NHS

Berkshire East
Community Health Services

The Prevention of Falls in the Community Hospital and Intermediate Care Setting Information Pack

Working with you for

Better Health

Berkshire East Community Health Services is responsible for providing NHS community services in East Berkshire and is hosted by Berkshire East Primary Care Trust

This education pack was compiled and written by the “In-Patient Falls Working Group” from Berkshire East Community Health Services consisting of: Anne Gilson, Catherine Jeffery, Soline Jerram, Pam Mohomed- Hossen, Glory Onyeji, Anya Ryan and Ruth Warburton

Published September 2008 Review September 2010

C O N T E N T S

Introduction

Background

Originally this information pack was developed in 2005, by a multidisciplinary falls working group of Henry Tudor Ward St Mark's Hospital, Maidenhead. It was a response to the NSF for Older People, local policy development of falls services and the identified needs of the patient groups which access intermediate/ rehabilitative services. This revised version reflects the merger of the Slough, Windsor, Ascot & Maidenhead and Bracknell Forest PCTs into Berkshire East PCT (BE PCT) in October 2006. Berkshire East Community Health Services is an autonomous Directorate of BE PCT and consists of 5 wards and community rehabilitation units providing rehabilitation, intermediate and palliative care.

The nature of the client group to whom services are provided and the philosophy which supports active enablement, deems that risk of the patient falling is ever present. However, it is important to ensure that the risk be maintained at a minimum level, whether the patient is admitted following a fall or assessed as being at risk of falling once admitted. Crucial to staff providing appropriate support, care and education to their patients is that they are equipped with appropriate assessment skills and knowledge. As osteoporosis increases the risk of sustaining a fracture, fracture prevention is also addressed in a joint approach. Whilst the incidence of fracture resulting from a fall on the ward will be very low, many patients who recently suffered a fragility fracture will be admitted to a community hospital for rehabilitation and will need secondary fall and fracture prevention.

On a rehabilitation ward, enablement and health promotion is fundamental to the multidisciplinary team. Bateman (1998) identifies falls as an area where health promotion needs to be developed. Health promotion requires a broad view in tackling the issue of falls. This broad view involves a series of activities in the process of achieving change. Creating a supportive environment, developing personal skills, strengthening community actions and healthy public policy are all elements of proactive health promotion in falls prevention. This is why it was decided by the team to apply a model of health promotion in tackling the issue of falls assessment and prevention.

Hospital in-patient fall and fracture prevention

Aims

- To enable people to be independent whilst minimizing the risk of falling
- To address Standards six and eight of the " National Service Framework for Older People" (DOH 2001) and the recommendations in " Slips, trips and falls in hospital" (NPSA 2007)
- To promote the use of assessment and rehabilitation pathways for clients following a fragility fracture and/ or fall

Objectives

- To ensure that all staff gain the knowledge and understanding on the issues of falls and fracture assessment , care and prevention in the older person
- To ensure that **all** patients receive multifaceted clinical and environmental risk assessment and interventions that could reduce the risk of falls and fractures
- The meaningful completion of incident forms and learning from these incidents to help prevent future falls

Definitions:

Fall: An event whereby an individual comes to rest on the ground or another lower level, with or without loss of consciousness (NICE 2004)

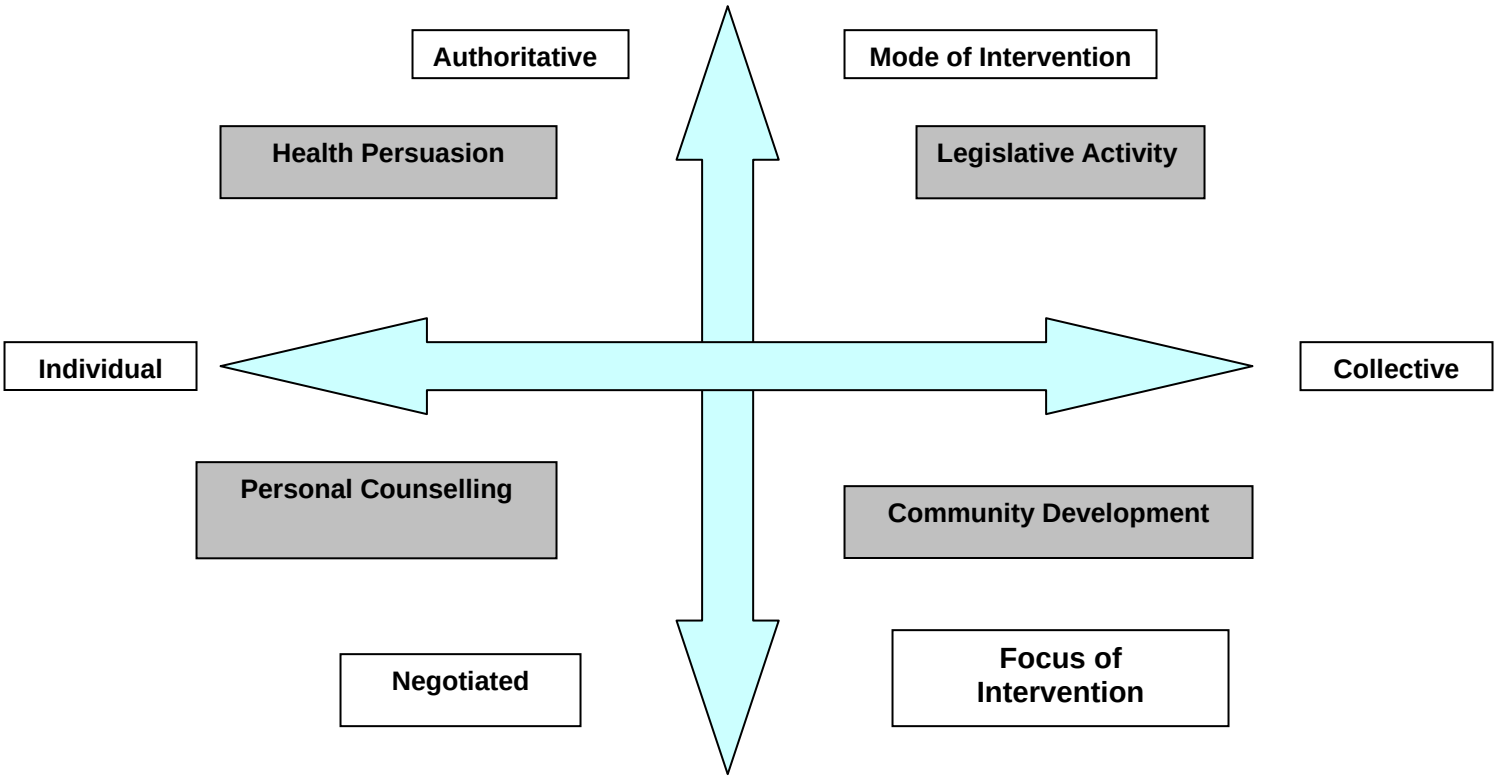
Fragility Fracture: A fracture occurring on minimal trauma after age 40 years and includes forearm, spine, ribs, hips and pelvis (RCP 2002)

Model of Health Promotion to support falls and fracture prevention

The health promotion model selected for use in this pack is Beattie's model (Beattie 1991). This model is clearly saying that health promotion is embedded in wider social, cultural and political practices. It talks about power, autonomy and authority. Social values are seen as driving practices. Beattie's model has four paradigms for health promotion which are generated as seen in Fig 1, ranging from authoritative (top-down, and expert lead) to negotiated bottom-up, valuing individual autonomy.

The model generates four paradigms for health promotion.

Fig 1 Beattie (1991)



Health Persuasion:

Includes giving advice and information through mass media campaigns or maybe directed at individuals through client education and advice.
Use of leaflets and flyers on how to avoid accidental falls including information for example excessive alcohol intake, provision of good lighting, information of the risk of slippery/ uneven floors and loose rugs. The use of firm hand rails, and household aids such as stair lifts, the wearing of appropriate foot wear and night clothing.
This is focused on individual responsibility to practice staying safe and reducing risk factors.

Personal Counselling:

This approach focuses on providing support and enabling individuals to change.
For example, encouraging exercise programs that lower the risk of falling by improving strength and balance, and active participation in health screening, such as eye testing blood pressure monitoring and mental health assessment. Referral of individuals to physiotherapists for advice on walking with appropriate aids and review of medication and referral to falls prevention clinics where appropriate.

