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Clinical Guidelines Group	
Author/s	Unoma Okoli, Lead Interface Pharmacist – Older People
Contributing Author/s	Seema Gadhia Prescribing Support Pharmacist and Maria Smith, Prescribing Support Pharmacist, Chiltern and Aylesbury Vale CCGs. Approved by Jane Butterworth, Shona Lockie, Medicines Management Approval Committee.
Revising Author/s	Sheena Petal, Medicines Optimisation in Care Homes Pharmacist, Division of Integrated Elderly and Community Care, Buckinghamshire Healthcare NHS Trust
SDU(s)/Department(s) responsible for updating the guideline	Community and Rehabilitation Care Group
Date uploaded	
Buckinghamshire Healthcare NHS Trust	

Medicines and Falls Risk in Care Homes

For prescribers and all staff responsible for administering medications in care homes

Background

Falls don't "just happen", often, more than one underlying cause or risk factor is involved. As the number of risk factors increases, so does the risk of falling. Many falls are linked to a person's physical condition and/or a medical problem. Other risk factors could be hazards in the person's home or community environment.

Some medications can increase a person's risk of falling because of its action or associated side effects like dizziness, sedation, confusion, low blood pressure or postural hypotension. Older people are more vulnerable to the side effects of medications because of age related changes to the liver, kidney, central nervous system, and heart.

Aim or Purpose

- **This serves as a reference guide to raise awareness of medicines that can cause or contribute to falls in older people.**

Key Messages

- 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.
- The more medications a person takes the greater the falls risk. The significance of side effects is likely to increase if people are taking medications with similar side effects.
- The possibility of syncope or near syncope should be considered in unexplained falls.¹ Some medications commonly used in the elderly can cause syncope i.e. Acetylcholinesterase inhibitors (for dementia) and some Antianginals, which would need to be reviewed.²
- It is important to note that falls are multifactorial, and a fall should not be looked at in isolation.⁶
- The risk of having a fall increase with the number of risk factors below. Those with 4 or more risk factors are considered to have the greatest risk of having a fall.
- The most common reasons for medications to cause falls are:
 - **Sedation** leading to impaired balance and slowed responses
 - **Postural hypotension**, which is an abnormal drop in blood pressure on standing up.

Risk factors include Previous falls, poor mobility, muscle weakness, postural hypotension, low blood pressure, sedating medications, balance disorder, dementia or cognitive impairment, visual and hearing problems, and taking greater than 1 unit/day of alcohol.

Recommendations

- Healthcare professionals should review if a resident has had any falls previously and the frequency within the past year. In addition, they should consider the characteristics and the environment of the fall/s.³
- The use of certain medications is known to be a major and modifiable risk factor for falls.⁴ Many falls can be prevented and fall, and injury prevention needs multidisciplinary management.⁵
- There is evidence that these medicines increase falls risk in older adults, referred to as falls-risk-increasing-drugs (FRIDs) and that a structured approach involving a medication review and deprescribing of FRIDs can significantly reduce falls risk.⁶
- Any resident that has had an acute fall should have a medication review by the appropriate clinician aiming to reduce, stop or change any medications that may be causing sedation or having an effect on blood pressure. Frail older people should have personalised targets for their blood pressure control, taking into account their preferences alongside co-morbidities and possible side effects of medications.¹
- Alert the appropriate clinician to any changes in a resident's mobility, balance, coordination or alertness especially following any medication changes.
- Older people who present for medical attention due to a fall, or report recurrent falls in the past year, or establish abnormalities of gait and/or balance should be offered a multifactorial falls risk assessment. This should be offered by a healthcare professional with appropriate skills and experience, usually in the setting of a specialist falls service.³

Multifactorial Falls Risk Assessment⁷:

A resident at risk of falls may be offered an assessment which aims to identify a person's risk factor of falling. It should be an individualised approach dependent upon the resident and may include some of the following:

- Identification and review of falls history
- Assessment of strength, gait, balance and mobility
- Assessment of osteoporosis risk
- Fracture risk review
- Review of visual impairment
- Cognitive impairment review
- Neurological examination
- Review of urinary incontinence
- Review of medication

References

1. British Geriatrics Society. CGA in Primary Care Settings: Patients at risk of falls and fractures, January 2019. <https://www.bgs.org.uk/resources/12-cga-in-primary-care-settings-patients-at-risk-of-falls-and-fractures>

2. Medicines and Falls in Hospital: Guidance Sheet by John Radcliffe Hospital, Oxford, March; 2011 and approved by the British Geriatrics Society.
https://www.bgs.org.uk/sites/default/files/content/attachment/2018-05-22/Falls_drug_guide.pdf
3. National Institute of Health and Care Excellence. Falls in older people – assessing risk and prevention. CG161 June 2013. <https://www.nice.org.uk/guidance/cg161/chapter/Key-priorities-for-implementation>
4. [Bulletin 300: Medication and falls | PrescQIPP C.I.C](#), February 2022
5. [World guidelines for falls prevention and management for older adults: a global initiative](#). Montero-Odasso M, van der Velde N, Martin FC, et al. Age Ageing. 2022;51.
6. National Falls Prevention Coordination Group, Medicines and Falls, Published July 2023.
Authors Dula Alicehajic-Becic: Consultant Pharmacist Frailty, Wrightington Wigan and Leigh NHS Foundation Trust, Heather Smith: Consultant Pharmacist Older People, NHS West Yorkshire Integrated Care Board
7. National Institute of Health and Care Excellence. Multifactorial risk assessment for older people at risk of falling. Quality standard QS86 published 25 March 2015, last updated 31 January 2017. [Quality statement 2: Multifactorial risk assessment for older people at risk of falling | Falls in older people | Quality standards | NICE](#)
8. PrescQIPP. Medication and falls risk classification guide.
<https://www.prescqipp.info/umbraco/surface/authorisedmediasurface/index?url=%2fmedia%2f1206%2fb87-care-homes-medication-and-falls-21.pdf>

A list of most commonly prescribed drugs that can contribute to falls risk is attached.⁸

***Commonly prescribed drugs that can contribute to falls**

This list is to raise awareness of most commonly prescribed drugs that can contribute to falls risk. The grading of the drugs has been adapted from the Medicines and Falls in Hospital: Guidance Sheet by John Radcliffe Hospital, Oxford, March; 2011 and approved by the British Geriatrics Society.²

Key to the table

High risk: can commonly cause falls alone or in combination
Moderate risk: can cause falls especially in combination
Possibly causes fall, particularly in combination

