HSE MID WEST
COMMUNITY HEALTHCARE
Mental Health | Older Persons | Disabilities
Primary Care | Health & Wellbeing

Prevention and Management of Falls & Harmful Falls Workbook for Clinicians:

Identifying the Modifiable Risks with Multifactorial Falls Risk Assessment.

HSE Mid West Community Healthcare
Inpatient/Residential Services: Mental Health and Older Persons Services

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Falls Reduction Workbook for Clinicians: Identifying the Modifiable Risks with Multifactorial Falls Risk Assessment.

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Goal

The goal of HSE Mid West Community Healthcare is to reduce the risk of harm resulting from falls while promoting recovery, rehabilitation and independence. Identifying and addressing risk factors for falls is a realistic organisational approach to reducing the risk of harmful falls. However, the risk cannot be completely eliminated.

Definition of a Fall

A fall is defined as 'an unintentional or unexpected loss of balance resulting in coming to rest on the floor, the ground, or an object below knee level' (NICE 2015). This includes slips/trips, being lowered, loss of balance and/or legs giving way.

Injurious falls, including over 70,000 hip fractures annually, are the leading cause of accident-related mortality in older people (National Audit, 2010).

Do not wait until a fall occurs — take preventative action. Most risks are modifiable.

What Causes a Fall?

There are many factors that can cause falls. These risks are categorised as intrinsic (occur within the body) or extrinsic (outside the body). A combination of risks and the number of risks can increase the risk of falling. Behaviours can also increase risk. Some of the risk factors associated with a fall cannot be modified. However, many of them can be modified or changed to reduce the risk of falls. There are only two non-modifiable risk factors on the list- age and history of falls. **Interventions directed at modifiable risk factors can reduce the incidence of falls and harmful falls.**

Intrinsic Risks:

- History of falls /Fear of falling
- Muscle weakness and poor balance
- Unsafe walking / transfers
- Poor nutrition and diet
- Osteoporosis
- Medication
- Alcohol misuse
- Problem with vision / eyesight
- Problem with feet / footwear
- Cognitive impairment/ low mood
- Problem with continence
- Age
- Neuropathy
- Peripheral Vascular Disease
- Cardiac Problems
- Disorientation

Extrinsic factors:

- Badly fitting footwear / clothing
- Uneven or slippery surfaces
- Loose mats or rugs
- Inadequate light — especially on stairs
- Poor stairway design and repair
- Lack of safety rails
- Inappropriate height of chair, bed, toilet etc.
- Trailing flexes and cables
- Unfamiliar environment
- Cluttered environment

Behavioural Risks:

- Getting up in the middle of the night in the dark
- Rushing to answer the phone or door
- Standing to put on lower garments
- Over stretching & over reaching
- Poor safety awareness

Specific conditions can increase risk of falling

As well as the risk factors listed above, a number of acute or temporary health conditions can increase the risk of falling. This is due to the effect of the condition on a resident/patient's physical and mental function.

Conditions may include (but not limited to):

- Constipation
- Acute infection including a urinary tract infection, chest infection or pneumonia
- Dehydration
- Delirium (sudden severe confusion and rapid changes in brain function that occur with physical or mental illness).

There is an increased risk of falls if one or more of these conditions are present. Similarly, staff should consider these conditions when trying to find the underlying cause of a resident/patient's fall.

However, some basic safety precautions are appropriate for all residents/patients.

What universal falls prevention measures should be taken in your service for all residents/patients?

Multifactorial falls risk assessment and falls care planning will identify an individual's risks and the actions that can reduce risk.

Universal Falls Prevention Precautions:

For each resident/patient please make sure that:

- There is a call bell to hand (if available), the resident/patient can use it and the importance of getting assistance is explained
- Their seating is suitable
- Safe walking is discussed
- Their walking aid (if used) is within reach and in good condition
- Their bed is the right height
- The area around them is free of hazards
- Their regularly used items are within easy reach
- Their footwear and clothing fits well
- They are not left unaided on commodes, toilets, in baths or showers if they have a cognitive impairment or poor mobility and you know that they tend not to ask for assistance, whilst maintaining the individuals' privacy and dignity.

Person-centred falls prevention care planning

It is essential that a person-centred care approach is taken to falls prevention and management and fracture prevention, where the resident/patient and their families are seen as equal partners in planning of their care. It involves putting residents/patients and their families at the

heart of all decisions. The individual's values, preferences, wishes, routines, likes and dislikes should be central.

Completing the multifactorial falls risk assessment should involve a discussion with the individual and others as appropriate. This should be based on a balance between benefits, managing risk, avoiding harm and respecting rights, choice and freedom.

Multifactorial Falls Risk Assessment (MFRA)

Multifactorial falls risk assessment is an evidence-based approach recommended by NICE (2017). Multifactorial falls risk assessment (MFRA) allows the identification of factors that predispose someone to fall. A fall is nearly always due to the presence of one or more risk factors. Recognising and then removing or reducing an individual's risk can often prevent a fall. A person will often be exposed to a combination of risk factors for falling; the more risk factors present, the greater their risk of falling. Risk factors can relate to the individual and/or their surrounding environment.

As well as considering risk factors for falls, bone health should also be considered. If a person has a weakness in their bones, such as osteoporosis, he/she is more likely to break a bone if they fall. For this reason, you need to consider falls and bone health together.

The risk of falling and/or breaking a bone can never be completely removed, however by carrying out a MFRA on every resident/patient, risk factors can be identified and a personalised falls care plan created and actioned to remove or reduce the risk of falls and fractures where possible.

What do you do when you identify a risk?

When you identify a risk, it should be translated into an action in the care plan. An action for each risk factor – investigation, intervention or onward referral – should be documented in the individualised care plan.

