Prevention and Management of Falls and Fragility Fractures in Older People: Guidance for Tutors
Introduction
This is guidance for tutors who are training health and social care workers (from all sectors) in falls prevention/management and fragility fracture prevention for their day to day work with older people and their carers.

There are three learning outcomes:

♦ In order to support self-management, be able to advise and inform the older person and carers about falls and fragility fractures.
♦ Identify, record and report risks and physical and psychological consequences of falls and fragility fractures for older people and their family/carers.
♦ Understand the range of solutions available to help reduce risks, including steps to be taken to enable self-management.

For each learning outcome, this guidance provides:

♦ **Key messages** for you to deliver, irrespective of training methods or session format.
♦ **Suggestions for supporting information**: ideas and suggestions for information to underpin the key messages.
♦ **Recommended reference materials**: references to help you to prepare for the training — you may use these as suggested further reading for your learners. (Some materials are specific to the hospital, care home or community setting — you should consider learners’ workplaces when selecting materials for training sessions.)

The guidance was developed by clinicians with specialist knowledge and experience in delivering training programmes about the prevention and management of falls and fragility fractures in older people.

The guidance does not make suggestions for training methods or session formats for delivering this training package. We leave it up to individual trainers to adopt the delivery method which best meets their needs. See the Test4Best website on choosing the best delivery method.
Learning outcome 1

Learning outcome 1

In order to support self-management, be able to advise and inform older people and carers about falls and fragility fractures.

Knowledge specification A
Legal, ethical, equality, best practice guidelines and local protocol context.

Key messages to be delivered
Learning about falls and fragility fractures must be within the legal, ethical, equality and diversity, and local protocols within the candidates' working environments.

Recommended reference materials
Learners must refer to relevant organisational/professional guidelines and protocols. Further information is provided in the pre-course learning and teaching support material.


Knowledge specification B
Definition of a fall; definition of osteoporosis; knowledge of the link between falls, osteoporosis and fragility fractures.

Key messages to be delivered
- Reporting of falls is more likely to be consistent if a standard definition of a fall is agreed and used.
- In relation to bone, the terms ‘fracture’ and ‘broken’ have the same meaning.
- Loss of bone density in osteoporosis causes the bones to become fragile. If a person has osteoporosis, they are at greater risk of breaking/fracturing a bone if they fall. This is why falls and bone health have to be considered together.
- Broken bones caused by a fall from standing height are often referred to as ‘fragility fractures’.
- Although fractures can occur in different parts of the body, wrist, hip and spine fractures are most commonly associated with osteoporosis.
Suggestions for supporting information

This definition of a fall is widely used: ‘an event which results in a person coming to rest inadvertently on the ground or other lower level.’ (http://www.who.int/violence_injury_prevention/other_injury/falls/en/index.html).

This definition excludes 'trips' where balance is regained successfully and the person does not come to rest on the ground. An alternative definition suggests that if a person comes to rest inadvertently on the ground or other lower level as a result of loss of consciousness, seizure or paralysis, this is not a fall. It may be useful to consider which definition is most helpful for the purpose of reporting falls in the service setting of the candidates.

This definition of osteoporosis is widely used: ‘a disease characterised by low bone mass and microarchitectural deterioration of bone tissue, leading to enhanced bone fragility and a consequent increase in fracture risk.’ (The WHO Study Group: Assessment of fracture risk and its application to screening for postmenopausal osteoporosis. Geneva, World Health Organisation, 1994).

Consider providing a simplified version of the WHO definition of osteoporosis, such as, ‘osteoporosis occurs when there is a progressive loss of “density” of the bones, ie struts which make up the mesh-like structure within bones become thin; the loss of bone density occurring in osteoporosis causes the bones to become fragile and break more easily.’

Recommended reference materials

◆ The National Osteoporosis Society website: http://www.nos.org.uk
◆ Todd C, Skelton D (2004) ‘What are the main risk factors for falls among older people and what are the most effective interventions to prevent these falls?’ Copenhagen, WHO Regional Office for Europe (Health Evidence Network report). Available at http://www.euro.who.int/document/E82552.pdf

Knowledge specification C

Understand the scale of the problem in terms of the rising population of older people and the number of older people who fall and fracture. Recognise that falls are often perceived incorrectly as an inevitable consequence of ageing and that many, but not all falls are preventable.
Key messages to be delivered

♦ Falls and the injuries caused by falls are a growing major public health problem.

