

FALLS PREVENTION AND BONE HEALTH TRAINING PACKAGE

VERSION 1

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INTRODUCTION

Welcome to the workbook for the prevention and management of Falls and Bone Health. Falls and fractures are a serious problem particularly for older people and this has an impact on hospital admissions and long term care. This training pack aims to consider the many risk factors associated with falls and resulting fractures with a focus on implementing interventions to prevent falls, fractures and osteoporosis in the future.

The workbook is aimed at all, health and social care practitioners who provide first line care and treatment with a particular focus on older adults. The workbook gives managers and staff an opportunity to ensure that the key principles, along with individual's responsibilities are fully understood.

The workbook is for your personal use only. Keep it safe but in a handy place for times when you need to work through it. You will also need to share your answers and thoughts with your Manager who will be responsible for signing off the completion of your workbook. This will assure them of your level of competency to identify risk factors associated with falls, interventions and pathways of referral to reduce those risks.

If you are struggling to complete any section of the workbook, please discuss this with your line manager who should be able to offer you support and assistance.

OVERALL AIMS AND LEARNING OUTCOMES

The overall aims of the workbook are to help health and social care staff to reduce the incidence and severity of falls in older people by:

- Considering the factors that lead to falls
- The consequence of injuries resulting from falls
- The effects of osteoporosis in relation to falls
- Recognise the need for carrying out a falls risk assessment
- Interventions to reduce risk factors

The overall learning outcomes of the workbook are that on completion you will be able to:

- Identify people at risk of falling
- Carry out a falls and fracture risk assessment
- Consider the modifiable interventions to reduce risk factors
- Recognise the relevant pathways of referral to minimise risks
- Educate the people and all networks of support on maintaining safety

Know the protocol in relation to recording/reporting and documenting falls in your work area

YOU AND YOUR ROLE

Name _____

Organisation _____

Name and position of Mentor _____

Date Workbook commenced _____

Date Workbook completed _____

YOUR ROLE

Use the space below to describe the main duties of your job.

This training pack is designed to help you understand how to recognise the risks and the relevant interventions required to prevent falls. You may already have a knowledge base of falls, nevertheless the workbook will be a useful tool to build on, refresh and update your knowledge. It will also provide a resource for future reference and evidence of learning in relation to the prevention and management of falls in the workplace.

Falls have been a serious and growing problem for a long time. Falls and injuries result in huge costs to health and social care although they are a preventable health issue. (Public Health England 2015)

www.gov.uk/government/publications/falls-applying-all-our-health/falls-applying-all-our-health

NICE have produced several documents in relation to falls and bone health.

Nice Guidance – Falls in Older People - Quality standard [QS86] Published date: March 2015 Last updated: January 2017

www.nice.org.uk/guidance/qs86

Nice Guidance - Falls in older people: assessing risk and prevention

Clinical guideline [CG161] Published date: June 2013

www.nice.org.uk/guidance/cg161

Nice Guidance - Hip Fracture: management

Clinical guideline [CG124] Published date: June 2011 Last updated: March 2014

www.nice.org.uk/guidance/cg124

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UNIT ONE - WHAT IS A FALL?

Falls are a major cause of disability and can affect people of all ages. The risk of falling increases with age and resulting in pain, injury, loss of confidence and mortality (NICE 2013). Approximately 250,000 emergency hospital admissions of people 65 years and over with 173,000 of these being over 80 years are falls related (PHE 2015).

As care providers, your role is to protect this group of vulnerable people by identifying the risk factors associated with falls and ensuring measures are taken to reduce those risks to prevent the fall or reduce the nature of any injury as a result of the fall.

The workbook is designed to assist you to think about falls, the size of the problem, some of the reasons for falls and the risk factors associated with falls. As you progress through this workbook you will become aware of the consequences following a fall for the individual, the cost related to health and social care in addition to the pain, suffering, loss of independence and the risk factors associated with osteoporosis. You will be able to consider measures that if addressed could reduce those risk factors in order to prevent a fall and how to apply it to the workplace.

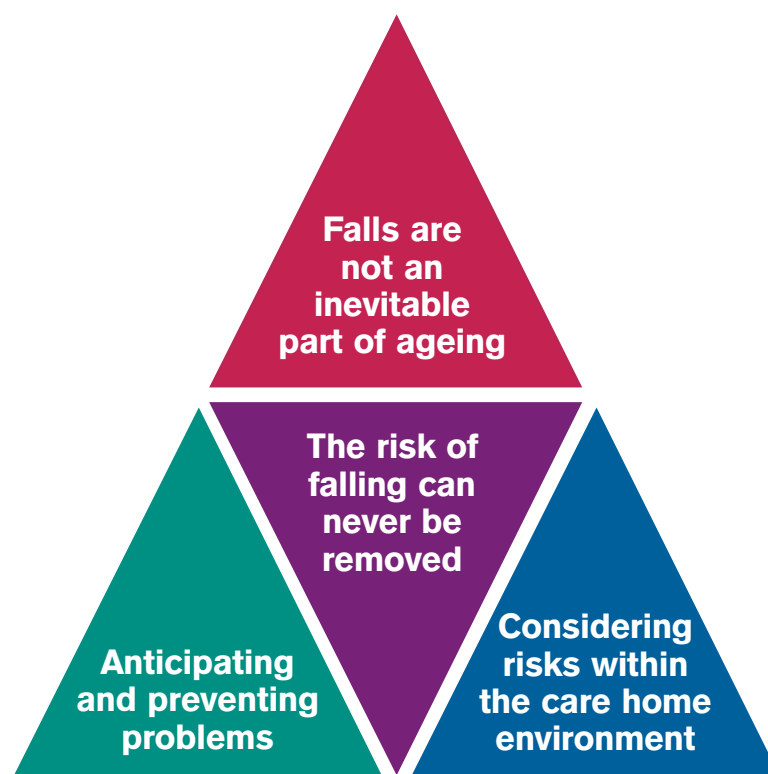
FACTS AND FIGURES ON OLDER PEOPLE, THE POPULATION AND THE LINK WITH FALLS.

Older People make up a large proportion of the population. People become more vulnerable as they get older increasing the risk of a serious fall.

The Office for National Statistics (ONS) indicate the number of people aged 65 and over is projected to rise by over 40% in the next 17 years to exceed 16 million. Thirty percent of people aged 65 and over will fall at least once a year, rising to 50% for those aged 80 and over (PHE 2015).

There are estimated 15 million people aged over 60 years in 2017, this is more than 1/5 of UK population. The numbers of older people are expected to rise in the next 25 years to almost 22.4 million by 2042 (ONS 2014-based National Population Projections). Falls are the leading cause of accidental death in the UK in people over 75 (Age UK undated).

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Falls are not an inevitable part of the ageing process; they are usually attributed to one or more fundamental risk factors. Identifying those risk factors is key to preventing falls and potential injuries. Having a previous fall, balance problems, muscle weakness, memory loss, visual impairment, fainting or blackouts and multiple medication or polypharmacy are all common risk factors associated with falls. **If anyone experiences dizziness, this should be investigated by the Doctor or Nurse to eliminate raised blood pressure or other medical causes.** For people experiencing recurrent falls this is often the result of impaired postural stability. A combination of factors linked with conditions such as arthritis, stroke, Parkinson's disease and long term conditions of cardio-respiratory nature may lead to muscle weakness, sense of balance, insight or concentration (DH 2009).

The risk of falling can never be completely removed, however, completion of a falls risk assessment can help to identify risk factors and actions to be taken to remove or alter risk where possible.

Considering risks within the care home environment is part of this process. There will be cases when an individual remains at high risk of falling despite thorough assessment and management. In these instances, it is possible to reduce the risk of harm from falls by using appropriate equipment and alarm systems, and ensure the resident takes osteoporosis medications correctly as prescribed.

The emphasis should be on anticipating and preventing problems rather than simply managing problems once they have occurred.

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NICE (2017) Quality statement 2: recommend all older people at risk of falling should be offered a multifactorial risk assessment. There are several risk factors associated with falling and the number of risks if not identified by risk assessment are likely to increase the risk of a fall occurring unless modifiable interventions take place to reduce the risk.

The multifactorial risk assessment (NICE 2013) could include:

- Identifying a history of falls
- Assessment of gait, balance, mobility and muscle weakness
- Assessment of osteoporosis
- Assessment of perceived functional ability and fear of falling
- Assessment of visual impairment
- Cognitive impairment assessment and neurological examination
- Continence assessment
- Home environment /safety assessment
- Medication review and cardiovascular examination

Falls are commonly defined as:

“inadvertently coming to rest on the ground, floor or other lower level, excluding intentional change in position to rest in furniture, wall or other objects”

(WHO 2007, PHE 2015).

- Falls affect a third of those aged 65 years and over rising to 50% in those aged 80 years and above (PHE 2015).
- Almost 20% of people sustaining hip fracture entered long-term care in the first year after fracture (PHE 2015).
- Approximately 1/2 who were previously independent before the hip fracture will become partially dependent and 1/3 will become totally dependent (DH 2009).
- Falls and fractures account for 4 million bed days in England each year at a cost of £2 billion (Royal College of Physicians 2011).

Other co-morbidities will influence these deaths; these include physical health problems, lifestyle and psychological factors such as being afraid of falling.

- NICE Guidance (2013) indicates older people who have fallen or are at risk from falling should have a falls risk assessment.
- The assessment will identify modifiable risk factors.
- Appropriate interventions to reduce those risk factors must be considered and included in the action plan.
- NICE Clinical Guidance 124 (2011) focuses on the management of hip fractures.

UNIT 1: LEARNING ACTIVITY

Question 1: How would you define a fall?

Question 2: What percentage of older people over the age of 65 years falls each year?

- a) 30%
- b) 60%
- c) 75%
- d) 90%

Question 3: Which Clinical Guideline relates to falls?

Access a copy of this Guideline and find out the following:

Question 4: What should older people be asked routinely when in contact with healthcare professionals?

Question 5: List the 10 aspects that a multifactorial assessment might include:

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.



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Question 6: Following treatment for a fall what should older people be offered?

Question 7: Name 5 of the common risk factors associated with falls

1.

