Guide to Best Practice

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- About one-third of all hip fractures occur in aged care facilities
- Many people with hip fractures have previously fractured other bones but are not receiving bone protection
- Hip fractures result from:
  - falls – number and type
  - bone weakness – amount (density) and architecture of bone
- Many falls occur during episodes of delirium
- Vitamin D deficiency is prevalent in ACFs
  - almost 100% in high care
  - about 40% in low care
Screening and Assessment

Falls Injury Prevention
Screening and Assessment

As a falls risk **screen** would identify that all residents living in a residential aged care facility (RACF) are at risk of falling …

… it is recommended a falls risk **assessment** is completed in the first instance.

• A falls risk assessment is not effective unless the information is used to develop an individualised care plan.

When to do a falls risk assessment?

• Within 24 hours of admission to a RACF

• Following a change in a resident’s environment

• Following a change in health or functional status, especially delirium

• Following a fall

• After transfer from another service/facility
Assessment tool and process:

The tool implemented is not as important as the process applied to interpret results and implement best practice strategies.

The tool HNE uses in the residential care setting is the FRAT developed by Peninsula Health. This tool has validation in this setting. The FRAT is only one step in the falls risk assessment, planning, implementing and reviewing process.
Multi-factorial Approach

Falls Injury Prevention
Multi-factorial Approach

Standard Falls Injury Prevention Strategies

In order to prevent falls and falls injury, a range of standard strategies should be considered for all residents on admission to our services.

Standard strategies should include:

1. Assessment
2. Medication review
3. Vitamin D - routine supplementation in high care
   - assessment in low care
4. Hip protectors
5. Feet and footwear checks
6. Physical activity – balance & strength
7. Osteoporosis treatment in low care
8. Mobility assessment
9. Environmental checks
10. Education/information for the client/carer
Because falls are multi-factorial and complex in nature, interventions should be implemented in combination rather than isolation.

A multi-factorial approach to preventing falls and falls injury should be considered as part of routine care for ALL residents presenting to our services or in our care.

This approach is based on good gerontological practice and the presumption that all older people in care are at risk of falling.

There are however, three evidence based single interventions for residential care:

- Medication reviews
- Wearing of hip protectors
- Vitamin D & calcium supplementation
Fall Alert Strategy - for High Risk Falls

Falls Injury Prevention
Fall Alert Strategy

If a resident is assessed as high risk for falls a Fall Alert Strategy must be considered.

Fall Alert Strategy may include:

- **Identification** – e.g. visual method on notes, walking aids etc
- **Resident Checks** – You may schedule regular checks, assessing the resident for comfort and unmet needs, during a high risk time of the day or night
- **Alarms** – bed/chair alarms, movement alarms, pressure alarms, infra red beam etc
- **Monitoring of falls** – Individual analysis of falls history. A Log the Falls for an individual resident may need to be documented
- **Injury Prevention** – Consider the use of hip protectors, vitamin D supplementation & calcium supplementation as well as osteoporosis treatment in low care
- **Medication Review** – If not already attended a collaborative review by the medical officer & pharmacist
Injury Prevention Strategies

Falls Injury Prevention
Levels of Vitamin D & Deficiency

Assessing Vitamin D levels is achieved via blood pathology for 25-OH Vitamin D3 (25-OHD3).

Serum 25-OHD3 levels:
- Mild 25-50nmol/L
- Moderate 12.5-25nmol/L
- Severe < 12.5nmol/L

Some endocrinologists argue for values over 70-80nmol/L

All older people are at high risk of Vitamin D Deficiency:
- Lack of sunlight exposure
- Skin changes with age
- Renal impairment
- Rarer causes include:
  - Malabsorption e.g. coeliac disease
  - Medications e.g. anticonvulsants

Falls Injury Prevention
Vitamin D & Calcium Supplementation

**Vitamin D**
- Daily dose of 1,000IU or monthly dose of 50,000IU (available from a Compounding Pharmacist)
- If deficiency is confirmed a loading dose of Vitamin D may be prescribed
- It is appropriate to supplement without measuring 25OHD for residents in high care
- Vitamin D supplementation will be prescribed by a medical officer

**Calcium**
- Adequate calcium should be obtained from the diet if at all possible (three full portions of calcium rich foods per day i.e. dairy, salmon)
- Take calcium supplementation with the main meal of the day. Not with breakfast as cereal may inhibit absorption of calcium.
- There is an alleged association between calcium supplementation and cardiovascular events, therefore caution in ischaemic heart disease.

Falls Injury Prevention
Positioning of hip protectors
Hip protectors must be in the correct position to be effective.

