

Falls Prevention Guidelines for the Emergency Department

By: The National Ageing Research Institute
(NARI)



July 2007

Funded by:
The Australian Government Department of
Health and Ageing



Australian Government
Department of Health and Ageing

Project team:

- Project Manager - Dr Irene Blackberry (NARI)
- Project Officer – Ms Pauline Galvin (NARI)
- Research Assistant – Ms Amanda Bingham (NARI)
- Project Advisor – A/Prof Keith Hill (NARI)
- Project Advisor – Prof Siaw-Teng Liaw (School of Rural Health, The University of Melbourne)
- Project Advisor – Dr James Taylor (Sandringham and District Memorial Hospital)
- Project Advisor – Ms Melissa Russell (NARI)

Project Steering Committee:

Project team, and:

- Ms Beverley Steer and Ms Samantha Diplock – Australian Government Department of Health and Ageing
- Ms Margaret Thomas – Victorian Government Department of Human Services
- Dr Jane Fyfield – Victorian Government Department of Veterans' Affairs
- Ms Anne McGann – Physiotherapist and Coordinator, Falls and Balance Clinic, Melbourne Health
- Mr Alan Dann – community representative

Contents

Definitions and abbreviations.....	4
Introduction	5
Objectives of the Guidelines	6
Target populations	6
Scope of guidelines	6
Guidelines Development.....	7
Updating the guidelines	7
Implementation of the guidelines	8
Guideline recommendations	9
Good Practice Points	11
References.....	13
Appendix 1	15

Suggested citation:

Falls Prevention Guidelines for the Emergency Department 2007
Developed by National Ageing Research Institute (NARI), for the Australian
Government Department of Health and Ageing.

Related document:

A literature review on falls prevention for older people presenting to Emergency
Departments following a fall: Effective approaches and barriers to best practice.
Report by the National Ageing Research Institute (NARI) to the Australian
Government Department of Health and Ageing (Blackberry et al. 2007).

Definitions and abbreviations

Definitions:

Fall

“A fall is an event which results in a person coming to rest inadvertently on the ground or floor or other lower level” (World Health Organisation)

Level of Evidence

Levels of evidence based on the National Health and Medical Research Council (NHMRC) guidelines were applied to all articles on older people presenting to the Emergency Department following a fall. Selected articles were appraised and rated based solely on their study design.

<i>Level of evidence</i>	<i>Description</i>
I	Evidence obtained from a systematic review of all relevant randomised controlled trials.
II	Evidence obtained from at least one properly designed randomised controlled trial.
III-1	Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation or some other method).
III-2	Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case control studies, or interrupted time-series with a control group.
III-3	Evidence obtained from comparative studies with historical controls, two or more single-arm studies, or interrupted time series without a parallel control group.
IV	Evidence obtained from case series, either post-test or pre-test and post-test.

Also used for the purpose of these guidelines is the term “Consensus Opinion”, which is used to describe evidence based on consensus of expert opinion and the findings of expert working parties (The Victorian Quality Council 2004).

Abbreviations:

ED	Emergency Department
GP	General Practitioner
VQC	Victorian Quality Council
NARI	National Ageing Research Institute

Introduction

About 20% of people attending Emergency Departments (EDs) are aged 65 and over (Close et al. 1999; Bell et al. 2000; Lightbody et al. 2002). Between 17 and 21% of these ED presentations were directly related to falls and falls injuries (Bell et al. 2000; Lightbody et al. 2002). In Victoria at least 10,000 older people present to hospital for fall-related injuries each year with about half being admitted to hospital (Cassell 2001). Australian data from 2002 showed that over 1,300 people aged over sixty died as a result of an accidental fall (Kreisfeld et al. 2004).

Hospitalisations for falls related injuries accounted for just over half the hospitalisation for injuries in those aged sixty-five and older (Cripps and Carman 2001). The average length of stay in hospital due to a fall in this age group was 15.3 days in 2003-04 (Bradley and Harrison 2007).

