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Veterans' MATES

Therapeutic Brief

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Medicines: the hidden contributor to falls and hip fractures

Each year in Australia, falls occur in at least 30% of people over the age of 65 years living in the community and 50% of residents in aged-care facilities.[1-3]

The cause of falls in older people is typically multifactorial and the likelihood of falling increases with the number of risk factors present.[4] Medicines are a frequent contributing factor and one of the most modifiable.[4-7]

Research shows that selective serotonin reuptake inhibitors (SSRIs) and opioids more than double the risk of hip fracture, and an SSRI initiated together with a benzodiazepine increases the risk of hip fracture almost five-fold.[6, 8] There are no completely safe antidepressants or hypnotics; they all contribute to falls.

As the patient's GP, you can help reduce the risk of a first or repeat fall in older patients by reviewing their medicines and where possible reducing the dose, or overall number of medicines that increase the patient's risk of falling and hip fracture. Consider other factors that can contribute to falls including previous falls, unsafe home environments and poor balance and leg strength.

The consequences of falling can be devastating

Injuries sustained in a fall requiring hospitalisation commonly include hip fracture and traumatic brain injury (TBI).[9, 10]

Hip fracture contributes to high morbidity and mortality in older people.[11] It is estimated that of those people who experience a hip fracture:

- ONE IN FOUR WILL DIE
  in hospital or in the year after discharge from hospital
- ONE IN TWO WILL EXPERIENCE A MOBILITY-RELATED PROBLEM
  12 months after their injury
- ONE IN TEN WILL BE ADMITTED TO AN AGED-CARE FACILITY
  after discharge from hospital.[11]

Falls are the leading cause of TBI in people aged 65 years and over.[12] In Australia, hospitalisation rates for TBI in older people are increasing by 7% each year.[10]

Older people who fall and remain on the ground or floor for more than an hour are vulnerable to muscle damage, pneumonia, pressure injuries, dehydration and hypothermia. This often leads to a deterioration in health and independence, and increases the likelihood of admission to an aged-care facility.[2]

Inside

Key points

- At least once a year, ask your older patients if they have felt unsteady on their feet or have fallen
- Review your patient's medicines and where possible, reduce the dose or overall number of medicines
- Refer your older patients for a Home Medicines Review (HMR) or a Residential Medication Management Review (RMMR) requesting a focus on falls risk
- Encourage your patients to participate in activities that improve balance and build strength

Which medicines to review

A number of medicines cause adverse effects including drowsiness, dizziness, blurred vision, confusion or postural hypotension that increase the risk of falling.[4, 13] These adverse effects are often linked to the sedative and anticholinergic effects of the medicines.

An Australian study using DVA health claims data found that an increased number, or increased dose of psychotropic medicines, significantly increased the risk of hospitalisation for a fall in older people; using three or four concurrently doubled the risk of hospitalisation.[14]

Older patients commonly use medicines with anticholinergic effects.[15] The anticholinergic load might be unintentionally increased from the cumulative effects of multiple medicines with varying degrees of anticholinergic properties.[4] Older people can be particularly sensitive to anticholinergic effects including cognitive impairment, postural hypotension, incontinence and blurred vision, all of which are independent risk factors for a fall.[2-4]

To find out which medicines have anticholinergic properties and to learn about potential strategies to reduce the load, go to: **www.veteransmates.net.au/topic-39-therapeutic-brief**

The increased risk of falling associated with some of these medicines might be under-recognised. For example, feedback from a previous Veterans' MATES intervention targeting falls prevention indicated that only a small percentage of GP respondents were aware that antidepressants are associated with a falls risk.[16]

Taking an SSRI or an opioid more than doubles the risk of hip fracture

International studies and more recently, an Australian study of the Department of Veterans' Affairs (DVA) veteran population over 65 years, found the risk of hip fracture more than doubled when SSRIs or opioids were initiated and remained high with continuous use (see Figure 1).[6, 8, 17]

The risk of hip fracture was also significantly increased when antipsychotics or hypnotics were used (see Figure 1).[6] An earlier study of DVA data showed that the increased risk of hip fracture was ongoing with continuous antipsychotic use.[18]

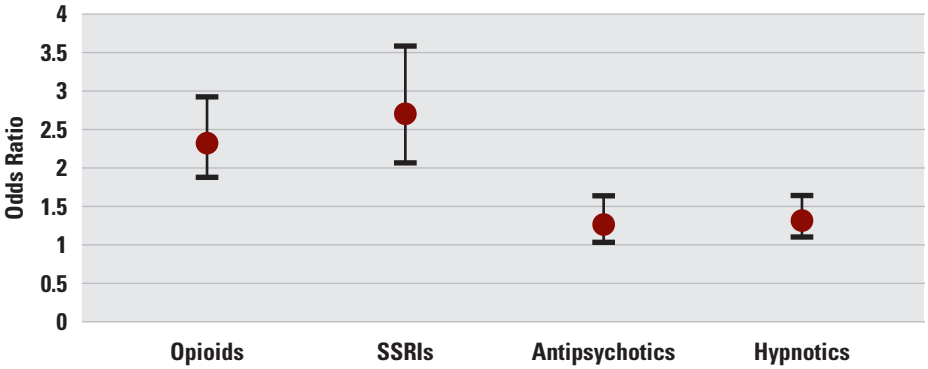

Figure 1: Initiation of commonly used medicines and increased risk of hip fracture[6]