2.

3.

4.

5.

Question 8: Identify which conditions are usually linked with recurrent falls

UNIT 2 FALLS AND ASSOCIATED RISK FACTORS

RISK FACTORS THAT MAY LEAD TO FALLS

In the previous unit we considered risk factors associated with falls. Many front line staff would be able to identify some of these risk factors during face to face contact with the client. In this unit you are going to look more closely at the risk factors and the impact this has on people, which lead to a fall.

Across Lancashire the STEADY On! model has been introduced to help identify risk factors associated with falling. We use STEADY (see below) as a prompt or reminder for people to think about things they can do or change to reduce the risk factors associated with falling.

Risks are usually divided into the following categories (PHE 2015):

- Intrinsic - occurring within the body for example muscle weakness and poor balance.
- Extrinsic – something environmental having an influence, for example hazards in the home such as loose carpeting.
- Behavioural – an action that increase the risk of falling such as standing on a chair or getting out of the bath.

Focusing on the STEADY On! model we are now going to explore in more detail some of the risk factors that can lead

Slippers, feet & footwear:	Supportive and suitable?
Tablets & medication:	Take time to have a review
Environment & lighting:	Extra lighting and handrails are helpful
Activity & exercise:	Activity and exercise can be good for mind and body
Do you fall:	Do please let someone know if you fall
eYesight:	Your eye test is important to spot any new problems

SLIPPERS, FEET AND FOOTWEAR: SUPPORTIVE AND SUITABLE?

- Is the older person able to take care of their own feet and is there good feeling/sensation?
- Ensure choice of footwear is appropriate:
- Style of footwear – should be securely fitted to the foot not loose like flip flops, backless slippers. Mule style not recommended
- Not too big or too small, loose or floppy, all footwear, including slippers, should be well fitting, with a secure fastening
- Prescription footwear – takes time to get used to as it can be larger than standard footwear

Slippery soles of footwear can lead to falls on some floor surfaces. Grippy soles can also cause problems if there is an expectation that the sole will slide a little when walking. Check if slipper socks are worn appropriately.

Many medical conditions can result in poor circulation or sensation of the feet and this can result in older people having problems which lead to falls. Podiatry is not a service that is offered routinely to everyone, the service is dependent on need which is assessed, treated and people will be discharged as appropriate on completion of treatment. Other local chiropody and foot care/ nail cutting services will be available in the area, many which will offer a home visiting service to private and care home settings.

Older people often wear footwear that does not support the foot properly or they tend to use slippers for large amounts of time. It is important to offer education and advice

on how to look after the feet or where to seek alternative support to assist with this. Slippers with a firm heel grip and a Velcro fastener will help to support the foot, however people should be encouraged to wear shoes during the day to provide more support to the feet when mobilising

TABLETS & MEDICATION: TAKE TIME TO HAVE A REVIEW

All medications have side effects and interact with other medicines. GPs consider this when prescribing. Medications are prescribed for the individual and often people can have a different dose than a friend or family members on the same medication. Some treatments may not be suitable for certain people, which is why consultation with a doctor, pharmacist or nurse prescriber is advisable. The number of different medications people take increases the risks of interactions and combined adverse effects e.g. drowsiness that can adversely affect falls risk.

People who have had a recent change to their medication (including additional medications or any alterations in the dose) may be at greater risk of falling either due to interaction with other medication or due to potential side effects. Medication review is part of a falls prevention plan which should be carried out by GP or Medicines support team and is required from a falls perspective.

Medicines and falls is a comprehensive topic. Therefore we will cover in more detail in Unit 3.

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ENVIRONMENT & LIGHTING: EXTRA LIGHTING AND HANDRAILS ARE HELPFUL

Consider the following hazards:

- Outside access –uneven ground, access to front door/bins/washing line/ gardens
- Stairs, Steps and thresholds
- Lack of appropriate adaptations (e.g. grab rails)
- Clutter and tripping hazards (e.g. trailing wires, loose rugs, clothing)
- Floor coverings – loose or poor condition, changes in surface, slippery, heavily patterned carpets, shadows, thresholds can also cause problems
- Inappropriate furniture and difficulty getting on or off toilet/bed/chair; sharp corners on furniture
- Poor lighting which can affect mood as well as visibility
- Extremes of temperature, heating systems and managing controls; older people require additional fluid intake during hotter weather
- Pets – trip hazard or boisterous, bending to feed, walking the dog
- Sensor mats- are they appropriate for the person- sometimes can appear like holes in the ground especially for people who have dementia

Highlighted above are some of the issues that can lead to falls. Addressing some of these may help people to change behaviour related to their lifestyle or environment. This could make them safer and prevent a fall. Bright coloured collar and bells on the cat's collar may help to know they are around to prevent falling

over them. Consider a dog walking service as a solution to exercise and reducing boisterous behaviour of animals. A referral to Occupational Therapy or the 'Falls Team' may result in a home assessment to consider some of the potential hazards and could offer suitable assistive devices to aid daily living activity, i.e. grab rails, walking frames etc.

ACTIVITY & EXERCISE: ACTIVITY AND EXERCISE CAN BE GOOD FOR MIND AND BODY

- Do they lack exercise/general activity?
- Do their legs feel weak?
- Do they feel dizzy?
- Does the older person over-balance when reaching up or down?
- Physical activity is a key factor in the prevention of falls and fractures
- Exercise programmes containing 2 or more of the following components: strength, balance, flexibility, endurance training have been shown to be effective
- Other effective activity/exercise opportunities:
- Exercising in supervised groups
- Performing individually prescribed programmes in the home

Older people should be encouraged to get up and out of the chair at frequent intervals during the day and move about the room as this can be beneficial in maintaining mobility. Where possible and practical continue to use the stairs regularly. Small measures can help people to keep active and mobile; a short walk to the corner shop, pottering around in

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the garden will aid mobility and reduce the risks of falling. REMEMBER: Anyone who experiences dizziness, this should be investigated by the Doctor or Nurse to eliminate raised blood pressure or other medical causes. It should be recognised that not everyone is willing to engage or participate in structured activity and encouraging some daily living activities such as vacuuming and dusting can be beneficial in maintaining mobility.

DO YOU FALL: DO PLEASE LET SOMEONE KNOW IF YOU FALL

- Risk taking behaviour (e.g. climbing on chairs/ladders, overreaching or bending)
- Inappropriate use or refusal of aids to daily living (e.g. weight bearing on dining trolley, abandoning walking aids to walk short distances)
- Multi – tasking
- Family/relationship dynamics – adapting or encouraging a passive role
- Fear of falling

Lots of elderly people borrow other people's walking sticks which are the wrong height; also some elderly people see using Zimmer frames as "being old" and refuse the option of a walking aid which again can increase the risk of falling. Research indicates that high levels of perceived risk of falls or fear of falling may lead to future falls in older people (Delbaere et al 2010). Fear of falling is not always based on previous experience of having fallen. Anxiety is a significant problem, particularly for those with a history of having previously sustained a fall. Fear of falling increases the risk of falling and causes people to lock legs and shuffle which increases the possibility of

falling. People do have the right to make choices and adopt risk taking behaviour particularly in carrying out some small jobs around the home. However they could consider Care and Repair/Handy Person schemes as an option to access help rather than risk the individual to do some actions such as changing a light bulb.

EYESIGHT: YOUR EYE TEST IS IMPORTANT TO SPOT ANY NEW PROBLEMS

- Should the older person wear glasses?
- Older people should have an annual eyesight check, some opticians will home visit people who are housebound
- Ensure they fit correctly so that they wear the prescribed glasses and clean them regularly.

Be aware that as people get older they sometimes have difficulty in adjusting to bifocal and varifocal lenses and may benefit from changing to separate reading and distance glasses

Some people may choose to purchase easy reader glasses from shops and supermarkets. Whilst this may assist with vision for reading, for people 60 years and over the NHS sight test is free of charge and should be encouraged to have the eye test. This has the benefit of a health check identifying other medical conditions such as glaucoma, cataract and macular degeneration. For housebound people the sight test can also be provided free of charge at home. Sometimes people will borrow other people's glasses which could compromise the vision and lead to falls; therefore NOT recommended.

OTHER THINGS WHICH ARE WORTHY OF CONSIDERATION FOR THE PREVENTION OF FALLS ARE:

Hearing

- Do you turn up the TV louder than your family wants it?
- Do you find it hard to follow conversation in pubs and restaurants?
- Do you struggle to hear on the phone?
- Do you often ask people to repeat what they say?
- Does your partner complain that you don't listen to them?
- Do you find others mumble?

If you answer yes to any of these questions, make an appointment to see your GP.

People with hearing loss are also highly likely to have problems such as balance disorders, which are risk factors for falls and other accidental injuries. If someone thinks they have, or shows the signs of, hearing loss or tinnitus, arrange an appointment with their GP, who will check for any underlying cause for hearing loss, such as infections or wax, which may be treated easily.

Good-quality digital hearing aids are free as standard on the NHS and can also be bought privately. To see an audiologist on the NHS, a referral from the GP is required. A GP referral to see a private audiologist is not required but will have to pay for hearing aids via this route. It is recommended that people see their GP first, even if they are considering seeing an audiologist privately, to ensure that there is no underlying cause of their hearing loss. People should be aware of the various options available for hearing aids.

Continence

- Can the older person get to the toilet in time?
- Do they need to go frequently or does some leakage occur with a cough or a sneeze?
- Accidents and dark coloured urine with strong odour can indicate a Urinary Tract Infection (UTI) and/or poor hydration
- Is this a new or excessive problem?
- Incontinence increases the risk of falls by 35%
- Incontinence increases the risk of fractures by 45%

This is not a problem that occurs just because of ageing and often the symptoms can be treated or managed if made aware to a doctor or nurse. Often incontinence is considered to be the norm linked to the ageing process. Many people fail to realise that once identified the symptoms are often treatable or support mechanisms can be offered to manage the condition appropriately. Fluid intake is essential to health regardless of a person's age with adequate intake being associated with fewer falls. Drinking 6-8 glasses of water a day is considered by most health professionals to be adequate. A useful guide to good hydration is the colour of urine, although best used only as a guide as urine colour can also change with some medications. Pale odourless urine = good hydration, dark strong smelling urine = not enough water consumed. Improving water intake does reduce constipation, urinary tract infections and confusion that leads to falls.

