

## DERBYSHIRE JOINT AREA PRESCRIBING COMMITTEE (JAPC)

### Medication and falls prevention in the older person

This guidance is for any member of health and social care staff to use when a patient has had a fall to identify whether the medication the patient is taking is likely to be contributing to falls risk.

Falls may be due to recent medication changes, but are usually caused by medicines that have been given for a long time without appropriate review.

Medicines are just one of many factors that can increase the risk of falling. Others include:

- Motor problems
- Physical problems
- Environmental problems
- Cognitive problems
- Behavioural problems
- Cardiovascular problems
- Neurological problems

Relevant drugs have been graded using a traffic light system according to their potential to cause a fall:

- **RED: High risk – should prompt a referral for a medication review (IN BOLDED CAPITALS for when printed)**
- **AMBER:** Medium risk – should prompt a referral for a medication review after consideration of other risk factors that may have contributed to a fall

**NB any patient with Parkinson's disease is at high risk of falls because of the disease and medication so should be reviewed if falling.**

Patients with a fall in the last year who are taking four or more medicines, of which at least one is graded as medium or high risk should be referred for medication review as soon as possible. That medication review should give consideration to falls risk alongside the patients other medical history.

#### Report to prescriber if:

- falls in last year
- effect of prescribed drug i.e. effect on sleep/behaviour/seizures/pain
- reason for prescription not known
- side effects (see table for likely effects)
- poor compliance

Patients with a fall in the last year taking four or more medicines, where none of those medicines have been graded as medium or high risk should continue to have their medication reviewed as normal.

Drug (*High risk drugs)	Drug class	Effects on falls risk
<b>ALFUZOSIN</b>	Alpha-blockers	Severe orthostatic hypotension, sedating
alimemazine	Antihistamines	Sedating, no evidence of benefit in long term use
amiodarone	Anti-arrhythmics	Bradycardia, other arrhythmias
<b>AMISULPRIDE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>AMITRIPTYLINE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
amlodipine	Calcium Channel Blockers	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue
<b>ARIPIRAZOLE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>ATENOLOL</b>	Beta-blockers	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome
baclofen	Muscle Relaxants	Sedative, reduced muscle tone, tends to be used in conditions associated with falls
<b>BENDROFLUMETHIAZIDE</b>	Diuretics	Dehydration causes hypotension, low potassium can cause fainting & general weakness, low sodium can cause sluggishness and confusion
betahistine	Antihistamines	Sedating, no evidence of benefit in long term use
<b>BISOPROLOL</b>	Beta-blockers	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome
bumetanide	Diuretics	Dehydration causes hypotension, low potassium can cause fainting & general weakness, low sodium can cause sluggishness and confusion
<b>BUPRENORPHINE</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
candesartan	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>CAPTOPRIL</b>	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>CARBAMAZEPINE</b>	Anti-epileptics	Sedation, slow reactions. Excess blood levels cause unsteadiness & ataxia
<b>CARVEDILOL</b>	Beta-blockers	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome
<b>CHLORDIAZEPOXIDE</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
chlorphenamine	Antihistamines	Sedating, no evidence of benefit in long term use
<b>CHLORPROMAZINE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>CHLORTHALIDONE</b>	Diuretics	Dehydration causes hypotension, low potassium can cause fainting & general weakness, low sodium can cause sluggishness and confusion
cinnarizine	Antihistamines	Sedating, no evidence of benefit in long term use
citalopram	Antidepressants (SSRI)	Orthostatic hypotension, bradycardia (rare), impair sleep quality
<b>CLOMIPRAMINE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>CLONAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
<b>CLONIDINE</b>	Centrally acting antihypertensive	Orthostatic hypotension, sedating
<b>CLOZAPINE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>CO-CODAMOL</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
<b>CODEINE</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
<b>CO-DYDRAMOL</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
dantrolene	Muscle relaxants	Sedative, reduced muscle tone, tends to be used in conditions associated with falls
<b>DIAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
digoxin	Anti-arrhythmics	Bradycardia, other arrhythmias
<b>DIHYDROCODEINE</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
diltiazem	Calcium Channel Blockers	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue
donepezil	Dementia medication	Symptomatic bradycardia & syncope
<b>DOSULEPIN</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>DOXAZOSIN</b>	Alpha-blockers	Severe orthostatic hypotension, sedating
<b>DOXEPIN</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>DULOXETINE</b>	Antidepressants (SNRI)	Orthostatic hypotension, bradycardia (rare), impair sleep quality
<b>ENALAPRIL</b>	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
eprosartan	ACE inhibitors/sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
felodipine	Calcium Channel Blockers	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue
<b>FENTANYL</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium

flecainide	Anti-arrhythmics	Bradycardia, other arrhythmias
fluoxetine	Antidepressants (SSRI)	Orthostatic hypotension, bradycardia (rare), impair sleep quality
<b>FLUPHENAZINE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>FLURAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
<b>FOSINOPRIL</b>	ACE inhibitors/sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
Furosemide	Diuretics	Dehydration causes hypotension, low potassium can cause fainting & general weakness, low sodium can cause sluggishness and confusion
Gabapentin	Anti-epileptics	Some data on falls association (sodium valproate & gabapentin) Insufficient data on newer agents
Galantamine	Dementia medication	Symptomatic bradycardia & syncope
<b>GLYCERYL TRINITRATE</b>	Angina medication	Hypotension, paroxysmal hypotension
<b>HALOPERIDOL</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
Hydroxyzine	Antihistamines	Sedating, no evidence of benefit in long term use
<b>IMIPRAMINE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>INDAPAMIDE</b>	Diuretics	Dehydration causes hypotension, low potassium can cause fainting & general weakness, low sodium can cause sluggishness and confusion
<b>INDORAMIN</b>	Alpha-blockers	Severe orthostatic hypotension, sedating
irbesartan	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>ISOCARBOXAZID</b>	Monoamine oxidase inhibitors (MAOIs)	Severe orthostatic hypotension
<b>ISOSORBIDE MONONITRATE</b>	Angina medication	Hypotension, paroxysmal hypotension
Lacidipine	Calcium Channel Blockers	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue
Lamotrigine	Anti-epileptics	Some data on falls association (sodium valproate & gabapentin) Insufficient data on newer agents
Lercanidipine	Calcium Channel Blockers	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue
Levetiracetam	Anti-epileptics	Some data on falls association (sodium valproate & gabapentin) Insufficient data on newer agents
<b>LISINAPRIL</b>	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>LOFEPRAMINE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>LORAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
<b>LORMETAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
losartan	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>METOLAZONE</b>	Diuretics	Dehydration causes hypotension, low potassium can cause fainting & general weakness, low sodium can cause sluggishness and confusion
<b>METOPROLOL</b>	Beta-blockers	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome
<b>MIANSERIN</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>MIRTAZAPINE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>MORPHINE</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
<b>MOXONIDINE</b>	Centrally acting antihypertensive	Orthostatic hypotension, sedating
<b>NICORANDIL</b>	Angina medication	Hypotension, paroxysmal hypotension
nifedipine	Calcium Channel Blockers	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue
<b>NITRAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
<b>NORTRIPTYLINE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>OLANZAPINE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>OLMESARTAN</b>	ACE inhibitors/sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
orphenadrine	Antimuscarinics	Blurred vision, dry eyes, drowsiness, dizziness
<b>OXAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
oxybutynin	Antimuscarinics	Blurred vision, dry eyes, drowsiness, dizziness

<b>OXYCODONE</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
paroxetine	Antidepressants (SSRI)	Orthostatic hypotension, bradycardia (rare), impair sleep quality
<b>PERINDOPRIL</b>	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>PHENELZINE</b>	Monoamine oxidase inhibitors (MAOIs)	Severe orthostatic hypotension
<b>PHENOBARBITAL</b>	Anti-epileptics	Sedation, slow reactions. Excess blood levels cause unsteadiness & ataxia
<b>PHENYTOIN</b>	Anti-epileptics	May cause permanent cerebellar damage and unsteadiness in long term use High levels can cause unsteadiness & ataxia
<b>PRazosin</b>	Alpha-blockers	Severe orthostatic hypotension, sedating
pregabalin	Anti-epileptics	Some data on falls association (sodium valproate & gabapentin) Insufficient data on newer agents
prochlorperazine	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
procyclidine	Antimuscarinics	Blurred vision, dry eyes, drowsiness, dizziness
<b>PROMAZINE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
promethazine	Antihistamines	Sedating, no evidence of benefit in long term use
<b>PROPRANOLOL</b>	Beta-blockers	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome
<b>QUETIAPINE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>QUINAPRIL</b>	ACE inhibitors/sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>RAMIPRIL</b>	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>RISPERIDONE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
rivastigmine	Dementia medication	Symptomatic bradycardia & syncope
sertraline	Antidepressants (SSRI)	Orthostatic hypotension, bradycardia (rare), impair sleep quality
sodium valproate	Anti-epileptics	Some data on falls association (sodium valproate & gabapentin) Insufficient data on newer agents
solifenacin	Antimuscarinics	Blurred vision, dry eyes, drowsiness, dizziness
<b>SOTALOL</b>	Beta-blockers	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome
<b>SULPIRIDE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
<b>TAMSULOSIN</b>	Alpha-blockers	Severe orthostatic hypotension, sedating
telmisartan	ACE inhibitors/sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>TEMAZEPAM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
<b>TERAZOSIN</b>	Alpha-blockers	Severe orthostatic hypotension, sedating
<b>TIMOLOL EYE DROPS</b>	Beta-blockers	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome
tolterodine	Antimuscarinics	Blurred vision, dry eyes, drowsiness, dizziness
topiramate	Anti-epileptics	Some data on falls association (sodium valproate & gabapentin) Insufficient data on newer agents
<b>TRAMADOL</b>	Opiate analgesic	Sedation, slow reactions, impair balance, cause delirium
<b>TRANDOLAPRIL</b>	ACE inhibitors/sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>TRANLYCYPROMINE</b>	Monoamine oxidase inhibitors (MAOIs)	Severe orthostatic hypotension
<b>TRAZODONE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
<b>TRIFLUPERAZINE</b>	Antipsychotics	Can cause orthostatic hypotension sedation, slow reflexes, loss of balance
trihexyphenidyl	Antimuscarinics	Blurred vision, dry eyes, drowsiness, dizziness
trimeprazine	Antihistamines	Sedating, no evidence of benefit in long term use
<b>TRIMIPRAMINE</b>	Tricyclic and related	<b>*Doubles risk of falling*</b> Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision
valsartan	ACE inhibitors/Sartans	Accumulate in dehydration or renal failure, orthostatic hypotension
<b>VENLAFAXINE</b>	Antidepressants (SNRI)	Orthostatic hypotension, bradycardia (rare), impair sleep quality
verapamil	Calcium Channel Blockers	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue
<b>ZOLPIDEM</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use
<b>ZOPICLONE</b>	Hypnotics	Drowsiness, slow reactions, impaired balance (especially if getting up in the night), hangover effects next morning, tolerance to hypnotic effect after 14 days consider stopping/prn use

N.B. This list is not meant to be fully comprehensive but intended to raise awareness of the types of drugs that can contribute to falls. There may be other drugs that increase the risk of falls in certain patients

**Reference:** Care Homes – medication and falls, PrescQIPP, December 2014

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