Risks factors are often interrelated. For example, poor mobility may affect an individual's continence because he/she is unable to walk to the toilet in time. Therefore, risk factors should not be considered in isolation.

The care plan will focus on enabling and empowering the individual to keep active while minimising the risk of falling. It should take into account the importance of choice, rights, independence and personal outcomes for an individual at all times. Any support required should be clearly recorded.

A care plan is a working document, which you review and update regularly following the initial MFRA, continually identifying and responding to any falls, change in the individual's condition or care needs.

Whose responsibility is it to complete a Multifactorial Falls Risk Assessment (MFRA)?

While all staff have a role in falls prevention the MFRA will usually be completed by the nurse. Individuals completing a MFRA have a responsibility to action a plan to address the risks identified. This may include onward referral to the appropriate disciplines.

Where will this information be kept?

The MFRA will be kept in the patients/residents clinical file. A copy of the MFRA can be forwarded with onward referral to appropriate disciplines.

Components of the Multifactorial Risk Assessment

1. a) History of falls

Gathering the history of previous falls can help staff identify the causes of an individual's fall(s) and relevant interventions or assessments to address the causes.

For example:

- An increase in the frequency of falls may indicate an underlying deterioration in condition which requires intervention
- In some cases dizziness, blackouts or palpitations may occur before a fall. Always ask the individual if they had any of these symptoms before they fell. Sometimes a person will not remember a blackout. If possible, speak to someone who witnessed the fall.
- Falls, broken bones and osteoporosis: If a person has a weakness in their bones, e.g. if they have osteoporosis, he/she is at greater risk of breaking a bone at the time of a fall.
- Frailty: If the individual's frequency of falls has increased, it may be an indication that they are becoming frail. Immobility, delirium, incontinence and an adverse reaction to medication can also indicate that a person is frail. Frailty is not always a permanent state. If you suspect a person is becoming frail, consider referral to your G.P. or local Integrated Care Team for Older Persons who can complete a Comprehensive Geriatric Assessment as there may be interventions that can help. People who are frail have less 'in reserve' so are less able to withstand illness without a loss of physical or cognitive function. Therefore, for a person with frailty, a relatively minor illness such as a cold, a urinary tract infection or even constipation can cause reduced mobility and confusion. This can lead to an increased risk of falling. It is important that staff are aware of this and decide how best to manage risk while the person is unwell.

b) Fear of Falling

Fear of falling is a lasting concern about falling that may cause a person to stop doing activities he/she remains able to do (Tinetti & Powell, 1993). It is common in older people. It is characterised by a loss of confidence and voluntary restriction of activity and results in negative thinking and reduces self-esteem. It can stop a person from doing some of their favourite activities that are important to their mental and physical health. If a person reduces their social activities they may feel alone and this can result in depression or anxiety. The psychological consequences of a fall should not be underestimated. Addressing modifiable risk factors will have a positive effect in reducing an individuals' fear of falling.

What is my role in modifying 'fear of falling'?

Everyone working with older people has a role to play in identifying those who are at risk of falling and/or are worried about falling. Completion of the MFRA will help to identify modifiable risk factors. The MFRA and care plan is bespoke to each individual and it is critical to ensure appropriate actions are taken to help reduce risks. Addressing modifiable risks will make an individual safer and may reduce their anxiety and fear.

2. Mobility

2a) Keeping physically active and mobile

Why is it important to keep mobile, do regular exercise and be physically active?

When older people keep mobile, exercise regularly and stay physically active it can play an important role in:

- Slowing the ageing process
- Reducing the risk of developing some long term conditions, such as diabetes, heart disease, obesity, lung disease and osteoarthritis
- Managing the above conditions when present
- Improving or maintaining mobility
- Keeping socially active
- Managing depression
- Enabling older people to maintain their ability to carry out daily activities and contribute to care home and community living.

Being mobile means to have the ability to walk or move about aided or unaided.

Coordination, sensory awareness, balance, strength and endurance are components in safe transfers and walking. Many older people are impaired in at least one of these components. This can affect their ability in activities of daily living and can reduce their independence. Walking even a short distance, as part of a daily routine, helps maintain mobility, strength and function. Moving correctly and transferring safely helps to maximise independence.

Being physically active is a broad term covering all types of movement and includes basic activities of daily living, such as getting in and out of a chair, on and off a bed, washing, dressing and walking (with or without a walking aid).

It is important that physical activities are suitable and safe for the person, and that staff or the individual's family and friends provide adequate support and/or supervision. For example, walking to the dining room or toilet, with a walking aid, supervision or assistance, if required, is beneficial even if the distance is short.

Physical activity and exercise will help an older person to maintain their strength, balance and flexibility. This will help them to remain independent and enable them to perform household, personal and social tasks. There is a strong evidence base to support balance and strength training, though it must be specific to the individual. It can be delivered individually or in a group setting. Strength and balance exercises are suitable for some of the frailest of individuals. Even those in their 90s can improve their strength and balance to help avoid falls.

<u>What is my role in modifying muscle weakness & loss of balance and unsafe transfers and activities of daily living?</u>

Encouraging people to do as much as they can for themselves helps them to stay active and strong.