There is no national data on the number of presentations to an ED due to falls. The indicator used nationally to detail the prevalence of falls related injuries is falls related hospitalisations. The age-standardised rate of hospitalisations for injuries due to falls in Australia for all people aged 65 years and older in 2003–04 was 2,295 per 100,000 population that is, over 60,000 hospitalisations due to falls (Bradley and Harrison 2007). Given the Victorian data on discharge destination from ED (Cassell 2001), we can assume that about the same number are seen in EDs and sent home.

If falls rates remain unchanged, the ageing of Australia's population is likely to result in a tripling of current costs associated with falls in older people by the year 2050. This will result in health costs of \$1,375 million per annum, and the need for an additional 2,500 hospital beds and 3,320 nursing home places, unless effective preventive strategies are implemented (Moller 2003).

There is strong research evidence from randomised controlled trails that demonstrate that falls can be prevented among older people living in the community (Gillespie et al, 2004; Hill et al, 2004). Single intervention approaches that have been shown to be effective include:

- exercise programs that incorporate balance (home exercise, tai chi, group exercise);
- psychotropic medication withdrawal;
- home visits by Occupational Therapists;
- cataract extraction; and
- vitamin D and calcium supplementation.

In addition, falls prevention approaches that combine two or more approaches (multi-factorial programs), usually based on addressing risk factors identified through a comprehensive falls risk assessment process, have been shown to be effective. Evidence from randomised controlled trials also indicates that vitamin D and calcium supplementation can minimise injury by reducing the risk of fractures.

Research indicates that often the focus of Emergency Department staff for an older person who presents after a fall, is appropriate injury management (Close and Glucksman 2000). Only 3.7% of older people presenting to an ED in Canada after a fall were identified as receiving best practice falls prevention care (Salter et al. 2006).

Objectives of the Guidelines

Target populations

These guidelines are for older people (aged 65 years and over or aged 50 and over for people from Aboriginal and Torres Strait Islander communities). The principles may also have applicability to younger people with health problems contributing to a fall causing presentation to an ED.

These guidelines primarily target those presenting to an ED from home, and who are discharged home from the ED (ie not those who are admitted), although the principles in these guidelines could form the basis of assessment and management / documentation / transfer of information etc for those being admitted to hospital as well.

Likewise, the principles in these guidelines should apply to people presenting to an ED from residential care, although the guidelines have not been specifically designed to target this group.

None of the identified studies explicitly included Aboriginal and Torres Strait Islander people. The inclusion age for this group (>50 years old) was based on the age for inclusion in Commonwealth Government funded aged care initiatives, designed to compensate for the lower life expectancy in Aboriginal and Torres Strait Islander people.

Scope of guidelines

The purpose of these guidelines is to provide an evidence based framework for older people who present to an ED to receive appropriate screening, referral and management of their falls risk factors. There is substantial research evidence, that with appropriate identification and management of risk factors, falls can be prevented in high-risk groups (Gillespie et al. 2003; Hill et al. 2004).

Comprehensive use of an evidence based screening tool to identify people at high risk of falling will facilitate referral to health services that can further assess and address modifiable risk factors. The appropriate management and prevention of falls in an older population is likely to reduce the consequences of de-conditioning, fear of falling, fractures, admissions to hospital and nursing home admissions.

Older people who present to an ED after a fall and are discharged home are at high risk of further falls. These guidelines are designed to guide best practice falls prevention actions implemented by staff for older people presenting to

Emergency Departments after a fall, to improve outcomes and reduce the risk of further falls or injuries from falls. They are designed to be used by Emergency Department staff including medical officers, nursing staff, care co-ordinators and allied health staff, to support best practice care and management for older people who may be at high risk of further falls and subsequent injury, possible hospitalisation or entry into supported care as a results of a fall.

Potential health benefits of implementing these recommendations are the reduced risk of falls and injury, hospitalisation and entry into supported care secondary to falls. Additional benefits may include retained quality of life, decreased fear of falling, improved strength balance and function.