Taking an SSRI in combination with some medicines increases the risk of hip fracture four or five-fold

Some DVA patients might have complex needs and comorbid disorders that require careful treatment planning.[19, 20] Depression, an independent risk factor for falls,[2, 3] is commonly comorbid with other chronic disorders, some of which can also increase the risk of falling. Chronic pain, anxiety disorders, heavy alcohol use, cognitive impairment or memory loss, and cardiovascular diseases are risk factors for falls.[19, 20] SSRIs are commonly used to treat anxiety and depression, and may be co-prescribed alongside other medicines.[6, 21]

An Australian study of the DVA population over 65 years found that:

- an SSRI and a benzodiazepine when initiated together increased the risk of hip fracture almost five-fold
- an SSRI and an opioid when initiated together increased the risk of hip fracture four-fold
- the addition of an antipsychotic to continuous SSRI use more than doubled the risk of hip fracture
- the addition of an opioid or a benzodiazepine to continuous SSRI use increased the risk of hip fracture three-fold.[6]

How to reduce the adverse impact of medicines

Review high risk medicines first and where possible, reduce the dose or taper and cease

When reviewing your older patients' medicines, align decisions with their preferences, treatment goals and current level of function and risks. Explain options and potential outcomes of maintaining or tapering and ceasing medicines.[22]

A Cochrane review found gradual withdrawal of psychotropic medicines as a single intervention reduced the risk of falling by as much as a third.[1]

- If your older patient is taking an SSRI for depression and has had full resolution of symptoms and has been stable long-term, consider tapering and ceasing. For detailed information about when and how to taper and cease an antidepressant, go to: **www.veteransmates.net.au/topic-49-therapeutic-brief**
- If your patient is taking an opioid for chronic pain, consider active self-management strategies and education about how and why their pain might be persisting. Slowly taper and cease the opioid as the patient's ability to regain control and self-manage their daily life increases. For further information about chronic pain, opioid use and how to taper and cease an opioid, go to: **www.veteransmates.net.au/topic-48-therapeutic-brief**
- Antipsychotics might not be the best treatment when managing behavioural and psychological symptoms of dementia (BPSD). For information about non-pharmacological approaches to managing BPSD and how to taper and cease an antipsychotic, go to: **www.veteransmates.net.au/topic-44-therapeutic-brief**
- Consider the requirement for a benzodiazepine. Where possible, avoid starting your older patients on an SSRI and a benzodiazepine together. If a benzodiazepine is necessary, use for a short time (two to four weeks), at a low dose and monitor your patient closely.[13] If your patient has been using a benzodiazepine long-term, consider psychotherapies and slow withdrawal of the benzodiazepine.[23] For information on how to manage benzodiazepine dependence including tapering and ceasing, go to: **www.nps.org.au/news/managing-benzodiazepine-dependence-in-primary-care**

Refer your patient for an HMR or an RMMR

- HMRs and RMMRs with subsequent modification of medicines can be effective in reducing the falls risk.[1] For more information about an HMR, go to: **www.veteransmates.net.au/HMR_Process**
- In the referral to the pharmacist, request a focus on medicines that are associated with a falls risk.

What to talk to your patients about

Identifying and managing as many risk factors as possible can help to reduce the risk of falling, and the injuries sustained from a fall.[24]

Encourage your patients to work with other health professionals to help them stay active, independent and socially connected. Gold and White Card holders might be eligible for DVA funding of services provided by a wide range of health professionals, for which a simple referral is needed, without a requirement for a GP Management Plan or Team Care Arrangement. Details for DVA funded health services are available at: **www.dva.gov.au/health-and-wellbeing/treatment-your-health-conditions**

Their medicines

Explain that some medicines can cause adverse effects that can increase the risk of falling.

- Encourage your patients to report any dizziness, drowsiness, confusion or blurred vision, especially if there have been recent changes to their medicine regimen.[4]
- Ask your patients if they are willing to discuss changes to their medicine regimen if needed.