Actions to consider for residents/patients:

- A **medical review** to establish if there is a medical cause.
- **Physiotherapy referral** for assessment of mobility, balance and muscle strength, assessment for mobility aids and/or prescription of an exercise programme.
- **Occupational Therapy** referral for assessment for alternate ways to carry out activities of daily living and provision of necessary equipment.
- Ensure the **moving and handling documentation** in the care plan gives an adequate description of what the individual needs. This is an important part of the enablement process. Encourage independence and mobility where possible. Correct moving and handling helps to keep an individual as independent as they can be. Some individuals can regain independence if encouraged appropriately.
- **Creating an enabling environment** for example chairs and beds at the correct height for individuals, rest opportunities along corridors, appropriate equipment and adaptations.
- Including a section in the care plan noting **supervision required** to enable safe mobility for a person who is unsteady. Caution is required when encouraging an individual who is unsteady to increase their level of activity, as their falls risk could increase. However, it is important for them to remain as active as possible safely. Some individuals may need a high level of supervision; others may require supervision at certain times of the day or when carrying out certain activities. At all times you should consider the individual's rights, they must be treated with dignity and respect and agree the plan of care.
- **Enabling residents/patients to be physically active every day**. Daily activities are important to enable individuals to be active and move more often – encourage people to be as independent as possible. For example, enable an individual to stand/sit and wash at their sink instead of sitting at the edge of their bed with a basin or walk part or all of the way to the toilet. Also, some individuals may have interests and hobbies, which will enable them to be active.
- **Screen for weight loss and malnutrition**: Weight loss, low BMI (<20kg/m2) and loss of appetite can contribute to loss of muscle mass. People who are malnourished are at higher chance of falling. If malnourished or risk of malnutrition, refer to dietitian for dietetic assessment.

If an older person is active and independent they may wish to attend local exercise groups (e.g. local gym, groups organised by Sports Partnership or active retirement groups). It is therefore beneficial if you are aware of what facilities/exercise groups exist locally.

It is important to consider:

- What motivates a person to be more active and bring purpose and meaning to their day
- Their needs and abilities
- Their potential to be more active.

2b) Foot Problems & Footwear

Factors that can make a person unsteady on their feet and at risk of a fall include:

- Problems such as corns, calluses, bunions and ingrown toenails
- Foot pain and loss of sensation (numbness)
- Poor fitting or unsupportive footwear can make walking difficult
- Reduced strength of muscles around the ankles – difficulty clearing the ground when walking
- Stiff ankle joints causing postural instability – making it difficult to negotiate rough terrain
- Somatosensory changes to light touch, pressure, vibration and proprioceptive changes as a result of neurological conditions (e.g. peripheral neuropathy or stroke) – making it difficult to adjust to changes in terrain and knowing where the foot in places.
- Diabetes can affect the blood supply (Peripheral Vascular Disease/PVD) and nerve endings over time, which can cause cramping and increased pain.

Good foot care and addressing feet problems and footwear are important for maintaining independent mobility and preventing falls.

What is my role in modifying 'poor footwear'?

Provide your residents/patients with support to help keep feet clean and healthy, and to maintain their toenails and skin in good condition. Regular foot care and inspection to check foot health is important to prevent falls.

Look out for changes in a person's feet, such as pain or soreness, redness or leakage of fluid from the foot or toes. Refer to the Podiatrist you see any of these changes, particularly if the person has diabetes or poor circulation.

Check footwear regularly for wear, tear and fit.

Shoes should:

- Fit well
- Soles should be flexible and non-slip
- Have a low broad heel
- High heels & leather soles should be avoided
- Laces, buckles or Velcro straps hold the feet firmly in place, preventing them from slipping forwards
- Open backed slippers should be avoided
- Garments such as trousers / skirts / dressing gowns should not trail on the ground
- Slippers should only be worn for short periods of time. Avoid worn and stretched slippers.

Refer to the Podiatrist (a specialist foot professional in the medical care of the foot- nail care, wound care, diabetes, biomechanics etc.) and/or Physiotherapist (biomechanics, mobility, strengthening, balance and soft tissue) if the completion of the MFRA indicates.

3. Vision and hearing

Eyesight and hearing play a vital role in maintaining balance and moving about safely. Changes as we get older can be due to natural ageing process or disease. Only an eye examination can separate a serious visual impairment from 'normal' ageing changes.

In addition to age related vision loss, there are four main eye conditions that are associated with the older person:

- Macular Degeneration
- Cataracts
- Glaucoma
- Diabetic Retinopathy

Older people with sight problems, including wearing the wrong prescription glasses or dirty glasses, are more likely to fall. Glasses with bifocal and varifocal lenses make objects and surfaces seem closer than they are and can cause falls. This can be especially problematic when using stairs.

Other visual problems increasing falls risk include:

- Eyes taking longer to adjust to changes in the lighting levels — such as when moving from a darkly-lit to a brightly-lit room
- Reduced visual field, which is a reduction in what you can see when the eye is looking forward, and includes your peripheral vision
- Blurred vision or reduction in ability to see detail of objects (loss of visual acuity)
- Reduced ability to see well in low contrast situations — such as distinguishing similar coloured fixtures and furnishing
- Less accuracy when judging distances and depth — such as misjudging the height of a step or stairs
- Poor balance can be caused by reduced central and/or peripheral vision.
- Eye movement disorders can affect balance
- Wearing glasses with an outdated or wrong prescription

Visual problems are common following a stroke. Some people with dementia may also experience visual problems. Some experience double vision and difficulty with depth perception and judging distances from objects.

What is my role in modifying 'eyesight problems'?

It is important to ensure that an individual's vision is as good as possible by making sure:

- That everyone has their eyes checked every 2 years. Any person with a medical card is entitled to an eye test/glasses every 2 years. If you are over 75, a diabetic, have macular degeneration or cataracts a yearly check is recommended.
- Separate glasses are worn for distance and reading. This is usually safer than bifocals or varifocals, unless the person is used to wearing them. A sudden change either way could increase their likelihood of falling.
- That the person is wearing their own glasses.

