

Falls in the older person – Managing medications

Background

Falls are common in older people and can result in considerable morbidity such as hip fractures, reduced functioning and even mortality. Approximately one-third of people aged over 65 years fall each year with the incidence increasing to 60% of nursing home residents.

Of those people aged over 65 years that fall:

- 22-60% suffer injuries
- 10-15% suffer serious injuries
- 2-6% suffer fractures
- 0.2%-5% suffer hip fractures

Fractures resulting from falls are more common in nursing homes and hospitals, with about 10-20% of falls leading to a fracture.

Falls and fall injuries are among the most common causes of decline in the ability to care for oneself and to participate in social and physical activities. Falls can lead to diminished self-confidence and fear of falling again. Falling without a serious injury increases the risk of nursing facility placement by 3-fold after accounting for cognitive, psychological, social, functional, and medical factors. A serious fall injury increases the risk 10-fold.

Risk factors for falls include:

- Previous fall
- Muscle weakness
- Poor mobility/gait
- Balance disorders
- Cognitive impairment
- Polypharmacy (i.e. 4 or more medications)
- Psychotropic drug use
- Visual impairment
- Alcohol >1 unit/day
- Orthostatic hypotension
- Hearing impairment

Increased risk of adverse events

Older persons are at greater risk of adverse events because of changes in drug metabolism or clearance resulting from reduction in hepatic or renal function. In addition, drug interactions leading to adverse reactions (e.g. additive or synergistic side effects) may also be more prevalent in older persons with polypharmacy. Older persons are also more sensitive to the adverse effects of medications.

Review medications regularly

Although falls are usually multi-factorial in aetiology, medications are one of the simplest and most easily reversible risk factors. Patients who have fallen or who are at significant risk of falling should have their medications thoroughly reviewed and consideration given to withdrawing or reducing the dose, as appropriate. Particular attention should be given to older patients taking four or more medications and to those taking medications associated with falls (see table below). If possible, these medications should be avoided if they are not clinically essential. Although it is not always possible to stop a medication associated with an increased risk of falls, it may be possible to manage the risk (refer to table below).

When commencing a medication that may increase the risk of falls in an older person, start with smaller doses (e.g. one-half to one-quarter of the normal adult dose) and titrate slowly. Close monitoring can also help minimise risk. Be alert for signs of sedation, unsteadiness, hypotension or hypoglycaemia.

Educate the patient

It is vital that patients understand the risks of falls associated with their medication. This will allow them to be more actively aware of dangers and modify their behaviour to avoid potential hazards. Patients should be notified of any changes to their medications – new medications and dose increases to existing ones may cause new or amplified adverse effects.

Table: Examples of commonly prescribed medications that increase the risk of falls in the older patient

Medication	Mechanism of causing falls	Strategy for management
Antihypertensives – ACEI, ARBs, β -blockers etc (e.g. cilazapril, losartan, metoprolol)	Decreased blood pressure Increased dizziness	Educate the patient to sit, stand or change position slowly.
Antidepressants (e.g. amitriptyline) Antipsychotics (e.g. quetiapine) Antiepileptics (e.g. sodium valproate)	Postural hypotension Increased dizziness/unsteadiness Sedation	Educate the patient to sit, stand or change position slowly. Educate the patient that they may have decreased alertness. If appropriate take in the evening if these effects are evident.
Corticosteroids (usually at doses equivalent to prednisone 40-60mg/day or above)	Muscle weakness in the arms, legs and neck	Educate the patient that they may develop muscle weakness when starting high-dose or long-term corticosteroid therapy.
Diabetes medications (e.g. insulins, gliclazide)	Lower blood sugar concentrations	Be aware of timing of doses with regard to food to prevent hypoglycaemia.
Diuretics (e.g. frusemide) Laxatives (e.g. Movicol, Microlax enemas)	Frequent/urgent trips to the toilet	Suggest regular opportunities for toileting. Take diuretics in the morning or early afternoon.
Pain medication (e.g. morphine, codeine, oxycodone, tramadol)	Sedation Increased dizziness/unsteadiness	Educate the patient to sit, stand or change position slowly.
Sedatives (e.g. zopiclone, diazepam, lorazepam)	Sedation Increased dizziness/unsteadiness	Educate patient about good sleep hygiene. Let patients know they may feel drowsy.