FALLS GUIDELINE

for

HOSPITALIZED OLDER ADULTS
IN THE MINISTRY OF HEALTH
FALLS GUIDELINE FOR HOSPITALISED
OLDER ADULTS IN THE MINISTRY OF HEALTH

MINISTRY OF HEALTH
MALAYSIA
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Ministry of Health Malaysia

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FALLS GUIDELINE FOR HOSPITALISED OLDER ADULTS IN THE MINISTRY OF HEALTH

FOREWORD

DIRECTOR-GENERAL OF HEALTH MALAYSIA
DATUK DR. NOOR HISHAM BIN ABDULLAH

Falls are a major public health concern globally. According to the WHO, falls are the second leading cause of accidental injury and nonintentional deaths worldwide. Adults above the age of 65 suffer the greatest number of falls.

Falls among hospital inpatients are common, causing significant morbidity such as fractures, bleeding and even death. This increases healthcare cost and prolongs hospital stay. Therefore falls have been included as one of the Malaysian Patient Safety Goals.

Causes of falls are frequently complex and multifactorial, and there is evidence that a collaborative multidisciplinary team approach can decrease the incidence of falls. Preventive strategies should emphasize education and training, creating safer environments and establishing effective policies to reduce risk.

It is timely that the Ministry of Health Geriatrics Service have developed a Falls Pathway for inpatient older adults, the patient demographic most susceptible to falls and injury. I would like to thank and congratulate the team involved for their tireless effort and sacrifice in coming up with this initiative.

My hope is that all staff and services in the Ministry work together to implement the strategies and interventions outlined in this guideline to improve patient safety and quality of care in the hospital.

Datuk Dr. Noor Hisham bin Abdullah
Older adults form an increasing percentage of patients admitted to the hospital. This proportion will grow as our population ages. Malaysia will be an aging nation officially in 2030, whereby 15 percent of our population will be aged 60 years and above.

A fall is a significant adverse event that occurs in hospitalized older adults. Older adults who are frail, cognitively and physically impaired and have multiple comorbidities are more likely to fall. They are also more likely to experience injury post-fall, leading to an inability to return to their premorbid functional status.

It is very heartening to see various parties and specialties coming together to develop this national guideline for falls in hospitalized older adults. This is an important step in providing a safe, conducive and caring environment for our patients. I would like to personally thank the authors for their hard work and enthusiasm in formulating this guideline.
PREFACE

HEAD OF GERIATRICS SERVICE, MINISTRY OF HEALTH MALAYSIA
DR. YAU WENG KEONG

Malaysia is experiencing a demographic transition as a result of increasing life expectancy. There is a growing subset of older adults who are at risk of developing complications and functional impairment from multiple comorbidities and frailty. This population faces the unique problem of the geriatric giants, one of which is falls. Falls bring about adverse physical, psychological and functional repercussions, hence its reduction is recognized as an important Malaysian Patient Safety Goal.

The silver lining is that falls can be prevented, especially with a dedicated multidisciplinary team input. It is with this in mind that the writers selected to contribute to this pathway are from various fields, and have had many years of experience managing patients at the ground level. The breadth and depth of their expertise will prove useful to the readers of this pathway who have chosen to undertake the task of managing falls in their respective institutions.

I would like to thank all the contributors who have worked relentlessly and painstakingly, sacrificing their precious time to produce this guide for the betterment of patient care.

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EXECUTIVE SUMMARY

THE NEED TO REDUCE FALLS

- Falls are common in hospital and are associated with significant adverse outcomes
- Falls are preventable

FALLS INTERVENTION TEAM (FIT)

- The FIT is a multidisciplinary team consisting of the physician, nurses, physiotherapists, occupational therapists and pharmacists
- A FIT assumes overall responsibility for the design of the falls prevention and intervention programme

FALLS ASSESSMENT

- Tools such as the Morse Falls Scale need to be applied together with clinical judgment
- Falls risk factor assessment should consist of a multifactorial evaluation

FALLS PREVENTION AND INTERVENTION

- Falls prevention and intervention measures should be individualized
- Environmental hazards that predispose to falls should be minimized
1.0 INTRODUCTION

FALLS

Definition

A fall is defined as an unplanned descent to a lower level, with or without injury.

Demographics

Falls are common

Falls are the most frequently reported incident in hospital wards, with rates ranging from 1.7-25 falls per 1,000 patient bed days, depending on the unit. Geriatric psychiatry patients have the highest risk of falls.

Falls are dangerous and expensive

30-51% of falls in hospitals result in some form of injury, ranging from minor bruises to severe wounds and fractures. Falls are associated with a longer length of stay in hospital, greater utilization of healthcare and higher rates of discharge to nursing homes.

Falls may be prevented

Close to one-third of falls in hospitals and nursing care facilities can be prevented.

Local Data

A prevalence study done in a large tertiary hospital in Malaysia in 2011 showed that the majority of falls occurred in the period between midnight and noon. This may have been associated with toileting at night and higher activity in the mornings. Out of the 132 falls in the study, 21.5% occurred in the toilet while 51.6% occurred by the bedside. 47.5% of fallers had a previous history of falls. 41% occurred in the general medical wards. The psychiatry, radiotherapy and oncology, and orthopedic wards together contributed to 25% of the falls.

The most significant intrinsic risk factors were:
1. Functional status: the ‘middle group’ ie. those who were not bedbound nor fully independent were at highest risk of falls (OR 2.3)
2. History of falls (OR 2.47)
3. Disorders of the circulatory system (OR 2.28)
FALLS PREVENTION AND INTERVENTION IN HOSPITALS

Readiness to Reduce Falls

Leaders and members of the healthcare team must understand why falls prevention and intervention is important.

- Are the stakeholders ready for change?
- Have there been prior efforts to prevent falls?
- Is there adequate awareness, motivation and capability to prevent falls?
- What is currently used to assess organizational practice with respect to managing risk factors for falls?
- What has been learnt from previous experience?
- What is the attitude and perception of staff with regards to falls prevention?
- Did falls prevention require a multidisciplinary team input?
- How did the multidisciplinary team coordinate its efforts to prevent falls?

As a preliminary step to setting up a prevention and intervention programme in a unit, the team will need to review local organizational practices. The work of redesigning requires an assessment of the organization’s current practices, looking at the gaps between current and recommended practices.

Leadership Support

An organization’s leadership needs to stress the importance of falls prevention and intervention and support this effort. Changes will require additional resources and an emphasis on accountability.
2.0 FALLS INTERVENTION TEAM AND COMPONENTS

2.1 BASIC CONCEPTS

THE FALLS INTERVENTION TEAM (FIT)

What is a FIT?

A Falls Intervention Team (FIT) is a team of committed individuals who are strong advocates for falls prevention. The FIT assumes the overall responsibility for the design of the falls prevention and intervention program in the organization. They are also responsible for making key decisions, working with unit-level teams, and monitoring progress.

Structure of a FIT

Individuals who may coordinate the programme include physicians, nurse managers, nurses, physiotherapists, occupational therapists, pharmacists or staff members with a particular interest in falls prevention.

Basic Principles for a FIT

Successful teams need capable leaders to define roles and responsibilities and be accountable for outcomes.