- Ensuring residents/patients with glaucoma or diabetes are taking their medication or inserting eye drops correctly.
- Glasses are cleaned regularly.
- Rooms, walkways and stairs are clutter free. However, if an individual is known to have problems with their vision, then be aware that furniture may be their "map" for navigating their environment and any sudden change could lead to increased difficulties.
- A good overall level of balanced lighting while reducing glare – use LED lighting (100 watts or 1600 lumens) if possible. Natural daylight is very important. Ensure windows are kept clean and pull back curtains.
- Edges of steps or stairs where accidents could happen are highlighted, with highly contrasting colours wherever possible.

If you notice that an individual is misjudging things, bumping into things or losing their balance when moving around it is recommended they have their vision checked.

Referral to GP or Optician with onward referral to Ophthalmologist as appropriate.

The environment can further impact on a person's visual ability. Use of colour and contrast and de-cluttering the environment can optimise a person's ability to attend to daily living tasks. The OT can provide advice about this.

What is my role in modifying 'hearing problems'?

It can be more difficult for an individual to concentrate on two tasks at the same time if they have difficulties with their vision or hearing. For example, when walking and talking at the same time, or getting distracted, the person can lose focus on their balance, and fall.

- Ensure if an individual uses a hearing aid/amplifier that they wear it, it is cleaned regularly and the batteries are working
- Ensure adequate time for the person to process information
- It may be necessary to communicate using common gestures, cues and instructions or communication boards.
- It can be helpful to keep noise levels to a minimum when communicating important information
- Refer to audiologist if indicated.

4. Cognitive assessment

Cognitive impairment (with or without a diagnosis of dementia and/or episodes of delirium) can lead to a decrease in safety awareness and ability to function independently and safely. Alterations in mood can lead to inactivity and social withdrawal.

Confusion, disorientation, memory loss, restlessness, agitation, behaviour that challenges us, and lack of judgement and insight can contribute to their falls risk. People with a diagnosis of dementia are eight times more likely to fall than those without a diagnosis of dementia.

People who have dementia are at greater risk of falls due to the following:

- Physical weakness, changes in mobility and poor balance
- Memory impairment and disorientation
- Visual problems
- Impaired judgment, insight and safety awareness

- Side effects of medication
- Symptomatic orthostatic hypotension (a drop in blood pressure usually when a person gets up from a lying or sitting position that causes dizziness, feeling faint, unsteadiness or confusion)
- Depression
- Symptoms of stress and distress (pain, physical, psychological)

Delirium (known as an 'acute confusional state') is sometimes overlooked or misdiagnosed as other conditions and can be associated with dementia, illness, surgery and medication. Symptoms include an altered level of alertness, changes in behaviour and mood, sleep disturbance, hallucinations and delusions. It usually ends once the condition or situation causing it has been removed.

What is my role in falls prevention with individuals with dementia/mood alteration?

- For individuals who have not had previous investigations/diagnosis, the completion of the MFRA and a basic cognitive screen (e.g. mini mental test score/ACEIII) may indicate an individual may have memory, mood or comprehension problems. They may require a referral to the GP to rule out any underlying cause and for potential onward referral to the relevant medical expertise.
- Create a dementia-friendly environment which will help residents/patients to be more orientated and reduce the risk of falls. For example, good signage, lighting and colour contrast between furniture and flooring.
- Encourage people to be more physically active, which can prevent the deterioration of mobility, strength and balance.
- Referral to the Occupational Therapist can be initiated if medical screening is complete and if there appears to be significant impairment leading to decreased functional ability. OT can complete detailed cognitive screening and provide advice on memory strategies and interventions once medical reasons and diagnoses are clarified. Consult with your local occupational therapist.
- Engage people in daily life enabling them to have purpose and meaning to their day.
- Identify the onset of delirium and address urgently.

5. Continence

Some bladder and bowel symptoms can increase the risk of falls and fractures for individuals. For example, just feeling the need to use the toilet is known to increase the risk of falls as individuals may try to get up and walk when it may not be safe for them to do so.

It is important to remember that incontinence is a symptom, not a diagnosis and there are many things that can be done to help. Everyone can support people to be continent in some way; promoting continence is everyone's business.

For an older person with frailty in an inpatient/residential service, relatively minor conditions such as a urinary tract infection or constipation can result in reduced mobility, cognitive function and an increased risk of falls.

What is my role in modifying continence issues?

- Consider appropriate assessments of bladder and bowel function. Refer to the Continence Nurse, GP and/or Women's Health Physiotherapist if appropriate.
- Ensure adequate fibre from a regular balanced diet and adequate fluids in the diet.
- Getting to and using the toilet is a complex activity – consider all the steps required and identify any specific challenges for the individual which pose a falls risk and the actions required.
- If an individual requires supervision, stay with them (checking if you need to stay within the toilet area or just outside) and protect dignity and privacy at all times.

You can promote continence in various ways including:

- Know how often a person normally goes to the toilet in a day and how they achieve that successfully.
- There may be particular behaviours which indicate a person would like to go to the toilet so pay attention to body language, facial expression and any behaviour change such as agitation or discomfort. This could include pulling at their clothes or looking for somewhere to go to the toilet.
- Know what word the person uses for toilet.
- Avoid delay once the need to use the toilet is recognised – any delay increases the sense of urgency and likelihood of incontinence. It also affects the resident/patient's trust in care staff.
- Use call bells and other alert systems, especially at night, when required.
- Know what specific equipment a resident/patient may require and how to use it.
- Promoting continence programmes may be required if an individual does not recognise the need to use the toilet. These programmes should be designed around the person's normal bowel and bladder function and will involve undertaking a holistic assessment that takes account of the person's lifestyle.
- If the person gets up at night, use of commode beside bed and use of night light may be of benefit.
- Advising individuals not to rush to the toilet and encourage use of prescribed incontinence aids.

