

Minimising the Risk of Falls & Fall-related Injuries

Guidelines for Acute, Sub-acute and Residential Care Settings

Guidelines



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This document should not be considered prescriptive. Health care staff should work with patient/residents and their families/carers to ensure that the most appropriate care and treatment is provided to the individual. Some flexibility will be required to adapt these Guidelines to specific settings, local circumstances and to individual patient/resident needs.

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- A process model for minimising the risk of falls and fall-related injuries
- Guideline statements relating to the steps in the process model

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- The VQC is developing a generic change and implementation best practice model due to be released before the end of 2004



TOOLS SUPPLEMENT

- Information about tools for minimising the risk of falls and fall-related injuries
- Examples of tools for use with the four steps of the process model



EDUCATION SUPPLEMENT

- Training units and case studies to support the use of the process model
- A table recommending specific units and case studies for different healthcare services job roles



RESEARCH SUPPLEMENT

- Details of the research findings used to support the development of these Guidelines



WARD KIT

- Quick Reference Guide: descriptions of falls risk factors and actions for minimising risk
- Posters: key steps and information from the Guidelines

The following symbols are used throughout the Guidelines Pack.

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Introduction

Minimising the Risk of Falls & Fall-related Injuries Guidelines for Acute, Sub-acute and Residential Care Settings is an initiative of the Victorian Quality Council (VQC).

The development of the Guidelines Pack is one component of a strategic approach to reducing the risk of harm and improving health care quality and safety in Victoria, including: Establishing a Safety and Quality Framework, Providing Access to Better Data, Educating on Safety and Quality and Responding to Known Problems and Risks.

Falls, related injuries and loss of confidence due to fear of falling are common causes of morbidity in Australia. In hospital and residential care settings, the risk of falling is even greater than in the community setting, because of acute illness, increased levels of chronic disease, and different environments and routines.

Research evidence indicates that interventions to minimise falls risk can reduce the risk of falling and fall-related injuries, even in older people with high risk of falling. Staff involved in direct care in hospital and residential care settings have a key role in successful implementation of falls risk minimisation activities.

More information about the consequences and costs of falls and fall-related injuries is given in the Research Supplement.



Purpose of these Guidelines

The purpose of these Guidelines is to assist direct care staff and others responsible for ensuring quality of care, to put in place an effective program for minimising the risk of falls and fall-related injuries. The information provided is based on the best available evidence at the time of publication.

Who these Guidelines are intended for

These Guidelines have been developed for those who deliver, and are responsible for, patient/resident care. This includes clinical, management, corporate and environmental services staff.

Using these Guidelines in the different settings

Although a broadly similar approach may be taken to minimising the risk of falls and fall-related injuries in the different settings, circumstances may call for different strategies in:

- acute and sub-acute hospital settings, and
- hospital and residential care settings.

These Guidelines have been structured as a global resource for use across all three settings, where differences exist, they are identified and described separately.

Use of the terms "patient", "resident" and "client"

For the purpose of this document the term patient refers to both patients and clients in acute and sub-acute settings. Resident has been used to refer to people receiving care in residential care settings.

Using these Guidelines in emergency departments

Forty-five percent of older people who attend a hospital emergency department after a fall are discharged without admission. Emergency department staff have an important role in identifying the ongoing fall risks for these patient/residents, as well as initiating appropriate referrals or interventions that may reduce the risk of future falls and hospital presentations.

These Guidelines may provide a useful framework for staff in emergency departments.

Research findings and levels of evidence

These Guidelines are based on research evidence and, where no formal research evidence exists, on expert opinion and the findings of expert working parties.

Guideline Statements have been identified for the four patient/resident-centred care steps in the process model.

The research methodology is described in the Research Supplement.



Levels of evidence of effectiveness

The evidence for the guideline statements presented in these guidelines was systematically assessed and classified according to the National Health and Medical Research Council's (NHMRC) Guide to the Development, Implementation and Evaluation of Clinical Practice Guidelines⁽¹⁾.

Levels of evidence of effectiveness describe the strength of the research evidence supporting each recommended strategy to reduce the risk of falls or fall-related injuries. From strongest to weakest, the levels of evidence used for the Guideline Statements in this document are shown in the following table:

Table 1. Levels of evidence used for the Guideline Statements

Level of evidence	Description
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.

For the purposes of this project, the term Consensus Opinion has been used to describe evidence based on consensus of expert opinion and the findings of expert working parties.

Definition of a “fall”

For the purposes of these Guidelines, a fall is defined as:

A sudden, unintentional change in position causing an individual to land at a lower level, on an object, the floor, the ground or other surface ^[2].

This includes:

- slips
- trips
- falling into other people
- being lowered
- loss of balance
- legs giving way.

If a patient/resident is found on the floor, it should be assumed that they have fallen unless they are cognitively unimpaired and indicate that they put themselves there on purpose.

It is recommended that a common definition is adopted for use across health services and within a specific setting.

For further definitions of a fall see the Research Supplement.



Falls risk factors

Falls risk factors are characteristics or behaviours that make it more likely that a patient/resident will fall. Falls risk factors can broadly be considered as:

Personal (intrinsic) risk factors relate to health problems that increase the patient/resident's risk of falling.

Environmental (extrinsic) risk factors relate to hazards in the environment that increase the patient/resident's risk of falling (eg bed brakes not locked). These risk factors have been sub-divided into:

- Individual environmental risk factors — related to hazards in the patient/resident's immediate area

- General environmental risk factors — related to hazards that are outside the patient/resident's immediate area, but in places where the patient/resident goes at times (eg corridors, therapy areas).

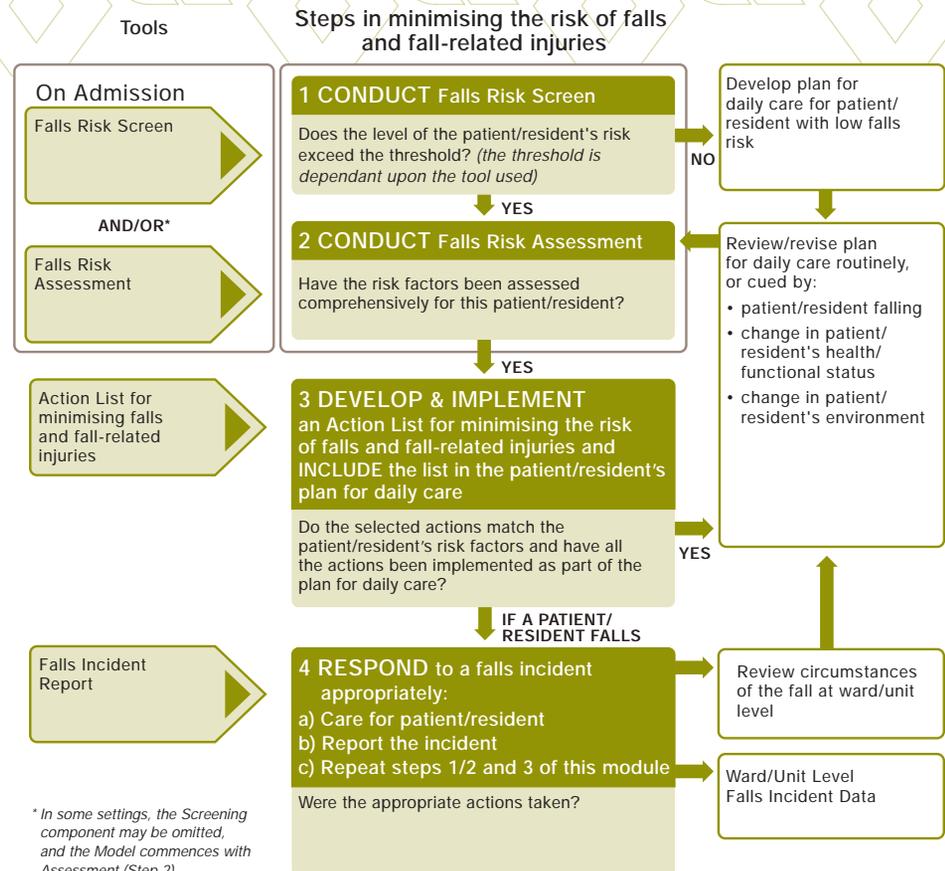
The interaction between the individual and their environment can be considered a third type of risk factor — also called **behavioural** risk factors. The nature of the activities performed (how difficult or tiring they are) and the way patient/residents perform them (safely or not) will influence their risk of falling.

Process model for minimising the risk of falls and fall-related injuries

About the process model

The process model

- presents four steps for assessing and managing patient/residents to minimise their risk of falls and fall-related injuries, and
- identifies tasks and products that result from carrying out the steps.



The four patient/resident centred care steps

The four steps are integral to an effective program to minimise the risk of falls and fall-related injuries in hospitals and residential care settings.

The four steps are:

Patient/resident centred care step	Description
Screening	Identifying patient/residents who are at greatest risk of falling and in need of more detailed assessment.
Assessment	Identifying the falls risk factors that contribute to the patient/resident's overall risk of falls and fall-related injuries.
Intervention	Developing and implementing an individualised Action List aimed at reducing the risk of falls and fall-related injuries.
Appropriate response if a fall occurs	The appropriate response to a falls incident includes caring for the patient/resident and ensuring that the incident is reported and documented.

Tools for use with the steps

The Tools Supplement includes a selection of tools that can be used for these steps.

The term **Tools** refers to a range of support documentation and resources used in implementing programs to minimise the risk of falls and fall-related injuries. These include:



- falls risk screening tools
- falls risk assessment tools
- environmental audits (both individual and general)
- falls incident report
- patient/resident information resources
- list of medications associated with increased falls risk
- Victorian Coroner's Standard for Investigation (of falls related deaths)
- cognitive impairment tests, and
- falls incident data management framework (Excel file).