![Diagram of Hip Protector Positioning]

Suitability must be assessed before wearing of hip protectors. The hip protectors are another garment for the resident to manage and this will need to be taken into consideration when deciding if hip protectors are to be recommended.
Hip protectors must be worn over the greater trochanter of the femur to be effective.

They work by absorbing and dispersing the energy created by a fall away from the hip joint. The soft tissues and muscles of the thigh absorb the energy instead.

They may help reduce the person’s fear of falling when worn.

Types of hip protectors:

1. Hard shields – aim to divert the force of the fall from the bones of the hip to the surrounding muscles of the thigh

2. Soft shields – aim to absorb the energy of the fall away from the hip joint
Medication Review

Falls Injury Prevention
Medication Review

Medications most likely to contribute to falls are:

- Cardiovascular – antihypertensives; anti-failure
- Psychotropics - antipsychotics, antidepressants, sedatives
- Opiate analgesics
- Anticholinergics
- Any medications causing postural hypotension

- Use of five or more medications increases the risk of cognitive impairment by nine-fold
- More than one psychotropic medication increases the risk further
- Benzodiazepine use by older people has been linked to cognitive impairment, increased hip fracture and increased nocturnal falls (44%)
Medication Review

Staff should refer the older person to the pharmacist and medical officer if they have any of the following:

- Taking more than 12 doses of medication a day
- Taking five or more different types of medications
- Taking one or more psychotropic medications
- Having multiple medical conditions
- Suspected non-adherence to medication regime
- Symptoms suggestive of an adverse medication reaction or interaction (confusion, dizziness, reduced balance etc)
Mobility

Falls Injury Prevention
A mobility assessment is to be conducted:

- On admission
- Where there is a change in a resident’s health or functional status, especially delirium
- 12 monthly reassessment if living in residential care

- An individualised program of mobilisation is to be developed for all residents based on their assessed needs
- Mobility should be encouraged and safety ensured by using appropriate mobility aids and/or personal assistance
Physical Activity

Falls Injury Prevention
For physical activity programs to have a positive effect on falls injury prevention they must have balance and strength components.

All residents in aged care facilities are sarcopenic and will benefit from strength training – can more than double muscle strength.

Evidence shows that people will benefit from balance and strength training particularly immediately after discharge from hospital.

For physical activity to be effective it must be challenging but safe.
Footwear

Falls Injury Prevention
Most falls occur in unsafe footwear

Slippers and bare feet are particularly dangerous

Safe shoes:
- enclose the entire foot
- are tied with laces or velcro
- have a flat, broad heel
- have a contoured sole
Bone Health

Falls Injury Prevention
Bone protection/strengthening

Exercise – weight bearing or resistance
  . improves bone architecture but not density

Protection especially important in people on:
  . prednisone
  . long term anticonvulsants

Calcium and vitamin D

Bisphosphonates
  . if fragility fracture in low care

Strontium ranelate
  . may be more effective if very osteoporotic

Falls Injury Prevention
Vision

Falls Injury Prevention
Good Practice Points:

• Older people should wear a hat when outside

• Single focal lens glasses not bifocal or multifocal

• Ensure glasses are clean and worn

• Environmental audits addressing lighting and contrast to maximise visual cues

• Dementia and old age are not a barrier to cataract surgery
Syncope & Dizziness

The following activities should be carried out for people with syncope or dizziness:

• Assess lying and standing BP for postural hypotension (ideally laying down for 10 minutes then stand, a drop in systolic BP of at least 20mm Hg or diastolic drop of at least 10mm Hg within 3 minutes of standing)

• Encourage the person to sit up slowly, stand slowly and to wait a short time before ambulating

• Request medication review

• Encourage adequate hydration

• Full-length TED stockings and raise head of bed

• Remember postprandial hypotension (after eating)

Falls Injury Prevention
Falls Review

As follow up after the immediate treatment post-fall, consider the following:

• Undertake a falls risk assessment
• Try to determine what caused the fall – trip, slip, syncope or pre-syncope loss of balance, legs gave way, etc
• Use a formal fall review process
• Assess for postural drop by checking lying and standing BP
• Assess for delirium
• Review current strategies in the resident’s care plan
• Request a medical review by the MO if there have been multiple falls
• Request a medication review if there have been two or more falls
• Refer to a physiotherapist for further assessment
• Document in the resident’s notes and care plan and refer to appropriate services
Take home messages

All residents in ACFs are at risk of falls injury

All residents in ACFs are sarcopenic and will benefit from strength exercises

All residents in high care are likely to be vitamin D deficient

Reducing rate of falls injury in ACFs requires a multi-strategy approach

Some, but not all, falls can be prevented
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