6. Nutrition

Eating a healthy balanced diet is important to keep a person's body strong. Everyone needs energy, protein, vitamin and minerals from food every day. Our bodies need a constant supply of nutrients, especially protein, calories, Vitamin D, Calcium, fibre and fluids.

At times, a person's appetite can become smaller, for example if they are unwell and it can be harder for them to eat enough food to get energy, protein, vitamin and minerals. When this happens it is important that their meals and snacks are full of nourishment.

It is important to remind the person that losing weight and/or a reduced appetite is NOT a normal part of ageing and should be prevented and treated in a timely fashion.

Poor nutrition and weight loss can affect anyone but is particularly common in older people and those who are socially isolated. Poor mobility, frailty or mental health problems are also contributory factors. Older people may develop swallowing difficulties or dental problems and this requires investigation. Grief, anxiety and depression can lead to a loss of appetite and subsequent malnutrition. Dehydration has been identified as one of the risk factors for falls in older people, since it can lead to a deterioration in mental state, and increase the risk of dizziness and fainting. The maintenance of adequate levels of hydration in older people can help prevent falls.

What is my role in modifying weight loss, reduced appetite and poor nutrition?

Ensure all staff have completed MUST e-training on HSELand and aware of Nutrition Support resources available on HSE Nutrition Support https://www.hse.ie/eng/services/list/2/primarycare/community-funded-schemes/nutrition-supports/

Completion of the MFRA may raise concerns regarding weight loss, low BMI, reduced appetite and poor nutrition.

- Step 1: Malnutrition Screening (MUST is used in HSE Mid-West Community Healthcare area)
- Step 2: Refer the person to a dietetic service if concerns.
- Step 3: Assess for and address underlying causes of malnutrition:
    - Assessing a person's likes and dislikes and ensuring their food needs are being met
    - A patient with a swallowing difficulty (dysphagia) requires referral to a speech and language therapist
    - For gastrointestinal symptoms, social or psychological issues, consider referral to an appropriate health and social care professional.
    - Consider whether the patient has adequate assistance, support and supervision if required at mealtimes
    - Consider asking for advice from an occupational therapist about specialised equipment.
- Step 4: : Provide basic high protein, high energy dietary advice:
    - Provide "making the most of every bite" diet sheet available on HSE Nutrition Support
    - Promote and encourage the inclusion of:
        - 3 meals and 2-3 snacks per day
        - High protein foods at each meal e.g. meat, chicken, fish, eggs, milk, cheese and nuts
        - Use full fat dairy products e.g. milk, butter, cheese and yogurts
        - "Making the most of every bite" colour cookbook is available to download free on HSE Nutrition Support or ordered on Health Promotion, for a wide variety of high energy, high protein recipes
        - Encourage to drink at least 8 cups of fluid a day
        - Encourage person to avoid smoking and limiting their alcohol intake
- Step 5: Request the GP to prescribe Oral Nutritional Supplement (ONS) as per first-line prescribing guidelines on HSE Nutrition Support
- Step 6: GP to Review (within 3 months) compliance with ONS and monitor weight and progress

7. Bone Health and Osteoporosis

A broken bone (i.e. fracture) is one of the more serious consequences of a fall. Residents/patients who fall are ten times more likely to have a hip fracture than older people living in their own home.

The health of your bones makes a big difference to the effects of a fall. Osteoporosis is present in 90% of hip fractures. Fifty percent of people over 80 years of age have osteoporosis. After the age of 35, bone loss begins to occur very gradually. The cells responsible for breaking down bone (osteoclasts) begin to work more quickly than the cells responsible for building bone (osteoblasts). The result is age related bone loss and if this loss becomes severe, osteoporosis can develop. Osteoporosis causes the bones to become porous and fragile, with a higher risk of fracture. It is often referred to as the silent disease, as sometimes no symptoms are present until a bone is broken. Spinal fractures can be painless, and osteoporosis may still go undetected until late stage complications are present e.g. kyphosis. Often people who have broken a bone before are at a greater risk of a further break.

Osteoporosis should not be viewed as an inevitable part of the ageing process, but as a preventable illness of the older adult skeleton. All health professionals should be aware of risk factors for osteoporosis and should be able to identify those at risk.

Who is at risk of osteoporosis?

Women are at greater risk of osteoporosis than men. This is because their bones are usually smaller, but also because levels of the female hormone oestrogen reduce following menopause. Oestrogen has a protective effect on bones.

Other factors that may increase the risk of osteoporosis are:

- Being older.
- Previous fragility fractures.
- A history of osteoporosis in the family (especially parents with osteoporosis).
- Thin body type and a body mass index (BMI) of less than 19.
- Lack of physical activity.
- Smoking.
- High intake of alcohol.
- An early menopause or having a hysterectomy with ovaries removed (before the age of 45).
- Low levels of testosterone in men (sometimes following surgery for some kinds of cancer).
- Some medical conditions, including rheumatoid arthritis, diabetes, parathyroid disease, hyperthyroidism, conditions that affect the absorption of food such as Crohns or coeliac disease, conditions that cause long periods of immobility.
- Some medicines:
    - Taking corticosteroid tablets for other medical conditions for over three months.
    - Anti-epileptic drugs.
    - Breast cancer treatments such as aromatase inhibitors.
    - Prostate cancer drugs that affect either the production of the male hormone testosterone or the way it works in the body.

What is my role in 'Osteoporosis'?

The completion of an MFRA should highlight any issues regarding osteoporosis diagnosis and medications. It is important to know if an individual has osteoporosis and what medications they should take. There are tools available to help find out if a person is at high risk of breaking a bone, such as the FRAX. If you are concerned about an individual being at risk of having osteoporosis refer them to their GP/Medical Officer for further assessment and/or intervention.