Patient/resident
centred care steps

The patient/resident centred
care steps

Step 1: Conduct falls risk screen

Definition

Falls risk screening refers to a brief (often less than 5 items) check to identify patient/residents who are at risk of falling. These patient/residents need to have a more detailed assessment of their falls risk carried out.

GUIDELINE STATEMENT FOR STEP 1

Conduct a falls risk screen as the minimum process for identifying clients who are at risk of falling.

Level of evidence: Consensus Opinion ^[3].

Patient/resident centred tasks for Step 1

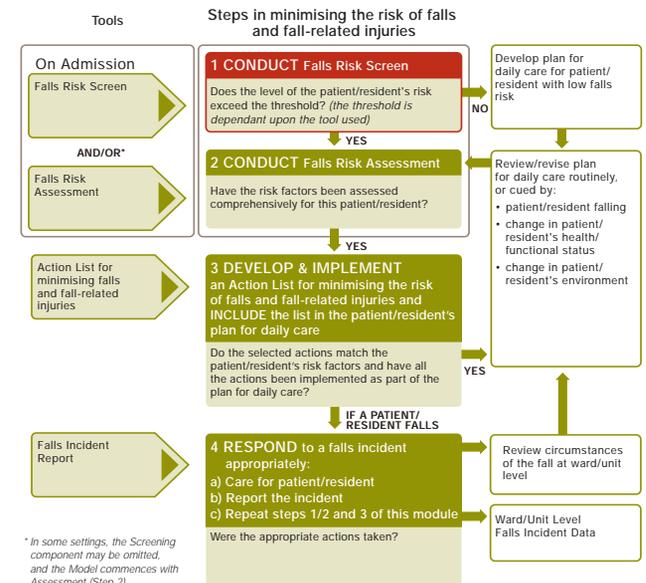
- a) Conduct a falls risk screen on all patient/residents who are not part of high falls risk populations.

Screening may not be required in settings where most patient/residents are considered to be at risk of falling (eg dementia specific wards in residential care). In these settings, and for all patient/residents in high falls risk populations, proceed directly to Step 2.
- b) Conduct a falls risk screen at the following times:
 - o on admission, or as soon as practicable after admission
 - o when a patient/resident is transferred from one ward or department to another
 - o if there is a change in a patient/resident's health or functional status
 - o if a patient/resident has a fall, and
 - o as part of discharge planning.

- c) Use a recognised tool. 
- d) Document the results and include in the patient/resident's permanent file/medical record/residential care file.
- e) Carry out a falls risk assessment (Step 2) for:
 - o patients/residents whose risk of falling exceeds the threshold
 - o patients/residents who are in high falls risk populations* (eg patient/residents with neurological dysfunction)

OR

 - o refer the patient/resident for assessment as soon as practicable.



High falls risk populations

Studies in hospital and residential care settings have identified high falls risk populations to include patient/residents with the following:

- o a history of falls, falls with injury, or fall related fracture
- o neurological conditions such as stroke and Parkinson's disease
- o cognitive problems such as dementia or delirium
- o depression
- o lower limb (leg) arthritis
- o acute infections such as urinary tract infection, chest infections
- o haematological/oncology conditions, or
- o visual impairment.

Organisational tasks for Step 1

- a) Select an appropriate tool.



- b) Provide staff education and training on the purpose and use of the tool.
- c) Audit the use of the tool for compliance with relevant policy.

Rationale for Step 1

- The risk of falling and related injury increases with age ^[4] and increased unsteadiness ^[5].
- Falls occur more commonly in the period immediately following a transition between settings ^[6].
- Increased length of stay in a hospital setting increases falls risk ^[7].
- Falls risk is ongoing. The patient/resident should be reviewed as part of an ongoing process ^[8].

Differences in implementing Step 1 across the three settings

Acute Care

- In an acute setting, the patient's health status is likely to change rapidly, and falls risk screening should be repeated on a regular basis (eg daily or weekly) or when clinical judgement indicates that there is a change in the patient's health/functional status.
- In emergency departments, falls risk screening could be used to determine whether falls risk assessment should be completed by hospital staff, and/or whether referrals should be made to community agencies.

Residential Care

- Falls risk screening may be less relevant in many high care residential settings, because most residents are likely to exceed the falls risk threshold. In this situation a falls risk assessment should be completed on all residents (Step 2).

Step 2: Conduct falls risk assessment

Definition

Falls risk assessment is a systematic and comprehensive process to identify an individual patient/resident's risk factors for falling.

A patient/resident's level of risk of falling and fall-related injury is a combination of:

- the severity of each risk factor (which can vary from nil to very high)
- the importance of that risk factor (some risk factors have a stronger association with the risk of falls and fall-related injuries than others), and
- the number of risk factors.

There is a direct relationship between a patient/resident's level of falls risk and their probability for falls.

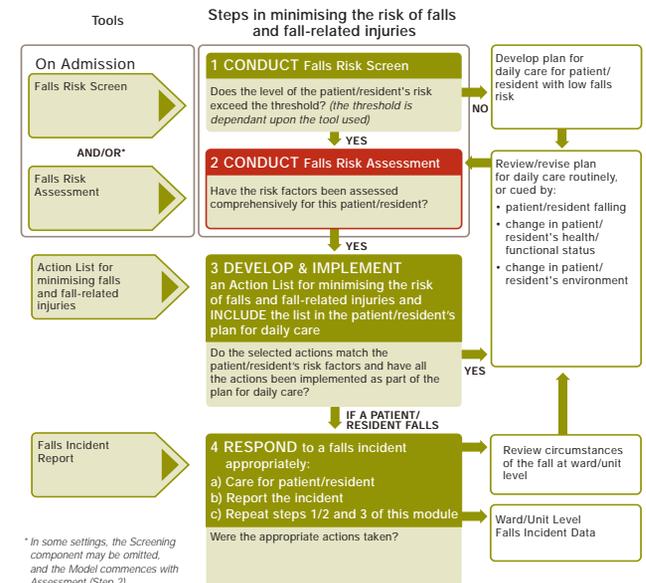
GUIDELINE STATEMENT FOR STEP 2

Conduct a falls risk assessment for each patient/resident who is identified as being at risk of falling.

Level of evidence: II [9, 10, 11].

Patient/resident centred tasks for Step 2

- Assess the following patient/residents for falls risk:
 - patient/residents whose level of falls risk exceeded the screening threshold (Step 1)
 - all patient/residents in high falls risk populations; and
 - all patient/residents in settings where most patient/residents are expected to have a high falls risk (eg dementia specific residential care units).
- Assess or reassess a patient/resident's falls risk at the following times:
 - as soon as practicable after admission
 - if there is evidence of change in the patient/resident's health/functional status
- when the patient/resident's environment is changed (eg a patient/resident moves to another room, ward or setting, or new equipment is used)
- when the patient/resident's treatment is changed (eg different drug(s) prescribed)
- when the patient/resident has a fall
- when a patient/resident is discharged/transferred from one setting to another, either within the same organisation or to a different organisation
- as part of a routine review, and
- at other times as required by your organisation's policy.
- Use a recognised tool to carry out the assessment.



- Identify and describe all factors that contribute to the patient/resident's risk of falling and fall-related injuries.

These include:

- the patient/resident's personal risk factors, and
 - risk factors in the patient/resident's individual environment.
- Record the level of risk and the identified risk factors (both personal and individual environmental) in the patient/resident's permanent file/medical record/residential care file.
 - Proceed to Step 3 to determine actions to address the risk factors you have identified.

Organisational tasks for Step 2

- a) Select an appropriate tool (falls risk assessment and individual environmental audit).
- b) Provide staff education on the purpose of the tool and training in its use.
- c) Audit the use of the tool for compliance with relevant policy.

Rationale for Step 2

- Falls are usually caused by a number of risk factors,^[12] which vary between individuals, and change over time^[7].
- Falls occur more commonly in the period immediately following a transition between settings^[6, 8].
- The risk of falling and related injury increases with age^[4], and increased unsteadiness^[5].
- Increased length of stay in a hospital setting increases falls risk^[7].
- Falls risk is ongoing. The patient/resident should be reviewed as part of an ongoing process^[8].
- Risk factor status changes over time, so there may be a gap between needs and services. This gap may be indicated by a change in the patient/resident's health or a fall^[13].
- Between 10% and 50% of falls in hospitals and residential care facilities involve an environmental hazard^[5, 7, 14].
- Over half of the falls in hospitals and residential care facilities occur around the bedside^[7, 10].

Differences in implementing Step 2 across the three settings

Acute Care

- In an acute setting, a patient/resident's health status and treatment may change frequently. Because of this re-assessment may need to be carried out as often as staff shift changes, the tool used should be relatively short and quick to complete.
- Although allied health staffing levels may be more limited in acute hospital settings than sub-acute settings, a multidisciplinary approach to falls and fall-related injury risk minimisation is still possible and desirable.

Sub-acute and Residential Care

- A team may carry out components of falls risk assessments rather than one staff member. For example, the PJC-FRAT is a multidisciplinary tool used in the sub-acute setting, where:
 - a medical officer assesses fall history, medical condition and medications
 - a nurse assesses continence status
 - a physiotherapist assesses transfers and mobility status, and
 - an occupational therapist assesses functional activities (bathing and dressing).
- If a multidisciplinary team is involved in the falls risk assessment, responsibility for ensuring timely completion of the assessment should be given to one staff member.
- Direct care staff can assist by gathering information for the assessment.

Personal risk factors identified in the literature

A number of falls risk factors relating to a patient/resident's health status and characteristics have been identified in the literature. These are known as personal risk factors (refer to the Research Supplement for more detail about personal risk factors).



There may be a number of possible causes for each risk factor, and an important element of the falls risk assessment process for a patient/resident is to identify the cause/s of the risk factors identified (which may often require medical and other health professional assessment).