- The scope of the FIT’s charge needs to be established
- Team members need to understand why they have been selected
- The team needs to be aware of the scope of the problem in their facility (eg. falls rates, repeat falls rates, severity of injuries, outcomes)
- Roles and responsibilities need to be clearly defined with appropriate timelines for outcomes
- A timeline for the team’s aims needs to be determined with appropriate prioritization
- The team should have access to the necessary tools and structures
- Regular meetings are required to monitor progress
- Quality/performance units/departments should be involved in setting up the programme
Resources and Funding Required for a FIT

Required resources include:
- Support and monitoring from senior management
- Time for meetings and initiatives
- Time for training and education
- Communication and teaching material
- Staff education programmes

Funding is required for:
- Training programmes
- Educational material
- Information technology support
- Specific equipment (ultra low beds, floor mats, assistive devices, safe patient handling equipment, bed exit alarms, etc, where available)
- Facilities (eg. meeting rooms)

2.2 PROCESS

IMPLEMENTING A FALLS PREVENTION PROGRAMME

Process Mapping

Process mapping can be employed to examine key processes where falls prevention is applicable. Mapping can specify which unit or individual is responsible for each step in the process, with particular attention paid to both patient movement and movement of information about the patient. The goal is to come to an understanding of how a particular care process is carried out, which then leads to further discussion about how the process should be carried out.

Assessment may be carried out on a sample of representative units to determine which falls prevention practices are already in place. For example, is an initial falls risk assessment completed within a certain time frame from admission? Are the results used to determine risk factors that can be acted upon?

Process mapping can also be used to describe current falls intervention practices and to identify problem points. It will enhance understanding of how and when a falls intervention program will complement existing processes (ie medical/surgical admissions or admissions via the emergency department)

Results should be compared with other units to identify which challenges are unit-specific and which are applicable to an organization as a whole.
Developing a Plan for Change

Once goals are set, a plan needs to be put in place to implement new practices, collect and analyze data and monitor progress. This should include:

- Standards of care and practice
- Membership and operation of the interdisciplinary FIT
- Staff education and competency
- Staff accountability
- Performance assessment

Patient Safety and a Just Culture

Patient safety incidents such as falls should be seen as occurring due to failures of the healthcare system rather than the fault of any specific individual. The focus on individual mistakes instead of systemic weaknesses discourages error reporting and is inherently counterproductive to identifying faults and engendering improvement.

Intimidation can lead to medical errors, adverse outcomes, patient dissatisfaction and increased cost. It may also result in loss of staff discontented with the working environment, and this includes clinicians, administrators and managers. The safety and quality of patient care is dependent on teamwork, communication and a conducive work environment.

The Just Culture model views events as opportunities to improve understanding of both system and behavioural risk. It is about changing staff expectations and behaviour, encouraging them to look for environmental risk, report errors and hazards, make safe choices and design safe systems. This model promotes reporting and accountability among staff. It also represents an opportunity to improve the environment and care delivery for patients. The Just Culture therefore helps to improve the healthcare system in a comprehensive manner.

Incident Reporting

The fundamental role of an incident reporting system is to enhance patient safety. Learning from failures of the healthcare system occurs through the investigation of incidents. To encourage incident reporting, a non-blaming and learning culture needs to be nurtured. In most healthcare organizations, staff are not speaking out because of punitive work environments. Staff fear repercussions from both superiors and peers when an error occurs.

Staff need to feel safe to report incidents, without the threat of sanctions. Fear, coupled with the perception that staff will not be protected when errors occur, discourages error reporting. Recommendations should be made to reward error reporting. The outcomes of any investigation should also be shared with other staff involved.
The process of incident reporting must be simplified. Increased reporting can lead to revisions in care delivery systems, creating safer environments and giving healthcare staff a sense of ownership in the process.

**Taking Action**

Falls incident reporting is mandatory and must be taken seriously. Capacity to investigate using tools such as root cause analysis (RCA) must be developed and strengthened. This should then be followed-up by implementation of suitable risk reduction strategies.
3.0 SCREENING

FALLS RISK ASSESSMENT TOOLS

A number of falls risk assessment tools have been developed and tested in different clinical settings. These tools help identify older adults who are at risk of falls and facilitate steps to prevent them. Reliable fall risk assessment tools are important in order to predict risk of falls as accurately as possible. However, these tools need to be applied with clinical judgment and assessment needs to be individualized.

The most important role of an assessment tool is to identify fall risk factors for which care plans can be developed. Examples are the:

- Morse Fall Scale
- Hendrich II Falls Risk Model
- Schmid Falls Risk Assessment Tool
- St. Thomas’s Risk Assessment Tool (STRATIFY)

The Morse Falls Scale (Refer to Appendix 1)

Several studies have shown the benefits of using the Morse Falls Scale over other tools due to its high positive predictive value in predicting fallers and its suitability for use in hospital.

The Morse Falls Scale identifies the risk of falling in hospitalized patients and care plans can be modified to address this risk.

Advantages of the Morse Falls Scale are:
- A rapid and simple method of assessing an older adult’s likelihood of falling
- Requires less than 3 minutes to be completed
- Has good predictive validity and interrater reliability
- Widely accepted and used in acute care settings

It should be noted that Morse herself stated that the appropriate cut-off points to distinguish risk should be determined by each institution based on the risk profile of its patients.
4.0 RISK FACTORS FOR FALLS

Managing falls risk is a crucial part of falls intervention, to prevent falls and reduce risk of recurrent falls. Causes of falls in the hospital are usually multifactorial, especially in older persons. Risk factors can be intrinsic or extrinsic.

<table>
<thead>
<tr>
<th>INTRINSIC</th>
<th>EXTRINSIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive impairment/mood disorders</td>
<td>• Lack of grab bars</td>
</tr>
<tr>
<td>• Dementia</td>
<td>• Slippery floors</td>
</tr>
<tr>
<td>• Delirium</td>
<td>• Uneven walking surfaces</td>
</tr>
<tr>
<td>• Depression</td>
<td>• Obstacles and tripping hazards</td>
</tr>
<tr>
<td>Weakness</td>
<td>• Dim lighting or glare</td>
</tr>
<tr>
<td>• Weakness due to underlying musculoskeletal and neurological disorders, eg stroke, spinal cord injury</td>
<td>• Poor stair design</td>
</tr>
<tr>
<td>• Weakness due to deconditioning or disuse wasting</td>
<td>• Carpets and mats</td>
</tr>
<tr>
<td>Movement disorders</td>
<td>• Furniture height</td>
</tr>
<tr>
<td>• Parkinsonism</td>
<td>• Height of shelves and other fixtures</td>
</tr>
<tr>
<td>• Dyskinesia</td>
<td>• Inappropriate footwear</td>
</tr>
<tr>
<td>• Dystonia</td>
<td>• Inappropriate walking aids</td>
</tr>
<tr>
<td>Vestibular problems</td>
<td>• Lack of attention or assistance from staff</td>
</tr>
<tr>
<td>• Central causes, eg. cerebellar stroke</td>
<td>• Drugs</td>
</tr>
<tr>
<td>• Peripheral causes, eg. BPPV, vestibular neuritis, Meniere’s disease</td>
<td>• Alcohol</td>
</tr>
<tr>
<td>Syncope/near syncope, eg.</td>
<td>• Bifocal glasses</td>
</tr>
<tr>
<td>• Cardiogenic syncope</td>
<td></td>
</tr>
</tbody>
</table>
### Intrinsic Risk Factors

<table>
<thead>
<tr>
<th>Postural hypotension, eg.</th>
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</thead>
<tbody>
<tr>
<td>- Drug-induced</td>
</tr>
<tr>
<td>- Autonomic dysfunction</td>
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<tr>
<td>- Dehydration</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Joint problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Degenerative changes, eg osteoarthritis, spondylosis</td>
</tr>
<tr>
<td>- Inflammatory arthritis, eg rheumatoid arthritis, psoriatic arthropathy</td>
</tr>
<tr>
<td>- Charcot’s joints</td>
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</table>

<table>
<thead>
<tr>
<th>Sensory deprivation</th>
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</thead>
<tbody>
<tr>
<td>- Poor vision</td>
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<tr>
<td>- Loss of proprioception, numbness of the feet</td>
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### Extrinsic Risk Factors

<table>
<thead>
<tr>
<th>Environmental</th>
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<tbody>
<tr>
<td>Non-Environmental</td>
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</table>

For practicality, falls risk factors can be divided into those which are reversible and nonreversible. Many studies have shown that the 2 nonreversible factors of increasing age and history of falls are strongly correlated with falls in older adults. On the other hand, extrinsic risk factors are generally reversible and modifiable.

