

Falls prevention policy position



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Version control

Version	Date	Lead author	Description of changes	Committee approving/ratifying change
1.0	31/01/25	Lawrence Ambrose	Input from SAGs on 'Falls hazards in the home 'Walking aids,' and 'Anti-psychotic medication.'	Approved by Faculty of Podiatric Medicine
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Background on falls and falls prevention

An unexplained fall can be a devastating event for an older adult to endure. The impact of having a fall can change someone's lifestyle, placing a huge strain on the individual as well as on health and social care systems. An unexplained fall in an older person can account for up to 5% of all hospital admissions, increasing with age, cognitive decline (including dementia) and those who have had a previous fall¹. Managing and supporting those who have had an unexplained fall is estimated to cost the NHS £4.4bn a year². While all people who fall are at risk of injury; the age, gender and health of the individual can affect the type and severity of injury, with falls risk doubling after the age of 80 years³.

As people age the sensory systems that enable balance and stability when obstacles are placed in the way - deteriorate and become less effective. Pain, stiffness, and reduced agility contribute to the lack of ability to recover from a slip, trip, or fall and to a higher prevalence of unexplained falls in those over 80 years. Once an initial fall has occurred the chances of reoccurrence increases, often with the individual's confidence declining leading to reduced quality of life measures⁴.

The National Service Framework for Older People has called for health improvement plans to reduce the burden of falls in older people⁵. NICE speak of identifying people at risk of falls for further assessment using falls risk prediction tools.⁶ It is acknowledged that falls in general are not limited to older people, but also people with multiple sclerosis, Parkinson's disease, peripheral neuropathy, heart failure, depression, arthritis, and chronic kidney disease; polypharmacy also increases the risk of unexplained falls.⁷ Although relevant to falls, the focus of this position is on the impact that frailty and ageing has on falls reoccurrence.

Podiatric input to prevent falls

The proprioceptors, located in the joints, muscle and skin enable balance, many of which are in the sole of the foot. Along with muscle spindles and tendon receptors in the lower limb, these mechanisms of perception keep the body responsive to environmental changes whilst walking. As the body ages, the cells involved in proprioception alter in structure and balance function may also alter⁸.

Foot and lower limb strength can impact an individual's ability to balance, specifically, the ability and strength to grip with the digits⁹. Additionally, there is a strong correlation between the speed of walking and the risk of falls, with a lower gait speed increasing the risk factors of an unexplained fall⁹. These strong relationships between foot and ankle complications and falls risk place podiatrists in an ideal position to screen, monitor, and provide intervention for anyone who is identified as having a balance complaint.

Podiatric interventions have been shown to be effective in reducing falls in older people who live in their own homes, although the evidence is less clear for older people who live in residential care¹⁰. Podiatrists provide assessments and interventions that reduce disabling foot pain whilst helping to reduce the risk of falling and helping to increase the strength, mobility and range of motion of the foot. Working independently, or as part of a multidisciplinary team, podiatric assessment and intervention is key to falls prevention.

Podiatric falls interventions

In line with the Office for Health Improvement and Disparities guidance: 'Falls: applying All Our Health,² front line health and care professionals have been identified as being able to impact falls reduction by identifying, monitoring, and recognising risks of a fall.

Evidence shows that podiatric interventions improve balance in older adults. An observational study reviewing podiatric interventions in older people who suffered foot pain showed that those who received multifaceted podiatric interventions experienced 36% fewer falls. The intervention comprised of routine podiatry care, foot and ankle exercises, orthoses, footwear advice, a falls prevention booklet and new footwear¹¹.

Falls hazards in the home

For individuals living alone, the risk of falls may be heightened due to fewer opportunities for immediate assistance and a reduced likelihood of hazards being identified by visitors or carers. Common falls risks in the home include loose rugs, cluttered walkways, poor lighting, and uneven flooring. Bathrooms and kitchens are particularly hazardous due to slippery surfaces; whilst stairs without handrails pose significant dangers. Ensuring that frequently used items are within easy reach and encouraging regular home safety assessments can help mitigate these risks.