Some causes may be modifiable (where the medical condition that is the cause of the risk factor is able to be improved with treatment), while others may be non-modifiable (often associated with chronic or degenerative health problems). Even for non-modifiable causes of falls risk factors, treatment can help to reduce the magnitude of the effect of the risk factor (for example, for a patient/resident with Parkinson's disease, exercise can help to improve steadiness during walking even though the exercise does not affect the underlying disease). Actions to minimise risk of fall-related injury should also be implemented for patient/residents with non-modifiable causes of personal falls risk factors.

The personal risk factors for falls and some examples of modifiable and non-modifiable causes are summarised in Table 2.

Table 2. Personal Risk Factors

Personal risk factor	Example of a modifiable cause	Example of a non-modifiable cause
Leg muscle weakness and deconditioning	<ul style="list-style-type: none"> ○ proximal myopathy (eg osteomalacia) ○ reduced physical activity 	<ul style="list-style-type: none"> ○ polio
Poor balance/unsteadiness in walking	<ul style="list-style-type: none"> ○ balance and mobility problems after ankle ligament injury or joint replacement surgery 	<ul style="list-style-type: none"> ○ Parkinson s disease
Multiple medications, or use of medication associated with falling	<ul style="list-style-type: none"> ○ some medications may be reduced or ceased without harm 	<ul style="list-style-type: none"> ○ medication associated with an increased risk of falling for which there is no suitable substitute
Incontinence	<ul style="list-style-type: none"> ○ reduced detrusor muscle control 	
Postural hypotension	<ul style="list-style-type: none"> ○ medications that can cause postural hypotension ○ dehydration 	
Loss of confidence/fear of falling		
Poor condition of feet and inappropriate footwear	<ul style="list-style-type: none"> ○ bunions, calluses, flattened transverse arch inappropriate or worn shoes, slippers 	<ul style="list-style-type: none"> ○ toe amputation
Poor nutritional status	<ul style="list-style-type: none"> ○ reduced intake from difficulty chewing due to poor fitting dentures 	
Cognitive impairment (confusion, poor planning and monitoring, reduced memory)	<ul style="list-style-type: none"> ○ delirium 	<ul style="list-style-type: none"> ○ dementia
Sensory loss: <ul style="list-style-type: none"> ○ Vision ○ Vestibular ○ Somatosensory ○ Hearing 	<ul style="list-style-type: none"> ○ cataracts ○ benign paroxysmal positional vertigo (BPPV) ○ vitamin B₁₂ deficiency ○ excessive wax, hearing aid not being used properly 	<ul style="list-style-type: none"> ○ macular degeneration ○ vestibular toxicity ○ diabetic neuropathy ○ sensory neural deafness
Factors contributing to history of previous falls	<ul style="list-style-type: none"> ○ would need to investigate the causes of previous falls 	<ul style="list-style-type: none"> ○ history of previous falls.

Full descriptions of these personal risk factors and actions for risk minimisation are provided in Step 3.

Individual environmental risk factors identified in the literature

Individual environmental risk factors related to the patient/resident's immediate environment include the following:

- inappropriate bed or chair height
- inappropriate type of bed or chair
- brakes on bed/chair either not on, or broken
- call bell left out of reach
- walking aids out of reach
- walking aids not in good condition
- walking aids not used properly
- brakes on wheelie frame/wheelchair broken or not used properly
- IV drip stands, power cords etc. not positioned properly
- slippery surfaces
- loose floor coverings (eg rugs)
- clutter
- hoists/lifting machines left in rooms or corridors
- inadequate lighting (poor lighting, lack of night lights, or excessive sun glare)
- inadequate rails/supports where required (eg toilets/bathrooms), and
- restraints/cotsides (use of restraints/cotsides can increase the risk of injury associated with falls).

Full descriptions of these individual environmental risk factors and actions for risk minimisation are provided in Step 3.

Note:

The personal and individual environmental risk factors described in this Step are only the starting point of assessment. Their presentation may vary in individual patient/residents, or individual patient/residents may have risk factors that are not included in these lists.

Step 3: Develop and Implement an Action List

Definition

An Action List for minimising the risk of falls and fall-related injuries is a list of strategies to address risk factors that were identified by the falls risk assessment (Step 2).

GUIDELINE STATEMENT FOR STEP 3

Develop and Implement Action List for minimising the risk of falls and fall-related injuries, include in patient/resident's plan for daily care.

Level of evidence: II [9,10,11]

Patient/resident centred tasks for Step 3

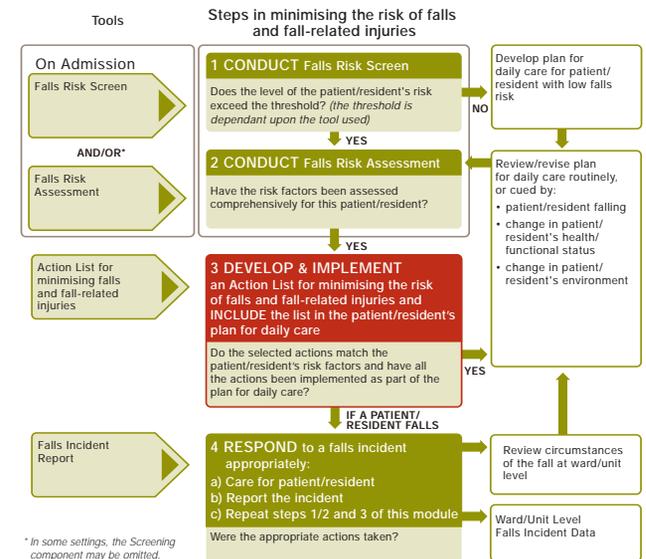
- Determine which personal risk factors identified in Step 2 have causes that are modifiable.
- For each personal risk factor with a modifiable cause, determine actions to minimise the risk of falls and fall-related injuries.
- Determine appropriate actions to manage risk factors that are non-modifiable.
- For patient/residents with high overall falls risk, determine additional actions to minimise overall risk. Some tools include a description of these actions.
- Determine how often these actions should be carried out, by whom and at what point in time.
- Either document all the actions in an Action List, or delegate this task to another staff member, as determined by your organisation's policy.
- Include the identified risk factors and the Action List in the patient/resident's documentation including:
 - plan for daily care



- permanent file/medical record/residential care file, and
 - discharge summary.
- Implement Action List as indicated.

Organisational tasks for Step 3

- Provide information and required resources to staff, to enable them to develop and implement the Action List. Examples which may be endorsed and supported from an organisational level include:
 - improved capacity for observation of high risk patient/residents. This may involve restructuring of work practice (eg changes to showering routines) or purchase of equipment (eg bed/chair alarms), or
 - policies for discharge planning, which include communication of falls risk information to those involved in ongoing care.
- Decide how the Action List should be integrated into the patient/resident's plan for daily care.



* In some settings, the Screening component may be omitted, and the Model commences with Assessment (Step 2)

- Provide staff education and training in developing and implementing an Action List.
- Audit the implementation of Action Lists.
- Ensure regular general environmental audits are undertaken and actions implemented.

Rationale for Step 3

- A targeted falls prevention program based on the findings of a falls risk assessment has been shown to reduce falls in residential care and hospital settings ^[9, 10, 11].
- Modification of the individuals environment can reduce falls risk ^[15].
- Falls are usually caused by more than one falls risk factor, so multi-factorial interventions targeting all identified risk factors are likely to be more effective than single interventions ^[16].
- Falls risk factors may present differently in individual patient/residents. These differences can be determined through individual assessment and management of each of the risk factors ^[13].

Differences in implementing Step 3 across the three settings

Acute Care

- Because the time spent by patients in this setting is usually short, the approach may emphasise preventative actions such as enhanced supervision of patients activities and environment.

Sub-acute and Residential Care

- For patient/residents receiving longer-term care, there may be greater emphasis on behaviour modification and improving functions for daily living.

ACTIONS FOR MINIMISING PERSONAL RISK FACTORS

Table 3 outlines actions to minimise the impact of each of the personal risk factors for falls, to assist in developing an Action List. The research evidence clearly supports a multifaceted approach, where multiple actions are introduced to address the full range of personal risk factors identified.



Many of the actions listed in Table 3 have been identified in the research literature, and further details supporting these actions are provided in the Research Supplement.

In addition, a number of actions, which should be considered part of standard care for all patient/residents, can reduce the risk of falls and fall-related injuries. These include:

- identifying causes of the risk factor (medical or allied health referral)
- ensuring safety (adequate supervision, communicate mobility status to all staff, use of appropriate walking aid)
- ensuring safe and uncluttered environment
- keeping call bell and other personal items within reach
- orientating patient/resident to area, and
- identifying and addressing individual patient/resident s needs.