The first step to reduce falls in the hospital would be to target and modify extrinsic risk factors and to provide a safer environment for patients. Some intrinsic risk factors are modifiable whilst others are not. Therefore individualized assessment and management of these risk factors is warranted.
EXAMPLES OF HAZARDS THAT PREDISPOSE TO FALLS

Lines, catheters and drains: A, B
Clothing of inappropriate length: C, D
Inappropriate footwear: A, C
5.0 PREVENTION AND INTERVENTION

FALLS RISK MANAGEMENT

Falls risk management can be divided into 2 levels: general and specific.

General Risk Management

These measures are recommended at all levels.

<table>
<thead>
<tr>
<th>GENERAL MEASURES</th>
<th>RISK STRATIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate lighting</td>
<td>Screening</td>
</tr>
<tr>
<td>Walkway obstacles cleared</td>
<td>Cohort of high risk patients</td>
</tr>
<tr>
<td>Floors kept dry and clean</td>
<td></td>
</tr>
<tr>
<td>Grab bars</td>
<td></td>
</tr>
<tr>
<td>Call bells</td>
<td></td>
</tr>
<tr>
<td>Appropriate footwear</td>
<td></td>
</tr>
<tr>
<td>Appropriate walking aids</td>
<td></td>
</tr>
<tr>
<td>Ultra low bed (where available)</td>
<td></td>
</tr>
<tr>
<td>Avoidance of high risk drugs</td>
<td></td>
</tr>
</tbody>
</table>

Specific Risk Management

These measures are recommended when and where resources are available.

<table>
<thead>
<tr>
<th>RISK FACTORS</th>
<th>SPECIFIC INDIVIDUALIZED INTERVENTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory deprivation</td>
<td>Try to correct potential reversible risk factors</td>
</tr>
<tr>
<td>Postural hypotension</td>
<td>Manage accordingly</td>
</tr>
<tr>
<td>Weakness, abnormalities of joints or balance</td>
<td>Physio- and occupational therapy</td>
</tr>
<tr>
<td>Incontinence</td>
<td>Manage accordingly</td>
</tr>
<tr>
<td>Syncope/near syncope</td>
<td>Manage accordingly</td>
</tr>
<tr>
<td>Confusion/agitation</td>
<td>Behavioural management</td>
</tr>
<tr>
<td>Drugs</td>
<td>Medication review</td>
</tr>
</tbody>
</table>
6.0 POST-FALL MANAGEMENT

- A fall may be the first indication of an underlying medical condition
- Those who have fallen are 2-3 times more likely to fall again
- Post-fall management guidelines are useful in the assessment, management and follow-up of patients after a fall
- The likelihood of further harm after a fall can be reduced if there is prompt and systematic assessment and management, with early recognition of deterioration in the patient’s condition

Responding to the Fall (Refer to Appendix 2)

- An immediate assessment must be carried out by a staff nurse or medical officer at the scene of the fall
- Reassure the patient, but do not move the patient until basic assessment is completed.
- “C-A-B”
  - Check the patient’s responsiveness, airway, breathing and circulation.
  - Check for ongoing danger.
- Obtain baseline measurements: blood pressure, pulse, respiratory rate, oxygen saturation, blood sugar, temperature and pain as soon as possible
- Check for injuries and exclude fractures
- Record neurological observations (Glasgow coma scale, speech, eye movements and pupillary abnormalities)

Moving the Patient

- If there is suspected head or spinal injury, immobilize the cervical spine and call the Rapid Response or Specialist team for assistance
- If it is deemed safe for the patient to move, assist the patient in returning to the bed or chair using proper techniques or by employing a lifting device

Monitoring the Patient

- Observe for new or worsening confusion, headache, amnesia, vomiting or change in the level of consciousness.
- Provide ongoing targeted monitoring of the patient as some injuries may not be apparent at the time of the fall. There may be late manifestations of head injury and monitoring maybe required up to 72 hours post-fall.
Other Considerations

- Clean and dress any wounds sustained from the fall. Consider the administration of tetanus toxoid if appropriate.
- Provide analgesia if indicated.
- Order relevant investigations such as ECG, X-rays and blood tests (full blood count, coagulation profile, septic screening)
- Consider CT head if there is suspicion of head injury (and if CT findings will alter management)
- Review medications (e.g. antiplatelet or anticoagulant therapy) and discontinue if appropriate
- Notify the caregiver about the fall at the earliest opportunity.

Post-Fall Review

- Explore the circumstances surrounding the fall by speaking to the patient and witnesses
- Details of the review should include the mechanisms of fall
- Identify fear of falling
- Refer as appropriate (e.g. to the physiotherapist/occupational therapist/pharmacist/etc)
- Implement a targeted, individualized plan based on the findings of the assessment
- Communicate to everyone involved (staff, patient, caregivers) regarding assessment findings and management recommendations.

Reporting the Fall (Refer to Appendix 2)

- Document details of the fall, circumstances and immediate response in the medical records
- Notify as per local guidelines.

Fragility Fracture Post-fall

- Refer to the orthopedic team
- Commence osteoporosis treatment as per guideline with appropriate follow up
- Refer to the relevant unit for long term osteoporosis management
- Check baseline BMD to guide subsequent management
7.0 ROLES OF TEAM MEMBERS

7.1 NURSES

Falls prevention is part of routine nursing care for all older patients in hospital. Nurses need to recognize patients’ risk of falls, formulate individualized falls intervention plans and manage patients who have fallen. Nurses are also an important component in the implementation of successful inpatient falls prevention programmes.

ASSESSMENT AND INTERVENTION FLOWCHART
ASSESSMENT

All patients admitted to the hospital should undergo a falls risk assessment within 24 hours of admission. Risk assessment should be multidimensional and include medical, functional and behavioural assessment of the patient.

Reassessment

In hospitals, reassessment of falls risk should be carried out at least once a day and where there is a change in the patient’s condition or after an episode of fall during hospitalization.

1. Change in the patient’s condition
   Any change in the patient’s condition could result in a change in their falls risk. For example, falls risk may increase if the patient experiences a decline in physical function and alertness, necessitating close supervision.

2. Change in medication
   Some medications or combination of medications may place patients at risk of falls; therefore, patients on these medications should be monitored closely. A nurse can evaluate patients’ medications and suggest alternatives if those prescribed increases the risk of falls.