Legislative Activity:

This approach sees Government policies as impacting on the population's health. There is recognition that people are often unable to adopt health-enhancing behaviours because of barriers such as poverty or lack of social support. Several studies have identified more recent instances where legislative measures introduced on a large scale have produced striking benefits for public health (Beattie 1984) e.g. seat belt, legislation or house building program.

Community Development:-

This approach sees the principal determinations of health in the social, economic and physical environment.

How to use this pack

This pack contains a range of information which will support the development of your knowledge about falls and fragility fracture risk, assessment and prevention within the hospital environment. It gives details as to why the different elements of assessment are important. It is expected that all staff familiarize themselves with the information it contains and all new staff will be asked to read the contents within the first 4 weeks of taking up employment. As well as containing information on falls and osteoporosis it also gives instruction on the completion of baseline assessment and the documenting of the assessment, with guidance on pathways to address identified risk. The falls and fracture risk assessment and combined care plan document can be found in Appendix 1. Appendix 2 is a template to be used to complete a reflective account of what you have learnt and how you will incorporate the information into your every day practice. Please complete this, sharing it with your manager and keeping a copy for your professional portfolio.

This pack can not be considered alone and should be read in conjunction with the PCT's Operational Falls Service Policy, the Policy for the use of Bed Rails and the Guidelines for Osteoporosis Management. The local Falls Website, www.bhps.org.uk/falls, also provides much useful information. Although this pack is primarily designed for the ward environment, much of the information can also be applied in the care home setting and some of it in the community. The content of this pack was primarily derived from available literature, but was built upon by the experience of the contributing professionals.

If you have any comment or suggestion regarding the pack we will be grateful for your input. Please contact:

Soline Jerram, Consultant Nurse- Older People and Intermediate Care
Soline.jerram@berkshire.nhs.uk
or
Anya Ryan, Falls Co-ordinator
Anya.ryan@berkshire.nhs.uk

Falls and Fractures- Policies and Guidelines

Falls are the most common type of accident in older people. About 30% of over 65s living in the community fall each year, increasing to about 50% for those aged 85 and over (Help the Aged 2007). This equates to an estimated 16,000 falls across East Berkshire every year (DoH 2003). We know that many falls are not reported by older people, usually based on the fact that the injury was minimal, because they think that falling is part of growing old or on the fear of losing independence (Beers and Berkow 2000). Many older people have osteoporosis (often without knowing it) and around 2% of falls result in a fractured hip while other fractures such as wrist, pelvis and humurus occur in up to 5% of falls (Beers and Berkow 2000) . Hip fractures are not only a major cause of morbidity and mortality among older people but are also a huge financial burden on the NHS. Of the £1.8 billion spent annually on low trauma fractures in the over 50's, hip fractures are responsible for the majority of the costs (Cryer and Patel 2002)

Recent data showed that nationally 530 patients may fracture their neck of femur whilst in hospital each year and that 26 patient deaths have been reported related to falls during one year. Falls in hospital frequently result in longer lengths of stay and discharge to a care home rather than the patient's own home. For staff, falls can lead to feelings of anxiety and guilt. Sometimes falls result in complaints and litigation from families against Trusts (NPSA 2007)

In recent years several guidelines have been produced to address this serious problem. In 2001 the DOH recommended in 'The National Service Framework for Older People' that the development of falls services be linked with the prevention and treatment of osteoporosis and that by April 2005 all health and social care systems must have an integrated falls service in place. In 2004 the National Institute for Clinical Excellence produced 'The Assessment and Prevention of Falls in Older People' referring to community dwelling older people. In 2005, NICE published Technology Appraisal (TA 87, NICE 2005 a) on the secondary prevention of osteoporotic fractures in postmenopausal women. Lastly, the National Patient Safety Agency produced the highly relevant "Slips, trips and falls in hospital" in 2007.

The consequences of falls

The personal consequences of falls for individuals can be devastating and half of those who sustain a hip fracture never regain their former level of functioning with one in five older people dying within three months.

The consequences of falls can be physical including

Pain

Inability to look after oneself

Resulting long term disability

And/or social including

Loss of independence and social contact

Loss of home

Decreased quality of life

Changes to daily life

And/or psychological including

Loss of confidence

Fear

Distress

Anxiety

Falls are a serious problem and even "trivial" injuries are not always so "trivial" in their consequence for the older person.

Falls can only be prevented or the risk minimized if the reason for a person falling can be identified. This can only be accomplished by thorough assessment and development of an individualized plan of care, support and education. There is no one reason that may cause a person to fall and the reasons range from a simple trip on a loose mat to a cardiac problem.

THIS IS WHERE YOUR INITIAL ASSESSMENT IS SO IMPORTANT!

NEVER ACCEPT A FALL AS JUST A FALL.

THERE ARE ALWAYS REASONS!

Why do patients fall in hospital?

Evidence suggests that for various reasons hospital patients are at greater risk of falling than people in the community (NICE 2004 cited in NPSA 2007). They may have recently undergone surgery that affects their memory or mobility, may have cardio-vascular problems, need sedation, pain relief or other medication which may increase risk of falling. Patients may have delirium which leads to a much higher risk of falling. Dementia also increases the risk as these patients are less likely to recognize environmental hazards, less likely to recover their balance and are often unaware of their limitations. Dementia is also associated with low blood pressure on standing and changes in walking patterns (Oliver et al 2005 cited in NPSA 2007). Additionally, all patients in hospital, whether suffering from dementia or not, have to adapt to a different environment and to changes in their strength and mobility.

Research has shown that the risk factors which are most significant in hospital patients are (Oliver et al 2004):

- Walking unsteadily
- Being confused or agitated
- Being incontinent or needing to use the toilet frequently
- Having fallen before
- Taking sedatives and sleeping tablets

An example of risk classification (based on NPSA 2007) is shown in the table below

		Examples
Intrinsic factors	Personality and lifestyle	Activities, attitudes to risk, independence and receptiveness to advice
	Age related changes	Changes in mobility, strength, flexibility and eyesight that occur even in healthy old age.
	Illness and Injury	Stroke, arthritis, dementia, cardiac disease, acquired brain injury, delirium, Parkinson's disease, dehydration, disordered blood chemistry, hypoglycaemia
Extrinsic factors	Medication	Sleeping tablets, sedatives, analgesics, medication that causes low blood pressure or change pulse rates, medication with Parkinsonian side effects or any medications that affect sleep (Darowski 2008a) , alcohol
	Environment	Lighting, wet floors, loose carpets, cables, steps, footwear, distances and spaces (also see page 39 for suggestions by OT)

A few key points about causes and circumstances of falls (NPSA 2007):

- It must be remembered that most falls in people aged 65 and over are due to a **combination of several factors.**
- Patients aged over 80 are more vulnerable to falling
- Patients are most likely to fall at mid morning when they are more likely to be active
- A recent analysis showed that 24% of falls occurred when mobilizing, 23% were falls from beds and that 14% were falls from toilet or commode
- Falls from trolleys are more likely to lead to serious injury and litigation

Learning from the circumstances of falls

To enable learning from falls incidents (from ward to board level), it is very important that incident forms are completed in a meaningful way. All in-patient falls must be reported using the PCT's "Patient Falls Incident Reporting Form" (Appendix 3- available on www.berkshireeast-pct.nhs.uk under "Clinical Policies and Related Materials").The following table will help to decide what information to include on the incident form (based on NPSA 2007):

Examples of information		Reason for collecting this information
Reporting factors	Witnessed/ not witnessed	make a clear distinction between what was seen or heard, and the patient's account of what happened
	Outcome of investigations recorded	When patient has x-rays or other investigations after a fall, the results should be included in the report
	Type of injury	should be specific: e.g. fractured tibia rather than 'broken leg'
Environmental factors	buzzer/ bell available within reach before fall	highlight whether there is an issue about accessing call bells
	if a fall from bed, whether bedrails were in use	help assess how bed rail use is affecting falls or injury
	bed	Ensure that the bed is in the lowest position and that the brakes are on. When transferring ensure bed is at the right height to facilitate safe transfers.
	floor wet or dry	reflect on cleaning regime and need for non-slip surfaces
	footwear	if problems with missing or unsuitable footwear are highlighted, request that family brings supportive and well fitting footwear into hospital.
	walking aid in use/ in reach	may highlight storage issues or access to (correct) walking aids
	patient's location in the	Is the patient within sight of nursing staff?