Screening

Routine monitoring and screening of patients receiving podiatric interventions enables any deterioration to be reported and acted on before a fall occurs¹². Often podiatric care is provided for patients over a long portion of their lifetime with frequent appointments required to manage complex foot complications. During podiatric assessments, it is valuable to ask patients of all ages whether they have had a fall in the previous 12 months. This allows for monitoring and

benchmarking of wellbeing. Additional falls assessments can then be carried out for any adult who has had a fall or has been assessed as at risk of falling, including sensory testing and balance.

Education and Advice

Podiatrists are able to provide individual education and advice on care needs which can help to minimise falls risk and reoccurrence. This can include liaising with family, social care providers, and other healthcare professionals by highlighting risk factors and discussing potential falls hazards. For those patients receiving podiatric care, the emphasis of discussions should focus on the importance of wellbeing, and prevention of balance-related falls occurring¹¹.

Footwear

Assessment of footwear worn at clinic and at home is an essential part of podiatric intervention for falls prevention. Wearing inappropriate footwear has been linked to a higher risk of falls¹³. The frequency and type of footwear worn indoors can increase the chance of an unexplained fall. Evaluation of the friction of the sole, heel height, presence of a fastening, and cushioning of the shoe can help improve patient comfort, confidence in standing, and increased and assured mobility¹⁴. When required, communication with family and care teams around patient footwear needs can improve choices. Historical schemes, to exchange ill-fitting slippers, have helped to reduce falls among older people by 60%¹⁵. All footwear should have a secure fit, non-slip soles, and adequate support.

Walking Aids

Well maintained walking aids are essential in reducing falls risk. Walking aids, such as sticks and frames, must be checked regularly for wear and tear, particularly the ferrules (rubber tips), which can become smooth and lose grip over time. Walking sticks need to be adjusted to the correct height, ensuring that the user's elbow remains slightly bent when holding the handle. Regular assessments by healthcare professionals can help identify when replacements or adjustments are needed.

Footcare

Painful feet from thickened toenails, hyperkeratosis and joint deformity cause an alteration in strength, range of movement, and loading which in turn impacts balance. Regular podiatric intervention to reduce the presence of these conditions has been shown to significantly improve the comfort for people whilst reducing falls risk^{16,17}.

Foot Exercises

Improving strength through exercise is possibly the most effective way to improve balance. More recently the relevance of foot strength, particularly grip of the hallux and digits has been identified as a significant factor in identifying falls risk. Providing exercises to improve the grip strength of the toes improves digital pressure and gait speed, whilst also improving balance¹⁸⁻²⁰. Simple grip strength of lifting the arch, grabbing a sock with the digits, or balancing on one leg can improve the strength of the foot, whilst also improving general wellbeing and stability¹⁹.

The enhanced paper grip test (EPGT) is a simple-to-use and cost-effective test that can enhance falls risk assessments²¹. The EPGT involves pulling a small card from underneath the participant's foot whilst asking them to grip with their hallux. The EPGT is shown to be effective in detecting foot muscle weakening, but its outcome is operator dependent.

Orthoses

A foot orthosis is an insole placed in the shoe to change and alter function. Podiatrists regularly prescribe bespoke orthoses as well as preformed devices to help patients with an array of complaints. Using orthoses to stiffen the sole of a shoe or alter proprioception with a tactile textured surface has been shown to improve balance and stability, suggesting that there can be a reduction in falls. An individual assessment and gait analysis should be carried out to ensure an appropriate orthoses prescription is issued¹¹.

Anti-psychotic medication

Anti-psychotic medications, particularly first-generation (typical) anti-psychotics, such as Haloperidol and second-generation (atypical) anti-psychotics such as Risperidone, have been associated with gait anomalies and an increased risk of falls. These medications can induce extrapyramidal side effects, including parkinsonism, which manifests as bradykinesia, rigidity, and postural instability, all of which contribute to impaired balance and coordination²².

Additionally, anti-psychotics can cause sedation and orthostatic hypotension, further exacerbating the risk of falling²³. Furthermore, long-term use may contribute to tardive dyskinesia; a movement disorder characterised by involuntary movements that can further disrupt normal gait patterns²⁴. Given these risks, clinicians must carefully weigh the benefits of anti-psychotic therapy against potential mobility impairments, particularly in elderly populations.