3. Immediately after a fall
   It is essential to implement a falls risk assessment immediately following a fall. The purpose is to establish the circumstances leading to the fall, identify any new risk factors and implement an appropriate intervention to prevent future falls. Refer to the section on Post-Falls Management for details.
INTERVENTION

Standard Falls Risk Interventions (for all patients)
1. Orientate the person to the surrounding environment daily (or more often if the person is confused or disorientated)
2. Ensure the person uses their glasses and/or hearing aids and walking aids (if required)
3. Advice the use of covered shoes or nonslip footwear to prevent slipping
4. Ensure that clothing is not interfering with the person’s mobility
5. Instruct the patient to call for assistance
6. Secure a call bell at the bed table or bedhead
7. Ensure the bed or wheelchair is locked, and bed rails are up (where appropriate)
8. Conduct regular environmental rounds to look out for falls hazards (ie. ensure bathroom lights are on and the floor is dry)
9. Provide education to the patient and caregiver

Moderate Falls Risk Interventions
1. Identify delirium and observe closely
2. Check for postural hypotension and manage appropriately
3. Reinforce instructions to call for assistance
4. Supervise and assist ambulation and activities of daily living when necessary
5. Conduct 4-hourly safety checks
6. Check the person when visitors leave
7. Apply a Falls “MODERATE Risk” tag at the person’s bed and in the medical notes

High Falls Risk Interventions
1. Place near nurses’ station (if possible)
2. Lower the bed to the lowest position
3. Place a padded area (ie. Airex mattress) on the floor bedside if the patient is confused but mobile
4. Reinforce education to the patient and caregiver
5. Apply a Falls “HIGH Risk” tag at the person’s bed and in the medical notes

<table>
<thead>
<tr>
<th>FALLS RISK</th>
<th>INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td>Standardized falls risk interventions</td>
</tr>
<tr>
<td>Moderate risk</td>
<td>Standardized + moderate falls risk interventions</td>
</tr>
<tr>
<td>High risk</td>
<td>Standardized + moderate + high falls risk interventions</td>
</tr>
</tbody>
</table>

Bed rails may be used as a safety barrier or as a support for transfer. They should be lowered by default and only be raised at the discretion of the staff. Bed rails are inappropriate for patients who are confused and mobile enough to climb over them.
POST-FALLS INTERVENTION FLOWCHART

1. Assess the level of injury and treat accordingly
2. Record vitals signs including postural BP
3. Notify the attending doctor, nursing sister and caregiver
4. Initiate assessment and intervention for contributing intrinsic and extrinsic causes of fall
5. Inform the Fit
6. Monitor closely for complications for 24 hours

1. Assess the patient’s condition
2. Record vitals signs including postural BP
3. Notify the attending doctor, nursing sister and caregiver
4. Initiate assessment and intervention for contributing intrinsic and extrinsic causes of fall
5. Inform the Fit
6. Monitor closely for complications for 24 hours

Documentation and incident reporting

Yes

Recurrent fall

No

Discharge
### CLASSIFICATION OF PATIENT OUTCOME AFTER A FALL

<table>
<thead>
<tr>
<th>OUTCOME</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Patient outcome is not symptomatic or no symptoms are detected and no treatment is required. Eg. no injury.</td>
</tr>
<tr>
<td>Minor</td>
<td>Patient outcome is symptomatic: symptoms are mild, loss of function or harm is minimal or intermediate but short term, and no or minimal intervention (eg. extra observation, investigation, review or minor treatment) is required; there is increased length of stay (of up to 72 hours). Eg. minor injury with abrasion or bruise treated by dressing, limb elevation or topical medications.</td>
</tr>
<tr>
<td>Moderate</td>
<td>Patient outcome is symptomatic, requiring intervention (eg. additional operative procedure or additional therapeutic treatment); there is increased length of stay (of more than 72 hours to 7 days). Eg. injury resulting in muscle or joint strain or requiring treatment by bandage, splinting or suturing.</td>
</tr>
<tr>
<td>Major</td>
<td>Patient outcome is symptomatic, requiring life-saving intervention or major surgical/medical intervention; there is increased length of stay (of more than 7 days), shortening of life expectancy or major permanent or long term harm or loss of function. Eg. injury resulting in casting, skin traction or surgery, or injury that may need neurological attention such as intracranial bleed.</td>
</tr>
<tr>
<td>Death</td>
<td>On a balance of probabilities, death was caused or brought forward in the short term by the incident. Eg. patient dies as a result of serious injury.</td>
</tr>
</tbody>
</table>

### STANDARDIZED SHIFT HANDOVER PROTOCOL

To maintain continuity and improve quality of care, effective inter-shift communication of information is necessary. Communication breakdown is an important contributor to adverse outcomes, including falls. In order to enhance communication among nurses at the change of shift, evidence is emerging to support the practice of a bedside shift report.

Important information to include in a regular bedside shift report include:
1. Falls risk: low, moderate or high
2. Interventions required
3. Whether the patient and caregiver have been informed regarding falls risk and interventions
If the patient has had a fall, the bedside shift report should include details of the fall including:

1. WHERE - location of the fall
2. WHEN - time of the fall
3. WHY - mechanism of the fall
4. WHAT - injuries sustained
5. HOW - interventions required and provided
6. IF - if the caregiver and nursing sister have been informed regarding the incident

**TRAINING**

**All New Nursing Graduates**

A formal continuing nursing education (CNE) session on falls is required, encompassing:

1. Morse Falls Scale assessment
2. Falls prevention
3. Intervention post-falls
4. Documentation

Duration: 1 hour

**All Nurses**

Regular CNE sessions on falls are required, encompassing:

1. Morse Falls Scale assessment
2. Falls prevention
3. Intervention post-falls
4. Documentation

Frequency: twice a year

Duration: 2 hours

**Falls Link Nurses**

**Qualification Required**

1 year work experience as a staff nurse

**Training Procedure**

Candidates are required to attend one workshop and undergo on-the-job training for 1 year.

**Workshop**

Duration: 2 working days
Teaching hours: 16
- Training modules: 8 hours
- Case presentation and discussion: 1 hour
- Scenarios and discussion: 2 hours
- Practical sessions: 4 hours
- Pre- and post-test: 1 hour

On-the-job Training

Duration: 1 year
Candidates need to fill in a log book and complete the following number of tasks:
- 30 Morse Falls Scales assessments
- 3 Post-falls intervention exercises
- 3 Surveillance reports
- 12 Monthly collections of census and reports
- 1 End of the year report
- 2 Conduct CNE

At the end of 1 year there will be an exit exam conducted by the Falls Nurse Trainer or geriatrician.

Upon successful completion of training, the nurse will be privileged by as a Falls Link Nurse by the respective geriatrician

Training Modules

Module 1  Introduction to Risk of Falls in Older Adults (1 hour)
- Morse Fall Scale Assessment (1 hour)

Module 2  Falls Risk Assessment - Assessment, Prevention and Documentation (1 hour)
- Post-Fall Assessment - Assessment, Intervention and Documentation (1 hour)

Module 3  Responsibilities of a Falls Link Nurse (1 hour)

Module 4  The Role of Exercise and Physiotherapy (1 hour)
- Occupational Therapy and Intervention (1 hour)

Module 5  Promoting a Safe Hospital Environment (1 hour)
**Falls Nurse**

**Qualification Required**

Completed Falls Link Nurse program (as above)

**Training Procedure**

Candidates are required to undergo on-the-job training for 2 years, and demonstrate the ability to independently:

1. Manage a Falls service
2. Conduct Falls workshop
3. Collect census, write reports and suggest service improvements

Upon successful completion of training, the nurse will be privileged by as a Falls Nurse by the respective geriatrician
7.2 PHYSIOTHERAPISTS

Physiotherapy assessment and intervention is an integral part of any falls care pathway. The physiotherapist performs risk assessments and conducts targeted programmes such as evidence-based exercise, education and advice programmes aimed at improving strength and balance, increasing self-confidence, reducing fear of falling and promoting active and healthy lifestyles.