	ward	
Patient factors	mental state	identify those patients most vulnerable to falls because of delirium, dementia, agitation, confusion or sedation
	first fall this admission or repeat fall	to balance resources between preventing initial falls and secondary prevention
	days since admission	to ensure that timescales between assessment and prevention of falls are tailored to when falls are most likely to occur
	medication affecting risk of falls	sedative and psychotropic medication, or medication with drowsiness as a side effect. Also drugs which affect pulse or blood pressure or affect quality of sleep (Darowski 2008 a)
	illness / physical condition causing fall	does the patient have risk factors which contribute to the fall, e.g Infection Gait instability Visual deficit (wearing correct glasses?) Lower limb muscle weakness Orthostatic/ postural hypotension Syncope Urinary incontinence or frequency Fear of falling Sleep deprivation (Darowski 2008 a)

Falls and Injury prevention

Some key messages are (based on NPSA 2007) :

- Because most falls in people aged 65 and over are caused by a multitude of causes***, interventions must therefore also be multi-faceted***
- Rather than focusing on falls risk scoring tools it is more effective to check directly for modifiable risk factors. Even the best risk scoring tools tend to over- or underestimate risk.
- Multi-faceted interventions may reduce the number of falls in hospital by 18%, but reducing just one single risk is rarely effective
- It is less clear whether they are ***as*** effective for patients with dementia

- There is presently not enough evidence to recommend the use of alarm devices or hip protectors in hospitals
- Patients' views must be taken into account to balance dignity, rehabilitation and independence with risk of harm
- Falls can be a sign of an underlying illness
- Falls prevention is team work and includes, nurses, physicians, physiotherapists, occupational therapists, pharmacists, managers and facilities staff
- Unless a first fall leads to review (including medical assessment) the patient is likely to fall again.
- **Remember: falls prevention is not rocket science…it is about doing the basics properly and consistently** (Cockram A cited in NPSA 2007)

Using multi-faceted interventions to prevent falls and fractures:

The literature shows that the best hospital falls and fracture prevention programmes include (NPSA 2007):

1. review medication associated with risk of falls
2. detecting and treating causes of delirium
3. detecting and treating cardiovascular disease
4. detecting and treating or managing incontinence or urgency
5. detecting and treating osteoporosis
6. detecting and treating eyesight problems and having the right glasses
7. providing safer footwear
8. physiotherapy, exercise and access to walking aids
9. environmental interventions:
    - improvements to floor cleaning, spillages, lighting and call bells
    - increasing the range of beds and chairs to suit different needs
    - avoiding trip hazards such as clutter and cables
    - using bed rails if the benefits outweigh the risks
    - keep high-risk patients within staff's line of sight

For further information regarding these factors see the research studies used in the document "Slips, Trips and Falls in Hospital " (NPSA 2007).

When planning the patient's discharge do consider putting in place intervention which reduce future falls risk. He/ she may need a home safety assessment and alterations, home safety equipment, Telecare equipment and advice on how to get up from a fall (see the DVD "Getting Up From a Fall and planning ahead", available from the Falls Co- ordinator or local Health Promotion Department)

The East Berkshire Falls Pathway

Appendix 4 shows the East Berkshire Falls Pathway which incorporates the recommendations from the NICE Guidance (2004). This pathway has been developed for community staff groups to help them decide what they could do for the older person at home at risk of falls and fractures. It also shows the criteria for referral to the Falls Prevention Clinics (for Referral Form see Appendix 5). Patients who have received appropriate falls and fracture prevention in hospital do not usually need referral to the Falls Prevention Clinic but do discuss this option with the Ward Sister or doctor if in doubt. The Pathway can be accessed on www.bhps.org.uk/falls and includes many useful electronic links. It is also important to realize that the falls and fracture prevention activities on the ward fit into a much wider programme for the whole of East Berkshire. It is expected that all agencies and professional groups do what they can do within their remit to prevent older people falling and fracturing. To get a better idea of all the falls services and activities you are advised to check the falls website which is updated every six months.

Falls and fracture risk assessment for the in-patient

There are specific factors which have been identified which increase the risk of falls and fracture in an individual, the first stage of any assessment is to identify if your patients has any of these risk factors. This should be followed by eliminating or modifying these risk factors wherever possible:

- A history of falls
- Gait deficit
- Impaired mobility
- Balance deficit
- Visual impairment
- Cognitive impairment
- Delirium
- Urinary incontinence or frequency
- Fear of falling
- Multiple or high risk medication
- Orthostatic hypotension

In addition to these, research studies have also identified other risk factors including:

- Generalized pain
- Reduced activity
- High alcohol intake
- Parkinson's disease
- Arthritis
- Diabetes
- Stroke
- Cardiovascular disease
- Low body mass
- Osteoporosis
- Dehydration
- Disordered blood chemistry
- Footwear
- Environmental factors

For further information of the research studies used to identify these factors refer to NICE (2004) Clinical practice guideline for The Assessment and Prevention of Falls in Older People. www.nice.org.uk/CG021NICEguideline and NPSA (2007) Slips, Trips and Falls in Hospital.

Baseline clinical assessment of a patient who is a risk of falling or who has fallen should include:-

- Lying and standing blood pressure
- Urine dip leading to MSU laboratory analysis if clinically indicated by dip stick
- Assessment of visual acuity (Snellen vision test) and visual fields
- Mini mental state examination (MMSE)
- Osteoporosis risk assessment
- Medical Review
- Physiotherapist movement and strength assessment
- Occupational therapy assessment

Further advice on procedures and assessment tools of the above can be found in this pack. All patients admitted to the ward should be assessed for their risk of falls and fragility fractures by using the Berkshire East PCT's Falls Risk Assessment and Care Plan (Appendix 1)

Lying, sitting and standing Blood Pressure

Rational; - To identify orthostatic (postural) hypotension*

Orthostatic (postural) hypotension is often accompanied by dizziness, blurring or loss of vision and syncope or fainting.

Pathophysiology

The term orthostatic (postural) hypotension is defined as a drop in systolic blood pressure of at least 20 mm Hg or a drop in diastolic blood pressure of at least 10 mm Hg (Beers and Berkow 2000) . Normally the body compensates for gravitational changes to the circulation. There are several mechanisms involved in this and include reflex arteriolar (small arteries) and venous (vein) constriction, increased heart rate and closure of valves in the venous system. The baroreceptors in the carotid sinus and the aortic arch mediate an increase in the sympathetic activity during an upright posture (McCance & Huether 1994). An individual may suffer from acute (temporary) orthostatic hypotension when normal mechanisms are sluggish and can be caused by reversible causes such as:-

• Altered body chemistry • Prolonged immobility • Physical exhaustion • Conditions which cause volume depletion (massive diuresis, potassium or sodium depletion) • Chronic orthostatic hypotension	• Drugs (in particular antihypertensives or antidepressants) • Starvation • Venous pooling

- Secondary to a specific disease (adrenal insufficiency, diabetes mellitus, cerebral infarcts, peripheral neuropathies)

The elderly are susceptible to acute (temporary) orthostatic hypotension due to the changes in the control mechanisms of homeostasis resulting in reduced reserve capacity in the face of stressors i.e. dehydration. (Pikna 1998).

As part of the ageing process reduction in the sensitivity of the baroreceptors in the carotid sinus and aortic arch, blood vessels are slower to constrict in response to rapid changes (Andresen 1998) in particular as postural reflexes can be slowed this phenomena is one element which predisposes the elderly to syncope (Bonema & Maddens 1992).

A drop in systolic blood pressure of 20mmHg or more or 10mmHg diastolic pressure is significant. Investigation and treatment of cause, whenever possible should follow, however also advice to older people around rising from lying to sitting and sitting to standing in slow stages allowing for stabilization should be fundamental. Encouraging the patient to flex the feet before getting up is also useful and adequate hydration essential.

***(Orthostatic =** pertaining to an erect or standing position, **Hypotension** = an abnormal condition in which the blood pressure is not adequate for normal flow of blood to all organs therefore not allowing sufficient oxygen to the tissues)

This is *one* recommendation of taking a lying and standing blood pressure:

(Darowski 2008 b)

Do not use automated equipment

You will need a stethoscope and a manual sphygmanometer to take an accurate reading.