Table 3. Actions for Minimising Personal Risk Factors

Personal Risk Factor **LEG MUSCLE WEAKNESS AND DECONDITIONING**

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Effort associated with standing up from a chair, needing to use arms to push up when standing up <p>What contributes to the risk? Extended bed rest and diminished activity and exercise</p> <p>Vitamin D deficiency</p> <p>Other medical problems such as renal failure and thyroid disease</p>	<p>Activities and exercise</p> <ul style="list-style-type: none"> ○ Encourage safe incidental activities (activities that are part of daily living) to maintain muscle mass, balance, strength and mobility (eg walking, transferring, dressing, bathing) ○ Encourage the patient/resident to participate in exercise or activity groups, or an individual exercise program ○ Develop a routine for physical activity and monitor the patient/resident progress ○ Incorporate physical activity goals in the patient/resident's plan for daily care <p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident to medical review to assess possible medical factors contributing to muscle weakness ○ If necessary, refer to a physiotherapist, occupational therapist, or activity therapist for assessment and recommended actions 	<ul style="list-style-type: none"> ○ Ask the patient/resident's family and friends to encourage the patient/resident to carry out the activities ○ Explore the physical interests and recent activities undertaken by the patient/resident before admission ○ Provide additional assistance when the patient/resident is tired or hurried (eg in a rush to go to the toilet). Discuss this need for assistance with the patient/resident and their family and friends ○ Seek advice from a physiotherapist about safe exercises and activities the patient/resident can perform on their own, or with supervision ○ For patient/residents limited to bed rest, ask a physiotherapist about appropriate bed exercises for the patient/resident ○ Seek advice from an occupational therapist about aids/appliances to increase the patient/resident's opportunities for independent activity. <p>○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach</p>

Personal Risk Factor POOR BALANCE AND UNSTEADINESS IN WALKING

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Unsteady/veering during transfers or walking, experiencing near falls ○ Reaching for walls or other supports while walking ○ Overbalancing, especially when reaching, bending, straightening or turning <p>What contributes to the risk? Acute health problems such as a chest infection, urinary tract infection or pain can cause deterioration in balance/steadiness</p> <p>Neurological problems (eg stroke, Parkinson's disease, peripheral neuropathy)</p> <p>Musculoskeletal problems (eg arthritis, joint instability)</p>	<p>Activities and exercise</p> <ul style="list-style-type: none"> ○ Encourage the patient/resident to participate in exercise or activity groups, or an individual exercise program ○ Encourage safe incidental activities (activities that are part of daily living) to maintain muscle mass, balance, strength and mobility (eg walking, transferring, dressing, bathing) 	<ul style="list-style-type: none"> ○ Seek advice from a physiotherapist about safe exercises and activities the patient/resident can perform on their own or with supervision ○ Ask the patient/resident's family and friends to encourage the patient/resident to carry out the activities ○ Determine to what extent the patient/resident can manage their own balance/unsteadiness. If necessary, initiate safety precautions until physiotherapy response is in place
	<p>Walking aids</p> <ul style="list-style-type: none"> ○ Consider introduction of a walking aid, or change in current walking aid ○ Ensure walking aids are within the patient/resident's reach 	<ul style="list-style-type: none"> ○ Seek a physiotherapist's advice about the most appropriate walking aid, and to provide instruction and practice regarding correct use ○ Consider strategies to manage falls risk (eg increased supervision) until patient/resident is seen by the physiotherapist
	<p>Orientation and support</p> <ul style="list-style-type: none"> ○ Always supervise the patient/resident when they are walking or making transfers ○ Introduce strategies to increase observation/surveillance ○ Discuss and reinforce all safety issues with patient/residents (eg they need supervision when ambulating; they should always use walking aid) 	<ul style="list-style-type: none"> ○ Regularly check with patient/resident that needs are being met, to minimise the patient/resident's attempts to transfer or walk independently if it is not safe to do so ○ Ask the patient/resident's family and friends to also reinforce safety issues
	<p>Modify the environment</p> <ul style="list-style-type: none"> ○ Ensure furniture and other hand holds used to assist transfers are suitable (ie stable and sturdy) 	

Personal Risk Factor POOR BALANCE AND UNSTEADINESS IN WALKING continued...

Indicator/s	Actions	Hints & Tips
	<p>Injury minimisation</p> <ul style="list-style-type: none"> ○ Consider use of hip protectors 	<ul style="list-style-type: none"> ○ Consider the different types of hip protectors available, including those which incorporate continence pads, and adhesive hip protectors ○ Encourage ongoing wearing of the hip protectors when supplied
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for medical review to assess possible medical factors contributing to poor balance or unsteadiness ○ If necessary refer the patient/resident to a physiotherapist, occupational therapist or activity therapist for assessment and recommended actions 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach

Personal Risk Factor USE OF MORE THAN 4 MEDICATIONS OR MEDICATIONS ASSOCIATED WITH FALLING

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ New problems such as unsteadiness or dizziness soon after commencing new medications ○ Symptoms that might be side effects of medications (eg dizziness, low blood pressure on standing up) ○ Falls at night <p>What contributes to the risk? New medications added to an existing medication regime, or changes to dosage, to treat new health problems</p> <p>Medications that are associated with high risk of falls, such as antidepressants, sleeping pills, major and minor tranquilisers</p>	<p>Medication review</p> <ul style="list-style-type: none"> ○ Inform doctor if side-effects of medications such as drowsiness or unsteadiness are observed ○ Try using non-pharmacological alternatives to psychotropic medications, such as relaxation, use of music, and psychological support to help patient/resident manage without medication ○ Try to minimise the number of medications a patient/resident needs to take, especially those that are "high falls risk" medications 	<ul style="list-style-type: none"> ○ Obtain medical advice about medication needs and alternatives ○ Refer to the Tools Supplement for a list of the main falls risk medications 
	<p>Orientation and Support</p> <ul style="list-style-type: none"> ○ Implement a prompted toileting program if appropriate that best matches the patient/residents accustomed routine 	<ul style="list-style-type: none"> ○ Discuss with patient/resident and family
	<p>Modify the environment</p> <ul style="list-style-type: none"> ○ When using medications such as sedatives that affect alertness and increase drowsiness, implement strategies that minimise risk of falls at night: <ul style="list-style-type: none"> ○ reduce clutter in patient/resident's room ○ use night lights ○ supervise all transfers and mobility overnight 	<ul style="list-style-type: none"> ○ Seek advice from an occupational therapist about ways to ensure the patient/resident's individual environment is as safe as possible
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for review by a doctor or pharmacist to assess medication and recommend ongoing medication needs ○ If necessary, refer patient/resident to an occupational therapist or a psychologist to provide alternatives to high falls risk medications such as sedatives 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach ○ More information is provided in the Increased Surveillance section of the Research Supplement 

Personal Risk Factor COGNITIVE IMPAIRMENT (CONFUSION/DELIRIUM/DEMENTIA)

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Poor planning/judgement/self-monitoring/safety ○ Poor short term memory ○ Poor ability to follow instructions (eg to use walking aid) or difficulty learning ○ Agitation ○ Wandering ○ Impulsiveness <p>What contributes to the risk?</p> <p>Changes in the environment can cause or worsen a patient/resident's cognition. This may occur on admission, if there is a room change or a change in routines</p> <p>New medications added to an existing medication regime to treat new health problems</p> <p>Acute health problems such as a chest infection, urinary tract infection and/or pain</p> <p>Staff untrained in behaviour management of patient/residents with agitation or confusion</p>	<p>Identify and treat</p> <ul style="list-style-type: none"> ○ Identify and treat possible medical conditions that may contribute to the cognitive impairment <p>Monitor and review</p> <ul style="list-style-type: none"> ○ Monitor cognitive status regularly, including observation of the patient/resident's ability to follow instructions and orientation to ward/unit ○ Discuss patient/resident's cognitive status before or on admission with their family/friends ○ Monitor the patient/resident for features of delirium (such as acute onset change in cognitive status) ○ Monitor the patient/resident's sleep pattern, and if necessary introduce a program to support non-interrupted sleep. Strategies to improve sleep patterns may include noise reduction strategies, such as vibrating beepers and silent pill crushers, minimisation of nocturnal disturbance by staff, not having regimented bedtimes, and review of medication schedule <p>Orientation and support</p> <ul style="list-style-type: none"> ○ Repeat orientation and safety instructions on a regular basis, keeping instructions simple and consistent ○ Use environmental cues to reinforce orientation and safety instructions ○ Maintain consistency in procedures, routines and schedules, staff allocation and, where possible, adhere to the patient/resident's accustomed habits and activities of daily living and use of their own possessions 	<p>Hints & Tips</p> <ul style="list-style-type: none"> ○ Tools that may be used to monitor cognition are the: <ul style="list-style-type: none"> ○ Abbreviated Mental Test Score (AMTS) ○ Mini Mental State Examination (MMSE) Examples of these tools are in the Tools Supplement  ○ Identify the patient/resident's regular sleep patterns by asking their family/friends, and ensure that this information is passed on to all staff at handover ○ Develop a schedule or routine for the patient/resident (such as eating times, activity times, regular toileting regime) and be sure to pass this on to all staff at handover ○ Discuss patient/resident's needs, habits and routines, and likes and dislikes with family/friends, and aim to meet/address these needs and wants

Personal Risk Factor **COGNITIVE IMPAIRMENT (CONFUSION/DELIRIUM/DEMENTIA)** *continued...*

Indicator/s	Actions	Hints & Tips
	<p>Orientation and support continued...</p> <ul style="list-style-type: none"> ○ Identify some triggers for the agitated, impulsive behaviour, such as particular medication, time of day, infection, and loud noise, and try to reduce them ○ Ensure that patient/resident uses appropriate aids (hearing aids, glasses, walking aids) and that they are in correct working order ○ Consider options for increasing observation/surveillance 	<ul style="list-style-type: none"> ○ Increase surveillance through more frequent observation, moving the patient/resident to an area of higher visibility, using a bed alarm, and family/friends providing additional assistance with observation. Use sitters for high surveillance ward <p>More information is provided in the Increased Surveillance section of the Research Supplement </p>
	<p>Injury minimisation</p> <ul style="list-style-type: none"> ○ Consider use of hip protectors 	<ul style="list-style-type: none"> ○ Consider the different types of hip protectors, including those which incorporate continence pads, and adhesive hip protectors ○ Encourage ongoing wearing of the hip protectors when supplied
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for a medical review to exclude acute delirium or other reversible causes of cognitive impairment ○ If necessary, refer patient/resident to a physiotherapist to determine whether gait aids will be able to be used appropriately and correctly ○ If necessary, refer patient/resident to an occupational therapist to assist with behaviour management and to develop a plan to maximise orientation, awareness and function. 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach

Personal Risk Factor POSTURAL (ORTHOSTATIC) HYPOTENSION

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Light-headedness or unsteadiness when moving from lying to sitting, or sitting to standing <p>What contributes to the risk?</p> <p>Bed rest or prolonged periods of inactivity</p> <p>Inadequate time to adjust to changes in position (eg moving too quickly from lying to standing)</p> <p>Some medications (eg major tranquillisers, antidepressants, diuretics)</p> <p>Some acute and chronic illnesses (eg Parkinson's disease, diabetes, heart failure)</p> <p>Dehydration</p>	<p>Identify and treat</p> <ul style="list-style-type: none"> ○ Identify and treat acute reversible contributory factors 	
	<p>Monitor and review</p> <ul style="list-style-type: none"> ○ Monitor and record blood pressure, both lying and standing (at 1 minute and 2 minutes) ○ Supervise changes of position ○ Encourage patient/resident to sit up from lying, and to stand up from sitting, slowly, and to wait a short time before walking ○ Determine indications and appropriateness of elastic compression stockings 	<ul style="list-style-type: none"> ○ If there is a drop in systolic blood pressure >20mmHg or diastolic blood pressure >10mmHg seek medical review ○ Discuss strategies with the patient/resident's family/friends and ask them to reinforce these with patient/residents ○ Ensure that elastic compression stockings fit properly, and do not have any creases. Physiotherapists or nursing staff are often responsible for supply and fitting of elastic compression stockings
	<p>Orientation and Support</p> <ul style="list-style-type: none"> ○ Encourage increased fluid intake by providing drinks at regular intervals 	
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for medical review to assess and recommend ongoing management for the postural hypotension 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach

Personal Risk Factor INCONTINENCE

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Frequency of need for toileting ○ Poor fluid intake ○ Strong odour of urine ○ Urinary or bowel accidents ○ History of nocturia <p>What contributes to the risk? The patient/resident may be physically unable to get to the toilet in time, or to unfasten garments quickly enough (due to, for example, a new health problem such as a stroke or hip fracture)</p> <p>Lack of orientation or confusion about location of the toilet</p> <p>Some medications can increase the risk of incontinence (eg diuretics)</p> <p>Acute health problems such as a chest infection, urinary tract infection and/or pain</p> <p>Constipation</p>	<p>Identify and treat</p> <ul style="list-style-type: none"> ○ Identify and treat acute reversible contributory factors 	
	<p>Monitor and review</p> <ul style="list-style-type: none"> ○ Identify possible causes of incontinence using the following techniques: <ul style="list-style-type: none"> ○ monitor fluid intake and bladder and bowel activity ○ identify medications such as anti-cholinergic medications, sedatives, narcotics, and diuretics, which may contribute to the continence problem (including review of timing and dosage) ○ look for signs of urinary tract infection and treat if identified ○ Review timing and amount of caffeine intake ○ Ensure adequate hydration by providing drinks at regular intervals 	<ul style="list-style-type: none"> ○ Use a continence chart ○ Discuss with the medical staff or pharmacist ○ Discuss with patient/resident and family
	<p>Toileting program</p> <ul style="list-style-type: none"> ○ Implement a prompted voiding (regular toileting) program that best matches the patient/resident's accustomed routine ○ Respond to requests for toileting promptly ○ If possible, locate the patient/resident close to the toilet 	<ul style="list-style-type: none"> ○ Discuss with patient/resident and family ○ Ensure other staff are aware of patient/resident's needs if you are going to be away or are involved in other work for a period of time

Personal Risk Factor **INCONTINENCE** continued...

Indicator/s	Actions	Hints & Tips
	<p>Optimise function</p> <ul style="list-style-type: none"> ○ Ensure patient/resident is wearing suitable clothes without fasteners, or with fasteners that are easy to undo (eg pants with an elastic waist) ○ Encourage patient/resident to participate in exercise or activity groups, or individual exercise program ○ Provision of appropriate continence aids (eg commode by bed, non-spill urinals, pads etc) 	<ul style="list-style-type: none"> ○ Discuss with patient/resident and family ○ Seek advice from a physiotherapist about safe exercises and activities the patient/resident can perform on their own, or with supervision
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for a medical review to assess and recommend ongoing management for incontinence ○ If necessary, refer to a continence specialist for comprehensive assessment and management 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach

Personal Risk Factor **SENSORY LOSS**

Indicator/s	Actions	Hints & Tips
<p>Vision</p> <ul style="list-style-type: none"> ○ Inability to see detail in objects ○ Not wanting to, or inability to, read or watch television ○ Spilling drinks ○ Bumping into objects <p>Somatosensory</p> <ul style="list-style-type: none"> ○ Poor skin condition ○ Cuts or bruises on feet ○ Lack of feeling in feet ○ Pressure areas/ulcers <p>Vestibular (inner ear)</p> <ul style="list-style-type: none"> ○ Reports of dizziness <p>Hearing</p> <ul style="list-style-type: none"> ○ Leaning forward when listening ○ Needing to have things repeated ○ Speaking loudly ○ Having radio or TV volume loud <p>What contributes to the risk? Adjusting to a new environment is more difficult if there is reduced sensory input</p> <p>Sensory loss can be due to medical problems affecting the sensory function, or by inadequate condition or use of aids to improve sensory input</p>	<p>Identify and treat</p> <ul style="list-style-type: none"> ○ Identify and treat acute reversible contributory factors 	
	<p>Monitor and review</p> <ul style="list-style-type: none"> ○ Identify change in sensory status over the preceding months, and how long since sensory status has been investigated ○ Monitor skin and nail condition for people with somatosensory loss (eg diabetic neuropathy) ○ Investigate the cause if the patient/resident reports dizziness, as some common causes of dizziness are easily treatable by medical or allied health staff (eg benign paroxysmal positional vertigo) 	<ul style="list-style-type: none"> ○ Discuss with patient/resident and family ○ Seek advice and treatment from a podiatrist to reduce problems associated with sensory loss
	<p>Modify the environment</p> <ul style="list-style-type: none"> ○ Maintain a safe environment free of physical hazards ○ Ensure appropriate signage, particularly leading to the toilet area ○ Appropriate night lighting ○ Minimise glare 	<ul style="list-style-type: none"> ○ Seek advice from an occupational therapist about ways to ensure the patient/resident's individual environment is as safe as possible
	<p>Orientation and support</p> <ul style="list-style-type: none"> ○ Ensure that patient/residents who need them are wearing their glasses, that they are in optimal working order (eg clean) and that they are the correct prescription (eg strength may need to be upgraded) ○ Ensure that patient/residents who need them are wearing hearing aids, that they are in optimal working order (eg batteries working) and suit the level of impairment 	<ul style="list-style-type: none"> ○ Seek advice from an occupational therapist to assist in checking sensory aids, and providing aids/supports to minimise functional impact of sensory loss

Personal Risk Factor **SENSORY LOSS** *continued...*

Indicator/s	Actions	Hints & Tips
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for medical review to assess and recommend ongoing management for the sensory loss ○ Refer patient/resident to specialist for detailed assessment of sensory system/s (eg optometrist or ophthalmologist for vision problems; podiatrist for somatosensory problems) 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach

Personal Risk Factor POOR CONDITION OF FEET/INAPPROPRIATE FOOTWEAR

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Limping due to pain or poor condition of feet ○ Reddened areas on the feet (eg over a bunion) ○ Poor condition of skin around toes ○ Poor condition of toe nails ○ Inappropriate footwear: <ul style="list-style-type: none"> ○ loose fitting ○ open backed ○ worn sole/heel ○ poor or no fastenings ○ high heel ○ slippers <p>What contributes to the risk? Wearing inappropriate footwear, such as slippers</p>	<p>Identify and treat</p> <ul style="list-style-type: none"> ○ Identify and treat acute reversible contributory factors <p>Monitor and review</p> <ul style="list-style-type: none"> ○ Review footwear and condition of feet on admission ○ Provide an information brochure on appropriate footwear to patient/resident and their family/friends ○ Action purchase and repairs as indicated <p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for medical review or to podiatrist to assess and recommend ongoing management of foot problems and appropriate footwear 	<p></p> <ul style="list-style-type: none"> ○ Explain the importance of good footwear to the patient/resident and their family/friends <ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach

Personal Risk Factor LOSS OF CONFIDENCE/FEAR OF FALLING

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Acknowledges being afraid of falling when asked ○ Reluctance to walk ○ Reaches for additional support when walking or transferring ○ Anxious about walking or transferring ○ Near falls or previous falls <p>What contributes to the risk?</p> <p>Medical condition affecting balance and mobility, such as stroke or hip fracture</p> <p>Adjusting to a new environment</p> <p>Inadequate sensory input (eg poor lighting)</p> <p>Environmental hazards</p>	<p>Monitor and review</p> <ul style="list-style-type: none"> ○ Monitor all aspects of ambulation, transferring and related activity, and provide encouragement and support as required 	<ul style="list-style-type: none"> ○ Seek advice from a physiotherapist, who will identify whether the loss of confidence is appropriate to the patient/resident's level of balance ○ Discuss with family/friends and ask them to reinforce with patient/residents the importance of safe walking and activity
	<p>Activity and exercise</p> <ul style="list-style-type: none"> ○ Encourage patient/resident to participate in exercise or activity groups, or individual exercise program ○ Encourage safe incidental activities (activities that are part of daily living) to maintain muscle mass, balance, strength and mobility (eg walking, transferring, dressing, bathing) 	<ul style="list-style-type: none"> ○ Seek advice from a physiotherapist about safe exercises and activities the patient/resident can perform on their own, or with supervision ○ Ask the patient/resident's family and friends to encourage the patient/resident to do the safe incidental activities
	<p>Walking aids</p> <ul style="list-style-type: none"> ○ Consider use of walking aid or change in current walking aid ○ Ensure walking aids are within the patient/resident's reach 	<ul style="list-style-type: none"> ○ Seek advice of a physiotherapist about the most appropriate walking aid, and to provide instruction and practice regarding correct use
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for medical review to assess and recommend ongoing management for the loss of confidence ○ Refer patient/resident for physiotherapy, occupational therapy, and/or psychologist support to assess and recommend ongoing management 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff so that there is a consistent approach