♦ Due to the rising population of older people in Scotland and an associated rise in falls and fragility fractures, it is important to adopt a health-promoting and health improvement approach to care delivery. The candidate is ideally placed to encourage and enable older people and carers to take simple measures in daily life to prevent falls, report falls, and accept the assistance of health and social care professionals to help prevent (further) falls and fractures.

♦ It is often accepted that falls are an inevitable consequence of getting older, however this is not the case:
  — most people aged over 65 do not fall each year
  — falls can be the first sign of a new or worsening health problem
  — falls are often markers for the onset of frailty
  — many falls are preventable

♦ Not all falls can be prevented.

♦ A balance between prevention and living with risk needs striking.

♦ Falls are nearly always due to the presence of one or more ‘risk factors’. Recognising and modifying an individual’s risk factors is crucial to preventing falls, and the injuries caused by falls.

Suggestions for supporting information

♦ Consider making reference to the rising population of older people in Scotland, and with this rise there is expected to be an increase in the rate of falls, and fragility fractures.

♦ Consider emphasising the scale of the problem with relevant statistics which are applicable to the work place of the candidate, such as:
  — the percentage of people over 65, and over 80, who fall each year
  — the percentage of these people who, without intervention, will fall again in the next 12 months
  — the percentage of falls that go unreported
  — the percentage of falls resulting in serious injury
  — the percentage of falls resulting in fracture and hip fracture specifically
  — the number of hip fractures in Scotland each year
  — the ratio of men and women affected by osteoporosis and osteoporotic fracture in the UK
  — the rate of falls and injuries from falls in the inpatient or care home setting, and
    — local statistics, if available
  (Some details can be found in the referenced materials.)

♦ Consider explaining the importance of achieving the right balance between preventing falls and maintaining activity, autonomy and quality of life.
Recommended reference materials

♦ Falls and fractures: Effective intervention in health and social care, produced by the Department of Health (2009)
♦ Falls and fractures: Developing a local joint strategic needs assessment, produced by the Department of Health (2009)
♦ Fracture prevention service, an economic evaluation, produced by the Department of Health (2009)

All available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/dh_103146


♦ Preventing Falls: Managing the risk and effect of falls among older people in care homes, produced by Help the Aged (2006). Available from the Rehabilitation Section of the SCSWIS website.

Knowledge specification D

Understand the physical and psychological consequences of falls and fractures and the impact on the life of the older person and their family/carers.

Key messages to be delivered

♦ Anyone at any age can have a fall, but falls may become a problem with ageing because older people are more likely to fall and the consequences of the fall can be more serious.

♦ Falls are the most common cause of serious injury in older people and the most common reason for hospital attendance.

♦ Falls become an issue when they result in injuries and/or a fear of falling and other psychological and physical problems which restrict daily activities and lead to an older person’s loss of independence and quality of life.

♦ Those who are fearful or concerned about falls often avoid activity, become weaker and fall more as a result.

♦ The serious nature of the consequences of some falls underlines the importance of promoting falls and fracture prevention interventions.
Suggestions for supporting information
Consider outlining:

♦ the range of possible physical and psychological consequences of falls
♦ the potential impact of falling on an older person’s ability to function in day to day life
♦ the morbidity and mortality associated with hip fracture and the potential impact of hip fracture on a person’s independence and quality of life
♦ the potential consequences of a long lie (both physical and psychological)
♦ the impact of a fall in the hospital setting on length of stay in hospital and rehabilitation outcomes

You can find details in the recommended reference materials.

Recommended reference materials

♦ *Falls and fractures: Effective intervention in health and social care*, produced by the Department of Health (2009)
♦ *Falls and fractures: Developing a local joint strategic needs assessment*, produced by the Department of Health (2009)
♦ *Fracture prevention service, an economic evaluation*, produced by the Department of Health (2009)


♦ Todd C, Skelton D (2004). ‘What are the main risk factors for falls among older people and what are the most effective interventions to prevent these falls?’ Copenhagen, WHO Regional Office for Europe (Health Evidence Network report). Available at [http://www.euro.who.int/document/E82552.pdf](http://www.euro.who.int/document/E82552.pdf)


Knowledge specification E
Awareness of the consequences of falls and hip fractures in terms of the financial cost to local and national NHS/social care services.