Previous falls

A previous Veterans' MATES intervention targeting falls prevention found that over a third of respondents had not told their doctor about a fall.[16] Respondents were reluctant to talk about falling, even if they were worried about it, or felt dizzy or unsteady on their feet at times.[16] Falling once is a strong predictor of future falls.[2-4]

- At least once a year, ask your older patients if they ever feel unsteady on their feet, or if they have fallen.
- Reassure them there are many things that can be done to help them stay physically and mentally active and steady on their feet.
- Conduct a simple falls-risk screen (see Box 1) or include one in the 'Health Assessment for people aged 75 years and over' under MBS items 701, 707 or when preparing a GP Management Plan. If the assessment is undertaken in the patient's home by a trained health professional, it provides an opportunity to also assess the environment.[25]

Box 1. Falls-risk screening and assessment tools[2, 3]

There are many falls-risk screening and assessment tools available, but no single one can be recommended for use in all settings, or for all subpopulations within each setting. These tests can be carried out by a trained healthcare professional including a practice nurse, physiotherapist, occupational therapist or GP.

Use a falls-risk screening tool as a simple quick test to initially identify patients who might be at an increased risk of falling. For example, the 'Timed Up and Go test'. It assesses the patient's gait, postural stability and leg strength in one to two minutes. For a more comprehensive assessment, consider a falls-risk assessment tool to identify individual contributing risk factors and to tailor preventive interventions.

For further information about falls-risk screening and falls-risk assessment tools, go to the *Australian Commission on Safety and Quality in Health Care* at: **www.safetyandquality.gov.au/our-work/comprehensive-care/related-topics/falls-prevention**

Balance and strength exercises

Explain to your patients that exercise as a single intervention can significantly reduce the risk of falling.[1, 26, 27] Exercises that include balance and strength movements can be integrated into daily activities. These types of exercises not only reduce the likelihood of falling, but help to prevent injuries resulting from a fall.[26, 28, 29]

- Offer to refer your patients to a physiotherapist or exercise physiologist for a home or community-based exercise program, or a falls and balance clinic in your local hospital. To access a physiotherapist at the *Australian Physiotherapy Association,* go to: **www.physiotherapy.asn.au/APAWCM/Controls/FindaPhysio.aspx** or to access an accredited exercise physiologist at *Exercise & Sports Science Australia*, go to: **www.essa.org.au/find-aep/**
- While Tai Chi is not funded by DVA, this type of exercise has been shown to significantly reduce the risk of falls.[1, 30] Your patients might be able to access classes through a local community centre for a small cost.

Home safety

Explain to your patients that a home safety assessment and modification of hazards can help to maintain independent living.[1]

- Consider referral for a home assessment, especially if your patient has multi-focal or bi-focal glasses, is visually impaired or is at a high risk of falling (dementia or cognitive impairment, advanced diabetes or neurological disorders, such as Parkinson's disease).[2, 3]
- To find an occupational therapist to conduct a home assessment at *Occupational Therapy Australia*, go to: **www.otaus.com.au/find-an-occupational-therapist**
- Home modifications, household adaptive appliances and personal response systems can be provided to eligible veterans through the 'Rehabilitation Appliances Program (RAP) National Schedule of Equipment'. For further information, go to: **www.dva.gov.au/health-and-treatment/care-home-or-aged-care/equipment-and-modifications-you-and-your-home**

Other risk factors

Explain to your patient that other risk factors might be causing them to feel unsteady on their feet.

- Assess and manage your patient's pain, including chronic musculoskeletal, osteoarthritic and foot pain. Chronic pain and foot pain are strong risk factors for falls, and are common in older DVA patients.[31, 32] To better understand chronic pain and how best to manage it, go to: **www.veteransmates.net.au/topic-48-therapeutic-brief**
- A podiatrist can provide advice about appropriate footwear, foot and ankle exercises, customised shoe inserts and falls prevention education.[1] To find a podiatrist at the *Australian Podiatry Association*, go to: **www.podiatry.org.au/find-a-podiatrist**
- Consider and organise mobility aids if needed, with appropriate education on how to use them correctly.[4] DVA can provide equipment to eligible veterans via the 'RAP National Schedule of Equipment' at: **www.dva.gov.au/health-and-treatment/care-home-or-aged-care/equipment-and-modifications-you-and-your-home**
- Consider hip protectors, especially if your patients reside in an aged-care facility; hip protectors can help to reduce the severity of an injury in the event of a fall.[4] They can be provided by DVA to eligible patients via the 'RAP National Schedule of Equipment', page 44.
- Encourage your patients to have their eyesight checked every two years, or more often if there are problems. Remind your patients when using eye drops or eye ointment they can cause blurred vision. For information about eligibility of optical services and supplies for your patient, go to: **www.dva.gov.au/health-and-treatment/injury-or-health-treatments/health-services/optical-services**
- Assess and manage bone health. Osteoporosis is a risk factor for minimal trauma fractures. In Australia, it is estimated that one in four men and two in five women aged 50 years and over experience a minimal trauma fracture.[33]
- Manage depression and alcohol use.[20]
  - For information about managing patients with depression, refer to a previous MATES topic *Achieving best outcomes for depression* at: **www.veteransmates.net.au/topic-49-therapeutic-brief**
  - For strategies to reduce alcohol use, go to: **www.therightmix.gov.au/**

Full reference list available on the website: **www.veteransmates.net.au**

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