Personal Risk Factor POOR NUTRITIONAL STATUS

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ Recent weight loss ○ Low Body Mass Index ○ Poor oral intake <p>What contributes to the risk? Different meals to those the patient/resident is used to</p> <p>Insufficient time or assistance provided to ensure the patient/resident is able to complete meal prior to dishes being collected</p> <p>Acute and chronic medical problems can reduce the effectiveness of swallowing</p> <p>Inadequate dietary calcium, and lack of exposure to sunlight over a prolonged period of time can result in increased risk of bone fracture</p>	<p>Identify and treat</p> <ul style="list-style-type: none"> ○ Identify and treat acute reversible contributory factors 	
	<p>Monitor and review</p> <ul style="list-style-type: none"> ○ Monitor patient/resident's food intake ○ Review patient/resident's diet for adequate nutritional content ○ If food intake (amount) is poor, despite adequate food being provided, determine factors contributing to this ○ If eating is associated with coughing or choking check that the patient/resident's swallowing mechanism is intact ○ Identify presence of osteoporosis and osteomalacia (inadequate mineral deposit in bone, related to vitamin D deficiency) 	<ul style="list-style-type: none"> ○ Talk to the patient/resident and their family/friends about the patient/resident's usual and preferred diet ○ Some factors contributing to reduced oral intake include depression, food not liked, culturally inappropriate food, reduced sense of smell, or ill fitting dentures ○ Seek advice from a doctor and speech pathologist if swallowing difficulties are apparent ○ Discuss with the doctor about the need for tests for low levels of vitamin D or osteoporosis ○ If osteoporosis or osteomalacia is identified consider: <ul style="list-style-type: none"> ○ vitamin D and calcium supplementation ○ hip protectors ○ options for sunlight exposure (especially in residential care)
	<p>Orientation and Support</p> <ul style="list-style-type: none"> ○ Provide assistance with eating 	
	<p>Referral</p> <ul style="list-style-type: none"> ○ Refer patient/resident for medical or dietician review to assess and recommend ongoing management of oral intake problems or osteoporosis/osteomalacia 	<ul style="list-style-type: none"> ○ Ensure effective communication of assessment findings and action plan to all staff, so that there is a consistent approach

Personal Risk Factor HISTORY OF PREVIOUS FALLS

Indicator/s	Actions	Hints & Tips
<ul style="list-style-type: none"> ○ History of falls, either documented or verbal 	<p>Monitor and review</p> <ul style="list-style-type: none"> ○ Review factors that contributed to previous fall/s ○ Address the risk factors contributing to previous fall/s ○ Use the information from previous incidents to implement appropriate falls minimisation strategies 	<ul style="list-style-type: none"> ○ Record relevant falls history in the medical record, and on a falls incident report if the fall occurred during the current admission ○ May need to obtain additional information from family ○ Follow the Guidelines to assist the development of the falls minimisation action plan

ACTIONS FOR MINIMISING INDIVIDUAL ENVIRONMENTAL RISK FACTORS

Table 4 outlines actions to minimise the impact of individual environmental risk factors for falls that can form part of a patient/resident's Action List.

Many of the actions have been identified in the research literature, and further details supporting these actions are provided in the Research Supplement.

This Table allows easy identification of actions to address individual environmental risk factors for falls.

A multifaceted approach, where actions are introduced to address each of the identified individual environmental falls risk factors, is likely to be most effective.

An Individual Environmental Audit should be carried out to identify prevailing risk factors for individual patient/residents. Examples of Audit Tools are provided in the Tools Supplement.



Table 4. Individual Environmental Risk Factors and Action for Minimising Risk

Individual Environmental Risk Factor	Actions	Hints & Tips
<p>INAPPROPRIATE BED HEIGHT What contributes to the risk? Bed heights are often adjusted for assessments, nursing or domestic activities. If they are left at an incorrect height, this may increase the risk of patient/residents falling</p>	<ul style="list-style-type: none"> ○ If the height of a bed is adjusted during an activity, return it to the correct height afterwards 	<ul style="list-style-type: none"> ○ The bed should be at a height which allows ease of standing for the patient/resident. The patient/resident's feet should be in contact with the ground before standing ○ Seek advice from an occupational therapist or physiotherapist about optimal bed height for an individual patient/resident
<p>BED BRAKES NOT ON OR BROKEN What contributes to the risk? Bed brakes are often unlocked, and the bed moved, during domestic activities</p>	<ul style="list-style-type: none"> ○ Ensure bed brakes are on/locked after the bed is moved ○ Ensure that regular monitoring and maintenance is undertaken on all beds 	
<p>CHAIR HEIGHT/TYPE What contributes to the risk? Different height chairs can affect the safety and ease of standing up and transfers</p>	<ul style="list-style-type: none"> ○ Ensure that the patient/resident has a chair that is the appropriate height and type for them 	<ul style="list-style-type: none"> ○ As a general rule, appropriate seating should result in a 90° hip and knee angle, and the patient/resident's feet should be in contact with the ground ○ Seek advice from an occupational therapist or physiotherapist about optimal chair height for an individual patient/resident

Individual Environmental Risk Factor	Actions	Hints & Tips
<p>CALL BELL OUT OF REACH What contributes to the risk? Call bells are often moved for assessments, nursing or domestic activities</p>	<ul style="list-style-type: none"> Ensure that the call bell or an alternative means of seeking attention is within the patient/resident's reach at all times 	<ul style="list-style-type: none"> Discuss with family/friends and ask them to be aware that the call bell should be in reach at all times
<p>WALKING AIDS OUT OF REACH What contributes to the risk? Patient/residents who need a walking aid may try to stand and walk without the walking aid if it is not within reach</p>	<ul style="list-style-type: none"> In consultation with the patient/resident, decide where the walking aid will be located within their room Position the aid so that the handle can be grasped easily (eg upright) 	<ul style="list-style-type: none"> Communicate this information to all staff
<p>WHEELIE FRAME/WHEELCHAIR BRAKES BROKEN OR NOT USED PROPERLY What contributes to the risk? Moving parts on equipment, such as brakes on wheelie frames or wheelchairs, can become worn or broken, making them unsafe</p>	<ul style="list-style-type: none"> Ensure that wheelie frames, wheelchair brakes and other similar equipment are regularly checked and maintained 	<ul style="list-style-type: none"> Ensure your organisation has processes for checking of equipment safety to occur regularly Seek advice from physiotherapists or occupational therapists, as they often have the role of supplying walking frames and wheelchairs, and organising repairs/replacements if required
<p>WALKING AIDS NOT IN GOOD CONDITION What contributes to the risk? With prolonged use, components of walking aids can become worn (eg stoppers) or broken</p>	<ul style="list-style-type: none"> Ensure that regular checking and maintenance is undertaken on all walking aids 	<ul style="list-style-type: none"> Ensure your organisation has processes for checking safety of walking aids regularly Seek advice from physiotherapists or occupational therapists, as they often have the role of supplying walking aids and repairs/replacements if required

Individual Environmental Risk Factor	Actions	Hints & Tips
<p>WALKING AIDS NOT USED PROPERLY</p> <p>What contributes to the risk? If a walking aid is used incorrectly (eg a stick in the wrong hand or wrong height or incorrect sequence of stepping and moving the walking aid) it can result in increased risk of falling</p>	<ul style="list-style-type: none"> ○ Monitor patient/resident s use of the walking aid, compared to mobility instructions ○ Provide regular feedback to improve appropriate use of the walking aids ○ Position IV drip stands that are in use so that they are out of general walkway areas 	<ul style="list-style-type: none"> ○ Seek advice from physiotherapists or occupational therapists about correct use of walking aids ○ Communicate this information to all staff
<p>IV DRIP STANDS, POWER CORDS, ETC NOT POSITIONED PROPERLY</p> <p>What contributes to the risk? Objects like IV drip stands and power cords are potential tripping hazards</p>	<ul style="list-style-type: none"> ○ Store IV drip stands that are not in use away from areas accessed by patient/residents ○ Avoid running power cords across general walkway areas and secure other cords flush to the floor 	<ul style="list-style-type: none"> ○ Identify areas on the ward/unit for storage of equipment and communicate this to all staff ○ Use an extension lead to provide extra length to allow running a power cord along a wall rather than across walkways
<p>SLIPPERY SURFACES</p> <p>What contributes to the risk? Regular cleaning/polishing of floors in wards/units may result in slippery surfaces</p>	<ul style="list-style-type: none"> ○ Identify areas with slippery surfaces, both when wet and dry, explore options for minimising slipperiness, and work towards implementation ○ Clearly mark wet areas due to cleaning, and ensure alternative paths are available for patient/residents ○ Remind all staff that any spills must be cleaned up promptly ○ Report the need for an upgrade of floor surfaces 	<ul style="list-style-type: none"> ○ Seek advice from occupational therapists or the Occupational Health and Safety representative about floor surface modifications to increase safety
<p>LOOSE FLOOR COVERINGS eg RUGS</p> <p>What contributes to the risk? Loose floor coverings can turn up at the edges and be a tripping risk</p>	<ul style="list-style-type: none"> ○ Avoid use of loose floor covering such as rugs ○ If loose floor coverings are used ensure that they are non slip, and that all edges are stuck down properly 	<ul style="list-style-type: none"> ○ Seek advice from occupational therapists or the Occupational Health and Safety representative about safety associated with floor coverings