Guidelines Development

The National Ageing Research Institute (NARI), an institute with extensive experience in falls prevention research and practice across community, hospital and residential care settings, has developed these guidelines, in conjunction with a steering committee group that includes an ED clinician, representatives of the Australian Government Department of Health and Aging, the Victorian Department of Human Services, the Victorian Department of Veterans' Affairs and a consumer representative. Also involved with the guidelines development are staff at participating EDs where the guidelines are being piloted.

A literature review informed the development of these guidelines. The literature review is available as a separate document. The process utilised for the literature review is outlined in the review document. In short, computerised literature searches were conducted using MEDLINE (Ovid and PubMed) and CINAHL in March 2007. The search strategy included [fall* OR accidental fall*] AND [emergency* OR casual*] AND [old* or age* or elder* or senior or geriatr*] with articles limited to English language, human, and people aged ≥ 65 years.

All articles pertaining to falls prevention for older people who presented to an ED following a fall and were subsequently discharged home, were identified. Articles meeting the inclusion criteria were examined by a member of the project team. Other articles were identified by review of references from selected studies and reviews. Articles known to members of the project team were included if they had not been identified by the search strategies.

Additionally, information from falls prevention guidelines, in particular the Australian Safety and Quality Council guidelines (Australian Council for Safety and Quality in Health Care 2005) and the Victorian Quality Council guidelines (The Victorian Quality Council 2004) were used to inform these guidelines, particularly in areas where the research evidence was limited.

Updating the guidelines

The research evidence base in falls prevention is growing rapidly. There is a need for intermittent review of any guidelines in the context of new research

evidence. The NHMRC recommend that Clinical Guidelines be reviewed every 3 to 5 years. It is therefore, recommended that these guidelines be reviewed and updated in 2010.

Implementation of the guidelines

These guidelines provide framework for EDs to determine areas of current practice which do and do not meet best practice in falls prevention. They need to be considered in the context of other areas of quality care for older people in EDs. There needs to be support for the implementation to maximise likely outcomes, including:

- staff training;
- policies and procedures;
- ongoing review;
- linkage with other falls prevention program (such as within the hospital and the local community).

Guideline recommendations

Recommendation 1. All Emergency Departments should have a policy that outlines procedures for screening assessment, management and referral of older people presenting to Emergency Departments as a result of a fall.

Evidence Level - consensus opinion (Baraff et al. 1999a).

Rationale: A policy outlining procedures for assessment, management and referral will provide clear guidance to staff in the Emergency Department as to expected practice. Without such a policy consistent practice is unlikely.

Recommendation 2. All Emergency Department staff should have an opportunity for orientation training, and ongoing education, which includes falls prevention policy and procedures and research evidence to support this.

Evidence Level - consensus opinion (McInnes et al. 2005)

Rationale: Orientation and professional development that include falls prevention policy are important ways in which the policy is disseminated to staff. Without familiarity with the policy and procedures and the research evidence that supports it, evidence based best practice is unlikely to be consistently practiced (McInnes et al. 2005).

Recommendation 3. An evidence based screening procedure, which identifies older patients presenting to Emergency Departments at risk of future falls, should be implemented independently, or within an overall risk screen.

Evidence Level – consensus opinion (Perell et al. 2001)

Rationale: Use of a falls risk screen to identify high risk patients and to trigger further actions is an important part of clinical practice (Perell et al. 2001). People who have had a recent fall may not have sought medical assistance at the time (Gabell et al. 1985). A presentation at an ED is an important opportunity to establish if the person has had a previous, possibly unreported fall, or has previously unrecognised falls risk factors.

Recommendation 4. All older people with an elevated falls risk should have modifiable falls risk factors addressed.

Evidence Level – II (Close et al. 1999; Davison et al. 2005)

Rationale: Identified falls risks such as poor balance and deteriorating eyesight are able to be addressed either through direct referral by the ED staff to appropriate health services, such as physiotherapy or optometry, or by referral to a health service who will undertake further assessment and / or introduce appropriate intervention or make referrals for these to occur. If other factors contributing to falls risk are evident (for example use of psychotropic medications, or involvement of home hazards in a fall), referrals may be made to address these factors as well.