ASSESSMENT AND INTERVENTION FLOWCHART

ASSESSMENT AND INTERVENTION PROCEDURE

1. Referral received from the medical officer
2. Assessment performed by the physiotherapist
3. Risk factors for falls are identified, usually involving one or more of the following systems:
   a. Central nervous system
   b. Vestibulocochlear system
   c. Musculoskeletal system
4. Intervention is performed accordingly
5. Reassessment is conducted post-intervention
6. Education on falls prevention and a home exercise program is given to those who have achieved physiotherapy goals or those who are at low risk of falls
ASSESSMENT MODALITIES

1. Timed Up and Go (TUG)
   The Timed Up and Go test is a simple test used to assess a person’s mobility. Both static and dynamic balance is assessed. It measures the time a person takes to rise from a chair, walk three meters, turn around, walk back to the chair, and sit down.

2. Berg Balance Scale (BBS)
   The Berg Balance Scale is a performance-based assessment. It takes about 15 minutes to complete and encompasses 14 mobility tasks. Each task is scored from 0 (unable to complete task) to 4 (able to do the task independently). A score of less than 41 points indicates a medium to high risk of falls.

3. Performance Oriented Mobility Assessment (POMA)
   The Performance Oriented Mobility Assessment assesses both balance and gait through direct observation of task performance. It takes about 10 minutes to complete. Each component consists of a relevant score that indicates the risk of fall.

INTERVENTION MODALITIES

Intervention depends on the interpretation of clinical findings and the conclusion drawn from the problem analysis. Interventions include:
1. Balance training
2. Strength training
3. Balance and strength training in combination
4. Walking

TRAINING

Qualification Required

1 year experience as a physiotherapist within the medical or neurology department

Training Procedure

Recommended duration of attachment: 2 working weeks

Teaching hours: 40
   Training modules: 35 hours
   Practical sessions: 2 hours
   Case presentation and discussion: 1 hour
   Scenarios and discussion: 2 hours
Training Modules

Module 1  Introduction to the Physiotherapist’s Role in Geriatrics (1 hour)
          Introduction to the Physiotherapist’s Role in Falls (1 hour)

Module 2  Falls Assessment (1 hour)
          Comprehensive Falls Assessment (Inpatient, Outpatient, etc.) (8 hours)

Module 3  Intrinsic Factors for Falls (Balance, Neurology, etc) (1 hour)
          Falls Intervention and Reporting (1 hour)

Module 4  Role of the Multidisciplinary Team in Falls (22 hours)
## 7.3 OCCUPATIONAL THERAPISTS

Occupational therapists are an important component of the multidisciplinary team effort to reduce falls in older adults both in the community and in healthcare settings. Interventions to reduce falls in the older adult are mainly directed at improving home safety and activities of daily living.

### ASSESSMENT AND INTERVENTION FLOWCHART

![Flowchart Diagram]

### ASSESSMENT AND INTERVENTION PROCEDURE

1. Referral is received from the medical officer
2. Assessment is performed by the occupational therapist
3. Physical and cognitive issues are identified
4. Intervention measures are initiated based on the issues identified
5. Patient is reassessed post-intervention
6. Education on falls prevention and home safety is given to those who have achieved occupational therapy goals or those who are at low risk of falls
ASSESSMENT MODALITIES

1. Reality Orientation (RO) assessment
   Assessment of the patient’s orientation to time, place, person and surroundings is performed before proceeding to more complex assessments.

2. Modified Barthel Index (MBI)
   The MBI is a simple-to-administer tool for the assessment of self-care, mobility and activities of daily living. Reliability, validity and overall utility are rated as good to excellent.

3. Environmental assessment
   Assessment of the surroundings (eg. the ward) is performed to identify any hazards that can cause falls.

4. Dressing and footwear assessment
   Assessment is made to identify any hazards to the patient from dressing and footwear.

INTERVENTION MODALITIES

1. Reality orientation training
2. Activities of daily living retraining
3. Environmental modification
4. Education for patients and caregivers regarding the importance of appropriate clothing, footwear and walking aids

TRAINING

Qualification Required

1 year work experience as an occupational therapist

Training Procedure

Recommended duration of attachment: 2 working days

Teaching hours: 12
   Training modules: 8 hours
   Practical sessions: 2 hours
   Case presentation and discussion: 2 hours
### Training Modules

<table>
<thead>
<tr>
<th>Module</th>
<th>Title</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>Introduction to the Occupational Therapist’s Role in Falls ADL, instrumental ADL, Sleep and Rest</td>
<td>(1 hour)</td>
</tr>
<tr>
<td>Module 2</td>
<td>Comprehensive Environmental Assessment (Ward, Home, etc.) Home Falls Assessment Screening Tool (FAST) Assessment</td>
<td>(2 hours)</td>
</tr>
<tr>
<td>Module 3</td>
<td>Equipment, Aids and Assistive Devices Falls intervention and Reporting</td>
<td>(1 hour)</td>
</tr>
<tr>
<td>Module 4</td>
<td>Role of the Multidisciplinary Team in Falls</td>
<td>(1 hour)</td>
</tr>
</tbody>
</table>
Pharmacists are trained to conduct thorough medication reviews, consisting of an appraisal of age-related physical changes that predispose older adults to drug-drug interactions, drug-disease interactions and medication side effects.

Medication use is one of the most highly modifiable risk factors for falls in older adults. Polypharmacy, known as the use of multiple medications or the administration of more medications than is clinically indicated, is common in older adults. Approximately 85% of older adults take at least one prescription medication and about 25% take 5 or more types of medications. Therefore, a routine medication review is a key component in preventing falls in older adults.

To date, there is no established pathway in Malaysia to guide pharmacists in performing comprehensive medication management that incorporates a fall-oriented assessment and intervention. This process would require involvement by trained pharmacists from various levels and facilities to ensure the continuity of care as the patient transits between settings.

ASSESSMENT AND INTERVENTION FLOWCHART

![Flowchart](image)

FRIDS – Falls-Risk Increasing Drugs
ASSESSMENT AND INTERVENTION PROCEDURE

1. Referral is received from the medical officer.
2. Medication review and evaluation is performed by the pharmacist by comparing the medication history (CP1) and current inpatient medications (refer to Appendix 3)
3. High-risk drugs and falls-risk increasing drugs (FRIDS) are identified according to the Falls Risk Assessment Instrument (FRAI) (refer to Appendix 3)
4. Intervention measures are initiated based on the issues identified.
5. Patient is reassessed post-intervention.
6. Counselling and education on use of medications and changes in medication regime are given to the patient before or upon discharge.

ASSESSMENT MODALITIES

1. Medication Appropriateness Index (MAI) (Refer to Appendix 3)
   This tool helps evaluate the appropriateness of individual medications and medication regimes in older adults in terms of indication, efficacy, dosing, administration, drug-drug and drug-disease interactions, medication duplications, duration of therapy and cost-benefit ratio.

2. Tools for identification of potentially inappropriate medications, especially FRIDS
   a. Beers Criteria 2015
      The Beers Criteria is used to identify potentially inappropriate medications (PIM) in older adults. It contains a list of PIMS and recommendations for prescribing.
   b. Screening Tool of Older People's Prescriptions (STOPP)
      This tool is used to minimize inappropriate prescribing in older persons. It is best used during acute illness or hospital admissions to prevent adverse drug reactions (ADR).
   c. Anticholinergic Burden (ACB) Scale
      The ACB measures the risk of anticholinergic effects of prescribed and over-the-counter medications.

3. Screening Tool to Alert to Right Treatment (START)
   This tool helps identify necessary medications that may have been missed, such as osteoporosis medications.