Individual Environmental Risk Factor	Actions	Hints & Tips
<p>CLUTTER</p> <p>What contributes to the risk?</p> <p>There is often a need for personal items, mobility and other aids, and medical equipment to be located within the patient/residents individual bedroom area</p>	<ul style="list-style-type: none"> ○ Review need for all items contributing to clutter ○ Discuss with patient/resident/family about the best location for items to minimise clutter and maximise availability ○ Modify the environment to provide for improved placement and storage of personal possessions and equipment (eg shelving) 	<ul style="list-style-type: none"> ○ Communicate this information to all staff
<p>INADEQUATE LIGHTING (POOR LIGHTING, LACK OF NIGHT LIGHTS, EXCESSIVE SUN GLARE)</p> <p>What contributes to the risk?</p> <p>Many patient/residents have visual problems that are made worse if lighting conditions are not optimal</p>	<ul style="list-style-type: none"> ○ Review lighting available at different times of day and night, and the vision needs of patient/residents ○ Ensure appropriate opening/closing of curtains to minimise effect of sun glare ○ Replace existing light globes with higher wattage globes ○ Replace incandescent lights with fluorescent lights which provide greater illumination ○ Ensure available lights are in working order and switched on when required ○ Enhance available light through use of non-reflective light colours on walls 	<ul style="list-style-type: none"> ○ Night lights with movement sensor can be useful for patient/residents needing to get up during the night ○ Seek advice from occupational therapists about lighting options
<p>INADEQUATE RAILS/SUPPORTS IN BATHROOM AND TOILET</p> <p>What contributes to the risk?</p> <p>Bathrooms and toilets are common locations for falls</p>	<ul style="list-style-type: none"> ○ Review patient/resident needs within bathroom/toilet ○ Consider long term needs for permanent changes, such as fitting of rails to bathroom and toilet 	<ul style="list-style-type: none"> ○ Temporary aids such as an over toilet seat can provide additional support in some instances ○ Seek advice from occupational therapists about rails and supports/aids in the bathroom/toilet

Individual Environmental Risk Factor

RESTRAINTS/COTSIDES IN USE

Restraint use is the intentional restriction of a person's voluntary movement or behaviour by the use of any manual, physical, or mechanical device [or medications] that restrict freedom of movement or where part of the intended pharmacologic effect of a drug is to sedate a person for convenience or disciplinary purposes

Restraint can include any of the following:

- cot-sides
- vests
- waist restraints
- wrist/ankle restraints
- other mechanical restraints, such as tables locked onto chairs
- medications, which are used with a primary purpose of limiting a person's movement and activity

What contributes to the risk

Restraints can increase a patient/resident's agitation and increase likelihood of getting up unassisted

Patient/residents climbing over cotsides will fall from a greater height, increasing risk of serious injuries

Actions

- Adhere to professional standards and organisation protocols
- Seek a team review of the issue
- Investigate causes of agitation, wandering, or other behaviour warranting consideration of restraints. Treat reversible causes (eg delirium)
- Investigate alternatives to restraint use such as:
 - Strategies to increase surveillance of the patient/resident (eg move to higher observation area, use of bed alarm)
 - Use of very low (adjustable) beds
 - Encouraging increased mobility (with supervision/assistance as required)
 - Reducing environment noise and activity
 - Providing repeated reality orientation if required
- Investigate and treat falls and fall-related injury risk factors
- Incorporate other injury minimisation approaches (eg hip protectors)

Hints & Tips

- Discuss the patient/resident's routines prior to admission (timing of meals, rest, sleep, toileting) and where possible accommodate these

Step 4: Respond to a falls incident appropriately

Definition

The appropriate response to a falls incident includes caring for the patient/resident and ensuring that the incident is reported and documented.

Use the standard definition of a fall developed by your organisation to determine whether an incident is to be regarded as a fall. An example definition is included in the Introduction section of this document.

Other definitions are provided in the Research Supplement.



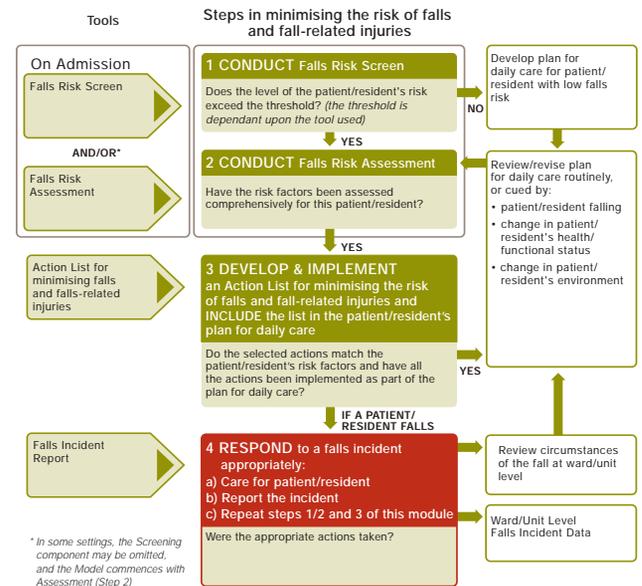
GUIDELINE STATEMENT FOR STEP 4

Respond to a falls incident appropriately.

Level of evidence: Consensus Opinion ^[18].

Patient/resident centred tasks for Step 4

- a) At a minimum, an appropriate post falls response should include:
 - o responding to the patient/resident's immediate needs for care:
 - o examining the patient/resident for injuries, especially head or joint trauma and fracture and minimise any adverse effects from the fall
 - o if head injury is suspected, instituting neurological observations
 - o moving the patient/resident only after fully assessing the individual's situation. Addressing later care needs when the incident situation has been stabilised.
 - o using a consistent and standard definition of a fall as adopted by your organisation
 - o reporting the falls incident, using the process and documents defined by your organisation.
- b) Document the fall in the patient/resident's permanent file/medical record/residential care file, either include a copy of the incident report or add information from the incident report to the file/record.
- c) Review the patient/resident's risk assessment and Action List in the plan for daily care, and make changes to reduce the risk of another fall. Steps 1, 2 and 3 of the process model may need to be repeated.



Organisational tasks for Step 4

- a) Develop a protocol for care of patients/residents after a fall has occurred. Ensure staff are aware of and understand the protocol.
- b) Develop a stand-alone Falls Incident Report template or add a falls section to your organisation's existing incident report. See Tools Supplement for samples.
- c) Provide staff education on the purpose of incident reporting and training in the use of the incident report.
- d) Audit the use of the incident report for compliance with relevant policy.



- e) Assign the analysis of falls incident data to a clinical staff member on a ward or to a designated person in a facility, such as a Clinical Risk Manager. An example Excel file template for entering data from falls incident forms, calculating rates of falls/1000 bed days, and examples of graphs for reporting falls data is included in the Tools Supplement.
- f) Ensure incident data is analysed regularly to define the scope, common causes and complications arising from falls.
- g) Provide clinically meaningful feedback on falls and fall-related injury data to wards or units, on a regular and scheduled basis.
- h) Ensure data is analysed at ward-level. Findings from periodic reviews can help inform strategies to minimise risk and reduce the rate of falls. A high level of falls may indicate the need for root cause analysis.



Note:

An incident report should include sufficient detail about the fall, circumstances surrounding the fall and consequences of the fall to provide a clear understanding of factors contributing to the fall and/or injury if sustained. As a minimum, the following information should be recorded in a Falls Incident Report or other standard documentation:

Patient/resident identification — minimum data set

Time of fall

Whether the fall was witnessed

Circumstances of the fall:

- o location
- o activity being performed by the patient/resident at the time of the incident, eg transfer details
- o relevant information about clothing, footwear, glasses and gait aids used at the time of the fall
- o environmental conditions, eg floor, lighting, clutter

Type of fall, eg slip, bumping into/falling on an object

Whether the patient/resident was injured and, if so, the nature and severity of the fall-related injury

The patient/resident's perception of the incident, including description of any preceding sensations or symptoms

Action taken following the fall and or fall-related injury

Signature of the person who observed and/or reported the fall

Designated process for:

- o submitting the report
- o entering the report into the patient/resident's documentation.

If a death results from a fall in a Victorian hospital an investigation by the State Coroner will be performed. An Investigation Standard published by the Victorian State Coroner's Office outlines the details required for this investigation (see Tools Supplement).



These details outline the main features required by the Coroner's Investigation Standard. In addition, the Coroner's Investigations Standard will review the organisations policies on falls risk screening, falls prevention and falls management.

An organisation's falls rate may increase in the short term when its management:

- o introduces falls and fall-related injury risk minimisation activities or programs
- o introduces a new definition of a fall, or increases awareness of the definition, or of reporting requirements, or
- o implements these Guidelines and process model.

Rationale for Step 4

- o Some falls can cause injuries that may not be apparent at the time of the fall. All falls should be reported, even if injuries are not apparent, and patient/residents should be observed after the fall. This is particularly important in cases where there is a possible head injury ^[19].
- o Information about factors that contribute to falls on a ward or unit can be used to inform targeted activities to reduce future falls ^[20].
- o Using a standard definition of a fall ^[1, 21] enables:
 - o shared understanding of the focus and dimensions of what is described (what is included and what is not), and
 - o the grouping of falls incident data for comparison and trend analysis.
- o Good quality falls data and meaningful analysis can provide evidence to guide responses within the organisation and elsewhere ^[20]. Data has implications for:
 - o developing management strategies that benefit the patient/resident and the organisation, and
 - o meeting legal, regulatory and insurance requirements about recording adverse events.

Differences in implementing Step 4 across the three settings

Acute and Sub-acute Care

- In these settings there are often pre-determined processes in place to collect and analyse falls incident data and to provide feedback to staff and management. Ensure that falls data is included and talk to Risk Management/Quality personnel to determine appropriate methods and formats.

Residential Care

- Given the nature of staffing in residential care settings, it is more likely that a non-professional caregiver may witness a falls incident. Appropriate support from professional staff is important.
- Capacity for analysing falls incident data may be limited.