Ensure the patient is lying down for at least five minutes prior to taking the first blood pressure. Leave the cuff in place.

Stand the patient, with assistance or support (after you have done a risk assessment and are sure that your patient is able to stand up for up to about 3 minutes)

Immediately retake their blood pressure using the following principles:

- Hover around the systolic, by inflating and deflating the cuff repeatedly.
- Listen to the systolic beat only
- Continue to hover until the lowest systolic beat is recorded
- When the systolic begins to rise again you can stop
- This can take between 0-3 minutes
- Take the diastolic reading
- Record the lying and standing blood pressure readings including how long the patient was standing when you recorded the lowest systolic reading.

e.g BP lying down 165/ 80

BP after standing for 2 minutes 125/ 68

Urinary analysis

Rational: - To identify infection and/ or diabetes

Falls in the elderly can be a symptom associated with infections. Urinary tract infection (UTI) is one of the most frequent bacterial infections in older adults and the most common cause of bacteremia (infection which contaminates the blood) in this population.

Pathophysiology: - Older adults are predisposed to UTI for a combination of reasons including increased perineal soiling, impaired bladder emptying as a result of poor detrussor muscle activity and fecal impaction. In older men obstructive uropathy (any disease caused by abnormal structure of the urinary tract) caused by prostatic hyperplasia (increase in the number of cells in a body part, overgrowth) and decreased prostate secretions may occur and in postmenopausal women, lack of estrogen leads to atrophic (reduced tissue) changes in the vagina, causing decrease in lactobacilli (natural bacteria) and an increase in colonization with coliform bacteria.

Dipstick urine: - This test cannot be relied on to definitely exclude or confirm a diagnosis of UTI. Urine culture provides a definitive diagnosis and guides antibiotic therapy, however as an initial screening test it maybe appropriate to dip urine.
The following are a guide to the results and your decision making.

Nitrite test

- Most urinary pathogens reduce nitrate to nitrite
- A positive test indicates bacteriuria and therefore suggests UTI
- A negative test does not rule out UTI because some pathogens do not produce nitrate reductase, and frequent urination (common in cystitis) reduces the time available for the enzymes to act.

Leucocyte esterase (LE) test

- Leucocyte esterase is a marker for leucocytes
- A positive LE test indicates pyuria and therefore suggests UTI. Because leucocytes can contaminate the specimen, a positive test does not make a diagnosis of UTI certain

- A negative LE test does not rule out the diagnosis of UTI since the test is insensitive and pyuria (presents of white cells in the urine) is not always found in UTI

Blood and protein

- Blood and protein are sometimes found in the urine when there is a UTI but their presence or absence does not help in making a diagnosis.
- Haematuria is common in the uncomplicated cystitis, and resolves with treatment

Combinations of tests

- Combining results from nitrite, LE, blood and protein tests increase sensitivity but decrease specificity.

Therefore dip stick test of urine on a falls assessment is quick and easy, if none of the tests are positive and there are no other symptoms suggestive of a UTI then it can be ruled out. However if there are positives to any of the tests then further examination is warranted by sending a midstream urine for culture and sensitivity.

Urine culture is indicated for:-

- Elderly people with clinical signs of infection (including reduced cognitive function and confusion with no other obvious cause, and those individuals with a known dementia who display a sudden deterioration in mental /physical function)
- Treatment failure (antibiotic resistance is more common)
- People who are immunocompromised or have diabetes if they have features of a UTI
- People who have a long-term indwelling catheter and features of a UTI **(www.prodigy.nhs.uk)**

MSU (Midstream Specimen of Urine)

How do I do a midstream specimen of urine?

The aim is to get a sample of urine from the middle of your bladder. Urine is normally sterile (no bacteria present). If bacteria are found in the sample, it means that the urine is infected. A 'midstream' sample is best as the first bit of urine that you pass may be contaminated with bacteria from the skin.

Advise or help the individual from whom you wish to collect a specimen to wash around the vagina/urethra/penis area with clean water and dry well.

Every attempt to follow these instructions should be made, although due to poor dexterity and or cognitive function this may not always be possible with older people in your care

Women. Hold open your labia (entrance to the vagina). Pass some urine into the toilet, then stop the flow. Then, pass some urine into the sterile bottle. Then, finish off into the toilet.
Men. Pull back your foreskin. Pass some urine into the toilet, then stop the flow. Then, pass some urine into the sterile bottle. Then, finish off into the toilet.

If is not possible for your patient to urinate straight into the sterile bottle then a sterile container can be laid in to the base of a commode to catch the urine, and then the urine transferred <u>quickly</u> in to the specimen bottle.

Do not open the sterile bottle until you are ready to take the sample. You do not need to fill the bottle to the top, a small amount will do. (Some specimen bottles contain a preservative. If this is the case, a mark on the bottle will indicate the ideal amount of urine. However, if that is difficult, any amount is better than none.) The sooner the sample is given in to the 'lab', the better. Within 2 hours is best. If that is not possible, put the sample in the fridge until you take it to the 'lab'.

Visual Impairment - Snellen test and Visual fields

Rational: - To identify visual impairment
Sight plays an important part in balance and movement. Normal aging processes impact on an individual's visual acuity and diseases such as diabetes and/or transient ischemic attacks (TIA's) can further affect a person's sight.
Normal deterioration in sight is often slow and a person will compensate without recognizing how poor their vision has become.

Pathophysiology:-

Structure	Change	Consequence
Cornea	Thicker and less curved Formation of a grey ring at the edge of the cornea	Increase in astigmatism Not detrimental to vision

Anterior Chamber	Decrease in size and volume caused by thickening of lens	Occasionally exerts pressure on Schlemm canal and may lead to increased intraocular pressure and glaucoma
Lens	Increase in opacity Increased firmness and loss of elasticity	Decrease in refraction with increased light scattering and decreased color vision (green and blue); can lead to cataracts Decrease in accommodation for near vision; presbyopia develops by age 50-55 years
Ciliary Muscles	Reduction in pupil diameter, atrophy of radial dilation muscles	Persistent constriction (senile miosis); decrease in critical flicker frequency (the rate at which consecutive visual stimuli can be presented and still perceived as separate)
Retina	Reduction in number of rods at periphery, loss of rods and associated nerve cells and Macular Degeneration	Increase in the minimum amount of light necessary to see an object. Central vision affected

(McCance & Huether 1994)

Sight is complex to assess and best practice is to enable the person to attend an optician, however in the ward/community situation some basic tests can establish obvious problems.

Testing Distance Visual Acuity by using a Snellen Chart (based on Vaughan and Asbury 1983, Wybar and Kerr Muir 1984)

General notes:

The Snellen chart was designed by Herman Snellen, a Dutch ophthalmologist (1834-1908) and provides a standardised way of testing visual acuity. The word ‘acuity’ comes from the Latin ‘acuitas’ meaning ‘sharpness’. The chart consist of a series of capital letters, symbols or pictures in gradually decreasing size, each line accompanied by a number i.e. 60, 36,24,18,12,6 and 5 (sometimes there is no line with the number 5).

Visual acuity (VA) measured by this method is recorded as a fraction, i.e. 6/12 or 6/60. The first ‘6’ refers to the distance in meters which the patient is removed from the chart. Sometimes, due to lack of space, the chart is placed 3 meters away from the patient with a mirror placed behind the patient in order to artificially create the 6 meter distance. Alternatively a smaller version of the chart is used. However, the visual acuity is still recorded as 6/….as this is the standardised way in which a Snellen test must be recorded.

The second number of the fraction refers to the distance at which someone with normal vision would be able to read that letter. In case of a VA of 6/60 for example that means that someone with normal vision would be able to read that letter at a distance of 60 meters. Whilst a result of 6/6 suggests normal distance vision, some will be able to see at 6/5. A corrected VA (so someone who has been given spectacles) of less than 6/9 is abnormal.

If a patient is unable to read the top letter, he is asked to approach the chart until the top letter can be read. In the case of the chart being only 3 meters away from the patient rather than the usual 6 meters this must be taken into account. Remember that in this case an actual 0.5 meter represents 1 meter. So if the patient is able to read the biggest letter at 2.5 meter distance from the chart, this should be recorded as ‘5/60’. Equally, if he is able to read the biggest letter at 1 meter distance from the chart, this should be recorded as ‘2/60’.