No tool is all inclusive or considered the gold standard. Therefore, each of these tools is helpful only when coupled with a thorough medication review by the primary care provider (or, if possible, a pharmacist) and correlated with the patient’s clinical condition.
INTERVENTION MODALITIES

1. Education for patients and caregivers on medication changes (new, changed and stopped medications)
2. Reconciliation of medications upon discharge.
3. Education for patients and caregivers regarding the importance of adherence and methods to overcome any possible adverse events secondary to non-preventable use of FRIDs.

TRAINING

Qualifications Required

1. Pharmacists who have completed the Geriatric Training Module (and have been privileged or credentialed) or
2. Masters in Clinical Pharmacy with 2 years’ experience in clinical pharmacy or
3. Bachelor of Pharmacy with 4 years’ experience in clinical pharmacy

If a candidate does not fulfill the requirements above but wishes to join the FIT programme, a recommendation letter from the respective geriatrician and head of the pharmacy department is required.

Training Procedure

Recommended duration of attachment: 5 working days

Teaching hours: 18
   Training modules: 9 hours
   Falls case clerking: 5 hours (minimum 5 cases per attachment)
   Case presentation and discussion: 1 hour
   Scenarios and discussion: 2 hours
   Pre- and post-test: 1 hour

Upon successful completion of training, the pharmacist will be privileged as a Falls Pharmacist by the Falls Pharmacist Trainer
Training Modules

<table>
<thead>
<tr>
<th>Module</th>
<th>Title</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>The Role of Pharmacists in Preventing Falls in Older Persons</td>
<td>1 hour</td>
</tr>
<tr>
<td>Module 2</td>
<td>Geriatric Syndromes, Adverse Drug Reactions and Polypharmacy</td>
<td>3 hours</td>
</tr>
<tr>
<td>Module 3</td>
<td>Drugs in Frailty: The Art of Pharmacotherapy Modification</td>
<td>1.5 hours</td>
</tr>
<tr>
<td>Module 4</td>
<td>Drugs and Instability: Balancing a Fine Line</td>
<td>1.5 hours</td>
</tr>
<tr>
<td>Module 5</td>
<td>Tools to Assess Medications in the Older Person</td>
<td>1 hour</td>
</tr>
<tr>
<td>Module 6</td>
<td>Preventing and Responding to Iatrogenesis</td>
<td>1 hour</td>
</tr>
</tbody>
</table>
8.0 TRAINING

FALLS INTERVENTION TEAM TRAINING PROGRAM

Aims

1. To assist doctors and allied health staff in practicing and implementing intervention policies from the FIT
2. To train staff to perform audits for the FIT

Curriculum

4 modules are suggested:

Module 1 Understanding and Awareness of Why Change is Needed
   a. The objectives of the FIT
   b. The importance of the FIT
   c. The importance of falls rate reduction

Module 2 Implementing Changes and Adopting or Integrating Changes into Hospital Policies
   a. Reinforcing the importance of the FIT to the hospital
   b. Developing goals and plans for change
   c. Supporting and preparing the hospital for change
   d. Arousing interest amongst healthcare personnel and recruiting staff
   e. Setting up a FIT in the hospital

Module 3 Best Practices in Falls Intervention
   a. Training healthcare personnel in universal falls precautions
   b. Identifying and training the use of a suitable and standardized falls assessment tool
   c. Identifying and training the implementation of suitable and standardized falls intervention practices
   d. Planning suitable individualized care for patients
   e. Incorporating these best practices into a FIT in the hospital

Module 4 Performing Audits
   a. Organizational audits
   b. Clinical audits
Methods

1. Methods include
   a. Lectures
   b. Hands-on sessions
   c. Group discussions, teaching and presentations
   d. Coursework

2. Suggested time of each class or topic is 30 to 90 minutes
9.0 AUDIT

AUDIT PROTOCOLS

The objective of an audit would be to provide reliable, relevant and timely data in order to facilitate local improvements in clinical practice and patient safety to reduce inpatient falls.

Audit comprises of 2 components: organizational and clinical.

Organizational Audit

An organizational audit is an assessment of an organization's capacity to carry out its falls policy. It is performed via a review of policies and procedures, with an environmental checklist.

Auditing should cover 3 main sections that can performed at the level of the hospital and at the Ministry of Health:
1. Background details of the organisation including occupied bed days (OBDs) and number of falls
2. Policies and protocols and paperwork
3. Leadership and service provision

Clinical Audit

A clinical audit involves a review of medical documents and bedside observation, with all clinical data collected from patients. Clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic reviews of care against explicit criteria, followed by the implementation of change.
FALLS AUDIT TOOLS (Refer to Appendix 4)

Audit tools should be designed to assess the flow of care and the adherence of staff to falls intervention practices.

FITs in each facility must decide which elements require auditing.

In measuring key practices, data can be obtained from a number of sources. Each approach has its strengths and limitations:

- Direct observation of care (where a trained observer determines, for example, whether a patient’s call bell or walking aid is within reach) will be the most accurate approach for certain care processes, but this can be time consuming.
- Surveys may be helpful in certain circumstances, but rely on staff members’ recall of specific events, which might be inaccurate.
- Review of medical records is the easiest approach to complete, but rely on what is documented in the records (and much care for fall prevention may not be documented).

AUDITORS

Ideally an auditor should:

- Be someone familiar with falls intervention processes, the forms used and the overall chart layout
- The audit should ideally be carried out by an external party
- Not audit their own work
- Have some training or guidance provided (to ensure consistency in application of organization-specific criteria).
## APPENDICES

### APPENDIX 1

### MORSE FALLS SCALE

<table>
<thead>
<tr>
<th>ITEM</th>
<th>ITEM SCORE</th>
<th>PATIENT SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. History of falling</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>2. Secondary diagnosis (≥ 2 medical diagnoses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>3. Ambulatory aid</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>None/bed rest/nurse assist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crutches/cane/walker</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Furniture</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>4. Intravenous therapy/heparin lock</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>5. Gait</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Normal/bed rest/wheelchair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weak</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Impaired</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>6. Mental status</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Oriented to own ability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overestimates/forgets limitations</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>TOTAL SCORE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low risk</td>
<td>&lt;25</td>
<td></td>
</tr>
<tr>
<td>Moderate risk</td>
<td>25-45</td>
<td></td>
</tr>
<tr>
<td>High risk</td>
<td>&gt;45</td>
<td></td>
</tr>
</tbody>
</table>
**Scoring and Risk Level**

The items in the scale are scored as follows:

<table>
<thead>
<tr>
<th>History of falling</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>If the patient has fallen during the present hospital admission or if there was an immediate history of physiological falls (e.g., seizures or an impaired gait prior to admission)</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>If patient has not fallen</td>
<td></td>
</tr>
<tr>
<td>Note: If a patient falls for the first time, then score immediately increases by 25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary diagnosis</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>If more than one medical diagnosis is listed on the patient’s chart</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambulatory aids</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>If the patient walks without a walking aid (also if assisted by a nurse), uses a wheelchair, or is on a bed rest and does not get out of bed at all</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>If the patient uses crutches, a cane or a walker</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>If the patient ambulates clutching onto the furniture for support</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intravenous therapy</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>If the patient has an intravenous apparatus or a heparin lock inserted</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gait</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>For normal gait: walking with head erect, arms swinging freely at the side, and striding without hesitance</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>For a weak gait: patient is stooped but is able to lift the head while walking without losing balance. Steps are short and the patient may shuffle</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>For impaired gait: patient has difficulty rising from the chair, attempting to get up by pushing on the arms of the chair or by bouncing (i.e. takes several attempts to rise). The patient’s head is down, and he or she watches the ground. Poor balance, therefore the patient grasps onto the furniture, a support person, or a walking aid for support and cannot walk without this assistance</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mental status</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check patient’s own self-assessment of his or her own ability to ambulate by assessing the patient’s response. Ask “Are you able to go the bathroom alone or do you need assistance?” Scored as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>If the patient’s reply in judging his or her own ability is consistent with the prior assessment, and patient is rated as ‘normal’</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>If the patient’s response is not consistent with the nursing orders or is unrealistic, of which the patient is considered to overestimate his or her own abilities and to be forgetful of limitations</td>
<td></td>
</tr>
</tbody>
</table>
Risk Level and Recommended Actions