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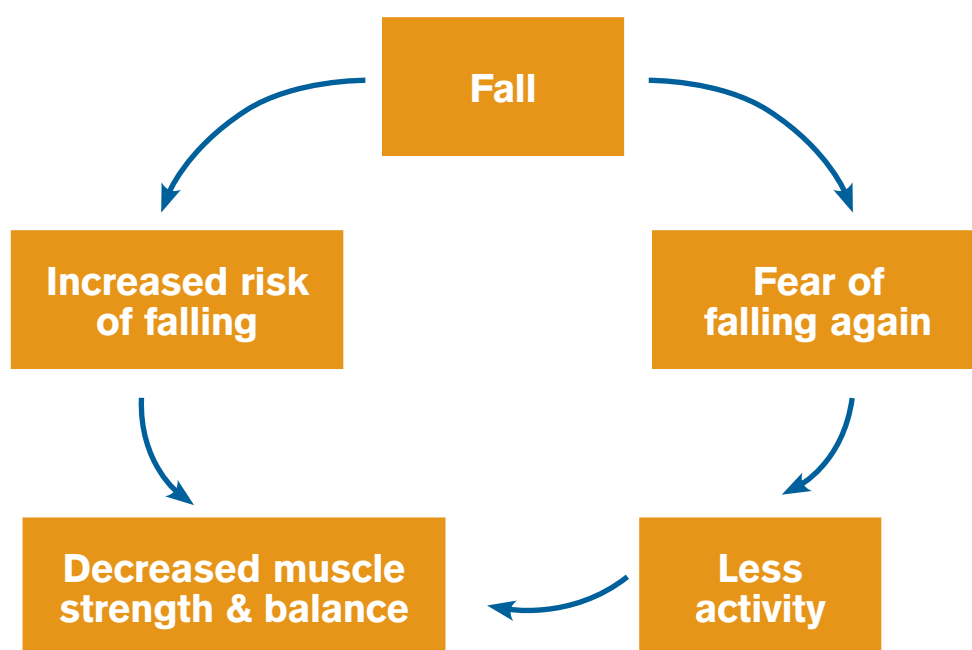
Diet and lifestyle

- A poor or irregular diet can lead to people becoming weak and/or dizzy; therefore encourage a regular and varied diet
- Calcium from dairy products, Vitamin D from oily fish and 10-15 minutes of sunlight in the spring and summer months help to keep the bones as strong and healthy as possible
- Alcohol can make people unsteady on their feet and reduce the speed of reaction. It can increase confusion and disorientation and mixed with medication can increase the effects which result in a fall
- Smoking reduces lung capacity which may lead to people becoming dizzy and/or breathless more easily

It is important we ensure older people eat regularly, perhaps little and often as a poor or irregular diet may cause weak and/or dizzy episodes. To help to keep bones strong we need Calcium found in dairy products (low fat options have the same or greater calcium content). Vitamin D can be obtained from oily fish and sunlight which can be absorbed through the skin if you go outside for at least 15 minutes a day. Because many older people are housebound, they are unlikely to benefit from Vitamin D from sunlight, therefore we need to ensure a supplementary option is considered in the diet, or if necessary via medication.

A reminder that alcohol particularly on an empty stomach or mixed with medication can lead to unsteadiness on your feet and reduce your reaction time. Smoking is often substituted for food but will also reduce your lung capacity leading to dizziness and/or breathlessness which could increase the risk of falls.

THE FALL CYCLE



- It can be helpful to recognise that falls are frightening
- Following a fall (or near fall) anxiety levels will rise
- This leads to physical symptoms and unhelpful or negative thinking
- These thoughts can lead to a change in behaviour (for example, the person might take smaller steps and their muscles may tense up)
- Ultimately, a fear of falling can lead to an increased risk of falls

Older people in particular will benefit from encouragement or support to reduce some of the fear and anxiety to overcome the fear of falling again. Giving someone a purpose to take that initial step in the right direction even if it is encouragement to walk to the

garden gate on day one and building up to the nearest lamp post the next time. “Just one more step!” Peer support from friends or family may assist people to overcome some anxiety and barriers. Being aware of the psychological effects of falls does not stop people from becoming fearful and over cautious. Recurrent falls can lead to various psychological problems. Reaction to falls is crucial in determining longer term outcomes. Half of those afraid of falling will limit and/or avoid everyday activities. In extreme cases, people become housebound or even confined to one room. The loss of independence and can precipitate unnecessary admission to residential care; this is often confirmed by views of older people who are frail, fragile and incapable.

UNIT 2: LEARNING ACTIVITY

Question 1: Name the 3 categories that risks are usually divided into

1. _____
2. _____
3. _____

Question 2: What is considered to be the most suitable type of footwear an older person should wear for long periods during the day?

Question 3: How often is it recommended an older person over 65 years should have a sight check?

Question 4: Identify 5 reasons why people may fall

1. _____
2. _____
3. _____
4. _____
5. _____

Question 5: Name 2 components of exercise programme which are effective for the prevention of falls

1. _____
2. _____

Question 6: How much fluid is recommended we drink every day?

- a) 1-2 glasses of water
- b) 3-5 glasses of water
- c) 6-8 glasses of water

Question 7: Name a type of infection that can cause a sudden increased risk for falls.

UNIT THREE – MEDICINES AND FALLS

Problems with medicines – which may lead to falling

- Taking more than four medicines
- Recent changes to medicine regime - including drug choice and dose change
- Not complying with directions
- Unable to read labels
- Unable to swallow medicines
- Taking medicines and alcohol together
- Taking someone else's medicines
- Taking over-the-counter medicines

The more medication people take increases the risks of interactions and combined adverse effects e.g. drowsiness that can adversely affect falls risk.

People who have had a recent change to their medication (including additional medications or any alterations in the dose) may be at risk of falling either due to interaction with other medication or due to potential side effects. Sleeping tablets are known to increase the risk of falling (one study cut night sedation by half and had a dramatic decrease in falls).

Often people do not take note of the instructions or are unable to read the label for taking medication, this could also lead to adverse effects. The elderly or confused are at particular risk of taking more or less medication than they should, again increasing the risks of adverse effects.

Over the counter medicines purchased from either Pharmacy, supermarkets, herbal shops and homeopathic remedies can have side effects with the potential to lead to falls in the same way prescribed medicines can. These medicines should be considered and also can have an effect on any prescribed medicines currently being taken.

Some people are unable to swallow medicines and may have crushed them in order to ease the problem. With some medicines this may affect the amount of drug taken and can cause serious adverse effects including falls. The GP may be able to offer an alternative format of the prescribed medication.

Drinking alcohol whilst taking medication can alter the effect of the medication. This can result in nausea, dizziness, drowsiness and falls. Alcohol also adds to confusion and disorientation and unsteadiness.

All medications have side effects and interact with other medicines. GPs consider this when prescribing. Medications are prescribed for the individual and often are a different dose than given a friend or family members: they may not be suitable for other people.

Care Homes should have a policy on using homely remedies such as cough mixture as it can contraindicate with existing medication.

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Medicines that may increase the risk of having a fall include those for:

- Anxiety or insomnia
- Depression or mental illness
- Pain
- Diabetes
- High blood pressure/heart conditions e.g. antihypertensive and diuretics
- Parkinson's Disease
- Epilepsy

All drugs can have adverse effects as well as beneficial ones.

Research in 2009 identified sedatives and hypnotics, antidepressants and benzodiazepines demonstrated a significant association with falls in elderly individuals.

Sedation is one of the most common causes of drug-induced falls. Elderly people are more susceptible to Central Nervous System side effects of excessive sedation, increased body sway and slowing of reaction time.

Medicines can cause drowsiness/dizziness e.g. when given for anxiety/insomnia. It is worth noting some medicines can cause drowsiness the day after they have been taken.

Other issues to be aware of are medicines that can lower blood pressure (the most common cause of medicine induced falls).

Control of blood pressure at rest and movement is already impaired in the elderly, so they are more likely to suffer drug-induced postural hypotension, which can lead to dizziness and falls, (examples are diuretics or beta blockers, antidepressants, drugs for Parkinsonism). It is recommended that the blood pressure is checked regularly to eliminate this as a cause for falls.

In an older person, who may already have impaired vision due to cataracts several medicines have side effects and can cause blurred vision/confusion. This may trigger falls (examples are eye drops for glaucoma, steroids, and diabetic drugs).

Several medicines can affect the strength of bones e.g. by affecting the absorption of essential minerals (an example is long-term proton pump inhibitors given for reflux disease i.e. Omeprazole, Lansoprazole etc.) (See appendix notes 1). This could increase the risk of any fall resulting in a fracture.

TARGET FOR MEDICATION REVIEW

Many different medicines can affect a person's risk of falling and/or fractures by a number of different mechanisms.

The following list is by no means comprehensive but gives some idea of the range of medicines that should be regularly reviewed (at least annually) in a person at risk of falls and/or fractures or who suffers from frequent falls.

CAUTION – The main classes of medicines that could increase the risk of a fall

1. Anti-emetics
2. Anti-psychotics
3. Sedating Antihistamines
4. Antimuscarinics
5. Drugs used in Parkinson's disease
6. Analgesia
7. Benzodiazepines
8. Corticosteroids
9. Tricyclic Antidepressants
10. Diuretics
11. Anticonvulsants
12. Muscle Relaxants
13. Antidiabetic drugs
14. Dementia Drugs
15. Digoxin

The National Service Framework for Older People (DH 2001) stated that:

'all people over the age of 75 should normally have their medication reviewed at least annually and if taking more than four medicines, should have a review six monthly'.

Whilst NICE Guidance QS85 (2015) with specific regard to Care Homes acknowledged that residents have complex conditions and the medicines administered to treat those conditions need to be reviewed regularly to ensure they are safe and effective. The reviews should take place at intervals of no longer than one year, although for some residents they will need to be more frequent due to changes in their condition.