DRUG NAME	COMMON USE	EFFECTS ON FALL RISK
Alfluzosin	Benign prostatic hyperplasia	Postural hypotension.
Alimemazine	Urticaria and pruritus	Drowsiness and blurred vision.
Amitriptyline	Depression	Postural hypotension, drowsiness, slow reactions, impaired balance.
Amlodipine	Hypertension, Angina	Low blood pressure, Postural hypotension.
Atenolol	Hypertension, Angina, Arrhythmia	Low blood pressure, Postural hypotension, slow heart rate
Baclofen	Severe spasticity of voluntary muscle	Sedation and reduced muscle tone.
Bendroflumethiazide	Oedema, Hypertension	Low blood pressure, Postural hypotension and sedation.
Betahistine	Vertigo, tinnitus	Sedation.
Bisoprolol	Hypertension, Angina, Heart failure	Low blood pressure, Postural hypotension, slow heart rate
Bumetanide	Oedema	Low blood pressure, Postural hypotension.
Candesartan	Hypertension, Heart failure	Low blood pressure,.
Captopril	Hypertension, Heart failure	Low blood pressure, Postural hypotension.
Carbamazepine	Epilepsy	Sedation, slow reactions, unsteadiness and lack of movement control.
Carvedilol	Hypertension, Angina, Heart failure	Low blood pressure, Postural hypotension, slow heart rate
Chlordiazepoxide	Anxiety, acute alcohol withdrawal	Drowsiness, slow reactions, impaired balance.
Chlorphenamine	Allergy and urticaria	Drowsiness and blurred vision.
Chlorpromazine	Psychosis	Postural hypotension, sedation, slow reflexes, loss of balance.
Chlorthalidone	Oedema, Hypertension, Heart failure	Low blood pressure, Postural hypotension and sedation.
Cinnarazine	Nausea, vomiting, vertigo, tinnitus	Sedation.
Citalopram	Depression	Postural hypotension, Confusion.
Clomipramine	Depression, phobia	Postural hypotension, drowsiness, slow reactions, impaired balance.
Clonazepam	Epilepsy	Drowsiness, slow reactions, impaired balance.
Clonidine	Hypertension, migraine	Low blood pressure, Postural hypotension and sedation.
Codeine	Opiate analgesic	Sedation, slow reactions, impaired balance, delirium.
Dantrolene	Severe spasticity of voluntary muscle	Sedation and reduced muscle tone.
Diazepam	Insomnia or anxiety	Drowsiness, slow reactions, impaired balance.
Digoxin	Heart Failure	Slow heart rate
Diltiazem	Hypertension, Angina	Low blood pressure, Postural hypotension.
Donepezil	Dementia	Fainting.

Dosulepin	Depression	Postural hypotension, drowsiness, slow reactions, impaired balance.
Doxazosin	Hypertension	Low blood pressure, Postural hypotension.
Doxepin	Depression, pruritus in eczema	Low blood pressure, Postural hypotension, drowsiness, slow reactions, impaired balance.
Duloxetine	Depression, anxiety disorder	Postural hypotension, Sedation, dizziness, confusion.
Enalapril	Hypertension, Heart failure	Low blood pressure, Postural hypotension.
Eprosartan	Hypertension	Low blood pressure,
Felodipine	Hypertension, Angina	Low blood pressure, Postural hypotension.
Fluoxetine	Depression	Confusion.
Fluphenazine	Psychosis	Postural hypotension, sedation, slow reflexes, loss of balance.
Flurazepam	Insomnia	Drowsiness, slow reactions, impaired balance.
Furosemide	Oedema, hypertension	Low blood pressure, Postural hypotension.
Gabapentin	Chronic pain	Postural hypotension, sedation, unsteadiness
Galantamine	Dementia	Fainting.
Glyceryl trinitrate (GTN)	Angina	Postural hypotension.
Haloperidol	Psychosis	Postural hypotension, sedation, slow reflexes, loss of balance.
Hydroxyzine	Puritus	Drowsiness and blurred vision.
Imipramine	Depression	Postural hypotension, drowsiness, slow reactions, impaired balance.
Indoramin	Hypertension	Low blood pressure, Postural hypotension.
Irbesartan	Hypertension	Low blood pressure