<table>
<thead>
<tr>
<th>RISK LEVEL</th>
<th>MFS SCORE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk</td>
<td>0 - 24</td>
<td>Good basic nursing care</td>
</tr>
<tr>
<td>Mod Risk</td>
<td>25 - 44</td>
<td>Implement standard falls prevention interventions</td>
</tr>
<tr>
<td>High Risk</td>
<td>≥45</td>
<td>Implement high risk falls prevention interventions</td>
</tr>
</tbody>
</table>

Reassessment should be performed periodically and when there is a change in the patient’s clinical condition.
APPENDIX 2: POST-FALL CHECKLISTS

POST-FALL MANAGEMENT CHECKLIST

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>IC/RN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward</td>
<td>Date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1. Immediate response</th>
<th>Done</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checked</td>
<td>Vital signs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SpO2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blood sugar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GCS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Speech</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pupils</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Identifying injuries</th>
<th>Done</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checked for head, neck and spine injuries requiring immobilization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checked for open wounds, fractures and other injuries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Immediate management</th>
<th>Done</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wound dressing and pain relief provided?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevant investigations ordered?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing monitoring plan available?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Subsequent management</th>
<th>Done</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral to relevant disciplines (for assessment/management) made?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision on antiplatelet or anticoagulant made?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bone protection strategies available?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Post-fall review</th>
<th>Done</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reassessment of falls risk done?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revision of falls prevention strategies done?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategy revision communicate to all?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Documenting and reporting</th>
<th>Done</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details on post-fall management documented in case notes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-fall form (Appendix 2) filled and submitted?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incident reporting completed and submitted?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient/caregiver notified?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### POST-FALL REPORTING

<table>
<thead>
<tr>
<th>WHO HAD A FALL?</th>
<th>ACTIVITY PRIOR TO FALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>o  Patient</td>
<td>o  Toileting/bathing</td>
</tr>
<tr>
<td>o  Visitor</td>
<td>o  Transferring</td>
</tr>
<tr>
<td>o  Staff/student</td>
<td>o  Changing clothes</td>
</tr>
<tr>
<td>AGE OF FALLER</td>
<td>o  Reaching for objects</td>
</tr>
<tr>
<td>o  &lt;40</td>
<td>o  Rehabilitation</td>
</tr>
<tr>
<td>o  41-50</td>
<td>o  Sitting</td>
</tr>
<tr>
<td>o  51-60</td>
<td>o  Walking</td>
</tr>
<tr>
<td>o  61-70</td>
<td>o  Others</td>
</tr>
<tr>
<td>o  &gt;70</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PREVIOUS FALLS</th>
<th>ENVIRONMENTAL RISK FACTOR FOR FALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>o  Yes</td>
<td>o  None</td>
</tr>
<tr>
<td>o  No</td>
<td>o  Poor lighting</td>
</tr>
<tr>
<td>TIME OF FALL</td>
<td>o  Slippery surface</td>
</tr>
<tr>
<td>_______ am/pm</td>
<td>o  Uneven surface</td>
</tr>
<tr>
<td>LOCATION OF FALL</td>
<td>o  Crowded environment</td>
</tr>
<tr>
<td>WITHIN WARD</td>
<td>o  Railings down</td>
</tr>
<tr>
<td>o  Single-bedded room</td>
<td>o  No walking aid</td>
</tr>
<tr>
<td>o  2-bedded room</td>
<td>o  IV line/CBD/drain/etc</td>
</tr>
<tr>
<td>o  4-bedded room</td>
<td>o  Extension bed</td>
</tr>
<tr>
<td>o  Open ward</td>
<td>o  Footwear</td>
</tr>
<tr>
<td>OUTSIDE WARD</td>
<td>o  Others</td>
</tr>
<tr>
<td>o  Outpatient clinic</td>
<td>o  Others</td>
</tr>
<tr>
<td>o  Outpatient pharmacy</td>
<td>o  Others</td>
</tr>
<tr>
<td>o  Procedure venue (radiology, therapy, etc)</td>
<td>o  Others</td>
</tr>
<tr>
<td>o  Others</td>
<td>DIAGNOSIS ON ADMISSION</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SITE OF FALL</th>
<th>MEDICAL ILLNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>o  Toilet</td>
<td>o  Stroke</td>
</tr>
<tr>
<td>o  Bedside</td>
<td>o  Hypertension</td>
</tr>
<tr>
<td>o  Ward corridor</td>
<td>o  Diabetes mellitus</td>
</tr>
<tr>
<td>o  Hallway outside ward</td>
<td>o  Parkinsonism</td>
</tr>
<tr>
<td>o  Nursing station</td>
<td>o  Osteoarthritis</td>
</tr>
<tr>
<td>o  Others</td>
<td>o  Heart disease</td>
</tr>
<tr>
<td>THE FALL WAS</td>
<td>MEDICATIONS</td>
</tr>
<tr>
<td>o  Witnessed</td>
<td>o  Antihypertensive</td>
</tr>
<tr>
<td>o  Unwitnessed</td>
<td>o  Antidiabetic</td>
</tr>
<tr>
<td>UNDER SUPERVISION WHEN FALL OCCURRED</td>
<td>o  Diuretic (eg frusemide)</td>
</tr>
<tr>
<td>o  Yes by _______</td>
<td>o  Sedative (eg. antihistamine, sleeping tablet)</td>
</tr>
<tr>
<td>o  No</td>
<td>o  Antidepressant/anxiolytic</td>
</tr>
<tr>
<td></td>
<td>o  Opioid</td>
</tr>
<tr>
<td></td>
<td>o  Antiplatelet/anticoagulant</td>
</tr>
<tr>
<td></td>
<td>o  Others</td>
</tr>
</tbody>
</table>
### PRE-FALL

**Conscious level**
- Alert
- Confused

**MORSE FALL SCALE**

**MOBILITY**
- Independent
- With assistance
  - No walking aids
  - Stick
  - Quadripod
  - Frame
  - Wheelchair

### POST FALL

**BP**
- PR

**SpO₂**

**Glucometer**

**Glasgow Coma Scale**

**MORSE FALL SCALE**

### INJURY
- None
- Mild
- Moderate (intervention needed)
- Severe (life-threatening)
- Death

### SITE OF INJURY

![Diagram of site of injury front and back](image)

### INVESTIGATIONS
- Blood investigations
- Imaging (X-ray/CT)

### TREATMENT
- None
- Non-operative procedure
- Operative procedure
- Transfer to high dependency unit/ICU

### MOBILITY
- Independent
- With assistance
  - No walking aids
  - Stick
  - Quadripod
  - Frame
  - Wheelchair

### COMPLETED BY

__________________
(Sign and chop)

Date ____________
APPENDIX 3: MEDICATION ASSESSMENT TOOLS

MEDICATION HISTORY ASSESSMENT FORM

FORM TO BE FILLED BY THE PHARMACIST UPON PATIENT ADMISSION

A: PATIENT BIODATA

- Full Name: ____________________________
- Gender: M / F
- Age: ____________________________
- RNIC: ____________________________
- Address: ____________________________
- Phone No: ____________________________
- Admission Date/Time: ____________________________
- Ward/Bed: ____________________________
- PMHs: ____________________________
- Last Discharge / Review Date: ____________________________