Recommendation 5. All older people with a high falls risk identified on a screen should have a comprehensive falls risk assessment conducted by a trained practitioner using a validated tool.

Evidence Level – II (Close et al. 1999; Davison et al. 2005)

Rationale: It may not be feasible to conduct a comprehensive falls risk assessment within the context of a presentation to an ED. If this is the case, people with high falls risk should be referred to a health service / practitioner that is able to conduct a comprehensive assessment and make referrals for risk factors that are subsequently revealed. This could possibly involve a nurse or Care Coordinator from the ED, the general practitioner, the Assessment Team, or a community therapist.

Good Practice Points

- 1. The older persons' primary health provider should be informed of the risk screening result and subsequent referrals.**

Follow up of modification of risk factors identified from initial screening and any subsequent assessment, is vital. A persons' primary health care provider, such as General Practitioner (GP) is the key person for ongoing management of identified risk factors. The GP should be alerted to the necessity of ongoing monitoring of falls risk, even when the person is found to be currently at low risk, as falls risk increases with age.

- 2. The Emergency Department should have a clear referral pathway identified for people found to be at high risk of falls or have modifiable falls risk factors.**

The screening and subsequent referrals must be as streamlined as possible for the clinicians in the ED. There should be as little opportunity as possible for system error to impede the appropriate management of falls risk. Strategies such as pre-formatted referral forms can support implementation of the referral process.

- 3. The Emergency Department staff should communicate clearly to patients and their carer/s about the potential benefit and rationale for referrals and intervention recommended to reduce falls risk.**

Clear communication about the reasons referrals are being made and the potential benefits that might ensue is important. This will help patients and their carer/s to take up the falls prevention recommendations being made. Strategies to support the older person in uptake of and longer term participation with falls prevention recommendations are vital.

4. Emergency Departments should review the completion of falls risk screening and referral as part of their routine audit of medical records.

The introduction of guidelines is not in itself sufficient to ensure good implementation (Baraff et al. 1999a; Baraff et al. 1999b). One tool of implementation is the provision of feedback to the group. Conducting an audit of files such as using the audit tool developed (see appendix 1) will provide necessary feedback to identify areas where practice can be improved (McInnes et al. 2005).

References

Australian Council for Safety and Quality in Health Care (2005). Preventing falls and harm from falls in older people. Best practice guidelines for Australian hospitals and residential aged care facilities.

[http://www.safetyandquality.gov.au/internet/safety/publishing.nsf/Content/CC63330AF385C3F2CA25718F000CCC30/\\$File/falls.pdf](http://www.safetyandquality.gov.au/internet/safety/publishing.nsf/Content/CC63330AF385C3F2CA25718F000CCC30/$File/falls.pdf) (accessed April 2007).

Baraff L J, Lee T J, Kader S and Della Penna R (1999a). "Effect of a practice guideline for emergency department care of falls in elder patients on subsequent falls and hospitalizations for injuries." Academic Emergency Medicine **6**(12): 1224-1231.

Baraff L J, Lee T J, Kader S and Della Penna R (1999b). "Effect of a practice guideline on the process of emergency department care of falls in elder patients." Academic Emergency Medicine **6**(12): 1216-1223.

Bell A J, Talbot-Stern J K and Hennessy A (2000). "Characteristics and outcomes of older patients presenting to the emergency department after a fall: a retrospective analysis." Medical Journal of Australia **173**(4).

Blackberry I, Galvin P, Bingham A, Hill K, Russell M, Liaw T and Taylor J (2007). A literature review on falls prevention for older people presenting to Emergency Departments following a fall: effective approaches and barriers to best practice., Report by the National Ageing Research Institute (NARI) to the Australian Government Department of Health and Ageing.

Bradley C and Harrison J E (2007). Hospitalisations due to falls in older people, Australia, 2003–04. Injury research and statistics series. Adelaide, AIHW.

Cassell E (2001). "Prevention of hospital treated fall injuries in older people." Hazard - Victorian injury surveillance & applied research system **48**: 7-12.