Key messages to be delivered
♦ In addition to the cost of falls and fractures to the individual, the direct and indirect financial costs to the nation are substantial.
♦ The financial cost of falls and fractures underlines the importance of promoting falls and fracture prevention interventions.

Suggestions for supporting information
♦ A figure for the overall financial cost of falls and fractures may not be available, but consider providing the estimated annual cost to NHS Scotland for hip fractures. (You can find details in the recommended reference materials.)
♦ Consider making reference to:
  — direct costs associated with falls, which include: healthcare costs (such as ambulance services, A&E, inpatient care, outpatient care and rehabilitation); and social care costs (such as care at home, day services and care home services)
  — indirect costs associated with falls, which include loss of earnings and productivity by individuals or family care-givers who have been involved

Recommended reference materials
♦ Falls and factures: Effective intervention in health and social care, produced by the Department of Health (2009)
♦ Falls and fractures: Developing a local joint strategic needs assessment, produced by the Department of Health (2009)
♦ Fracture prevention service, an economic evaluation, produced by the Department of Health (2009)

All available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/dh_103146

Knowledge specification F
Understand the positive impact targeted, timely and evidence-based interventions can make on the prevention of falls, the prevention of fractures, and the older person's quality of life

Key messages to be delivered
◆ Through early identification of a person at high risk of falls and fractures and provision of appropriate intervention, it is possible to:
  — improve psychological and physical function
  — restore an older person's independence and quality of life
  — reduce the risk of further falls and injuries
◆ Evidence-based falls prevention programmes can reduce the number and rate of falls.
◆ Management of osteoporosis with drug treatment can reduce the risk of sustaining a fragility fracture.

Suggestions for supporting information
Consider summarising the potential impact on risk reduction and quality of life of evidence-based (a) falls prevention programmes and (b) drug treatments for osteoporosis. You can find details in the recommended reference materials.

Recommended reference materials
◆ Falls and fractures: Effective intervention in health and social care, produced by the Department of Health (2009)
◆ Falls and fractures: Effective exercise interventions, produced by the Department of Health (2009)
◆ Falls and fractures: Developing a local joint strategic needs assessment, produced by the Department of Health (2009)
◆ Fracture prevention service, an economic evaluation, produced by the Department of Health (2009)
All available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/dh_103146
♦ Interventions for preventing falls in older people living in the community


Knowledge specification G
Understand your role and responsibilities in working with others to promote falls and fragility fracture prevention and management.

Key messages to be delivered
♦ By imparting their understanding that falls are not an inevitable part of ageing, and that much can be done to prevent their occurrence, learners can encourage older people to take informed decisions about: reporting falls, accepting services and completing intervention programmes.

♦ As someone who may have developed a trusting relationship with an older person, the learner may be well placed to deliver the falls prevention message, offer information and advice, and 'sign-post' the older person to services which can help (in accordance with local protocols).

♦ Some older people may be reluctant to report falls to a health or social care professional, and/or to accept offers of services to prevent further falls and injuries. Research suggests that how we impart the falls prevention message is crucial to older peoples’ engagement in falls prevention. Discussion with the older person should emphasise the benefits of taking part in a falls prevention programme, such as increased function in everyday life, greater independence and improved quality of life.

Suggestions for supporting information
♦ Consider summarising some of the reasons an older person and/or carers may not report a fall or seek help to prevent further falls.

♦ Consider outlining factors that will positively influence an older person’s engagement in falls prevention, such as promoting the benefits to their quality of life.

Recommended reference materials
Learning outcome 2

Identify, record and report risks and physical and psychological consequences of falls and fragility fractures for older people and their family/carers.

Knowledge specification A
Understand the importance of recognising and reporting older people at risk of having a fall.

See knowledge specification D, E and F of learning outcome 1.

Knowledge specification B
Recognise physical and psychological consequences of falls.

See knowledge specification D of learning outcome 1.

Knowledge specification C
Knowledge of the causes of falls and the most common risk factors.

