Drugs contributing to Falls in Elderly Patients - Full Clinical Guideline

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Medications and falls prevention in the older person.

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. Other factors contributing to falls include:

Motor problems, physical problems, environmental problems, cognitive problems, behavioural problems, cardiovascular problems, neurological problems.

Relevant drugs have been graded according to their potential risk to cause fall.

RED: High risk - should prompt a referral for a medication review.

AMBER: Medium risk - should prompt a referral for a medication review after consideration of other risk factors that may have contributed to fall.

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.

CLASS	EXAMPLE OF DRUGS	EFFECT ON FALL	SUGGESTED ACTION
Anti-arrythmics	**Amiodarone** **Digoxin** **Flecainide**	Bradycardia, other arrhythmias	Check lying & standing BP. Review dose & indication. May not be possible to stop.
Alpha-blockers	**DOXAZOSIN** **ALFUZOSIN** **INDORAMIN** **PRAZOSIN** **TAMSULOSIN**	Severe orthostatic hypotension, sedation	Check lying and standing BP. Review indication & dose. They also used for BPH. May not be possible to stop. Consider alternative.
Anti-depressants **Tricyclic** **SSRI** **&** **SNRI**	**AMITRIPTYLINE** **CLOMIPRAMINE** **DOXEPIN** **DOSULEPIN** **IMIPRAMINE** **MIANSERIN** **MIRTAZAPINE** **TRAZODONE** **VENLAFAXINE (SNRI)** **Citalopram** **Fluoxetine** **Paroxetine** **Sertraline (SSRI)**	Doubles the risk of fall (TCA), Orthostatic hypotension, drowsiness, impaired balance, slow reaction times, dizziness, blurred vision	Review indication. Stop if possible. May need to withdraw slowly. Consider changing TCA to SSRI e.g. Citalopram. Consider specialist referral if further advise needed.

Anti-epileptics	**CARBAMAZEIPINE** **Gabapentin** **Lamotrigine** **Levetiracetam** **PHENOBARBITAL** **PHENYTOIN** **Pregabalin** **Sodium valproate** **Topiramate**	Sedation, slow reactions. Excess blood levels cause unsteadiness & ataxia	Review indication & dose. May not be possible to stop. May need specialist review.
Anti-histamines	**Betahistine** **Chlorphenamine** **Cinnarizine** **Hydroxyzine** **Promethazine** **Trimeprazine**	Sedation, no evidence of benefit in long term use	Review indication. Reduce dose or stop if possible.
ACE inhibitors **ARBs II**	**CAPTOPRIL** **ENALAPRIL** **FOSINOPRIL** **LISINOPRIL** **PERINDOPRIL** **QUINAPRIL** **RAMIPRIL** **TRANDOLAPRIL** **Candesartan** **Eprosartan** **Irbesartan** **Losartan** **Telmisartan** **Valsartan**	Accumulate in dehydration or renal failure, orthostatic hypotension	Check lying & standing BP. Review indication & dose.
Anti-muscarinics	**Orphenadrine** **Oxybutynin** **Procyclidine** **Solifenacin** **Tolterodine** **Trihexyphenidyl**	Confusion, blurred vision, dry eyes, drowsiness, dizziness	Review indication. Reduce dose or stop if possible.

Anti-psychotics	**AMISULPRIDE** **ARIPIPRAZOLE** **CHLORPROMAZINE** **CLOZAPINE** **FLUPHENAZINE** **HALOPERIDOL** **OLANZAPINE** **PROMAZINE** **QUETIAPINE** **RISPERIDONE** **Prochlorperazine**	Can cause orthostatic hypotension, sedation, slow reflexes, loss of balance	Review the indication for use. In long term use do not stop without specialist opinion. Avoid in the management of delirium.
Beta-blockers	**ATENOLOL** **BISOPROLOL** **CARVEDILOL** **METOPROLOL** **PROPRANAOLOL** **SOTALOL** **TIMOLOL EYE DROPS**	Bradycardia, hypotension, carotid sinus hypersensitivity, orthostatic hypotension, vasovagal syndrome	Check lying & standing BP. Review indication & dose. May not be possible to stop.
Calcium Channel Blockers	**Amlodipine** **Diltiazem** **Felodipine** **Lacidipine** **Nifedipine** **Verapamil**	Hypotension, paroxysmal hypotension, bradycardia (verapamil & diltiazem), fatigue	Check lying & standing BP. Review indication & dose. May not be possible to stop.
Centrally acting anti-hypertensive	**CLONIDINE** **MOXONIDINE**	Orthostatic hypotension, sedation	Check lying and standing BP. Review indication & dose.
Diuretics	**BENDROFLUMETHIAZIDE** **Bumetanide** **CHLORTHALIDONE** **Furosemide** **INDAPAMIDE** **METOLAZONE**	Dehydration causes hypotension, low potassium can cause fainting & general weakness, low sodium can cause sluggishness and confusion	Check lying and standing BP. Review indication & dose.

For Dementia management	**Rivastigmine** **Donepezil** **Galantamine**	Symptomatic bradycardia & syncope	Review indication. Reduce dose or stop if possible.
Hypnotics	**CHLORDIAZEPOXIDE** **CLONAZEPAM** **DIAZEPAM** **LORAZEPAM** **NITRAZEPAM** **OXAZEPAM** **TEMAZEPAM** **ZOLPIDEM** **ZOPICLONE**	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	Stop if possible. Check with GP. Long term use will need slow withdrawal.
Monoamine Oxidase Inhibitors (MAOIs)	**ISOCARBOXAZID** **PHENELZINE** **TRANYLCYPROMINE**	Severe orthostatic hypotension	Check lying & standing BP. Review indication & dose. May not be possible to stop.
Muscle Relaxants	**Baclofen** **Dantrolene**	Sedation, reduced muscle tone, tends to be used in conditions associated with falls	Review indication. Reduce dose or stop if possible.
Nitrates anti-angina	**GLYCERYL TRINITRITE** **ISOSORBIDE MONONITRATE** **NICORANDIL**	Hypotension, paroxysmal hypotension	Review indication. May not be possible to stop.
Opioid Analgesics	**BUPRENORPHINE** **CODEINE** **DIHYDROCODEINE** **FENTANYL** **MORPHINE** **OXYCODONE** **TRAMADOL**	Sedation, slow reactions, impaired balance, delirium	Review dose. Use analgesic pain ladder to avoid excess use. In older people start with low dose. Long term use will need slow withdrawal.

References

Derbyshire Joint Area Prescribing Committee (JAPC) guidelines January 2020.

Royal Derby Hospital guidelines 2018.

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