DRUG NAME	COMMON USE	EFFECTS ON FALL RISK
Isocarboxazid	Depression	Postural hypotension.
Isosorbide mononitrate	Angina	Postural hypotension.
Lercanidipine	Hypertension	Low blood pressure, Postural hypotension.
Lisinopril	Hypertension, Heart failure	Low blood pressure, Postural hypotension.
Lofepamine	Depression	Postural hypotension, drowsiness, slow reactions, impaired balance.
Lorazepam	Insomnia or anxiety	Drowsiness, slow reactions, impaired balance.
Lortemazepam	Insomnia	Drowsiness, slow reactions, impaired balance.
Losartan	Hypertension, Heart failure	Low blood pressure
Metolazone	Oedema, Hypertension	Low blood pressure, Postural hypotension and sedation.
Metoprolol	Hypertension, Angina, Arrhythmia	Low blood pressure, Postural hypotension, slow heart rate
Mianserin	Depression	Postural hypotension, drowsiness, slow reactions, impaired balance.
Mirtazapine	Depression	Postural hypotension, drowsiness, slow reactions, impaired balance.
Morphine	Opiate Analgesic	Sedation, slow reactions, impaired balance, delirium
Moxonidine	Hypertension	Low blood pressure, Postural hypotension and sedation.
Nicorandil	Angina	Postural hypotension.
Nifedipine	Hypertension, Angina	Low blood pressure, Postural hypotension.
Nitrazepam	Insomnia	Drowsiness, slow reactions, impaired balance.
Nortriptyline	Depression, neuropathic pain	Postural hypotension, drowsiness, slow reactions, impaired balance.
Olanzapine	Psychosis and agitation	Postural hypotension, sedation, slow reflexes, loss of balance.
Olmесartan	Hypertension	Low blood pressure
Oxazepam	Anxiety	Drowsiness, slow reactions, impaired balance.
Oxybutinin	Urinary incontinence	Drowsiness, dizziness and blurred vision.
Paroxetine	Depression	Postural hypotension, Confusion.
Perindopril	Hypertension, Heart failure	Low blood pressure, Postural hypotension.
Phenelzine	Depression	Postural hypotension.
Phenobarbitone	Epilepsy	Sedation, slow reactions, unsteadiness and lack of movement control.
Phenytoin	Epilepsy	Unsteadiness and lack of movement control.
Pramipexole	Parkinson's disease	Delirium and Postural hypotension.

Prazosin	Hypertension	Postural hypotension.
Pregabalin	Epilepsy and neuropathic pain	Sedation.
Prochlorperazine	Nausea, vomiting, vertigo	Movement disorder in long term use.
Promethazine	Allergy and urticaria	Drowsiness and blurred vision.
Propranolol	Hypertension, Angina, Arrhythmia	Low blood pressure, Postural hypotension, slow heart rate
Quetiapine	Psychosis and agitation	Postural hypotension, sedation, slow reflexes, loss of balance.
Ramipril	Hypertension, Heart failure	Low blood pressure, Postural hypotension.
Risperidone	Psychosis and agitation	Postural hypotension, sedation, slow reflexes, loss of balance.
Rivastigmine	Dementia	Fainting.
Ropinirole	Parkinson's disease	Delirium and Postural hypotension.
Selegiline	Parkinson's disease	Postural hypotension.
Sertraline	Depression	Postural hypotension, Confusion.
Solifenacin	Urinary incontinence	Drowsiness, dizziness and blurred vision.
Sotalol	Arrhythmia	Low blood pressure, Postural hypotension, slow heart rate
Tamsulosin	Benign prostatic hyperplasia	Postural hypotension.
Telmisartan	Hypertension	Low blood pressure
Temazepam	Insomnia	Drowsiness, slow reactions, impaired balance.
Terazosin	Benign prostatic hyperplasia	Postural hypotension.
Timolol eye drops	Glaucoma	Postural hypotension, slow heart rate
Tolterodine	Urinary incontinence	Drowsiness, dizziness and blurred vision.
Tramadol	Opiate Analgesic	Sedation, slow reactions, impaired balance, delirium
Tranlycypromine	Depression	Postural hypotension.
Trazodone	Depression, anxiety	Postural hypotension, drowsiness, slow reactions, impaired balance.
Trimipramine	Depression	Postural hypotension, drowsiness, slow reactions, impaired balance.
Venlafaxine	Depression	Postural hypotension, Sedation, dizziness, confusion.
Verapamil	Hypertension, Angina, Arrhythmia	Low blood pressure Postural hypotension.
Zolpidem	Insomnia	Drowsiness, slow reactions, impaired balance.
Zopiclone	Insomnia	Drowsiness, slow reactions, impaired balance.