Key messages to be delivered
- There are many factors that can increase the risk of an older person falling.
- Many of these ‘risk factors’ are associated with the ageing process, the presence of long term conditions, certain medications, risk-taking behaviour, physical inactivity and hazards in the environment.
- The risk of falling increases with each additional risk factor present.
- The majority of falls are multifactorial, ie there is more than one risk factor contributing to the risk of falling.
- Risk factors can be described as intrinsic, ie characteristics of the individual, or extrinsic, ie relating to the external environment.
- Risk ‘profiles’ are not the same for all older people:
  - Among active older people living in the community, risk tends to be mostly related to mobility, exposure to hazardous environments and risk-taking behaviours.
  - Among older people who require support to live in the community risk tends to be mostly related to the effects of conditions such as arthritis and depression, psychotropic medications, and the functional consequences of long term conditions.
  - Among older people in hospital risk is influenced by acute illness which can temporarily affect physical and cognitive function, and can be compounded by unfamiliar surroundings.
Among residents of care homes risk factors are influenced by several factors; impaired cognition, significant frailty, impulsive behaviour, the use of psychotropic medications, continence issues, unfamiliar environments and staffing levels.

Suggestions for supporting information
Consider summarising the most common intrinsic and extrinsic risk factors appropriate to the risk profiles of the older people the candidates work with.

Recommended reference materials
See under knowledge specification D.

Knowledge specification D
Recognise modifiable and non-modifiable risk factors.

Key messages to be delivered
♦ Many, but not all, risk factors can be modified.
♦ If risk factors cannot be modified, interventions to prevent or minimise injury and a long lie on the floor should be explored, such as the use of hip protectors and telehealthcare.

Suggestions for supporting information
♦ Consider summarising some modifiable and non-modifiable risk factors, which can be found in the materials referenced below.
♦ Consider summarising local telehealthcare options.
♦ Consider summarising current evidence on hip protectors.

Recommended reference materials
♦ Todd C, Skelton D (2004). ‘What are the main risk factors for falls among older people and what are the most effective interventions to prevent these falls?’ Copenhagen, WHO Regional Office for Europe (Health Evidence Network report; available at http://www.euro.who.int/document/E82552.pdf
Knowledge specification E

Knowledge of the most common risk factors and signs of osteoporosis and the common medications used in the treatment of osteoporosis.

Key messages to be delivered

- An individual’s likelihood of developing osteoporosis can be identified by the presence of certain risk factors.
- A bone density scan (DXA scan) is used to diagnose osteoporosis.
- Fracture risk can be identified by considering an older person’s risk of having osteoporosis in combination with their risk of falling.
- Osteoporotic fractures in the spine can lead to an outward curve of the spine (kyphosis), height loss and back pain.
- Osteoporosis is treated with a number of medications. Recognising the names of these medications helps identify whether someone is receiving treatment for osteoporosis.

Suggestions for supporting information

- Consider outlining the most common risk factors for osteoporosis.
- Consider listing the main medications used to treat osteoporosis.

You can find details in the recommended reference materials.

Recommended reference materials

Knowledge specification F
Knowledge of the three levels of falls and fracture risk assessment:

♦ basic
♦ multifactorial screen
♦ specialist

Key messages to be delivered
♦ Assessment alone will not prevent falls, but is essential for tailoring treatment to meet the needs of the individual.
♦ There are different levels of risk assessment, varying in complexity.
♦ The knowledge of the assessor must be sufficient to carry out the level of assessment they are required to undertake in their role.

Suggestions for supporting information
♦ **Basic risk assessment**, or **level one assessment** aims to identify an older person who has fallen and/or is at high risk of falling and who may benefit from further intervention. It is a simple process which may involve a few relevant questions (eg have you had any falls in the last year?) and observing for any problems with mobility (eg unsteadiness or difficulty getting up from a chair).

♦ **Multifactorial screen**, or **level two assessment** aims to identify specific risk factors for falling/sustaining a fracture, to guide which interventions the individual requires next. It will include a number of questions/tests relating to risk factors for falling and osteoporosis. It is more complex than the basic assessment.

♦ **Specialist assessment**, or **level 3 assessment** aims to investigate further the risk factors identified, with a view to providing tailored interventions to reduce the risk. It is carried out by a qualified practitioner. Examples include a gait and balance assessment by a physiotherapist, or a medication review by a pharmacist or doctor.

♦ Consider providing examples of the different levels of assessment, if possible from local services.

Recommended reference materials


### Knowledge specification G

In the context of your own role understand which level of assessment you are expected to carry out and the range of actions you may take thereafter.