If the patient is unable to read the top letter at 1 meter, we need to assess whether he can count a number of fingers at 0.5 meter. This can be recorded as ‘CF at 0.5 m’. If you are using a small chart and the patient still cannot read the biggest letter at 1 meter distance you can also progress to assessing for ‘count fingers’ at 0.5m.

Failing that we need to find out whether hand movements can be seen (HM) or failing that whether he can see a light with a pen torch light. This is recorded as PL meaning ‘Perception of Light’. When this is also absent ‘no PL’ is to be recorded.

It is important to record the corrected visual acuity. This means that if someone wears glasses all the time or for distance (ie for watching television or driving) or bifocals they should be worn during the test. The patient should not wear reading glasses for this test because you are testing distance visual acuity. Please record on your form that the patient was wearing glasses during the test. The recorded VA should look like this for example:

Right eye 6/ 12 with distance glasses Left eye 4/ 60

Procedure:

- Explain procedure to patient.
- Ask whether glasses for distance are worn. If so, the patient should wear them during the test
- Place patient 6 meters away from the chart or 3 meters if a small chart is used.
- Place occluder, ie a piece of card, over the left eye first without putting pressure on the eye.
- Ask patient to read the letters from top to bottom.
- If the patient is able to read all or most of the letters on a particular line but cannot read the next line, that line is recorded as the VA.
- If the patient cannot read any of the letters proceed as explained above.
- Repeat procedure for the left eye.

Visual fields

It is also useful to screen older patients for visual field deficit as various neurological disorders can cause visual dysfunction. Atherosclerotic ischemia can cause injury to the optic chiasm (the X shape, see page 21). Damage in this area can cause a variety of visual defects. (McCance & Huether 1994)

Ask the patient to look with both eyes into your eyes.

While you return the patients gaze, place your hands about two feet apart, lateral to the patient's ears.

Instruct the patient to point to your fingers as soon as they are seen.

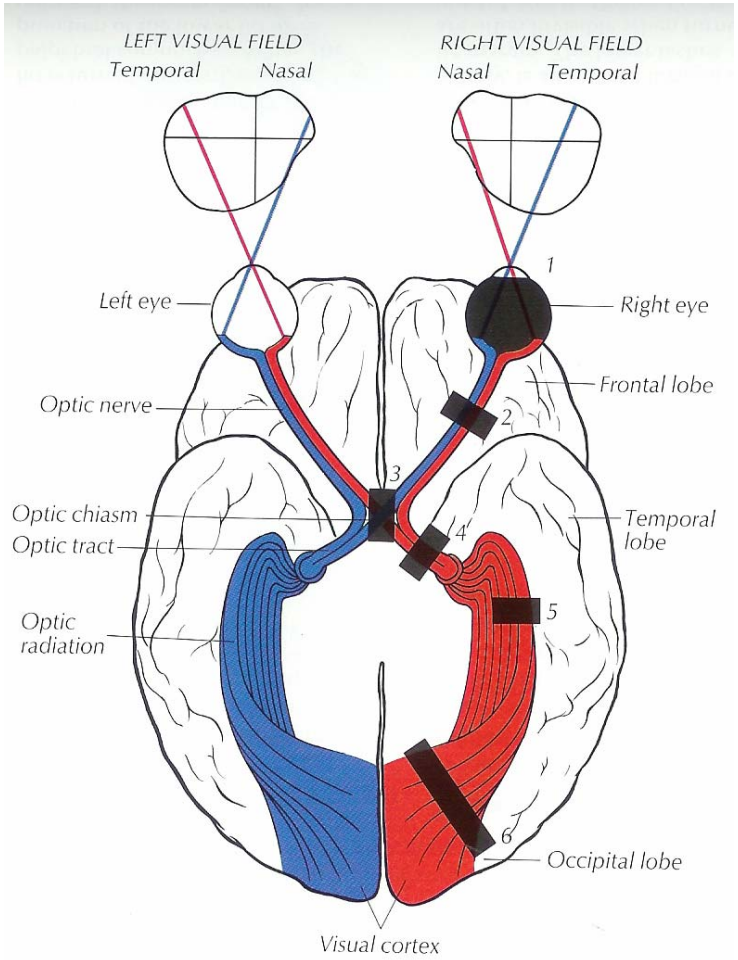
Then slowly move your wiggling fingers of both hands toward the line of gaze until the patient identifies them.

Repeat this in the upper and lower temporal quadrants.

Normally a person sees both sets of fingers at the same time.

(Bates 1995)

Visual Pathways



(Bates 1995)

Visual Field Defects

Horizontal Defect

Occlusion of a branch of the central retinal artery may cause a horizontal (altitudinal) defect. Shown is the lowest field defect associated with occlusion of the superior branch of this artery

Blind Right Eye (right optic nerve)

A lesion of the optic nerve, and of course of the right eye itself, produces unilateral blindness

Bitemporal Hemianopsia (optic chiasm)

A lesion at the optic chiasm may involve only the fibers that are crossing over to the opposite side. Since these fibers originate in the nasal half of each retina, visual field loss involves the temporal half of each field

Left Homonymous Hemianopsia (right optic tract)

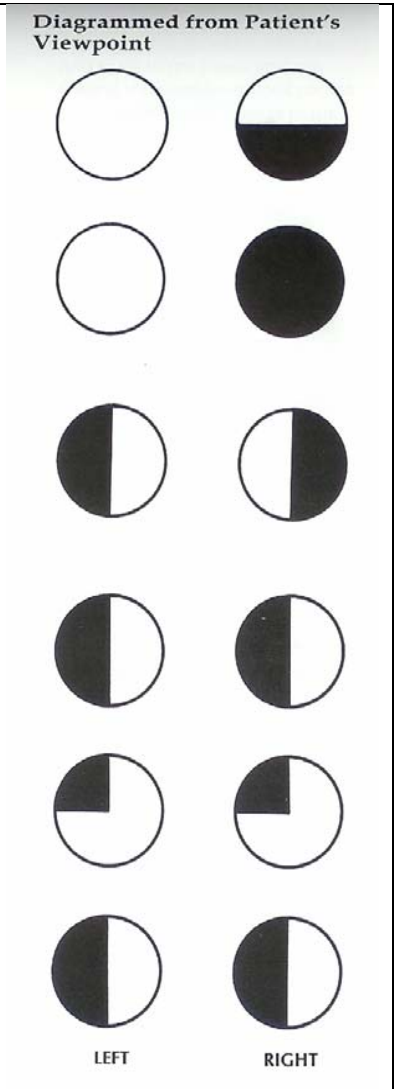
A lesion of the optic tract interrupts fibers originating on the same side of both eyes. Visual loss in the eyes is therefore similar (homonymous) and involves half of each field (hemianopsia)

Homonymous Left Upper Quadrantic Defect (optic radiation, partial)

A partial lesion of the optic radiation may involves only a portion of the nerve fibers, producing, for example, a homonymous quadrantic defect

Left Homonymous Hemianopsia (right optic radiation

A complete interruption of fibers in the optic radiation produces a visual defect similar to that produced by a lesion of the optic tract.



Hearing impairment

Rational:- Assessment of an older person should always include screening for hearing impairment as often this can causes social isolation and can be rectified.
It is also important particularly when accompanied by complaints of “feeling dizzy” and a history of falls to include an examination of the ear canal as part of an holistic assessment as impaction of cerumen (wax) or infection in the internal and or external ear canal can affect the balance function of the ear.

Pathophysiology: - Changes to the auditory system are common in aging, approximately one third of people have some degree of hearing loss by the age of 65 years. Inspect the ears for accumulation of fluid, bulging tympanic membrane, inflamed tympanic membrane, presence of cerumen impaction or pus accumulation or discharge.

With hearing impairment refer to audiology department for hearing test, even if the person has a hearing aid, if it is no longer meeting their needs a review should be requested.

