
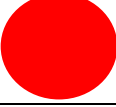









Medication and Falls Risk

Group	Common Drug Names	Contributing Factors	Possible Actions for Prescribers
Sedatives and hypnotics 	Temazepam, diazepam, lorazepam, nitrazepam Zopiclone, Zolpidem, chlordiazepoxide, chloral betaine (Welldorm), clomethiazole	Orthostatic hypotension, sedation which can last into the next day, lightheadedness, slow reactions, impaired balance, confusion	<ul style="list-style-type: none"> Stop if possible Long term use will need slow, supervised withdrawal No new initiation
Antipsychotics 	Chlorpromazine, haloperidol, lithium, promazine, trifluoperazine, quetiapine, olanzapine, risperidone	orthostatic hypotension, confusion, drowsiness, slow reflexes, loss balance. Long term use - Parkinsonian symptoms.	<ul style="list-style-type: none"> Review indication and stop if possible (may need specialist opinion/support) Reduce dose/frequency if unable to stop
Antidepressants 	Tricyclics - amitriptyline, dosulepin (Dothiepin), imipramine, lofepramine Other sedating – trazadone, mirtazepine SnRI – venlafaxine and MAOI SSRI – citalopram, fluoxetine	Double risk of falls Drowsiness, blurred vision, dizziness, orthostatic hypotension, constipation, urinary retention Orthostatic hypotension (OH)	<ul style="list-style-type: none"> Review indication (do not use amitriptyline as night sedation) Stop if possible, may need slow supervised withdrawal Populations studies show increased falls risk with SSRI but mechanism unclear, probably safest class to use
Drugs with anticholinergic side effects 	Procyclidine, trihexyphenidyl (Benzhexol), prochlorperazine, oxybutynin, tolterodine	Dizziness, blurred vision, retention of urine, confusion, drowsiness, hallucinations.	<ul style="list-style-type: none"> Review indication Reduce dose or stop
Drugs for Parkinson's disease 	Co-beneldopa, co-careldopa, rotigotine, amantadine, entacapone, selegiline, rivastigmine.	Sudden daytime sleepiness, dizziness, insomnia, confusion, low blood pressure, orthostatic hypotension, blurred vision.	<ul style="list-style-type: none"> Check L&S BP, drugs and PD itself can cause OH Poorly controlled PD can cause falls It may not be possible to change the medication Do not change treatment without specialist advice
Vestibular Sedatives 	Phenothiazines – prochlorperazine Antihistamines - cinnarazine, betahistine	Movement disorder with long term use Sedating, orthostatic hypotension	<ul style="list-style-type: none"> Do not use long term – no evidence of benefit
Cardiovascular drugs 	ACE inhibitors/Angiotensin-II antagonists Ramipril, lisinopril, captopril, irbesartan, candesartan Vasodilators - Hydralazine Diuretics - bendroflumethiazide, bumetanide, indapamide, furosemide, amiloride, spironolactone, metolazone. Beta-blockers - Atenolol, bisoprolol, carvedilol, propranolol, sotalol Alpha-blockers - doxazosin, alfuzosin, terazosin, tamsulosin	Low blood pressure, orthostatic hypotension, dizziness, tiredness, sleepiness, confusion, hyponatraemia, hypokalaemia Bradycardia, hypotension, orthostatic hypotension, syncope	<ul style="list-style-type: none"> Check L&S BP Review indication, use alternative if possible, especially for alpha blocker Reduce dose if possible <p>Symptomatic OH + LVF – if <i>systolic</i> LVF then try to maintain ACEi and β Blocker as survival benefit clear. Stop nitrates, CCB, other vasodilators and if no fluid overload reduce or stop diuretics.</p> <ul style="list-style-type: none"> Seek specialist advice if needed
Analgesics 	Codeine, tramadol. Opiates – morphine, oxycodone.	Drowsiness, confusion, hallucinations, orthostatic hypotension, slow reactions	<ul style="list-style-type: none"> Start low, go slow, review dose and indication regularly
Anti-epileptics 	Carbamazepine*, phenytoin*, phenobarbitone*, primidone* sodium valproate*, gabapentin lamotrigine, topiramate, levatiracetam, pregabalin	Unsteadiness & ataxia if levels high Phenytoin – permanent cerebellar damage and unsteadiness in long term use Newer agents – insufficient data regarding falls risk	<ul style="list-style-type: none"> Consider indication (many used for pain or mood) May need specialist review *Consider Vitamin D supplements for at risk patients on long term treatment with these drugs

Never stop or withhold medication without agreement from the medical team

Medication and Falls Risk

All patients who present with a fall must have a medication review with modification/withdrawal (NICE CG 161)

Whilst any medication changes will be finally decided by the doctor (GP or consultant) anyone working in falls can help to make this review as useful as possible:

Take a comprehensive list of all medications currently taken (NB this should be what they actually take, not what has been prescribed!). Anyone on FOUR or more medications are at increased risk of falls.

Check the patient's understanding of their medication and how they take them. Consider concordance and compliance aids.

Check lying and standing BP (5 mins lying down, check BP, stand, check BP then every minute for 3 minutes). A drop of 20 systolic or 10 diastolic is abnormal. Record any symptoms experienced and send this in to the doctor who is doing the medication review.

Look for high or moderate risk drugs – see chart and highlight these for the doctor.

Medication review:

- Is it still the right drug? (eg methyl dopa should no longer be used for hypertension)
- Is it still necessary? (eg analgesia given for acute flare OA, now resolved)
- Is it a moderate or high risk drug (see chart)? If so what is the risk/balance ratio?
- Is there a safer alternative?
- Could the dose be reduced? (eg 5mg bendroflumethiazide no significant increase in antihypertensive effects, but significant increase in side effects compared with 2.5mg)
- Should they be on calcium and vitamin D? – Ca and Vit D (800iu daily) reduce falls by up to 20% by improving muscle function and reducing body sway. Consider vitamin D level in patients with falls over age 65 (see pathway for management of deficiency). Consider supplements in all people who fall and are housebound or in residential or nursing homes. Don't forget osteoporosis risk assessment / treatment.

Stopping or reducing medication isn't always easy and requires commitment and understanding by the prescriber and patient. Advice on complex cases is always available from the consultant geriatricians at Ipswich Hospital, in the community sessions or via the Rapid Assessment Falls Clinic.

The attached table is provided as a guide to medication review in falls only. Each patient must be assessed as an individual and the risk/benefit for each drug considered and discussed and a decision made by the prescriber in consultation with the patient.



Higher risk drugs



Moderate risk drugs

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