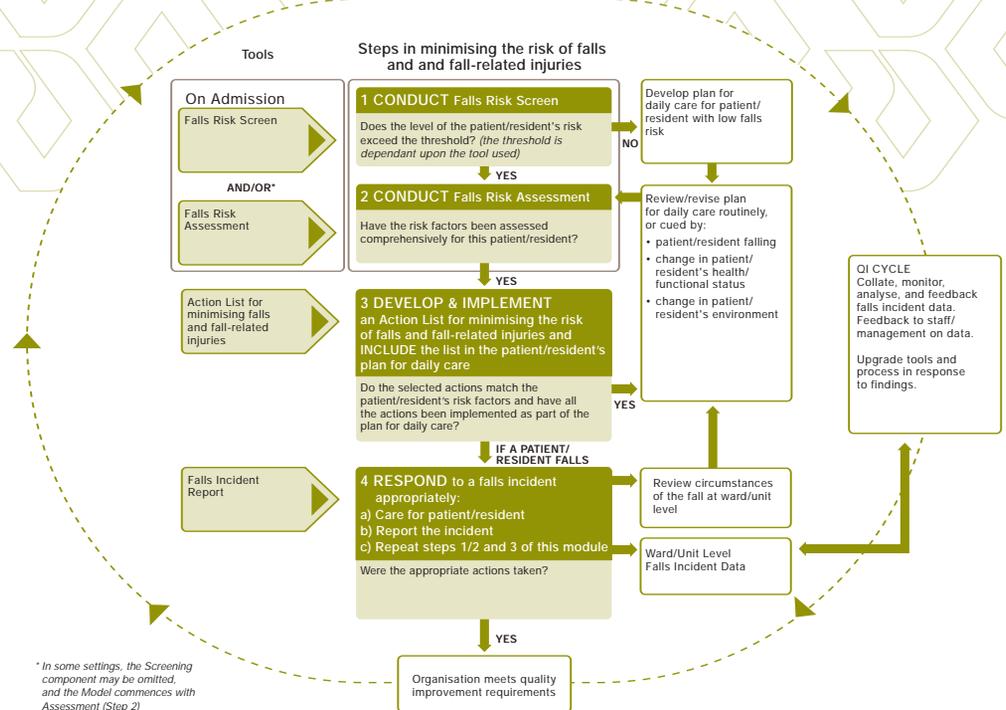
The Process Model & Quality Improvement

Given the magnitude of the problem of falls and fall-related injuries in residential care and hospital settings, and the increasing evidence that many falls can be prevented, there is a need for a systematic, organisation-wide approach to falls and fall-related injury risk minimisation in these settings.

A comprehensive approach would:

- Encourage a culture of safety and quality at all levels of the organisation
- Support staff to work with patient/residents to provide safe, effective and appropriate care
- Provide targeted continuing education for staff to update and improve patient/resident care
- Identify and develop strategies to minimise individual and environmental falls risk
- Collect data on falls and fall-related injuries that occur within the organisation to contribute to improvements in the care delivered to patients/residents

The diagram illustrates the process model within a quality improvement framework that includes ongoing monitoring of performance. This may encompass collecting a range of indicators, and reviewing falls risk reduction activities to improve patient/resident care.



Implementing all the components of the model should:

- reduce falls and fall-related injuries over time
- address the needs of individual patient/clients
- ensure a consistent approach to minimising the risk of falls and fall-related injuries, and
- embed these tasks within the organisation's systems for monitoring and evaluating quality of care.

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Glossary of terms

Activities of Daily Living

Activities necessary for everyday function, such as dressing, bathing, and self care

Acute (illness)

Short and severe

Acute (setting)

Referring to a hospital for management of acute illness (does not include rehabilitation and Geriatric Evaluation and Management [GEM] units or hospitals)

Adverse effects (from a fall)

Negative consequences (from a fall) such as injury or loss of confidence

Adverse events

Unplanned events which have potential to cause harm, such as falls or medication errors

Agitated

Restless, on edge

Agitation

A state of increased restlessness and limited cooperation

Ambulation

Walking

Anti-cholinergic medications

Medications which block the passage of impulses through the parasympathetic nerves (eg tricyclic antidepressant treatment for incontinence)

Antidepressants

Medications given to treat depression

Anxiety

A state of increased stress, nervousness or worry

Bed alarm

A device that signals that the occupant of the bed is departing/has departed from the bed

Benign Paroxysmal Positional Vertigo

A medical condition affecting the inner ear, which causes dizziness, unsteadiness, and can increase risk of falling

Body Mass Index (BMI)

A measurement of body fat calculated from height and weight

Bunions

Abnormal growth of bone at the base of the first toe, which can result in deformity in the alignment of the first toe

Calcium supplementation

Dietary addition of a mineral essential for bone development, maintenance and repair

Calluses

Hardened, thickened layer of skin caused by excessive pressure or friction (such as poor fitting shoes)

Cataracts

Changes in the lens of the eye which can impair eye-sight

Cerebellar stroke

Referring to a circulatory incident in which damage occurs within the cerebellum, a part of the brain attached to the brainstem. The cerebellum is important for balance and coordination

Chronic (disease / illness)

Persisting over the long term

Cognitive impairment

Interference of the ability of the brain to perform functions requiring conscious thought, such as problem solving and planning

Cognitive status

Ability to think, plan and remember

Confusion

State of being disoriented to the time, place (or location), and the people around them

Continence chart

A record that shows the pattern of an individual's level of control over the passage of urine/micturition

Continence pads

Aids (pads) worn in the underwear which help to avoid incontinence accidents

Continuous Quality Improvement

A cyclical, ongoing, organisation-wide process of monitoring and evaluating all aspects of the institution's activities in order to continuously improve them

Deconditioning

Generalised muscle weakness and limited endurance associated with lack of use (eg bed rest)

Delirium

Acute deterioration in brain function with associated behavioural changes due to factors including drug toxicity, infection and metabolic problems. Delirium is reversible if the cause is identified and treated

Dementia

A classification given to a group of diseases that involve chronic degeneration of the brain and associated functions which is due to various causes

Depression

A state of undue sadness, and lack of interest in relevant personal events

Deterioration

Worsening status

Detrusor muscle control

Referring to conscious movement of the detrusor urinae muscles that coat the urinary bladder and control passing of urine

Diabetes

Usually used in reference to the metabolic disease of Diabetes Mellitus, which is characterised by high sugar levels, excessive urine production, and excessive thirst. Can be controlled with diet, oral medications or may require use of insulin

Diabetic neuropathy

Loss of sensation caused by deterioration in nerve function associated with the disease Diabetes Mellitus

Diuretics

Medications that increase the production of urine

Fear of falling

Being afraid that a fall could occur during routine activities

Flattened transverse arch

Stretching of ligaments under the foot that result in loss of the side to side curve under the foot and results in pain under the foot on walking

Functional status

Ability of an individual on one or more activities (eg walking, dressing)

Haematological condition

Related to disorders of the blood

Hip protector

A protective device that may be worn to minimise damage to the hip should a fall occur

Impulsive behaviour

Spontaneous response to stimuli that aren't modified by insight or rational thought

Incontinence

Loss of control over when urine is passed

Key Performance Indicators (KPIs)

A set of standards that are essential to the successful performance of an activity

Macular degeneration

Deterioration in the health of a specific tissue in the eye that interferes with clarity in the central field of vision

Muscle mass

The size and density of the body of a muscle

Narcotics

Medications that diminish conscious awareness, often used for pain control

Neurological dysfunction

Problems associated with disorders of the nervous system, such as stroke and Parkinson's disease (eg difficulty with movement, speech, or swallowing)

Nocturia

Voiding urine at night

Non-pharmacological

Referring to things or actions that are not drug/medication related

Nutritional status

The health of the body measured by nourishment factors or dietary intake

Oncology condition

A condition related to cancer/a tumour

Osteomalacia

Softening of the bones associated with low levels of Vitamin D

Osteoporosis

Weakening of the bone substance and structure to a level where the risk of fracture is high

Parkinson's disease

A degenerative condition of the nervous system characterised by difficulty initiating movement, slowness of movements, tremor, and stiffness in the muscles and body

Plan of daily care

Care activities or services to be provided for a patient/residents over a 24 hour span

Polio

A viral infection affecting cells in the spinal cord, affecting muscle control. Although the disease is almost eradicated in terms of new cases in western countries, many people live with the long term effects from the polio epidemic of the 1950s

Postural hypotension

A drop of 20mmHg or more in systolic blood pressure, or 10mmHg or more in diastolic blood pressure, when moving from lying to standing

Prompted voiding program

Regular reminding/asking a patient/resident about the need for toileting

Psychotropic medication

Medications that exert an effect on the mind

Quality improvement

Upgrade in overall standard measured by key indicators

Quality Improvement Cycle

The repeated, ongoing cycle of Continuous Quality Improvement within an organisation

Restraint

Any method where a person's voluntary movement or behaviour is restricted physically (eg posey vests; cot-sides) or by the use of medications where part of the intended effect is to sedate a person for convenience or disciplinary purposes ^[17]

Root cause analysis

Detailed analysis of the circumstances and factors contributing to an adverse event such as a fall, and taking actions to prevent the event occurring again

Sedatives

Medications that have the effect of enhancing rest or sleep. These medications are also associated with increased risk of falling

Sensory loss

Reduced function in any of the sensory systems (eye-sight, hearing, sensation in the limbs, and inner ear function)

Sensory neural deafness

Inability of the individual to accurately interpret sounds due to malfunction of nerve endings in the ear or the brain that are responsible for transmitting and interpreting sound messages

Somatosensory (loss)

Referring to loss of feeling from the skin and joints in the limbs (often affecting the feet)

Stroke

A heart and/or circulatory incident resulting in damage to the brain and/or spinal cord and affecting the tissues they control

Sub-acute (illness)

Less severe and often of longer duration than acute

Sub-acute (hospital/setting)

Rehabilitation or Geriatric Evaluation and Management (GEM) unit or hospital

Vestibular

Relating to one of the important senses with a key role in balance. Located in the inner ear

Vestibular toxicity

A condition related to loss of vestibular function bilaterally due to an adverse reaction to specific medication

Vitamin D supplementation

Addition to normal diet of a fat soluble vitamin that assists in the building, maintenance and repair of bone

Voiding

Passage of urine from the urinary bladder through the urinary tract to the exterior of the body; or faeces through the bowel to the exterior of the body. May be voluntary or involuntary.

Walking aid

A tool that can improve stability for people with reduced balance or risk of falling (eg a four prong stick or walking frame)

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