The Symptom of Dizziness and Syncope in Older People

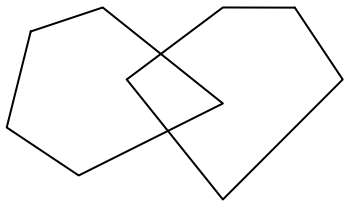
In the UK 30% of people aged 65 complain of dizziness (Colledge et al 1996), with an estimation of 90% of older adults seen in Geriatric outpatient clinics in the US complaining of dizziness (Kennedy-Malone et al 2000)
Dizziness may be an associated symptom with a range of conditions in the older person from psychological disorders such as anxiety to cardiac disorders which result in syncope and falls. Colledge et al (1996) identified in their small study that the most common causes were central vascular disease and cervical spondylosis. They identified that in their subject group there was an accompanying history of ischaemic heart disease, stroke and patients often had a carotid bruit on examination. McIntosh et al (1993) found a high prevalence of carotid sinus syndrome among elderly fallers.
Due to reduced sensitivity of the baroreceptors in the carotid sinus and aortic arch, blood vessels are slower to constrict in response to rapid changes (Andresen 1998) this phenomena is one element which predisposes the elderly to syncope (Bonema & Maddens 1992).

Cardiac causes for syncope include arrhythmias, valvular heart disease, and cardiomyopathy. Common heart problems in the older patient include atrial fibrillation and sinus node disease which cause arrhythmia and should be referred for further investigation. On routing assessment, the pulse of an older person should be recorded, specifically documenting and reporting tachycardia, a pulse above 90 bpm or bradicardia, a pulse below 60 bpm and any deviation in the regularity of the beat. In some incidents it may also be useful to do an apex / radial pulse rate reading, recording and reporting any difference in the two readings.
(The reading of the pulse at the apex of the heart with a stethoscope at the same time as the reading of the radial pulse. This requires two people counting at the same time for the duration of one minute)

Cognitive function –"an intellectual process by which one becomes aware of, perceives, or comprehends ideas. It involves all aspects of perception, thinking, reasoning and remembering" (Mosby 1998)

Rational: - Cognitive impairment is important to assess as part of a holistic falls risk assessment and will inform the individual' s care plan. Deterioration in brain function is not inevitable with age. However, as people age there are more incidents of loss of cognitive functioning for a variety of reasons, both organic such as dementia or mechanical such as damage caused by atherosclerotic changes in the vascular system. Deterioration of cognitive function can affect the individual's ability to assess risk, as well as their perception of situations and their ability to sequence every day actions safely.
Assessment of cognitive function will also inform what is an appropriate care pathway, for an individual. There is a need for the person to actively participate in some elements of falls prevention programs and a person with cognitive impairment may be unable to do this. There are a number of short tests which can be used as a baseline assessment and others that can be used for more in-depth assessment of specific areas of deficit. Initially a commonly used assessment tool is the Mini Mental State Examination (MMSE) (Folsteine et al 1975) (see page 28) as this does not just test memory. However there are limitations which need to be considered, one is if your patient has significant sensory loss, alternative or adapted tools may need to be considered.

Mini mental state Examination (MMSE) (Bates 1995) Adapted from Folstein MF, Folstein SE, McHugh PR (1975)

Questions	Total score achievable for section	Patients score
Can you tell me the date? **Ask the patient for any parts omitted** **Day, Date, Month, Year, Season**	**5** Subtract 1 for each part not given	
Where are you? **Ask for any parts omitted** **Name of ward, name of hospital, Road, Town, County,**	**5** Subtract 1 for each item not given	
Name three objects clearly and slowly and ask the patient to repeat them	**3** Subtract 1 for each item not registered	
Ask the patient to do serial 7's. Stop after five answers. Alternatively ask the patient to spell WORLD backwards	**5** Subtract 1 for each wrong number or out of order letter	
Ask for the names of the three objects repeated above	**3** Subtract 1 for each object not recalled	
Show the patient a watch and ask for its name. Repeat with a pencil	**2** Subtract 1 for each item not named correctly	
Ask the patient to repeat " No ifs, ands or buts"	**1** score 0 or 1 on the first trial	
Offer the patient a piece of plain paper, and say "Take this paper in your right hand, fold it in half and place it on the floor.	**3** Subtract 1 for each of the three actions not performed	
Show the patient a piece of paper on which you have printed in large letters CLOSE YOUR EYES. Ask the patient to read it and do as it says.	**1** Subtract 1 if the patients eyes do not close	
Ask the patient to write a sentence of his or her own words	**1** Subtract 1 for absence of subject, verb or sensible meaning	
Ask the patient to copy a pair of intersecting pentagons onto a piece of blank paper 	**1** Subtract 1 for fewer than ten angles or two intersections	
Out of a maximum of 30, 24 to 30 is considered normal, scores of less than 24 increase the likelihood of dementia	**TOTAL**	

Patients Name DOB Hospital No Date of Exam

Osteoporosis

This section on osteoporosis should be read in conjunction with the PCT's "Guidelines for Osteoporosis Management" which have detailed advice on prescribing osteoporosis treatment, useful links to other websites, sources of information and patient information leaflets etc. The guidelines can be found on the Berkshire East PCT Internet under Clinical Policies, under Doctor's Desktop and also on the falls website (www.bhps.org.uk/falls)

Rational: - As part of a falls assessment it is important to address the issue of osteoporosis risk factors and treatment, particularly with the population which accesses the services of intermediate care. Many may have already had a fall and sustained a fracture of some description. According to van Staa et al (2001) quoted by the National Osteoporosis Society (2006) a staggering 1 in 2 women and 1 in 5 men over 50 sustain a fracture. The prevalence of osteoporosis will increase as the population ages.

Pathophysiology: - Osteoporosis is the reduction in bone density or mass resulting in a weakening of the skeletal ability to maintain a person's mechanical support. The disease can be generalized across the axial of the skeleton or be selective, affecting one segment of the skeleton. There are a number of causes or contributory factors including hereditary, hormonal, dietary, and iatrogenic (a secondary condition arising from treatment of a primary condition).

Whatever the cause, osteoporosis develops when the process of bone resorption and bone formation is disrupted. In a person with osteoporosis the cycle of remodeling consisting of basic multi-cellular unit activation, bone resorption and bone formation can take up to 2 years whereas in a normal, healthy adult, this process takes approximately 4 months. Age related bone loss occurs when bone formation decreases faster than bone resorption. (McCance & Huether 1994)

Main risk factors:-

- **For Women**
    - A lack of oestrogen caused by
        - Untreated early menopause (before the age of 45)
        - Missing periods for six month or more (excluding pregnancy) as a result of over-exercising or over-dieting.
        - Being postmenopausal

For Men

- Low levels of the male hormone testosterone (hypogonadism)

- **For men and women**
    - Long-term use of corticosteroids (3 months and over)
    - Previous fragility fracture
    - Mother who had a broken hip before age 75
    - Medical conditions which affect the absorption of food, such as Crohn's disease or ulcerative colitis, as well as gastric surgery
    - Medical conditions that leave people immobile for long periods of time
    - Heavy drinking
    - Smoking
    - Low body weight (BMI less than 19 kg/m2)

The "Black Tool" (Black et al 2001) on page 32 is a user-friendly tool to assess fragility fracture risk and should be included in routine assessment.

It has been established that bone health should be incorporated in all health promotion activity and started in childhood. However, it is **NEVER TOO LATE** to improve a person's bone health whatever their age. In January 2005, NICE published the technology appraisal addressing the use of the treatments in women with osteoporosis **who have already broken a bone**. Drug treatments have shown to reduce fracture risk by up to 50%. The local recommendations, taking account of NICE (2005a and b) as well as other national guidance (RCP 1999), are as follows:

Bisphosphonates (generic alendronate or risedronate (Actonel) are recommended for post menopausal women and men*:

- If they 75 years or over- without the need for a dual x-ray absorptiometry (DXA) bone density scan.
- If they are 65-74 years, as long as osteoporosis (T score of -2.5 standard deviations [SD] or below) is confirmed on a DXA scan.
- If they are younger than 65 years and have a very low bone mineral density (BMD) (T score of -3 SD or below) **OR** have confirmed osteoporosis plus one or more additional age independent risk factors (ie Body Mass Index 19 kg/ m2 or below, corticosteroid use, untreated premature menopause, mother had a broken hip before the age of 75, some other medical conditions associated with bone loss or prolonged immobility).

Strontium Ranelate (NICE 2005b) is recommended as an alternative treatment in post menopausal women, in circumstances as specified above where bisphosphonates are contra- indicated, who have an unsatisfactory response to bisphosphonates or are intolerant or who cannot comply with bisphosphonates.

Raloxifene (Evista) is recommended for post menopausal women as an alternative treatment, in circumstances as above, who cannot take bisphosphonates and for whom Strontium is contraindicated.