#### Key messages to be delivered

Anyone working with older people should understand the importance of assessment and other interventions, and their role in this process.

#### Recommended reference materials

Local protocols and guidance.

### Knowledge specification H

Understand the importance of recording, reporting and reviewing information on falls and falls/fracture risk to support sharing of information to benefit the individual, and for statistical monitoring for service evaluation and improvement.

#### Key messages to be delivered

- Recording falls, details of a fall and risk of falls/fracture in health and social care records, and reporting falls to managers and/or relevant others, is crucial to identifying older people at risk of falls who may benefit from further interventions (including assessment, advice and treatment).
- Monitoring and reviewing the information collected can help us to understand more about the problem of falls and fractures, and to use this knowledge to improve the care we provide.

#### Suggestions for supporting information

Consider providing examples of how recording, reporting and reviewing information can help improve direct care and service provision generally.
Learning outcome 3

Understand the range of solutions available to help reduce risks, including steps to be taken to enable self-management.

Knowledge specification A
Knowledge of the actions an older person can take to minimise falls and fracture risk and why they are important.

Key messages to be delivered
An older person and their carers can do many simple things to reduce the risk of falls and injuries from falls.

Suggestions for supporting information
Consider outlining basic information and advice for older people that may be useful, including information on:

- keeping physically active, safely
- going for yearly vision checks and keeping spectacles clean
- taking medicines as prescribed and reporting to the GP any side effects such as drowsiness and dizziness
- checking the home environment for any hazards, such as poor lighting, worn carpets and clutter
- looking after feet and wearing sensible footwear
- using walking aids as advised and keeping them in good condition
- taking a balanced diet
- what to do in the event of a fall, including information on community alarms
- useful local contacts (health, social care and voluntary services)

See the section ‘Recommended reference materials’ for details of advice and information.

Recommended reference materials
- Taking positive steps to avoid trips and falls, produced by NHS Health Scotland (2008), available from: http://www.healthscotland.com/documents/100.aspx
- Staying steady (February 2009), produced by Age UK. Available at: http://www.ageuk.org.uk/Documents/EN-GB/Information-guides/ID8809_staying_steady_inf.pdf?dtrk=true
Knowledge specification B

Knowledge of the range of effective interventions to reduce an individual’s risk of falling and sustaining a fracture.

Key messages to be delivered

♦ There is evidence from research that tailored interventions can reduce the risk of falls and fractures.
♦ Interventions are selected following assessment and aim to modify an individual’s risk factors for falls and osteoporosis.
♦ Assessment and treatment are usually provided by the multidisciplinary team including the doctor, nurse, occupational therapist, physiotherapist, dietician, podiatrist, pharmacist, exercise instructor and support workers.

Suggestions for supporting information

Consider summarising evidence-based interventions to reduce the risk of falls and the unwanted consequences of falls, including:

♦ multifactorial falls risk assessment
♦ exercise programmes to improve strength, balance and walking
♦ medication review with modification/withdrawal
♦ interventions to reduce environmental hazards
♦ interventions to promote the safe performance of daily activities
♦ management of foot problems and wearing suitable footwear
♦ correction of visual problems
♦ management of postural hypotension
♦ management of heart rate and rhythm problems
♦ the provision of vitamin D and calcium supplements
♦ information and education
♦ teaching strategies to avoid a long lie on the floor
♦ the use of hip protectors
♦ the use of telehealthcare and assistive technology

Consider summarising evidence-based interventions to manage osteoporosis:

♦ pharmacological management
♦ non-pharmacological/lifestyle management (bone loading exercises, advice on diet)

You can find information on effective interventions in the reference materials.

Consider outlining the roles of the different team members.
Recommended reference materials

- The National Osteoporosis Society website [http://www.nos.org.uk](http://www.nos.org.uk)

Knowledge specifications C and D

In the context of your own work, have knowledge of services/teams available involved in the prevention and management of falls and fragility fractures.

In the context of your own work role understand protocols, referral criteria and routes.

Key messages to be delivered

- Services/teams are available, which can provide assessment, advice and treatment/other interventions to prevent and manage falls and fragility fractures.
- Knowledge of these local resources and how an older person can access them will enable the candidates to assist in sign-posting or referring individuals when appropriate.

Suggestions for supporting information

Consider outlining relevant local resources and how they can be accessed.