Close J, Ellis M, Hooper R, Glucksman E, Jackson S and Swift C (1999). "Prevention of falls in the elderly trial (PROFET): a randomised controlled trial." Lancet **353**(9147).

Close J C and Glucksman E (2000). "Falls in the elderly: what can be done?" Medical Journal of Australia **173**(4): 176-7.

Cripps R and Carman J (2001). Falls by the elderly in Australia: Trends and data for 1998. Injury Research and Statistics Series: Adelaide, Australian Institute of Health and Welfare.

Davison J, Bond J, Dawson P, Steen I N and Kenny R A (2005). "Patients with recurrent falls attending Accident & Emergency benefit from multifactorial intervention--a randomised controlled trial." Age Ageing **34**(2).

Gabell A, Simons M and Nayak U (1985). "Falls in the healthy elderly: Predisposing factors." Ergonomics **28**: 965-975.

Gillespie L D, Gillespie W J, Robertson M C, Lamb S E, Cumming R G and Rowe B H (2003). "Interventions for preventing falls in elderly people." Cochrane Database of Systematic Reviews.(4): CD000340.

Hill K, Vrantsidis F, Haralambous B, Fearn M, Smith R, Murray K, Sims J and Dorevitch M (2004). An analysis of research on preventing falls and falls injury in older people: Community, residential care and hospital settings (2004 update). Canberra, ACT 2601, Australian Government, Department of Health and Ageing, Injury Prevention Section by the National Ageing Research Institute.

Kreisfeld R, Newson R and Harrison J (2004). Injury deaths, Australia 2002. Injury Research and Statistics Series Number 23. Adelaide, AIHW (AIHW cat no. INJCAT 65).

Lightbody E, Watkins C, Leathley M, Sharma A and Lye M (2002). "Evaluation of a nurse-led falls prevention programme versus usual care: a randomized controlled trial." Age Ageing **31**(3): 203-210.

McInnes L, Gibbons E and Chandler-Oats J (2005). "Clinical practice guideline for the assessment and prevention of falls in old people." Worldviews on Evidence-Based Nursing **2**(1): 33-6.

Moller J (2003). Projected costs of fall related injury to older persons due to demographic change in Australia. Canberra, ACT, the Commonwealth Department of Health and Ageing.

Perell K L, Nelson A, Goldman R L, Luther S L, Prieto-Lewis N and Rubenstein L Z (2001). "Fall risk assessment measures: an analytic review." Journals of Gerontology Series A - Biological Sciences and Medical Sciences **56**(12): M761-6.

Salter A E, Khan K M, Donaldson M G, Davis J C, Buchanan J, Abu-Laban R B, Cook W L, Lord S R and McKay H A (2006). "Community-dwelling seniors who present to the emergency department with a fall do not receive Guideline care and their fall risk profile worsens significantly: a 6-month prospective study." Osteoporosis International **17**(5).

The Victorian Quality Council (2004). Minimising the risk of falls and fall-related injuries: guidelines for acute, sub-acute and residential care settings. The Victorian Government Department of Human Services.

World Health Organisation Definition of a fall:., http://www.who.int/violence_injury_prevention/other_injury/falls/en/index.html. accessed May 2007.

Appendix 1

Medical Record Audit Tool: Falls Prevention Guidelines for Emergency Departments

Falls risk screen to be completed for each person aged 65 and over (50 and over Aboriginal and Torres Strait Islander people) that has presented to the ED with a falls related presentation.

Screening tool				
Has the falls risk screening tool been completed?				
Has a falls history been taken?				
Has vision been checked/asked about?				
Has the balance test been administered?				
Has the screen been scored?				
Referral				
Has the person had referrals as a result of the falls risk screen?	Yes	No, score = 0	No, score > 0	No, not completed
<ul style="list-style-type: none"> Vision item 				
<ul style="list-style-type: none"> Balance item 				
If high risk, then				
Has the persons' GP been informed of the outcome of the falls risk screen and of any referrals made?				
Has the person been referred for a falls risk assessment ?				