**ALL PEOPLE ADMITTED WITH A FALL/
SUSPECTED FALL SHOULD HAVE A
MEDICATION REVIEW: THINK FALLS
THINK MEDICINES**

A review should include checking that all medicines are appropriate.

The individual should be asked:

- To list all medications they are currently taking, including those purchased over the counter
- If there are any recent changes to their medications?
- If there are any problems remembering to take medicines?
- If there are any problems taking medicines? e.g. swallowing
- If there are any adverse effects noted? e.g. dizzy
- As many as 50% of older people do not take their medicines as intended

UNIT 3: LEARNING ACTIVITY

Question 1: List four potential problems with medicines that might increase the risk of falls:

1. _____
2. _____
3. _____
4. _____

Question 2: List the three main causes of falls due to the effect of medicines and give an example of a drug that may cause this effect

1. _____
2. _____
3. _____

Question 3: Give an example of a drug that can increase the risk of a fall resulting in a fracture:

Question 4: Give an example of a medication which is:

- a) Medicine that relieves pain _____
- b) Medicine that acts on the brain _____
- c) Medicine that improves function _____
- d) Medicine that prevents illness _____

Question 5: How often should an older person have a medication review?

UNIT FOUR – BONE HEALTH, FALLS AND OSTEOPOROSIS

Definition:

Osteoporosis literally means ‘porous bones’ and is often referred to as the ‘fragile bone disease’. (NOS 2016)

Osteoporosis is one of the most significant problems of older people

- 1 in 2 women and 1 in 5 men will suffer a fracture after the age of 50
- The lifetime risk of a fracture in women at age 50 is greater than the risk of breast cancer or Cardio Vascular Disease
- Projections suggest that, in the UK, hip fracture incidence will rise from 70,000 per year in 2006 to 91,500 in 2015 and 101,000 in 2020 (NICE 2012)

Worldwide almost 9 million osteoporotic fractures occur annually, with more than 300,000 people in the UK attending the hospital with fragility fractures.

In white women, the lifetime risk of hip fracture is 1 in 6, compared to 1 in 9 risk of breast cancer.

Mortality following a hip fracture is greater in men than women. Overall there is 20% mortality in the first 12 months after hip fracture.

Each year in the UK around 310,000 people, the majority of whom are old, present to hospital with fractures. Around a quarter of these are fractures of the hip,

the most devastating common fracture, which typically results from a fall in an older person

10% of people die in hospital within a month, and one third have died following a hip fracture

Over 300,000 people present to hospitals in the UK with fragility fractures each year, with medical and social care costs – most of which relate to hip fracture care at around £2 billion

The optimum model for reducing fractures involves:-

- **Minimise the trauma**
Prevention of falls and reduction of the impact as a result of falls
- **Minimise the effect of the trauma**
Prevention, identification and treatment of osteoporosis, improving general fitness, agility and muscle strength

(Cryer and Patel 2001)

The clear message here is PREVENTION initially of the fall, but also what preventative initiatives could reduce the impact of the fall to avoid serious nature of injury. Therefore measures should be taken to prevent osteoporosis developing, in particular early identification and treatment of osteoporosis.

HEALTHY BONE

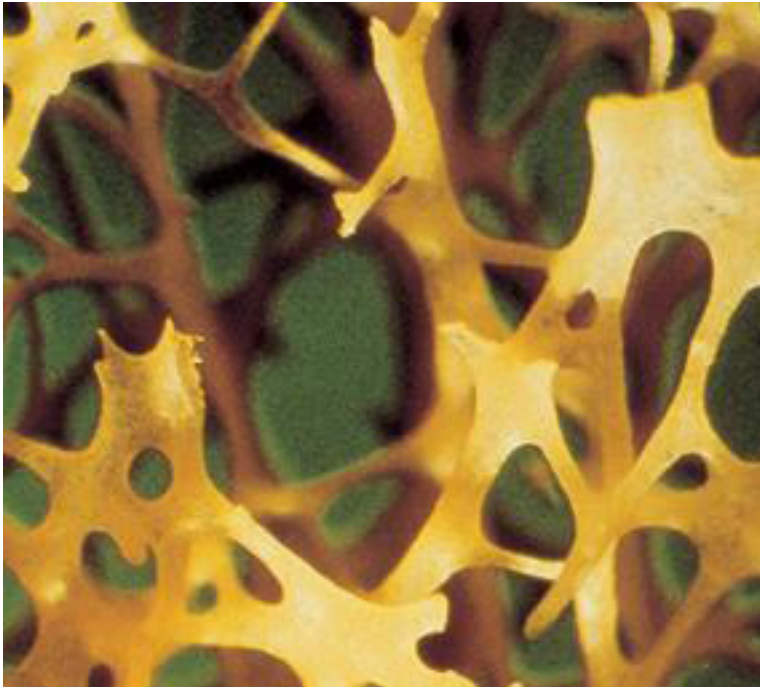


Image: Alan Boyde

NORMAL BONE

In humans there are two main forms of bone: cortical and trabecular.

Cortical bone is dense and compact. Cortical bone runs the length of the long bones, forming a hollow cylinder.

Trabecular bone occurs in the expanded head of the long bones. It also makes up most of the bone tissue in the vertebrae. It has a light, honeycomb structure in which a three-dimensional network of trabeculae acts as struts. This type of structure is optimised for strength and lightness. The trabeculae are oriented so that they can take up the stresses in the bone. The spaces between them contain blood vessels, nervous tissue and bone marrow.

OSTEOPOROTIC BONE

Osteoporosis is a condition in which bones lose their strength and are more likely to break.

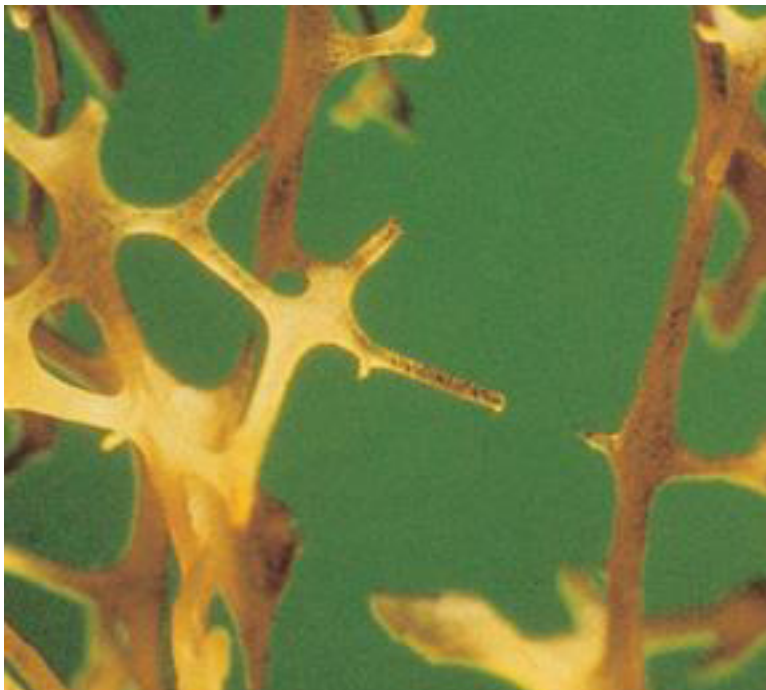


Image: Alan Boyde

These scanning electron micrographs of iliac crest biopsies show the difference between normal and osteoporotic bone.

BONE TURNOVER AND OSTEOPOROSIS

The turnover of trabecular bone is greater than that of cortical bone because the honeycomb structure has a large surface area. This is fine if the cycle of bone loss and replacement are in balance.

Osteoporosis occurs when so much bone is lost that the strength of the bone is reduced. The parts of skeleton made predominately from trabecular bone are more susceptible to bone loss because of their higher turnover rate (e.g. vertebrae, radius).

OSTEOPOROSIS AND FRACTURE

Osteoporosis is recognised clinically when an individual experiences a fracture

- **Osteoporotic fracture is also known as**
Low trauma fracture
Fragility fracture
- **Most common sites are**
Spine
Neck of femur (hip)
Forearm (Colles' fracture)
- **In osteoporosis bone strength is reduced**

A low trauma fracture or fragility fracture is defined as a fracture (particularly those occurring in unusual locations e.g. spine, hip, pelvis) due to a low energy event (e.g. a fall from a standing height or less: rib fracture due to sneezing or coughing).

WHO IS AT RISK?

Non-modifiable risk factors

- Increasing age
- Previous fragility fracture
- Female gender
- Asian or white ethnic origin
- Reduced life-time exposure to oestrogen
- Family history of hip fracture

Secondary Causes

- Rheumatoid arthritis
- Diabetes (type 1)
- Medication

Modifiable risk factors

- Steroid use
- Low body mass index
- Hypogonadism in men
- Smoking
- Excessive alcohol intake
- Diet-low calcium, high salt or caffeine
- Vitamin D deficiency
- Poor visual acuity
- Long term immobilisation
- Housebound/nursing home residents

Completion of a FRACTURE risk assessment will identify people who may be at risk of osteoporosis. NICE CG 146 (2012) recommends a clinician complete either the FRAX or QFracture electronic tool to calculate if someone is at risk of osteoporosis. These can be found at:

www.shef.ac.uk/FRAX/tool.jsp or
www.qfracture.org/

Falls Prevention and Bone Health TRAINING PACKAGE

A number of different risk factors have been identified as increasing risks of falls or fractures. Risk factors identified in red are those recognised by NICE (2011) in TA 160 (primary prevention) and NICE (2011) TA 161 (secondary prevention). Other factors are suggested as relevant in the map of medicine pathway and by NOGG (National Osteoporosis Guideline Group).

Some medications can increase the risk of osteoporosis. Recent evidence suggests Chronic Obstructive Pulmonary Disease (COPD) and high dose inhaled steroids used in its treatment may also be critical to fracture risk.

The Medicines and Healthcare products Regulatory Agency (MHRA) have advised all healthcare professionals that long term

treatment with phenytoin, carbamazepine, primidone and sodium valproate are associated with decreased bone mineral density (see appendix notes 3).

