; may cause sedation, constipation, dry mouth, and impair cognitive performance; clearance reduced in advanced age	OTC second generation antihistamines (eg, cetirizine, fexofenadine, loratadine); third generation antihistamines (eg, levocetirizine). For allergic rhinitis: intranasal corticosteroids. ³ For emesis: consider ondansetron.
Anti-infectives - Nitrofurantoin	Potential for pulmonary toxicity; lack of efficacy in patients with CrCl <60 mL/min due to inadequate drug concentration in the urine	For uncomplicated cystitis: antibiotic therapy may include fluoroquinolones or TMP-SMX. Consider patient's allergy history and other risk factors and local resistance patterns. ⁴
Antiparkinsonian agents - Benztropine (oral) - Trihexyphenidyl	Highly anticholinergic. Not recommended for prevention of extrapyramidal symptoms with antipsychotics; more effective agents available for treatment of Parkinson's disease	For antipsychotic induced EPS the cornerstones of treatment are prevention, early detection, and management of potentially reversible causes. For Parkinson's disease: carbidopa/levodopa (+/- COMT Inhibitors), dopamine agonists, MAO B inhibitors. ⁶
Barbiturates (eg, phenobarbital)	High rate of physical dependence; tolerance to sleep benefits develops; risk of overdose at low dosages	For epilepsy: consider newer anti-epileptic drugs (eg, lamotrigine, topiramate). ⁷
Benzodiazepines, short-, intermediate-, and long-acting (eg, clonazepam, diazepam, lorazepam)	Older adults have increased sensitivity to benzodiazepines and slower metabolism of long-acting agents. In general, all benzodiazepines increase risk of cognitive impairment, delirium, falls, fractures, and motor vehicle accidents in older adults	For anxiety: consider buspirone, SSRIs, SNRIs, and/or CBT. ⁸
Cardiovascular agents - Methyldopa - Digoxin >0.125 mg/day	High risk of adverse CNS effects; may cause bradycardia and orthostatic hypotension In heart failure, high dosages are associated with no additional benefit; decreased clearance may lead to risk of toxic effects	Consider alternate antihypertensive therapy (eg, thiazide diuretic, ACEI, ARBs, long-acting dihydropyridine calcium channel blockers). ⁹ Consider rate control before rhythm control; monitor SCr and digoxin levels.
Endocrine agents - Megestrol	Minimal effect on weight; increases risk of thrombotic events and possibly death in older adults	Maximize nutritional supplementation. Consider mirtazapine for weight gain. ¹⁰
Estrogens +/- progestin, oral and patches (eg, Premarin, PremPro, Vivelle Dot)	Lack of cardioprotective effect in older women; carcinogenic potential (breast and endometrium)	For osteoporosis: non-estrogen treatments (eg, calcium and vitamin D supplementation or bisphosphonates) For continuing perimenopausal symptoms: reassess need to treat. ¹¹

Nonbenzodiazepine hypnotics (eg, eszopiclone, zolpidem)	Similar adverse effects to benzodiazepines in older adults (eg, delirium, falls, fractures); minimal improvement in sleep latency and duration	Nonpharmacologic therapy (eg, avoid daytime naps and caffeinated beverages, and other sleep hygiene techniques) ¹²
Non-COX-selective NSAIDs - Indomethacin - Ketorolac	Increases risk of GI bleeding and peptic ulcer disease in high-risk groups ²	Consider a COX-2 selective NSAID (eg, celecoxib) or concomitant gastrointestinal prophylaxis with a PPI in patients with risk factors for bleeding. ¹³
Skeletal muscle relaxants (eg, carisoprodol, cyclobenzaprine, metaxalone, methocarbamol)	Poorly tolerated because of anticholinergic adverse effects, sedation, and weakness; effectiveness at doses tolerated by older patients is questionable ²	For muscle spasms: nonpharmacologic therapy (eg, physiotherapy, heat or cold, and TENS); short-term acetaminophen, ibuprofen, or naproxen for pain. ¹⁴
Sulfonylureas, long-acting - Chlorpropamide - Glyburide	Greater risk of severe prolonged hyperglycemia in older adults ²	Consider glipizide or metformin. ¹⁵

a Including combination products, if available.

b Refer to a patient's individual plan formulary to determine whether a potential alternative may be covered.

ACEI = angiotensin converting enzyme inhibitor; ARB = angiotensin receptor blocker; CBT = cognitive-behavioral therapy; CNS = central nervous system; COX = cyclooxygenase; ECT = electroconvulsive therapy; EPS = extrapyramidal symptoms; GI = gastrointestinal; MAO-B = monoamine oxidase B; NSAID = nonsteroidal anti-inflammatory drug; OTC = over-the-counter; PPI = proton pump inhibitor; SCr = serum creatinine; SNRI = serotonin-norepinephrine reuptake inhibitor; SSRI = selective serotonin reuptake inhibitor; TENS = transcutaneous electrical stimulation; TMP-SMX = trimethoprim-sulfamethoxazole.

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