Individuals at risk of fracturing should receive a bone health review to consider:

- Investigations, such as DXA
- Pharmacological management, such as bisphosphonates and/or supplements
- Non-pharmacological management, such as
    - Gait, strength and balance assessment and intervention
    - Lifestyle modification, such as alcohol and/or smoking reduction or cessation; increase physical activity; increase sunlight; and increase low body weight
    - Diet review including vitamin D and calcium intake and recommendations on diet and supplements

Reduce the force of a fall

Individuals with osteoporosis are at risk of fragility fractures. These fractures occur as a result of mechanical forces that would not ordinarily cause fracture. Fractures that occur in care settings are low trauma and usually occur in adults aged 50 and older. Therefore people who suffer a fragility fracture as a result of a fall are osteoporotic by definition. A fall from standing height or less in an older adult should be considered a high impact fall. An individual may still fracture even with negligible force, such as hitting the wall or bed while walking or during transfers.

To reduce the force of the fall

- Beds should be left at their lowest appropriate height for the individual (except when staff are performing an assessment or procedure, or when the person is being transported or moved).
- Residents/Patients should be mobilised with supervision and/or a walking aid, if appropriate after an assessment.

Are older people in your care getting enough Calcium?

Calcium is the main mineral present in bones and teeth and helps muscles work properly. It builds and maintains bone strength throughout life and helps to prevent age-related bone loss.

The average older person needs 1000-1200mg Calcium each day.

The human body easily absorbs calcium from dairy foods. They are the best sources of calcium in the diet. It is recommended that older adults should eat three portions of dairy foods each day.

A portion of dairy is:

- One 200ml glass of milk
- 2 thumb sized slices of cheese e.g. on crackers or toast

- One pot of dairy yogurt
- One large bowl of rice pudding or custard
- ½ glass malted drink made with milk
- 1 mug of drinking chocolate made with Milk

You can also get calcium from some non dairy foods. Good Sources include:

- One 200ml glass of non-dairy milk that is calcium enriched, e.g. soya, oat, nut milk
- 1-2 pots calcium fortified soya yoghurt/ dessert
- ¼ cup of tofu/soya bean curd
- 4 tablespoons cooked spinach
- 2 tablespoons tahini sesame seed paste
- ½ tin sardines
- 100g dried figs
- Other foods that are fortified with calcium (e.g. some breakfast cereals) can also contribute to meet your body's needs for calcium

Your GP or dietitian may advise you to take a calcium supplement if necessary.

Are older people in your care getting enough Vitamin D?

The Department for Health advises that all adults over the age of 65 should take a vitamin D supplement of 15µg every day.

There are three ways to take this supplement:

1. As a multivitamin supplement that contains 15µg of vitamin D
2. As a calcium and vitamin D supplement that contains 15µg of vitamin D
3. As a vitamin D only supplement that contains 15µg of vitamin D

If the resident/patient has already been advised to take a vitamin D supplement greater than 15µg by their doctor then they should continue to take it.

Speak to your dietitian, GP or pharmacist if you have any questions about how much vitamin D supplement a resident/patient needs to take.

The Department of Health also recommends that adults aged 65 and older in Ireland should include regular intakes of natural sources of vitamin D, such as oily fish, eggs, meats and vitamin D-fortified foods.

Osteoporosis Medications

The treatment for osteoporosis depends on a number of factors including your age, sex, medical history and which bones you have broken. Osteoporosis drug treatments aim to strengthen existing bone, to help prevent further bone loss and, most importantly, reduce the risk of broken bones by 50%. Most drugs work by slowing down the activity of the osteoclast cells that break down old bone. These are anti-resorptive drugs and are known as bisphosphonates. Bisphosphonates must be taken at least 30 minutes before the first food or drink (other than plain water) of the day. These instructions are important because bisphosphonates will only be effective if taken on an empty stomach. Tablets must be

swallowed whole and taken with a glass of plain water. It is necessary to stay upright (sitting, standing or walking) for at least 30 minutes after taking the tablet. Other medications should not be taken at the same time of day as bisphosphonates. Avoid taking Calcium and Vitamin D (e.g. Adcal D3) within 4 hours of a bisphosphonate. Possible side effects of not following the instructions include inflamed oesophagus, sore throat and swallowing difficulties. Chest pain or worsening heartburn requires a review by the GP/Medical officer. If an individual is intolerant to bisphosphonates they may be prescribed Denosumab which is delivered by subcutaneous injection.

8. Medications

Some medications *are a risk factor for falls.* Individuals on four or more medicines, prescribed or bought, are at greater risk of having a fall. Medicines can contribute to falls by a variety of mechanisms. Effects caused can include disturbed balance, drowsiness, dizziness, hypotension, blurred vision, confusion, delirium, memory impairment, constipation. Regular medication reviews are essential.

Types of drugs that most commonly increase the risk of falling include:

- drugs with sedative effect
- anti-depressants
- anticholinergics
- anti-hypertensives (tablets to lower the blood pressure)
- anti-Parkinsonian medications
- opioid analgesics
- Anti-emitics
- Diuretics
- Hypnotics and anxliolytics
- laxatives
- anticonvulsants (medications for epilepsy).

Many other medications can cause unwanted side-effects.

What type of medication can increase the risk of harm from falls?

Theoretically, any drug that causes the following effects can increase the risk of serious harm if the individual falls:

- Osteoporosis or reduced bone density (increases the risk of fracturing if a fall occurs) for example, corticosteroid drugs, anti-epileptic drugs, some breast cancer and prostate cancer drugs.
- Bleeding risk (increases the risk of cerebral haemorrhage or subdural haematoma if a fall occurs) for example, warfarin.