Vitamin D supplementation should be considered in those at risk on these medications.

There is suggestion that antidepressants and long term high dose proton pump inhibitors can reduce Bone Mineral Density. Aromatase inhibitors- e.g. anastrozole, letrozole, fulvestrant and prostate cancer treatments e.g. goserelin, leuporelin (also used for endometriosis) may reduce Bone Mineral Density (see appendix notes 4)

HOW IS OSTEOPOROSIS DIAGNOSED?

- Based on clinical risk factors as previously indicated above
- Often first identification comes following a fracture
- Bone density is measured using DUAL ENERGY X RAY ABSORPTIOMETRY or DXA Scan



Image: Courtesy of Blackpool Teaching Hospitals NHS Foundation Trust

Left is DUAL ENERGY X RAY ABSORPTIOMETRY or DXA Scanner

HOW OSTEOPOROSIS IS TREATED

- Bisphosphonates orally-usually alendronate
- IV therapy e.g. Zoledronate; Ibandronate
- SC therapy e.g. Denosumab or Teriparatide
- Calcium and Vitamin D
- Strontium Ranelate

Lifestyle advice should be given to all about:

- Stopping smoking
- Avoiding excess alcohol and caffeine intake
- Regular weight bearing exercise
- Avoiding immobility
- Maintaining a healthy diet, aiming for a body mass index (BMI) 20-25kg/m²
- Maintaining an adequate intake of calcium and Vitamin D

Calcium is important in our diet to help in the following ways:

- To build strong bones and teeth
- To regulate muscle contractions which include the heart beat
- To ensure the blood clots normally
- A lack of calcium can result in a condition called rickets in children and osteoporosis in later life.

Sources of calcium can be found in the following:

- Milk, cheese and dairy produce
- Green leafy vegetables, such as cabbage and broccoli, but not in spinach
- Soya beans
- Tofu
- Soya drinks with added calcium
- Nuts
- Fish when the bones are eaten (e.g. sardines or pilchards)
- Bread and products made with fortified flour

Adults need 700 mg of calcium a day which should be possible from a normal daily diet.

Falls Prevention and Bone Health TRAINING PACKAGE

VITAMIN D IS ESSENTIAL FOR HEALTHY BONES.

We need Vitamin D as it helps the body to absorb calcium and phosphate from our diet. If we don't have enough Vitamin D it can cause our bones to become soft and weak which can lead to bone deformities; this is known as Vitamin D deficiency.

SOURCE OF VITAMIN D

The body makes Vitamin D from direct sunlight on our skin when we are outdoors. From about late March/early April to the end of September, most people should be able to get all the Vitamin D we need from sunlight.

Most people can make enough Vitamin D from being out in the sun daily for short periods with their forearms, hands or lower legs uncovered, between 11am to 3pm. The body can't make Vitamin D when sitting indoors by a window when it's sunny, because ultraviolet B (UVB) rays the body needs to make Vitamin D don't go through the glass. Therefore people who are not often exposed to the sun – for example, people who are frail or housebound, or are in a care home, or if they usually wear clothes that cover up most of their skin when outdoors, may need to take a Vitamin D supplement.

We can also get Vitamin D from some foods, such as:

- Oily fish e.g. salmon, mackerel, fresh tuna, herring and sardines
- Red meat
- Eggs
- Liver

Bisphosphonates are used for the prevention and treatment of osteoporosis in postmenopausal women. Bisphosphonates administered either orally or intravenously being the mainstay of treatment. Calcium and Vitamin D supplements (1g elemental calcium and 20mcg (800IU) Vitamin D) are not in themselves

HOW TO TAKE BISPHOSPHONATES

E.g. Alendronic acid tablets, Risedronate tablets, Ibandronic acid tablets

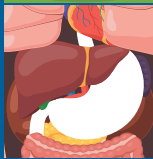
What are Bisphosphonates?

A type of medication that strengthens bones and helps prevent fractures. These medications are usually taken once weekly, therefore need to decide which day of the week to take it.

How should they be taken?



Take immediately after getting out of the bed in the morning.



On an empty stomach - no tea, coffee, juice, breakfast or other swallowed medication before taking the tablet.



Stand or sit in an upright position. Being propped up in bed is insufficient, you must be sat on an upright chair.



The tablet must be swallowed whole with a full glass (around 200ml) of plain tap water.



Tablet should not be sucked, chewed or spilt.



Sit or stand upright for 30 minutes after taking the tablet.



No food or drink (other than water) or other medicines to be swallowed for 30 minutes after taking the tablet.

Why is it important?

If bisphosphonates are taken as above the medication is more likely to be effective and the risk of side effect is much lower.

If Calcium and Vitamin D are also prescribed (e.g. Adcal D3®, Calcichew D3 Forte®), these must be taken at least 4 hours after the bisphosphonate is taken; for example at lunchtime and teatime.

UNIT 4 LEARNING ACTIVITY

Question 1: Which of the following can help to keep bones healthy and help to prevent osteoporosis?

- a) Calcium & vitamin A
- b) Calcium & vitamin B
- c) Calcium & vitamin C
- d) Calcium & vitamin D

Question 2: What percentage of hip fractures occurs in older people with osteoporosis?

Question 3: List three non-modifiable risk factors for osteoporosis:

- 1. _____
- 2. _____
- 3. _____

Question 4: List four modifiable risk factors for osteoporosis

- 1. _____
- 2. _____
- 3. _____
- 4. _____

Question 5: List four medicines that can increase the risk of osteoporosis

- 1. _____
- 2. _____
- 3. _____
- 4. _____

Question 6: Which two ways are used to assess fracture risk?

- 1. _____
- 2. _____

Question 7: What are the key lifestyle factors involved in reducing fracture risk?

UNIT 5: RISK ASSESSMENT AND SAFETY

PERSON SAFETY

Policies on falls prevention:

'All healthcare professionals dealing with people known to be at risk of falling should develop and maintain basic professional competence in falls assessment and prevention.'

NICE Guidance Falls (2013): assessment and prevention of falls in older people

This guideline offers best practice advice on the care of older people who are at risk of falling. All people aged 65 or older are covered by all guideline recommendations. To access the full guidance document please go online at:

<http://publications.nice.org.uk/falls-assessment-and-prevention-of-falls-in-older-people-cg161>

NICE Guidance indicates the following recommendations have been identified as priorities for implementation.

Case/risk identification

- Older people should be asked routinely whether they have fallen in the past year and asked about the frequency, context and characteristics of the fall/s.
- Older people reporting a fall or considered at risk of falling should be observed for balance and gait deficits and considered for their ability to benefit from interventions to improve strength and balance.

Multifactorial falls risk assessment

- Older people who experience recurrent falls in the past year, or demonstrate abnormalities of gait and/or balance should be offered a multifactorial falls risk assessment.
- This assessment should be performed by a healthcare professional with appropriate skills and experience, normally in the setting of a specialist falls service.

This assessment should be part of an individualised, multifactorial intervention.

The Multifactorial assessment may include the following:

- identification of falls history
- assessment of gait, balance and mobility, and muscle weakness
- assessment of osteoporosis risk
- assessment of the older person's perceived functional ability and fear relating to falling assessment of visual impairment
- assessment of cognitive impairment and neurological examination
- assessment of urinary incontinence
- assessment of home hazards
- cardiovascular examination and medication review

Falls Prevention and Bone Health TRAINING PACKAGE

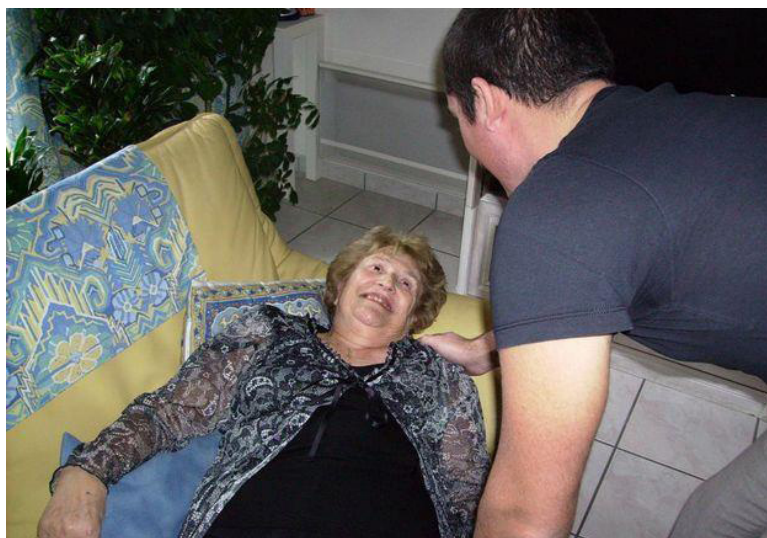
Your organisation may also have a protocol for what you should do in the event that someone has fallen.

Find out if your organisation has a policy and procedure which you should follow. If it is not available, ask your manager what is expected of a staff member in the event of someone falling. They would be able to advise you as they are supporting your

training and recognising your competency on completion of this training package. A prompt sheet or flow chart showing the key actions to take will help to make this clear and make it available for all staff if placed in the care plan.

The following key points are not intended to replace these protocols, but examples of good practice are:

On witnessing a fall, or finding a resident who has fallen, an initial assessment to ascertain whether the resident is injured.



Ascertain what caused the fall and take action to prevent further falls as necessary.



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Record the fall.



RECORD KEEPING

Good record keeping and using the information that you gather will help with falls management.

Records will:

- Show that the control measures identified in the risk assessments are being put in place
- Show that maintenance and repairs are being carried out
- Help to identify trends
- Help to anticipate and plan additional control measures
- The proper recording of individual and environmental assessments is a key element in effective falls management
- A 'falls register' for each resident means that multiple falls and patterns can be identified
- Periodic review will help to identify trends.
-

A post fall plan should include:

- Checking for injuries, including levels of pain, reassurance, observation for any change in condition and onward referral for further investigations e.g. x-ray, medical cause of the fall
- Report the fall to the family member/identified next of kin
- Complete an accident form/incident report, even when no injury suspected
- For a serious injury, a root cause analysis will need to be carried out
- Carry out a falls and fracture risk assessment to establish actions to reduce the risk of further falls
- Carry out any actions and document in the care plan

If your organisation does not currently use a falls risk assessment tool or safe use of bed rails; examples can be found in the useful documents section of the workbook where you can also find examples of a Falls Register or Falls Diary.