Teriparatide (Forsteo) is only prescribed very rarely with permission from the Assistant Director of Commissioning because it is very expensive.

* NICE list the following side effects: oesophageal ulceration, erosion or stricture, or lower gastrointestinal symptoms.

Why has NICE not looked at Calcium and Vitamin D, hormone replacement therapy (HRT)?

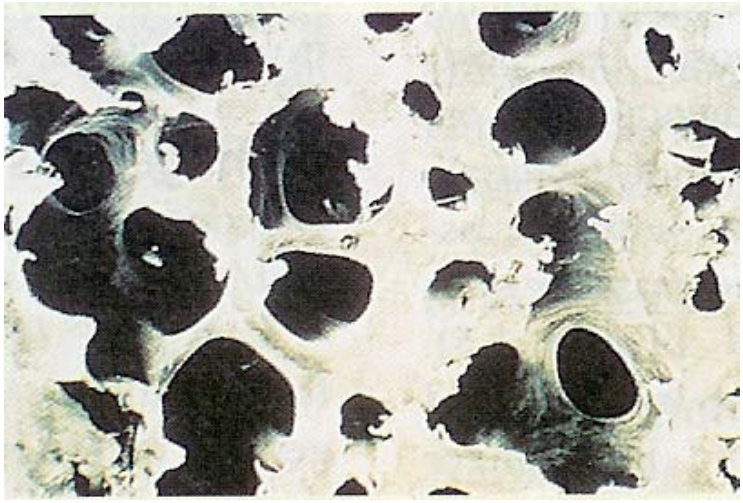
Calcium and Vitamin D:

There is good evidence that daily supplements containing 1200 milligrams (mgs) of Calcium and 800 international units (iu) of Vitamin D can reduce the risk of broken hips in frail elderly people, particularly those living in nursing homes. Although NICE chose not to review Calcium and Vitamin D in their 2005 appraisal it does advise that women taking osteoporosis treatment should have Calcium and Vitamin D supplements if they have a deficiency. This may require checking Calcium and Vitamin D levels (see local guidelines). The Royal College of Physicians (2001) has stated that it is advisable for frail and housebound older people who are at risk of falling to be considered for Calcium and vitamin D supplementation.

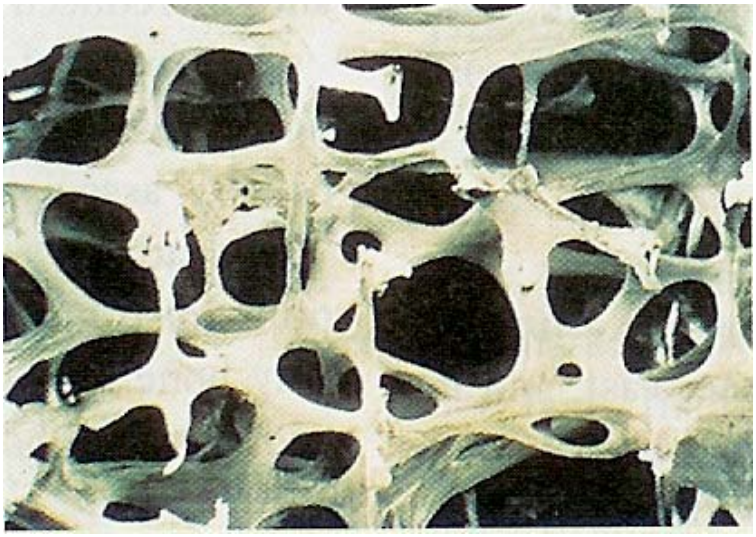
Hormone replacement therapy (HRT):

In light of recent large studies, HRT is no longer considered as a first line treatment for osteoporosis, although it remains an effective treatment for women who have had an early menopause or who are having troublesome menopausal symptoms such as hot flushes (Adapted from the local Guidelines for Osteoporosis Management and Osteoporosis. Facts and Figures produced by the National Osteoporosis Society 2006) available at www.nos.org.uk)

Normal iliac crest bone biopsy



Osteoporotic bone



Adapted "Black Fracture Index"
(to be used for men and women
as a more suitable tool is as yet not available)

		Point Value
1	**What is your current age?**	
	Less than 65	0
	65-69	1
	70-74	2
	75-79	3
	80-84	4
	85 or older	5
2	**Have you broken any bones after age 50?**	
	Yes	1
	No	0
3	**Has your mother had a hip fracture after age 50?**	
	Yes	1
	No	0
4	**Do you weigh 125 pounds or less (9 stone)?**	
	Yes	1
	No	0
5	**Are you currently a smoker?**	
	Yes	1
	No	0
6	**Do you usually need to use your arms to assist yourself in standing up from a chair?**	
	Yes	2
	No	0
	Total	

Score:
Low Risk = 0-3
Medium Risk = 4-6
High Risk = 7 and above

(from "An Assessment Tool for Predicting Fracture Risk in Postmenopausal Women by Black DM, Steinbuch M, Palermo l, Dargent-Molina P, Lindsay R, Hoseyni MS and Johnell O. *Osteoporosis International* 2001 12:519-528)

Medication Review

Rational: - Older people are more likely to be on medication, with 36% of over 75's taking four or more (DOH 2001). There is an increased risk of older people having side effects to medication both because of the aging processes on the body, affecting the pharmacokinetics (what the body does to the drug) and the pharmacodynamics (what the drug does to the body) of medication but also because of the increased risk of the adverse effects of combinations of drugs.
Many medications pose a specific risk to potentiate falls, but as a rule all people taking medication should have a regular review and if a medication is no longer clinically indicated it should be reviewed and where possible stopped.

Pathophysiology: - The absorption, distribution and excretion of drugs is complex and not within the scope of this pack to cover in detail. However in relation to older adults and falls it is important to assess your patient for the acute and or chronic elements of their individual health status which could affect these processes.
Why it is so important in older adults is that with aging the body's capacity to stabilize homeostasis is reduced and small changes in health status can severely impact on the body's systems.
With some exceptions drug metabolism is altered with age. Hepatic function is also affected by age. Body composition changes with a higher proportion of body fat therefore changing distribution volume of drugs (increased for lipid-soluble, reduced for polar drugs). Renal function deteriorates over time and drugs which are cleared through the kidneys can increase in plasma concentration over time even when the dose remains the same, for example Digoxin (Rang Dale & Ritter 1995). If you add to this a bout of illness which increases dehydration the effects can be dramatic.

The following identifies some specific medications which should be reviewed as part of a holistic falls assessment:

Commonly Prescribed Drugs that May Contribute to Falls

This classification has been based upon a review of the clinical evidence of medicines implicated in falls and from an analysis of the most commonly used drugs with side effect profiles associated with an increase in falls risk. The list is not meant to be fully comprehensive but intended to raise awareness of the types of drugs that can contribute to falls. Drugs have been graded as either a high, moderate or low risk in terms of their 'potential to cause falls'.

HIGH RISK DRUGS

Antidepressants	Avoid Tricyclic antidepressants esp TCAs with high anti-muscarinic activity eg Amitriptyline. SSRIs are associated with a reduced incidence of side effects in the elderly. Trial of gradual withdrawal should be attempted for all anti-depressants after 6 –12 months of initial treatment.
Antipsychotics including atypicals	Risk of hypotension is a dose related effect reduced by the 'start low go slow approach.' Attempted withdrawal **MUST** always be gradual to avoid precipitation of withdrawal symptoms e.g. rebound agitation etc. All anti-pyschotics are capable of inducing extra-pyramidal disorders although incidence is less with atypicals. The phenothiazine Prochlorperazine (Stemetil) is frequently inappropriately prescribed for dizziness due to postural instability and the most frequently implicated drug causing drug induced Parkinson's disease.
Anti-muscarinic drugs (Anti-cholinergics)	Anti-muscarinic drugs are used in treatment of urinary incontinence and in Parkinson's disease. Oxybutynin may cause acute confusional states in the elderly especially those with pre-existing cognitive impairment.
Benzodiazepines & Hypnotics	Whilst complete withdrawal may not be an achievable goal there is still benefit to be gained in reducing use to the minimum effective dose. (Ref BNF). Avoid long acting benzodiazepines e.g, Nitrazepam. Newer hypnotics e.g. Zopiclone are associated with reduced hangover effects but all licensed for short-term use only.
Dopaminergic drugs used in Parkinsons disease	Sudden excessive daytime sleepiness can occur with Levodopa and other dopamine receptor agonists. Careful dose titration is particularly important in initiation of treatment because of additional risk of inducing confusion. As the patient ages, maintenance doses may need to be reduced.