Service Provision

It is evident that podiatry has a role in assessment, monitoring, and provision of care for unexplained falls in the elderly. A series of Freedom of Information requests in 2017 revealed that only a small proportion of areas in the UK operate dedicated falls prevention teams, and an even smaller proportion operate a team which includes a podiatrist. Yet it has been shown in a large UK trial that the low cost of providing these types of interventions, compared with the high cost of a fall event, resulted in the podiatric care package being cost-effective, compared to non-intervention¹¹.

Case Study One:

An NHS Fife Falls and Community Therapy Team undertook a weekly clinic for patients identified as being at risk from unexplained falls and requiring a multi-disciplinary assessment in line with NICE clinical guidance. An analysis of the outcomes suggested that two-thirds of patients experienced fewer falls or had not fallen since their attendance.

The podiatrists assessed the patients for structural and functional foot problems including peripheral neuropathy, gait pattern, and evaluated their footwear using a standardised assessment tool. Following the assessment, the podiatrist discussed their findings with the patient and suggested behavioral changes to reduce the risk of further falls. This included obtaining appropriate footwear and self-management of foot complications. The podiatrist was able to signpost the patient to other appropriate services. A multidisciplinary meeting enabled group discussion of patient treatments, ensuring all elements of their needs were met. Each clinician presented their findings to a multidisciplinary meeting where an ongoing treatment plan for each patient was discussed and agreed.



Additionally, the same team delivered Functional Fitness MOT (FFMOT). Testing was performed on a group of patients over 65 years old with a range of long-term conditions (such as diabetes, multiple sclerosis and chronic heart disease) who were at particular risk of falling. FFMOT was designed to initiate behavior change and encourage people to become more active, thus reducing their risk of falling.

A pilot was completed where these patients were referred to podiatry-led exercise classes. Attendees were provided with personalised literature about how physically active/ functionally fit they were and whether they could benefit from increased physical activity, about suitable local activities. In a follow-up study, three-quarters of the group were found to have increased their physical activity levels since attending the testing sessions. Following the success of this activity, the NHS Fife podiatry team has been delivering an element of the FFMOT at different locations within Fife, including supermarkets and health centres.

Case Study Two:

At Hywel Dda University Health Board, a community-based *Safe and Steady Service* was set up to capture and treat individuals reporting a fall, or fear of falling, to a healthcare professional. A multifaceted assessment tool was used to identify those at risk which then led on to a patient specific intervention. This included a review of current medication, lying and standing blood pressures, foot examination and footwear assessment as well as several balance assessments (Timed up and Go, Berg Balance). If clinical intervention was deemed necessary, patients were referred into the relevant service, which included home care assessment, exercise intervention classes, visual assessment, and dementia care. Once their intervention was completed, additional social leisure classes were promoted to maintain wellbeing.

The service was reviewed by assessing patient satisfaction as well as evaluating and auditing the service compliance for each standard in reducing falls as per the NICE guidance⁶.



Significantly more women attended the service than men, with the mean average age being 79 years. From the group, 93% had had a previous fall. Footwear was assessed as unsuitable in 59% of the group with 19 new diagnoses of peripheral neuropathy and a further 19 referrals into vascular teams due to irregular pulse detection. The *Safe and Steady Service* met all the NICE guidelines as well as receiving high patient satisfaction, with 94% stating that they had benefited from the assessment. Falls prevention monitoring is ongoing as the service reflects on the review and looks to implement a broader service provision.

Conclusion

Podiatry as a profession is well placed to screen, monitor and provide interventions for unexplained falls. Prevention strategies are required long before a fall occurs. Engaging in regular conversations with patients receiving podiatric care -covering topics such as footwear advice, general nail and skin care, foot strengthening exercises, and, when appropriate, the use of orthoses - has been shown to be a cost-effective strategy for managing individuals at risk of falling. Implementing falls prevention programmes are an effective way of reducing the burden of disability from a fall as well as economical strain on service provision and reducing secondary care admissions. Podiatrists have a key role to play in the delivery of falls prevention.

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