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The information recorded can help to identify peak times when falls occur and those people who repeat fall. Such records will assist in planning staff rotas, room layout /placing of furniture and identifying which residents require additional support or observation. Lancashire Safeguarding provide guidance on what to do following a fall.

NOTE: The CQC, as part of the inspection process, will require written evidence to confirm that internal reviews, including subsequent actions, have taken place following a fall.

In some cases it is necessary to make a 'Safeguard Alert' following a fall. The guidance indicates the following:

When to raise a safeguarding alert following a fall

- It is important to remember that a safeguarding alert must be raised where there is a concern about possible abuse or neglect, as a result of a fall, by another person and not because there is a general concern about a person's safety.
- Where a resident sustains a physical injury due to a fall, and there is a concern that a risk assessment was not in place or was not followed, this must be raised as a safeguarding alert. The key factor is that the person has experienced avoidable harm.
- Where a person has a physical injury (other than a very minor injury) which is unexplained, this must be raised as a safeguarding alert.

Or

- Where a resident has sustained an injury (other than a very minor injury) and appropriate medical attention has not been sought, this must be raised as a safeguarding alert.
- Where a person has repeated falls resulting in minor injuries, then a safeguarding alert should be raised
- Where a person has repeated unexplained injuries a safeguarding alert should be raised

There is further information relating to unwitnessed falls/unexplained injury and examples of falls which may be considered necessary for reporting to safeguarding.

Further information can be found at:
www.lancshiresafeguarding.org.uk/media/31666/appendix-2-when-to-consider-making-an-alert-following-a-fall.pdf

Keeping people as active as possible is the key to aiding mobility and reducing the risk factors associated with falls. Exercise programmes are an ideal way of helping people to be active and these can be chair based or standing. In a hospital setting the Physiotherapist may advice on suitable options of activity which could be continued at home following discharge. Reducing the risk factors for falls for residents in care homes should be considered in a similar way to those living independently in their own home. Effective exercise programmes are recognised in reducing the risk of a fall and helping to reduce lengthy periods on the floor referred to as 'a long lie' (DH 2009).

Falls Prevention and Bone Health TRAINING PACKAGE

A 'long lie' can seriously affect a person's recovery from a fall particularly if in excess of 12 hours or more. Sometimes several hours pass before the individual is discovered or is able to raise the alarm. The consequences could be potentially serious and result in hypothermia, pneumonia, incontinence, dehydration or pressure sores.

Patient Safety First (2009) indicated that if numerical risk assessments were effective in the identification of people at high risk of falling, it would make it easier to just consider those people at high risk. However, falls are multifaceted and therefore it is not possible to find a one size fits all solution. It may be more effective to concentrate on specific groups within your work area to reduce the number of fall incidents that occur; i.e. frequent fallers/those people who are unsteady when mobilising/people with a recent history of falls.

UNIT 5: LEARNING ACTIVITY

Question 1: Does your organisation currently have a protocol/policy/procedure in relation to Falls and Bone Health? Find out where this document is stored and have a look at the content before answering the following:

1a: Where is the document kept?

1b: When was it written

1c: Is there an expiry date?

1d: If the document date has expired ask your manager when this is due to be reviewed and who will be responsible for this

If it has expired is it recommended that you still follow the content until it is reviewed?

1e: Does the document have an example of a risk assessment tool?

If there is not currently a risk assessment used in your work area; take time to discuss the examples in the workbook with your manager as a suitable option to use with your client group within your work area, as you will be asked to complete a risk assessment as part of your next activity.

Question 2: Identify a client within your work area. Carry out a Falls risk assessment on this person.

Following the risk assessment complete the STEADY On! action plan with this person indicating any risks identified and measures taken to reduce this person's risk of falling. Ensure a copy is filed within the residents records.

Question 3:

Identify 2 examples of when it is necessary to raise a safeguarding alert following a fall.

UNIT SIX – MANAGEMENT AND PREVENTION TECHNIQUES

NICE (2017) Quality statement 2: recommend all older people at risk of falling should be offered a multifactorial risk assessment. The assessment will identify modifiable risk factors. Appropriate interventions to reduce those risk factors must be considered and included in the action plan.

Falls are a challenge across the whole Health and Social Care economy. A National Audit of Inpatient Falls Report (RCP 2015) confirmed that falls remain a concern and a challenge for the NHS, with more than 240,000 reported in acute hospitals and mental health trusts in England and Wales every year (that is over 600 a day). 'Multifactorial falls prevention strategies developed for the individual and provided by a multidisciplinary team can reduce falls by 23-30%. The interventions are essential in the prevention of falls for people with dementia or delirium, who have a high risk of falls. Falls can lead to injury, including fractures and head injuries, impaired confidence, anxiety and poor rehabilitation, and are a frequent factor for some individuals having increased length of stay and requiring increased or long-term care upon discharge.

However, there is evidence that the risk of falling in hospital can be reduced and that these often simple interventions are commonly omitted. The resulting reduction in falls is expected to both improve care quality and reduce costs.

MANAGEMENT

The following checklist of actions is used when people are admitted to hospital or residential care to make sure people:

- Have the right walking aids available, and that they can reach them
- Wear the appropriate footwear
- Have their glasses with them
- Know where the bathroom is
- Are not taking medication that will make them more liable to fall, such as sleeping tablets.

IT IS POSSIBLE TO IMPROVE SAFETY AND REDUCE THE RISK OF FALLING WITHOUT INCREASING COST.

All people identified as a high risk of falling should be observed for:

- Call bell in sight and reach, safe footwear recommended and requested or made available, asked about history of falls and asked about fear of falling
- Urinalysis performed
- Full medication review requested
- Lying and standing BP recorded and taken with a manual sphygmomanometer
- Cognitive screen completed

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- There is immediate assessment for and provision of walking aids
- A referral should be made to Physiotherapy to provide appropriate walking aids at the time of admission, or as soon as they might be required in order to maintain continuity in current levels of mobility within the new or different environment

IMPAIRED MEMORY

- A cognitive assessment (mini-mental state examination (MMSE) or abbreviated mental test score (AMTS)) is conducted in all admissions to hospital for those people aged >70yrs and advisable in residential care establishments. Those at risk are tested for delirium (confusion assessment method).

Delirium is defined as:

- 'an acutely disturbed state of mind characterized by restlessness, illusions, and incoherence, occurring in intoxication, fever, and other disorders'.
- If delirium is suspected further screening should be carried out as indicated in NICE guidance. Care home residents should be referred to their GP for further assessment.
- An assessment of risk versus benefit for use of a bedrail should be conducted if being considered for use.

LONG LIE

- When a person is unable to get up from the floor following a fall it is often referred to as a 'long lie'. Sometimes it may be several hours before the individual is discovered or is able to raise the alarm and the consequences could be potentially serious such

as hypothermia, pneumonia, incontinence, dehydration or pressure sores. A 'long lie' can seriously affect a person's recovery from a fall particularly if in excess of 12 hours or more. Therefore it is important to educate people that if they fall and are unable to get up they must keep warm by pulling a blanket, cushions or even newspapers from nearby furniture to cover themselves. Movement of hands, arms feet and legs if possible will aid circulation until assistance arrives.

CALL EQUIPMENT / FALLS SENSORS

- Fall detection systems or falls sensors will not necessarily stop a fall from occurring. The systems are designed to alert staff members that a person who is unsteady when mobilising unaided has become active or that an individual has fallen. This enables staff to react to the needs of the individual, particularly those with a memory problem who are unable to retain the information to ask for assistance. For those who sustain a fall the equipment can alert the need for assistance and/or medical attention. The equipment can be in the form of a fall detector, a pressure pad or a pendant alarm. There are several suppliers of these types of monitors which will sound an alarm if the individual at risk leaves the bed or chair without assistance. These systems can normally be operated through nurse call. Examples of call equipment can be seen on the following web links:

www.richmond.gov.uk/telecare.jpg

turun.co.uk/products/fallsx-monitors/

www.sensorcare.co.uk/sensorcare/fall-sensors-elderly/

HIP PROTECTORS

What are hip protectors?

Hip protectors are either padded or plastic devices which are fitted into special underwear and sit over the hip joint. They have been used widely in the past to help prevent broken hips in older people who may break their hip by falling sideways onto the area known as the greater trochanter in the hip. The greater trochanter is a large bump which juts outward from the top of the femur (thigh bone) next to the neck of the femur. This is where most broken hips occur, particularly if the person has osteoporosis.

How might hip protectors prevent hip fractures?

Padded hip protectors are designed to absorb the energy of a fall, while semi-rigid plastic protectors work by diverting the impact away from the greater trochanter in the hip. The pads are mostly held in position by being incorporated into the underwear in a pocket which aims to keep the pad in place. It is important that the hip protector sits over the greater trochanter to offer the best chance of protecting you from a broken hip if you fall. Therefore it is essential to ensure the correct size of undergarment is used for each individual.

Do hip protectors prevent broken hips?

On the basis of the early research, hip protectors were thought to be effective in reducing the number of broken hips. Consequently, hospitals and nursing homes started to use them widely. In light of more recent studies, the latest evidence suggests that hip protectors do not reduce the rate of broken hips for people still living at home. It is uncertain whether the people in the research were actually wearing the hip protectors when the hip was broken or whether the hip protectors were properly fitted. Therefore compliance remains an issue to ensure those at risk benefit from the use of these garments.