Postural Hypotension

Postural hypotension is a drop in someone's blood pressure when they assume an upright position. This can occur when going from lying to sitting or from sitting to standing. Medications are often implicated in postural hypotension. The symptoms of postural hypotension include:

- Dizziness
- Faintness

- Light-headedness
- Weakness
- Changes in vision such as blurring or blackening vision
- Losing consciousness with or without warning i.e. black out, faint, syncope

What is my role in modifying medications / postural hypotension?

The completion of an MFRA will identify if an individual is experiencing symptoms that could increase their risk of falls. These symptoms may be due to their medications. This may be the first time an individual considers that these side effects may be responsible for previous falls or fear of falling.

Things to consider:

- A regular medication review by a GP/Medical Officer or pharmacist provides an opportunity to check that all the medications an individual is taking are necessary and the correct dose and should take into account their falls history
- if you see any symptoms that could be a side effect such as those listed above, it is useful to check the 'Patient information leaflet', supplied with the medication, to find out whether or not the effect is likely to occur. Seek further advice from GP/Medical Officer or pharmacist
- Following a fall, consider any increased risk of harm, such as fracture or bleeding, due to the medications the resident/patient is taking. For example, if an individual is on warfarin and has a head injury, seek medical advice.
- Check lying/standing blood pressure and seek medical review if necessary.
- Sometimes dizziness is not treatable. Encourage these individuals to take their time getting up, move slowly and in stages. When rising from a lying position, sitting on the side of the bed for a few minutes before standing up can be helpful. Similarly, when standing up from sitting, stand for a few minutes before walking.

9. Environment

Falls can happen anytime and anywhere in an inpatient/residential environment. This can be due to how an individual interacts with the environment or hazards. However, there are a variety of environmental measures that can be taken to manage and prevent falls and fractures in and around the residential/inpatient setting. It is important to carry out your environmental assessment regularly to identify what measures are required. Falls often increase when there are new or unfamiliar care staff and/or new residents/patients and families. Falls also tend to increase during respite stays and the first three months of a new admission. Therefore, it is important to support orientation to their surroundings.

Environmental hazards within and outside your service setting can contribute to the risk of falling. Regular assessment, such as through safety walkabouts, are important to identify environmental hazards.

Environmental hazards could include:

- poor lighting–for example dull lighting, lights that cause shadows, dark places, bright lighting that causes glare.
- extreme temperatures - high temperature can cause fainting or low temperature can affect muscle function.

- floor surfaces–for example high thresholds, poorly fitted and/or patterned carpets, changes in floor covering/colour, slippery floors and rugs.
- clutter and obstructions–for example furniture, clothing, medication/food trolleys, wheelchairs, manual handling, mobility aids and other equipment.
- poorly maintained equipment–for example commodes, toilet seats, wheelchairs, walking aids, grab rails and shower seats.
- access areas–for example poorly lit hallways, uneven paths, steep stairs and thresholds at door ways.
- outdoor areas–for example grass, stones, uneven and/or poorly maintained paths and poorly maintained gardens.

An individual's interaction with their environment may increase their risk of falls. e.g.

- Some medical conditions make it more difficult to move from one place to another such as Parkinson's, stroke and dementia.
- Physical challenges, for example, poor balance and loss of muscle strength making it difficult to transfer or walk.
- Difficulty seeing the environment due to poor vision.
- Being disoriented in the surrounding environment.
- Being distracted by other people
- Personal medical equipment/devices e.g. IV stand, mobility aids, pumps, catheter bags, oxygen tubing
- Garments such as trousers / skirts / dressing gowns should not trail on the ground

What is my role in modifying 'environment'?

Aspects of the inpatient/residential environment (including flooring, lighting, furniture and fittings such as hand holds) that could affect residents'/patients' risk of falling must be systematically identified and addressed as part of the healthcare facility's health and safety plan and facility specific risk assessments.

The Resident environment and orientation tool can be used to identify risk factors specific to the individual and their interaction with the environment.

If an individual has fallen, analysing their falls history and pattern will help to determine if the environment is a contributing factor to them falling. Consider the individual's routines as part of the environmental assessment.

Provision of advice on environmental safety can be given by all health care workers.

Comment on Falls Prevention Adjuncts:

Bed/Chair Sensor Alarms

Healthcare professionals should use their clinical judgement as to whether bed/chair sensor alarms will be of benefit to the individual. Sensor alarms may be beneficial for individuals with reduced understanding that are prone to getting out of bed at night time; and individuals with reduced understanding who may mobilise regularly without necessary supervision.

Sensor alarms cannot be given to all patients at risk of falling for a number of reasons:

- Sensor alarms can be considered a restraint in that patients may not wish to mobilise for fear of setting off the alarm
- Due to the significant number of patients at risk of falling in the hospital environment use of a sensor alarm on all patients will undermine its efficacy
- Alarms can be a significant cause of increased agitation among patients with confusion, frailty, dementia or behaviours that challenge regardless of which patient in the ward is using the sensor alarm
- There is no evidence to support the use of sensor alarms to prevent falls within the acute setting.

Increased Observation

Some individuals may benefit from increased observation to prevent a fall. This may include special observation (either one-to-one or by cohort); staff completing their documentation within the ward; and families or other volunteers 'sitting' with residents/patients. While it may appear intuitive that the use of increase observation of a patient reduces the rate of falling there is no evidence to support this. 'Special Observation' is ordered in the instance where residents/patients can cause harm to themselves such as removal of attachments or self-harm. Before considering close supervision, factors that contribute to the risk should be considered and addressed. If these interventions do not reduce the identified risk, or cannot be reduced for whatever reason, then a 'special' is considered, discussed and agreed by all members of the multidisciplinary team, in line with local policy for increased observations.