B: REASON FOR ADMISSION

C: ALLERGY & ADVERSE DRUG REACTION

D: DRUG HISTORY

- Patient’s own drugs checked?: Yes ☐ No ☐
- Source of medication list: ____________________________

<table>
<thead>
<tr>
<th>MEDICATION (Specify strength)</th>
<th>DOSE</th>
<th>FREQUENCY</th>
<th>BALANCE FROM PREVIOUS SUPPLY</th>
<th>WRITE C FOR CONTINUE, DC FOR DISCONTINUE, WHY FOR WITHOLD</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-PRESCRIPTION MEDICATION (Includes Herbal/Vitamin/Other Supplements)</th>
<th>REASON FOR TAKING</th>
<th>BALANCE/COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E: PHARMACIST NOTES

- Pharmacist Sign & Stamp: ____________________________
- Time / Date: ____________________________

Original: To be kept in patient’s folder
Duplicate: To be kept by Pharmacy

Pin. 1/10
**COMPREHENSIVE FALLS RISK ASSESSMENT INSTRUMENT (FRAI)**

<table>
<thead>
<tr>
<th>Patient ID</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission date</td>
<td></td>
</tr>
<tr>
<td>Doctor</td>
<td></td>
</tr>
</tbody>
</table>

**CIRCLE APPROPRIATE NUMBERS**
**IF TOTAL IS MORE THAN 7, STATE INTERVENTIONS PLANNED AND MED CHANGE(S)**

**Ambulation status (circle): unaided/walking aid/wheelchair/bedbound**

**History of falls:**
- One to two falls in a month: 2
- More than two falls in a month: 8
- Falls-related fracture (write date): 5

**Conditions:**
- Postural (orthostatic) hypotension: 2
- \( \text{BP (Lying – 15 mins)}: \) 2
- \( \text{BP (Sitting – 0 / 1 / 3 / 5 mins)}: \) 2
- \( \text{BP (Standing – 0 / 1 / 3 / 5 mins)}: \) 2
- Syncope/dizziness: 1
- Sensory deficits: decreased vision (1), decreased hearing (1)

**Subtotal**

**Aphasia:** 1

**Unsteady or shuffling gait:** 2

**Confusion/delirium/disorientation/impaired cognition:** 2

**Agitation/increased anxiety:** 2

**Chronic pain:** 3

**Medications:**
- Cardiac (1), antihypertensive (1), diuretic (1), antidiabetic (1), antipsychotic or tricyclic antidepressant (2), dopaminergic agent (2), antidepressant or antihistamine (\( \text{H}_{1} \)- or \( \text{H}_{2} \)-blocker) (2), NSAID (1), anxiolytic (benzodiazepine or non-benzodiazepine) except buspirone (2), opioid: weak (1), strong (2), anticonvulsant (1), muscle relaxant (1)

**Subtotal**

**Diagnoses:**
- Incontinence: 2
- Bowel (2), bladder (2)
- Cardiac disease: 2
- Dysrhythmia (1), chronic heart failure (1)
- Neurological/psychiatric disease: 2
- Dementia (1), parkinsonism (1), seizures (1), stroke (1)
- Musculoskeletal disease: 2
- Arthritis (1), casts/slings/splints (1), prosthesis (1)
- Anemia: 2

**Subtotal**

**TOTAL SCORE**
- Falls risk: minimal 0-3, moderate 4-7, high 8 or more

<table>
<thead>
<tr>
<th>Signature of Assessor</th>
<th>Date</th>
</tr>
</thead>
</table>

*This instrument must be correlated with the patient’s clinical condition*
**MEDICATION APPROPRIATENESS INDEX (MAI) CHECKLIST**

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is there an indication for the drug?</td>
</tr>
<tr>
<td>2</td>
<td>Is the medication effective for the condition?</td>
</tr>
<tr>
<td>3</td>
<td>Is the dosage correct?</td>
</tr>
<tr>
<td>4</td>
<td>Are the directions correct?</td>
</tr>
<tr>
<td>5</td>
<td>Are the directions practical?</td>
</tr>
<tr>
<td>6</td>
<td>Are there clinically significant drug-drug interactions?</td>
</tr>
<tr>
<td>7</td>
<td>Are there clinically significant drug-disease interactions?</td>
</tr>
<tr>
<td>8</td>
<td>Is there unnecessary duplication with other drugs?</td>
</tr>
<tr>
<td>9</td>
<td>Is the duration of therapy acceptable?</td>
</tr>
<tr>
<td>10</td>
<td>Is this drug the least expensive alternative compared to others of equal utility?</td>
</tr>
<tr>
<td>CRITERIA</td>
<td>AUDIT ACTIVITY</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Falls risk screen completed (on admission or within 24 hrs)</td>
<td>Review clinical file for time and date of admission, and date of completion of-screening.</td>
</tr>
<tr>
<td>Patient falls risk identified</td>
<td>Review clinical file, note falls risk score, survey patient bed/notice board for evidence of falls risk flagging (eg. falls risk sticker/alert in notes/care plan/etc.)</td>
</tr>
<tr>
<td>Falls intervention plan completed</td>
<td>Review clinical file for completed intervention plan</td>
</tr>
<tr>
<td>Implementation of falls intervention plan documented (including relevant multidisciplinary interventions)</td>
<td>Review clinical file and care plan</td>
</tr>
<tr>
<td>Patient/caregiver is provided with falls information</td>
<td>Falls information provided on admission/following a fall</td>
</tr>
<tr>
<td>Falls intervention plan implemented in consultation with patient/caregivers</td>
<td>Review clinical file, consult with patient/caregiver</td>
</tr>
<tr>
<td>Patient reassessed if there is a change in condition</td>
<td>Review clinical file for time and date of revisions</td>
</tr>
<tr>
<td>Discharge information and referrals made (where appropriate)</td>
<td>Review clinical file for discharge summary</td>
</tr>
<tr>
<td>If patient falls, post-fall observations and interventions completed</td>
<td>Review clinical file for post-falls checklist</td>
</tr>
<tr>
<td>After a fall, patient falls risk status revised and care plan reviewed</td>
<td>Review clinical file and care plan</td>
</tr>
<tr>
<td>CRITERIA</td>
<td>1</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>Falls risk screen completed (on admission or within 24 hrs)</td>
<td></td>
</tr>
<tr>
<td>Patient falls risk identified</td>
<td></td>
</tr>
<tr>
<td>Falls intervention plan completed</td>
<td></td>
</tr>
<tr>
<td>Implementation of falls intervention plan documented</td>
<td></td>
</tr>
<tr>
<td>Patient/caregiver is provided with falls information</td>
<td></td>
</tr>
<tr>
<td>Falls intervention plan implemented in consultation with patient/caregivers</td>
<td></td>
</tr>
<tr>
<td>Patient reassessed if there is a change in condition</td>
<td></td>
</tr>
<tr>
<td>Discharge information and referrals made (where appropriate)</td>
<td></td>
</tr>
<tr>
<td>If patient falls, post-fall observations and interventions completed</td>
<td></td>
</tr>
<tr>
<td>After a fall, patient falls risk status revised and care plan reviewed</td>
<td></td>
</tr>
<tr>
<td>Patient records meeting all criteria for this audit</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

PERCENTAGE %
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Introduction

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**Roles of Team Members**

**Nurses**


Physiotherapists

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FALLS GUIDELINE
for
HOSPITALIZED OLDER ADULTS
IN THE MINISTRY OF HEALTH