Where to get hip protectors

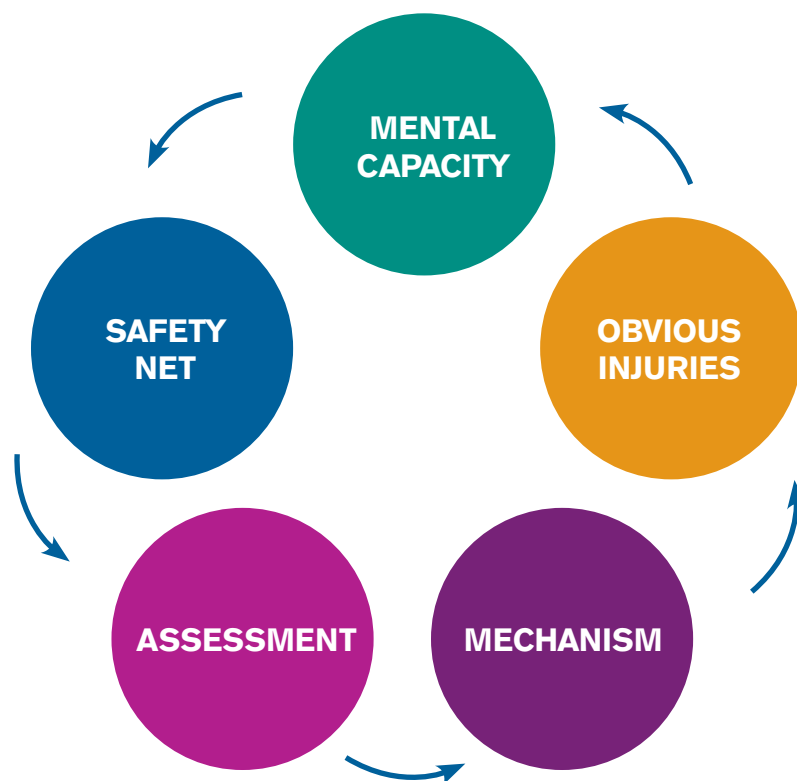
There are several suppliers where hip protectors can be purchased. They vary in design, style and cost. For that reason it is worthwhile to explore the options prior to purchase. Examples of hip protectors can be seen on the following web links:

www.healthandcare.co.uk/hip-protectors/safehip-airx-hip-pad-hip-protector-underwear.html

www.activemobility.co.uk/shop/hips-hip-protectors-p-1408.html

www.completcareshop.co.uk/personal-care/hip-protectors/

AFTER A FALL



MOMAS

This is a simple approach to medical assessment. Following a fall the following should be considered:

M – Mental capacity, can the person tell you accurately what happened or where they are injured?

O – Obvious injuries, broken bones, shortening or rotated leg, deformity that would need hospital assessment or are the injuries minor and able to be managed in the home or by alternate care providers e.g. the GP or CN?

M – Mechanism, what happened, how did they fall, what areas of the body might they have damaged?

A – Assessment, examination of potentially injured areas, observations, co-morbidities, frequency of fall episodes.

S – Safety Net, referral e.g. to GP/Falls team or alternate care provider, monitoring and review – is there a change from their normal range of activities?

Offer basic life support and provide reassurance:

- Check for ongoing danger.
- Check whether the person is responsive (e.g. responds to verbal or physical stimulus).
- Check the individual's airways, breathing and circulation.
- Reassure and comfort the person.

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Take baseline measurements:

- Conduct a preliminary assessment that includes taking baseline measurements of pulse, blood pressure, respiratory rate, oxygen saturation and blood sugar levels. If the person has hit their head, or if their fall was unwitnessed, record neurological observations (e.g. using the Glasgow Coma Scale).

Check for injuries:

- Check for signs of injury, including abrasion, bruising, laceration, fracture and head injury
- Observe changes in the level of consciousness, headache, amnesia or vomiting.

Move the person:

- Assess whether it is safe to move the person from their position, and identify any special considerations in moving them. Staff members should use a lifting device rather than trying to lift the person on their own. Follow the nursing /care home policy or guideline on lifting.

Monitor:

- People who have fallen and are taking anticoagulants or antiplatelet (blood-thinning) medications should be carefully observed, due to an increased risk of bleeding and intracranial haemorrhage. People with a history of alcohol misuse may be more prone to bleeding.
- Monitoring should be maintained, because some injuries may not be apparent at the time of the fall. Make sure that hospital staff know the

type, frequency and duration of the observations that are required.

Report the fall:

- Report all falls to a medical officer, even if injuries are not apparent.
- Document all details in the medical record, including their observations, appearance or response; evidence of injury; location of the fall; notification of medical provider; and actions taken
- Complete a falls reporting form according to local policy guidelines for all falls, regardless of where the fall occurred or whether the person was injured.

Note any details of the fall for reference in reporting the fall, including the individual's description of the fall, if possible. As a minimum, this should include the location and time of the fall, what the person was doing immediately before they fell, the mechanisms of the fall (e.g. slip, trip, overbalance, dizziness), and whether they lost consciousness or had a conscious collapse.

Alternative Care Pathways

The following information highlights alternative pathways that NWAS would recommend using (when appropriate) in the event of a resident falling, rather than calling an ambulance.

Self-care pathways

If resident in a care home has fallen they may not need to be transferred to hospital. Following assessment by an NWAS clinician if various options to support self-care and prevent future falls may be suggested/advised.

These include Community Care.

UNIT 6: LEARNING ACTIVITY

Question 1: Can you identify 5 measures which can be referred to in the community to reduce the risk of falling and prevent an admission/readmission into hospital?

1. _____
2. _____
3. _____
4. _____
5. _____

Question 2: What safety measures are there in place within your work environment to reduce the risk of falling?

Question 3: Describe what measures you would take in the event of a person falling in your work area.

Question 4: What do you understand by the term 'a long lie'?

Question 5: What are the consequences of this?

Question 6: Why do older people have a fear of falling?

USEFUL DOCUMENTS

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Falls Prevention and Bone Health TRAINING PACKAGE

FALLS RISK ASSESSMENT TOOL - FRAT

Score 1 for every category and total at the bottom of the two columns		YES	NO
1	Is there a history of falls in the previous year? How assessed? Ask the question		
2	Is the person taking 4 or more medications in a day? How assessed? Identify the number of medications		
3	Does the person have a diagnosis of stroke or Parkinson's disease? How assessed? Ask the question		
4	Does the person report any problems with their balance? How assessed? Ask the person		
5	Is the person able to rise from a chair of knee height without using their arms? How assessed? Ask the person (are they able to rise from a chair of knee height without using their arms)?		
TOTAL			

FALLS RISK ASSESSMENT TOOL (FRAT)

Falls risk screening is a brief process of estimating a person's risk of falling, classifying people as being at either low risk or increased risk. This can be carried out for anyone and for those identified as high risk a further more detailed assessment and interventions may be put in place.

FRAT only involves reviewing up to five brief items and is not designed as a comprehensive assessment.

Level of predicted risk:

- 3-5 yes's – Higher risk: conduct a further more detailed risk assessment/refer to the falls team in your local area.
- Less than 3 yes's – Low risk.

It is important to note when a falls risk screen is introduced, it needs to be supported with education for staff and intermittent reviews to ensure that it is used appropriately and consistently.

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STEADY ON! ACTION PLAN

		Document any problems	Document what action you are taking to reduce the risk
S	Slippers, shoes and feet need to be in good condition.		
T	Tablets. Medications and alcohol can increase a person's risk of falling		
E	Environment and lighting needs to be extra tidy and bright for older people to get around safely		
A	Activity and exercise is important to prevent mobility and general from deteriorating.		
D	Does your resident fall? How many times have they fallen in the past 12 months and where did they occur?		
Y	EYesight. Can your resident see adequately to mobilise safely and make sense of their surroundings		

Additional causes of falls to be considered: -

Constipation /frequency of urine- visits to the bathroom during the day or night.

Bending, stretching and rushing.

Confusion, boredom and wandering.

High temperature (pyrexia).

Slipping or rolling from bed /chair.

Pain/ dizziness.

Record the risk identified and actions taken in the care plan

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BED RAIL USAGE DECISION TOOL AND RISK ASSESSMENT

Choose description that best fits person's demeanour	Person is very immobile (bedfast or hoist dependent)	Person is neither independent nor immobile	Person can mobilise without help from staff			
Person with capacity refuses	Bedrails NOT recommended	Bedrails NOT Recommended	Bedrails NOT Recommended			
Person is confused and disorientated but calm	Use bedrails with care	Bedrails NOT Recommended	Bedrails NOT Recommended			
Person is confused, disorientated, agitated and restless	Use bedrails with care. Consider the use of bedrail bumper protection	Bedrails NOT Recommended	Bedrails NOT Recommended			
Person is agitated and restless	Use bedrails with care. Consider the use of bedrail bumper protection	Use bedrails with care. Consider the use of bedrail bumper protection	Bedrails NOT Recommended https://lancashire.public-i.tv/core/portal/webcast_interactive/311095			
Person is drowsy or recovering from anaesthetic	Bedrails recommended	Use bedrails with care.	Bedrails NOT Recommended			
Person has limited comprehension of abilities	Bedrails recommended Consider the use of bedrail bumper protection.	Use bedrails with care. Consider the use of bedrail bumper protection	Bedrails NOT Recommended interactive/311095			
Person is orientated and alert	Bedrails recommended	Bedrails recommended	Bedrails NOT Recommended			
Person with capacity requests bedrails	Bedrails recommended	Bedrails recommended	Bedrails Recommended			
Person is unconscious	Bedrails recommended	Bedrails recommended	Bedrails Recommended			
	Admission	Review 1	Review 2	Review 3	Review 4	Review 5
Date						
Time						
Bedrail use decision						
Bedrail bumpers used						
Signature						
Name Printed						
Designation						
If bedrails are still considered necessary, contrary to the outcome of the assessment, please state the clinical reason:	Reason for decision re bedrails explained to relatives: Yes No Ensure Information leaflet provided					
In collaboration with the Falls Care Plan - To be completed if one to one supervision is required The person's risk of falling must be assessed daily whilst one to one supervision is ongoing. Please state below any additional reasons why one to one supervision for this person is considered necessary.						
Supervision required : Yes No			Supervision declined or discontinued: Yes No Reasons:			
Print Name: Title:			Signature: Date:			

APPENDIX 1: PPI'S AND HIP FRACTURES

Ref:

Yu-Xiao Yang, MD, MSCE; James D. Lewis, MD, MSCE; Solomon Epstein, MD; David C. Metz, MD JAMA. 2006;296:2947-2953.

