

## Medications and the Risk of Falling

### *Which drugs can increase the risk of falls?*

In theory ANY drug that causes one of the following effects can increase the risk of falling:

- Drowsiness
- Dizziness
- Hypotension
- Parkinsonian effects
- Ataxia/gait disturbance
- Vision disturbance

As well, theoretically ANY drug that causes the following effects can increase the risk of a serious outcome if an individual falls:

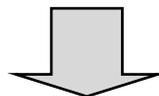
- Osteoporosis or reduced bone mineral density: Increased risk of fracture if a fall occurs
- Bleeding risk: Increased risk of a cerebral hemorrhage if a fall occurs

### *What can be done if you are taking a drug that can increase the falls risk?*

Individualize treatment. Drugs are just one of many factors that can increase the risk of falling.

#### **Assessment: Are you at high risk?**

- Have you had a slip, trip, near fall or fall in the last 6 months?**
- Are you **taking a drug that can cause the effects listed above** (see attached list of drugs)
- Are you taking a **high dose of the drug?**
- Are you **displaying any of the adverse effects listed above**, such as drowsiness?
- Are you over the age of 65? Elderly patients may be more sensitive to adverse drug effects because of alterations in the way that the body absorbs, distributes or eliminates the drug.
- Are you **taking more than one drug that increases the falls risk?**
- Are you at **high risk of falling for other, non-drug reasons?**
- Is it **difficult for you or your doctor to monitor** for an adverse drug effect?



Consider intervention, especially if you have assessed the patient as high risk:

- Consider risk/benefit ratio: Does the benefit of the drug outweigh a possible risk of falling?
- Is there a safer drug or non-drug alternative?
- Is it possible to minimize the dose without losing the benefit of the drug?

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## Examples of drugs that can increase the risk of falling, or of a serious outcome if a fall occurs (and possible mechanisms)

<b>ACE Inhibitors</b> (3)	Methsuximide (1,2,5)	Cyproheptadine	<b>Digoxin</b> (mechanism unknown)	Fentanyl
Benazepril	Oxcarbazepine (1,2,5,6)	Diphenhydramine		Hydromorphone
Captopril	Phenobarbital (1,2)	Hydroxyzine		Meperidine
Cilazapril	Phenytoin (1,2,5,7)	Meclizine		Methadone
Enalapril/enalaprilat	Primidone (1,2)	Promethazine	<b>Eye drops</b> (6)	Morphine
Fosinopril	Topiramate (1,2)	Trimeprazine		Oxycodone
Lisinopril	Valproic acid (1,2,5)			Oxymorphone
Perindopril	Vigabatrin (1,2)	<b>Antipsychotics</b> (1,3,4)	<b>Herbal and Natural health products</b>	Nalbuphine
Quinapril		Chlorpromazine	<b>Natural sleep aids</b>	Pentazocine
Ramipril		Clozapine	<b>Natural products</b>	Propoxyphene
Trandolapril		Flupenthixol	<b>for sexual enhancement</b> (possible adulteration with undeclared drugs)	Sufentanil
<b>Alcohol</b> (1,5)	<b>Antidepressants</b> (1,2,3,6)	Fluphenazine		<b>Proton Pump Inhibitors</b> (9)
<b>Alpha Receptor Blockers</b> (2,3, especially initial doses)	Amitriptyline	Haloperidol		Esomeprazole
Alfuzosin	Bupropion	Loxapine		Lansoprazole
Doxazosin	Citalopram	Methotrimeprazine		Omeprazole
Prazosin	Clomipramine	Olanzapine		Pantoprazole
Tamsulosin	Desipramine	Paliperidone	<b>Metoclopramide</b> (1,2,4)	Rabeprazole
Terazosin	Doxepin	Perphenazine		<b>Sedative/hypnotics</b>
	Escitalopram	Pimozide		<b>Benzodiazepines</b>
	Fluoxetine	Pipotiazine		<b>Barbiturates</b> (1,2,5)
	Fluvoxamine	Prochlorperazine	<b>Muscle Relaxants</b> (1,2)	Alprazolam
	Imipramine	Quetiapine	Baclofen	Bromazepam
	Maprotiline	Risperidone	Carisoprodol	Chloral hydrate
<b>Anticoagulants</b> (8)	Mirtazapine	Thiopropazine	Chlorzoxazone	Clorazepate
Dalteparin	Moclobemide	Thiothixene	Cyclobenzaprine	Diazepam
Danaparoid	Nortriptyline	Trifluoperazine	Dantrolene	Diphenhydramine
Enoxaparin	Paroxetine	Zuclopenthixol	Methocarbamol	Doxylamine
Heparin	Phenelzine 1,2,3		Orphenadrine	Flurazepam
Nadroparin	Sertraline	<b>Corticosteroids, oral</b> (7)	Tizanidine	Lorazepam
Nicoumalone	Tranlycypromine 2,3	<i>Corticosteroids, inhaled, high-dose</i> (7)		Midazolam
Tinzaparin	Trazodone	Beclomethasone	<b>Nitrates</b> (2,3)	Nitrazepam
Warfarin	Trimipramine	Betamethasone	Isosorbide dinitrate	Oxazepam
	Venlafaxine	Budesonide	Isosorbide mononitrate	Pentobarbital
		Cortisone	Nitroglycerin	Phenobarbital
<b>Anticonvulsants</b> (1,2,5,6,7)	<b>Antihistamines, sedating</b> (1)	Dexamethasone	<b>NSAIDs</b>	Temazepam
Carbamazepine (1,2,6)	<i>Cold Medications that contain sedating antihistamines</i> (1)	Fludrocortisone	ASA/acetylsalicylic acid (8)	Triazolam
Ethosuximide (1,2,5)	Azatadine	Fluticasone		Zopiclone
Fosphenytoin (1,2,5,7)	Brompheniramine	Hydrocortisone	<b>Opiates/narcotics</b> (1,2,3)	
Gabapentin (1,2,5,6)	Cetirizine	Methylprednisolone	Alfentanil	<b>Thiazolidinediones</b> (7)
Lamotrigine (1,2,6)	Chlorpheniramine	Prednisolone	Butorphanol	Pioglitazone
Levetiracetam (1,2,5)	Clemastine	Prednisone	Codeine	Rosiglit
		Triamcinolone		

**Possible mechanisms (often unclear):** (1) Drowsiness; (2) Dizziness; (3) Hypotension; (4) Parkinsonian effects; (5) Ataxia/gait disturbance; (6) Vision disturbance; (7) Osteoporosis or reduced bone mineral density increases the fracture risk if a fall occurs; (8) Risk of serious bleeding if a fall occurs. Drugs are listed by generic (chemical) name under each drug group. For Brand (manufacturer's) names, check in the CPS to find the generic name. This list includes only those drugs for which there is evidence of increased risk of falls or their consequences. There may be other drugs that increase this risk in certain patients.