Bedrails

Bedrails are a form of restraint and can deprive a person of their dignity and autonomy. Restraining someone without their consent or on the instruction of a third party is unlawful. Bedrails are designed to reduce the risk of residents/patients accidentally slipping, sliding, falling or rolling out of bed. If a person is able to ambulate and/or is attempting to get out of bed for whatever reason, such as confusion or agitation, then the bedrails should not be used and other safety measures considered. Refer to local policy regarding the use of bed-rails.

Low-Low Beds

Low-Low beds go closer to the ground than conventional hospital beds which may reduce the potential force of a fall from a height and therefore reduce injury. Low-low beds may be beneficial for individuals with multiple falls particularly from bed, and/or a neurological condition and/or impulsive behaviour. However, low-low beds have not been shown to reduce the risk of falls or harmful falls.

Things to consider

Assess each resident/patient individually to ensure this is the most appropriate method of preventing falls from bed or harm from falls. The assessment should include:

- physical stature
- psychological illness or distress
- discomfort or pain
- disabilities/capabilities
- resident/patient's wishes
- previous accidents/injuries
- any variation in status over a 24 hour period for example, nocturnal confusion.

If a resident/patient requires a low-profiling bed they may need additional support to get in and out of bed. If this support is not available it may mean the resident's/patient's freedom to move is restricted and they could become less active or at greater risk of falling.

Specialist seating

Falls can occur when a resident/patient finds it difficult to get up from a chair, sit down safely or when a chair does not provide adequate support.

Things to consider

To decide if a chair is suitable for an individual, consider the following.

- The seat should be wide enough to support body mass but not too wide, causing the individual to lean to one side of the chair.
- Seat depth is correct when the person's bottom is at the back of the chair and their feet are flat on the floor. The person's knees and ankles should be at 90 degrees. The seat should fully support the person's thighs but not touch the back of their knees.
- The individual should be able to support their head and neck themselves or the chair back should be high enough to support the head and neck when required.
- The person's shoulders should not be hunched when their arms are on the armrests.
- The base of the chair should be firm.
- The individual feels comfortable. Take care when additional pressure relieving cushions are used; re-check the suitability of the person's seat with a cushion in place. Do not use pillows.

Consider seeking advice from an occupational therapist if:

- the available standard chairs do not fit the individual according to the above guidelines
- the individual cannot maintain their own posture in the chair
- the individual keeps slipping out of the chair
- the individual is complaining of discomfort.

Hip Protectors

There is moderate quality evidence that the use of hip protectors reduce the risk of hip fractures if made available to older people in nursing care or residential care settings. However, they may slightly increase the risk of pelvic fractures.

Poor acceptance and adherence by older people offered hip protectors is a barrier to their use. The use of hip protectors should be considered on an individual basis.

Signalling system

Services should consider the use of a signalling system to enable all staff in contact with residents/patients to easily see what assistance they need to mobilise safely. It is designed to support staff in focussing on the person's particular needs and to involve them in how to keep safe when moving about in the ward or unit. Example: Falling leaves programme.

A system of mobility assistance symbols is just one tool in falls prevention.

- The symbols signal to health care providers, support staff, families and friends that a person may require help to ensure they are safe when walking.
- The traffic light colours of the symbols indicate how much assistance may be needed.
- The signals are a cue for action, not an action in themselves; therefore health care providers must ensure the symbols are not seen as the only thing that needs to be done to prevent falls.
- The resources can be adapted for use according to local practices and the patient population, and these recommendations are only a guide.
- The symbols may be placed outside the door and over the bed in multi-occupancy rooms, next to the person's name on the white board in the nursing office, on the individual's mobility aid or wheelchair.

Symbol 1 (Red) – indicates to staff full assist and supervision, patient message to others: I need help

Symbol 2 (Amber) – message to staff: some assistance and/or supervision; patient message to others: I need some assistance

Symbol 3 (Green) – message to staff: independent; patient message to others: I'm independent

<u>Patient-centred principles for using the signalling system</u>

1. Discuss with residents/patients and families:
    a. the purpose of the system, which is to keep residents/patients safe while encouraging their mobilisation

b. the meaning of the symbols, to ensure their understanding and approval before using the resources in the bed space or on mobility aids (make sure it is their choice – some may prefer not to use the tags).

2. Ensure the colour displayed reflects the resident's/patient's current mobility assistance needs and that all the resources used match up with the same colour.

3. When a resident's/patient's immediate falls risk changes, make sure that the colours on the symbols reflect their changed needs for mobility assistance.

(Adapted from HQSC, New Zealand)

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https://www.hqsc.govt.nz/ourprogrammes/reducing-harm-from-falls/projects/signalling-system/

Primary Care Services, HSE Mid West Community Healthcare, 2019. Falls Reduction Workbook for clinicians: Identifying the Modifiable Risks with Multifactorial Falls Screening.

Useful Links/Contacts:

Irish Longitudinal study on ageing TILDA https://tilda.tcd.ie/

Health and Positive Ageing https://hapai.net/

Irish Osteoporosis: Lo Call 1890 252751 or www.Irishosteoporosis.ie

Alzheimer's Society of Ireland: Call 1800 341341 or visit www.alzheimers.ie

Family Carers Ireland : Call 1800 250724 nor www.carersireland.com

Go for Life team: Call 01 805 7733 or e-mail gfl@ageandopportunity.ie

Sports Partnerships who provide Go for Life programmes www.limericksports.ie @ 061-333600, www.claresports.ie @ 065-6865434 www.tipperarysports.ie @ 0761-066201

Weight loss and Malnutrition – resources

https://www.hse.ie/eng/services/list/2/primarycare/community-funded-schemes/nutrition-supports/

HSE Mid West Community Healthcare

Inpatient/Residential Services, Mental Health and Older Persons Services

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