

## **Prevention of Accidental Falls in Elderly Adult Hospital Patients**

### **Introduction**

Accidental falls among hospital inpatients are the most frequently reported safety incident in NHS hospitals. Between 30-50% of falls result in a physical injury with fractures occurring in 1-3%<sup>11</sup> and are associated with prolonged length of stay, readmissions and poor outcomes. Risk factors for inpatient falls are not dissimilar from community dwelling patients and include aged >85 years, male gender, having had a prior fall, gait instability, cognitive impairment and adverse drug reactions.

### **Education-Based Falls Prevention Programmes**

The use of education-based falls prevention programmes has been the subject of investigation of a large randomised controlled trial of 3606 patients across eight rehabilitation units<sup>8</sup> The results demonstrated a reduction in the number of falls for patients aged >60 randomised to the intervention (196 versus 380). Potential to reduce the number of falls in elderly inpatients through the application of a fall prevention toolkit<sup>4</sup> and a multimedia education intervention<sup>5</sup> has also been demonstrated by randomised controlled trials.

### **Rehabilitation and Exercise**

While exercise-based interventions have been demonstrated to be effective in community-dwelling elderly, evidence relating to the acute care setting is sparse. An RCT of 173 patients with acute hip fracture demonstrated that hospital delivered extended physiotherapy (but not hospital readmissions) was effective in reducing the rate of falls by 25% when compared with standard physiotherapy<sup>2</sup>.

### **Medication Reviews**

Inappropriate prescribing and polypharmacy are known contributory risks for accidental falls in the elderly. As such medication reviews are a widely advocated risk reduction strategy, although supportive evidence is lacking. Evidence from a randomised controlled trial using the STOPP/START medication review screening criteria in hospital patients aged >65 years failed to result in a reduction in falls<sup>6</sup>.

### **Environmental Modifications**

Environmental modification is a strategy widely recommended in many falls prevention programmes. A Cochrane systematic review published in 2012 failed to demonstrate the effectiveness of low bed height in reducing falls in hospital patients<sup>1</sup> It is noted however that the results are based on trials with insufficient power and that further research is warranted. Further randomised controlled trials utilising environmental modifications have also not demonstrated a reduction in falls through the use of bed alarms and bedside chair pressure sensors<sup>12 14</sup>.

### **Multifactorial Interventions**

The effectiveness of tailored multifactorial assessments and interventions has been studied in a number of trials and meta-analysed by the Cochrane Collaboration<sup>13</sup>. It is estimated that such an approach may reduce falls in hospital by 20–30%<sup>3 11 9</sup>. The optimal combination of components however is as yet not clearly defined, although results of a currently ongoing systematic review will hopefully provide more conclusive evidence to guide selection of the most appropriate multifactorial interventions<sup>13</sup>. The effectiveness of targeted multifactorial falls prevention programmes in short stay patients (average 7 days or less) has yet to be established<sup>3 4 11</sup>.

## Conclusion

While it is accepted that not all falls are preventable, they are not inevitable. Approximately 20–30% of falls can be prevented by assessing risks and intervening to reduce potential risks.

**DISCLAIMER:** Results of database and or Internet searches are subject to the limitations of both the database(s) searched, and by your search request. It is the responsibility of the requestor to determine the accuracy, validity and interpretation of the results.

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