CalOptima Health

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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), the age-adjusted fall death rate increased by 41% between 2012 and 2021.[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 required, use should be 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 65 years and older with a history of fall or hip fracture.[5] Consider the following alternatives to reduce the risk of falls:

Drug Class	Medications to Avoid[4,5*]		Potential Alternatives[4,5]
Antiepileptics	carbamazepine divalproex ethosuximide felbamate fosphenytoin gabapentin lamotrigine	levetiracetam oxcarbazepine phenobarbital phenytoin pregabalin topiramate valproic acid	• For new-onset epilepsy: newer agents such as lamotrigine and levetiracetam are preferred • For neuropathic pain: 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	• For dementia- or delirium-related behavioral problems: low-dose anticholinergic agents (risperidone¥, 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	• For anxiety: buspirone, mirtazapine¥ • For insomnia: ramelteon, trazodone¥, mirtazapine¥^
Nonbenzodiazepine hypnotics	eszopiclone zaleplon	zolpidem	• For insomnia: ramelteon, trazodone¥, mirtazapine¥^
Selective serotonin reuptake inhibitors (SSRIs)	citalopram escitalopram fluoxetine	fluvoxamine paroxetine sertraline	• For depression: bupropion, trazodone, mirtazapine • For anxiety: buspirone mirtazapine¥
Serotonin-norepinephrine reuptake inhibitors (SNRIs)	desvenlafaxine duloxetine	levomilnacipran venlafaxine	• 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 desipramine doxepin (>6 mg)	imipramine nortriptyline protriptyline	• 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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