

Drug-Disease Interaction: Medications and Fall Risk in Older Adults

Falls are the leading cause of injury-related death among adults aged 65 and older in the United States.¹ According to the Centers for Disease Control and Prevention (CDC), there are approximately three million emergency department visits for older adults due to falls each year.² The use of some medications may increase the risk of falls. A 2022 analysis of drug-induced fall events found that the largest contributors were neurological drugs, including antipsychotics, antidepressants, anticonvulsants and hypnotic sedatives.³ Fall risk reduction interventions may reduce serious injuries, emergency department visits, hospitalizations, nursing home placements and functional decline. If the use of a high fall risk medication is necessary, it should be used at the minimum effective dose and duration while monitoring for falls.⁴

An important Healthcare Effectiveness Data and Information Set (HEDIS) measure assesses the use of medications with the potential to cause harmful drug-disease interactions in patients 67 years and older with a history of falls or hip fractures.⁵ Consider the following alternatives to reduce the risk of falls:

Drug Class	Medications to Avoid ^{4,5*}		Potential Alternatives ^{4,6,7}
Antiepileptics	carbamazepine divalproex ethosuximide felbamate fosphenytoin gabapentin lamotrigine	levetiracetam oxcarbazepine phenobarbital phenytoin pregabalin topiramate valproic acid	<ul style="list-style-type: none"> For new-onset epilepsy: newer agents such as lamotrigine and levetiracetam are preferred For neuropathic pain: over-the-counter (OTC) capsaicin topical or low-dose duloxetine for shortest duration possible For post-herpetic neuralgia: lidocaine patch For diabetic neuropathy: lidocaine patch
Antipsychotics	aripiprazole brexpiprazole cariprazine clozapine fluphenazine haloperidol	lurasidone olanzapine paliperidone quetiapine risperidone ziprasidone	<ul style="list-style-type: none"> For delirium: low-dose quetiapine* may be used for shortest duration possible if nonpharmacological approaches have failed and patient may harm self or others
Benzodiazepines	alprazolam clonazepam diazepam estazolam	lorazepam oxazepam temazepam triazolam	<ul style="list-style-type: none"> For anxiety: buspirone, mirtazapine* For insomnia: low-dose doxepin (≤6mg), ramelteon, trazodone*, mirtazapine**
Nonbenzodiazepine hypnotics	eszopiclone zaleplon	zolpidem	<ul style="list-style-type: none"> For insomnia: low-dose doxepin (≤6mg), ramelteon, trazodone*, mirtazapine**
Selective serotonin reuptake inhibitors (SSRIs)	citalopram escitalopram fluoxetine	fluvoxamine paroxetine sertraline	<ul style="list-style-type: none"> For depression: bupropion, trazodone, mirtazapine For anxiety: buspirone, mirtazapine*
Serotonin-norepinephrine reuptake inhibitors (SNRIs)	desvenlafaxine duloxetine	levomilnacipran venlafaxine	<ul style="list-style-type: none"> For depression: bupropion, trazodone, mirtazapine For anxiety: buspirone, mirtazapine* For neuropathic pain: OTC capsaicin topical or low-dose duloxetine for shortest duration possible
Tricyclic antidepressants	amitriptyline clomipramine doxepin (>6 mg)	imipramine nortriptyline	<ul style="list-style-type: none"> For depression: bupropion, trazodone, mirtazapine For neuropathic pain: OTC capsaicin topical or low-dose duloxetine for shortest duration possible

*Not a comprehensive list; *Off-label; ^For adults with insomnia secondary to comorbid dysthymic disorder

References

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