Summary:

Using the General Practice Research Database (1987-2003), from the United Kingdom, researchers reviewed users and nonusers of acid suppression therapy who were older than 50 years.

There were 13 556 hip fracture cases and 135 386 controls. The risk of hip fracture was significantly increased among people prescribed long-term high-dose PPIs. The strength of the association increased with increasing duration of PPI therapy

Proton pump inhibitors (PPIs) may interfere with calcium absorption through induction of hypochlorhydria but they also may reduce bone resorption through inhibition of osteoclastic vacuolar proton pumps.

The Medicines Healthcare and Regulatory Agency (MHRA April 2012) provided a drug update on recent epidemiological evidence of an increased risk of fracture with long-term use of proton pump inhibitors (PPIs). Details available at:

www.gov.uk/drug-safety-update/proton-pump-inhibitors-in-long-term-use-increased-risk-of-fracture

APPENDIX 2: EPILEPSY AND FRACTURES

In 2009, The Medicines Healthcare and Regulatory Agency (MHRA) highlighted the effects of anticonvulsants on bone and issued some guidance (Anti-epileptics: Adverse effects on bone. Drug Safety Update. April 2009; Volume 2: Issue 9. Page 2:

- Long term treatment with phenytoin, carbamazepine, primidone and sodium valproate are associated with decreased bone mineral density, which may lead to osteopenia, osteoporosis and increased fractures, particularly in the following at risk people.

those who are immobilised for long periods

those who have inadequate sun exposure

those with inadequate dietary calcium intake

- Phenytoin, phenobarbitone, carbamazepine and valproate have been associated with reduced bone mineral density and increased fracture rates which are characteristic of osteoporosis.
- There have been no adequate studies and only a few anecdotal reports of reduced BMD with the newer drugs e.g. lamotrigine and topiramate and consequently there is insufficient data to establish a definitive conclusion.

- There is limited understanding of the effects of anti-epileptics on bone. Some evidence suggests that anti-epileptics induce the cytochrome P450 enzyme system which results in increased clearance of vitamin D, leading to secondary hyperparathyroidism, increased bone turnover and reduced bone density.
- Vitamin D supplementation should be considered in at risk people who receive long term treatment with primidone, phenytoin, carbamazepine, phenobarbital and sodium valproate.

Additional information regarding anti-epileptic drugs and osteoporosis can be found on the National Osteoporosis website at:

<https://nos.org.uk/media/1588/anti-epileptic-drugs-and-osteoporosis-december-2015.pdf>

APPENDIX 3: ANASTRAZOLE AND FRACTURES

Hormone Antagonists and Fractures (Ref SPCs Accessed June 22nd 2011)

Anastrozole/Letrozole/Fulvestrant are potent oestrogen lowering agents that can be anticipated to cause a reduction in BMD, with a possible increased risk of fracture as a result.

Women with osteoporosis or at risk of osteoporosis, should have their bone mineral density formally assessed by bone densitometry e.g. DEXA scanning at the commencement of treatment and at regular intervals thereafter. Treatment or prophylaxis for osteoporosis should be initiated as appropriate and carefully monitored. NICE British National Formulary (2017) recommended assessment of BMD prior to treatment and observe at regular intervals.

www.evidence.nhs.uk/formulary/bnf/current/8-malignant-disease-and-immunosuppression/83-sex-hormones-and-hormone-antagonists-in-malignant-disease/834-hormone-antagonists/8341-breast-cancer/anastrozole

LHRH agonists e.g. buserelin, goserelin, leuporelin, triptorelin may cause reduction in bone mineral density that may lead to osteoporosis and an increased risk of bone fracture. Particular caution is necessary in people with additional risk factors for osteoporosis (e.g. chronic alcohol abuse, smokers, long-term therapy with anticonvulsants or corticosteroids or a family history of osteoporosis)

It is recommended to periodically monitor bone mineral density

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APPENDIX 4: MEDICINES INCREASING RISK OF FALLS AND FRACTURES

Many different medicines can affect a person's risk of falling and/or fractures by a number of different mechanisms

The following list is by no means comprehensive but gives some idea of the range of medicines that should be regularly reviewed (at least annually) in a person at risk of falls and/or fractures or who suffers from frequent falls

SEDATION

Sedation is one of the most common causes of drug-induced falls. Older people are more susceptible to Central Nervous System side effects of excessive sedation, increased body sway and slowing of reaction time.

CLASSES OF MEDS / COMMON EXAMPLES

- Anxiety/Sleeping Tablets e.g. Nitrazepam, Zopiclone
- Antidepressants e.g. Amitriptyline, Mirtazepine, Fluoxetine, Citalopram
- Antipsychotics e.g. Chlorpromazine, Risperidone
- Drugs for Dementia/Alzheimer's e.g. Donepezil, Galantamine
- Anticonvulsants e.g. Carbamazepine, Phenytoin, Topiramate, Gabapentin
- Analgesics-Codeine/Opiate based e.g. Co-Codamol, Co-Dydramol
- Sedating Antihistamines e.g. Chlorphenamine, Cetirizine
- Anti-Parkinson Agents e.g. Co-Beneldopa/Co-Careldopa, Pramipexole, Ropinirole, Pergolide, Cabergoline (May cause sudden sleep onset)
- Antimuscarinics e.g. Tolterodine, Oxybutinin
- Antiemetics e.g. Metoclopramide, Prochlorperazine
- Muscle relaxants e.g. baclofen, dantrolene

POSTURAL HYPOTENSION

Control of blood pressure at rest and movement is already impaired in the older person, so they are more

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CLASSES OF MEDS / COMMON EXAMPLES

- Anti-Parkinson Agents e.g. Co-Beneldopa, Co- Careldopa
- Diuretics e.g. Furosemide, Bendroflumethiazide
- Beta Blockers e.g. Propranolol, Metoprolol, Atenolol
- ACE Inhibitors/A2 Antagonists e.g. Ramipril, Candesartan
- Alpha Blockers (particularly common) e.g. Doxazosin
- Vasodilators e.g. Isosorbide Mononitrate
- Calcium Channel Blockers e.g. Amlodipine, Diltiazem
- Antipsychotics e.g. Chlorpromazine, Risperidone
- Antidepressants
Fluoxetine e.g. Amitriptyline, Dosulepin,
- Blurred Vision/Confusion

Several medicines can cause blurred vision/confusion. In an older person, who may already have impaired vision due to cataracts, this may trigger falls.

CLASSES OF MEDS / COMMON EXAMPLES

- Drugs for Heart Failure e.g. Digoxin
- Muscle Relaxants e.g. Baclofen, Dantrolene
- Hypoglycaemics e.g. Insulin, Glibenclamide
- Corticosteroids e.g. Prednisolone
- Antimuscarinics e.g. Tolterodine
- Anticonvulsants e.g. Vigabatrin
- Antimuscarinics e.g. Procyclidine
- Eye drops for glaucoma e.g. Timolol, Latanoprost,
- Non-Steroidal Anti –Inflammatory (NSAIDS) e.g. Ibuprofen, Naproxen

BONE STRENGTH

Several medicines can affect the strength of bones e.g. by affecting the absorption of essential minerals.

- This increases the risk of any fall resulting in a fracture

Classes of Meds / Common Examples

- Antidepressants e.g. Citalopram/Fluoxetine
- Acid Suppressing Agents e.g. long term high dose proton pump
- Inhibitors-lansoprazole, omeprazole etc.

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North Lancashire Primary Care Trust
Feb 2008. Reviewed July 2017 – NHS Midlands and Lancashire CSU, Medicines
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GLOSSARY OF TERMS

BDZ/Benzo	Benzodiazepine e.g. diazepam, chlordiazepoxide, nitrazepam, temazepam, loprazolam, lorazepam, sleeping tablet or night sedation
BMD	Bone Mineral Density
BMI	Body Mass Index
Contraindication	Something deemed inadvisable while taking particular medication because of a likely adverse reaction
Care & Repair	Home Improvement and Handyperson service via County or City Council that carry out property repairs
Cataracts	An eye disease in which the lens becomes covered in an opaque film that affects sight
CG	Clinical Guideline
CN	Community Nurse
Compliance or Concordance	Agreement between an individual / doctor, nurse or pharmacy
COPD	Chronic Obstructive Pulmonary Disease
CQC	Care Quality Commission
DH	Department of Health
DXA	Scan Dual Energy X Ray Absorptiometry
EC	Enteric Coating
Environment	The surroundings e.g. the home
Fracture	Broken bone
Fractured Neck of femur	Broken Hip
FRAT	Falls Risk Assessment Tool
FRAX	A diagnostic tool to evaluate probability of bone fracture risk
GP	General Practitioner/Doctor
Interactions	Adverse effects between medicine or medicines and food
IV	Intravenous

GLOSSARY OF TERMS

MAR sheet	Medicines Administration Report Sheet (from Pharmacy)
Monitored dosage system	or “blister pack” i.e. medicines repackaged from original containers specifically for an individual
Medicine	Any substance used for treating disease, this doesn't just mean tablets it can include; vitamins, herbal products or supplements, over the counter medicines like painkillers, cough medicines
MHRA	Medicines and Healthcare products Regulatory Agency
MI	Myocardial infarction – heart attack
NHS	National Health Service
NICE/ NIHCE	National Institute for Health and Clinical Excellence
NWAS	North West Ambulance Service
NOS	National Osteoporosis Society
NSF	National Service Framework
Osteoporosis	Disease causing “Porous Bones”
ONS	Office of National Statistics
Over the counter	Medicines that can be bought without any legal restriction
Podiatry/Chiropody	Professionals who provide treatment and advice for your feet
Polypharmacy	Additional medicines often used unnecessarily; sometimes due to being added as a result of an unwanted effect of another medicine, using more than one medicine from a drug group e.g. more than one laxative
Side effects	(also known as adverse effects) the unwanted effect of medicines or treatment
TA	Technology Appraisal
UTI	Urinary tract infection, “water” infection
WHO	World Health Organisation
Z drugs	Sleeping drugs e.g. zolpidem, zaleplon, zopiclone

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NOTES

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VERSION 1