MODERATE RISK DRUGS

ACE inhibitors / Angiotensin II antagonists	Risk of hypotension is potentiated by concomitant diuretic use. Incidence of dizziness varies from 4-12% of patients but affects twice as many patients with heart failure than hypertension.
Alpha – blockers	Doses used for treatment of BPH less likely to cause hypotension than those required to treat hypertension.
Anti-arrhythmics	Dizziness and drowsiness are possible signs of Digoxin toxicity – risks of toxicity greater in renal impairment or in the presence of hypokalaemia. Flecainide has a high risk for drug interactions and can also cause dizziness.
Anti-epileptics	Group with high risk for potential drug interactions. Incidence of dizziness drowsiness and blurred vision are dose related side effects observed with Carbamazepine but may be reduced by altering timing or choice of formulation. Phenytoin side effects such as dizziness blurred vision etc. may be signs of drug related toxicity.
Anti-histamines	Somnolence may affect up-to 40% of patients with older antihistamines e.g. Chlorpheniramine. The newer anti-histamines e.g. Desloratidine cause less sedation and psychomotor impairment. Risk of hypotension with Cinnarizine is a dose related side effect.
Beta-blockers	Reports of dizziness may be due to postural hypotension and can affect up to 10% of patients. Water-soluble beta-blockers can accumulate in renal impairment and therefore dose reduction is often necessary.
Diuretics	Postural hypotension, dizziness and nocturia are the most frequent problems seen in the elderly. Diuretics should **not** be prescribed for long-term use in the treatment of gravitational oedema.
Opiate analgesics	Drowsiness and sedation common with initiation of treatment but tolerance to these side effects is usually seen within 2 weeks of continuous treatment. Drowsiness and sedation is rare with Codeine unless concurrently used in combination with other drugs with CNS effects. Confusion also reported with Tramadol.

LOW RISK DRUGS

Calcium Channel Blockers	Incidence dizziness low especially for once daily dihydropyridone calcium channel blockers e.g. Felodipine
Nitrates	Dizziness may be due to postural hypotension. Advise patient to sit when using GTN spray or tablets
Oral anti-diabetic drugs	Dizziness due to hypoglycaemia but usually avoidable. Avoid long acting sulphonylureas e.g. Chlorpropamide.
Proton Pump Inhibitors (PPIs) & H_2 Antagonists	Avoid Cimetidine in polypharmacy patients – high risk of potential drug interactions. Cimetidine also associated with causing confusion in the elderly. Reports of dizziness, somnolence are uncommon and mental confusion or blurred vision rare with the other PPIs and H_2 antagonists

Produced by Maria Smith B.Pharm MRPharmS© on behalf of WAM Falls in Elderly Steering Group 2005

*** Revised advice on medication and falls is expected by early 2009**

Physiotherapy Assessment and Treatment of Fallers, an Overview

Falls Risk Assessment

Falls History
Gait, balance, mobility, muscle weakness
Osteoporosis risk
Perceived functional ability
Fear of falling
Visual impairment
Cognitive impairment
Vestibular Impairment
Neurological examination
Past Medical History/ Current Medical History

Physiotherapy Interventions

Strength, balance and endurance training, appropriate walking aid or appliance provision. For this to be effective we also need to look at: -

Changes that a person is willing to make to prevent falls addressing potential barriers such as:

- Low self-efficacy
- Fear of falling

Provide information on measures to:

- Prevent falls
- Improve motivation
- Physical/ psychological benefits of modifying risk
- Coping strategies

Evidence shows that programmes combining strength, balance and endurance training do reduce the risk of falls. These exercise programmes should be designed with compliance in mind, and take in the views of older people. Evidence also shows that the older and frailer the participant, the greater potential benefit from these exercises, and the greater the need for individual tailored exercise guidance from a trained specialist (Young A, Dinan S 2005).

Postural Control

There are multiple systems, which contribute to postural control:

- Visual
- Proprioceptive
- Vestibular

Age related changes mean that there may be:

- Visual impairment
- Decreased positional sense
- Reduced ability to respond quickly and appropriately to loss of balance
- Muscle atrophy linked to neurological changes
- Reduced nerve conduction velocity

Pathological changes mean that there may be:

- Weakness, stiff joints e.g. Osteoarthritis
- Poor posture e.g. Osteoporosis with kyphosis
- Neurological deficits e.g. Parkinson's Disease, Stroke, Peripheral Neuropathy
- Cognitive Impairment e.g. Alzheimer's

Training programmes must therefore include:

- Assessment and regular review
- Balance training
- Multi-sensory training
- Postural strategies
- Strength training
- Endurance training
- Co-ordination and reaction time work
- Transfers practice and education
- Gait re-education
- Confidence building

1. Assessment and Review

There are various tools, which can be used such as:

FRAT Tool (Nandy et al 2004)

Elderly Mobility Scale (Smith 1994)

Berg Balance Scale (Berg et al 1992)

Tinetti Gait and Balance (Tinetti 1986)

2. Balance Training

Progressive balance challenges changing:

Base of support

Type of surface

Trunk, limb and head movements

3. Multisensory Training

To optimize the functioning of the sensory systems that are not impaired while compensating for the system or systems that are known to be impaired:

- Improve the functioning of the proprioceptive system by compromising or removing vision
- Improve the use of the visual inputs for balance by compromising the proprioceptive input
- Improve vestibular function by compromising the proprioceptive input
- Enhance the interaction between the visual and vestibular system

4. Postural Strategies

Work on:

- Ankle
- Hip
- Stepping

5. Strength and Endurance Training

This should be:

- Targeted
- Functional
- Resisted
- Progressive
- Postural and bone loading
- Active Lifestyle

An association has been found between tripping and the gait velocity and step size, both of which may be related to a reduction in muscle strength.

6. Functional Interventions

- Gait re-education
- Walking aid provision
- Advice/ education (eg footwear)
- On/ off the floor
- Appliance provision

Occupational Therapy Assessment and Treatment of Fallers- an Overview

Keeping people safe in hospital

Individuals admitted to hospital are at increased risk of falling, particularly if there is a co-existing risk factor. In intermediate care there is an expectation that individuals will be participating in rehabilitation, building their confidence and strength in order to enable them to return home. It is important that risks are assessed and actions taken to minimize the possibility of a fall and or injury resulting from a fall.

Some basic actions can be undertaken to support this philosophy.

- Always ensure that the call bell is within easy reach of the patient so they can call for assistance when required
- That chair and the bed used by the patient is at the right height to facilitate safe independent transfer
- Ensure that the patient and relatives understand the importance of wearing good well fitting, supportive shoes around the ward
- Clothes should be easily pulled up and down to facilitate the rehabilitation process without increasing the risk of the patient over balancing or become agitated and frustrated with a task
- Men’s trousers including pyjamas should fit well and the use of belts and braces used appropriately.
- Do not allow catheter bags to drag on the floor and use leg bags fitted correctly during the day
- Regularly check each patients immediate environment for water spills or objects on the floor, particularly if the persons has a visual impairment or has cognitive impairment

- Ensure the brakes on movable objects, beds, commodes, wheelchairs or in the on position when stationary
- Ensure that signs identify potential dangers such as cleaners at work, vacuum cleaner wires etc, and that patients are aware of what they mean
- Patients who have continence problems have individual continence management programmes to reduce agitation and the temptation to rush to the toilet unaided.
- Offer regular drinks and ensure that bed tables are near at hand with the person's requirement in a position that they can reach without over stretching.
- All staff are aware of Health and Safety policies and procedures , for example around clearing up spillages immediately

Hazards in the Home

The role of the multidisciplinary assessment team is not only to prevent falls in hospital but to reduce risk in the future when the person returns home.

Many environmental risks can be reduced. Often the occupational therapist will visit the patients home prior to discharge and give advice and/ or supply equipment which supports the reduction of falls risk. However it is unlikely that all risk can be eliminated. In some incidents the individual may be unwilling to change elements of their living environment, a risk limitation and advice only can be given. The following are areas which need to be considered with the patients.

Issue	Rational	Helpful suggestions
Access • Gravel – difficult for walking aids • Broken paving/narrow paths • Uneven steps • Lack of rails/hand grips • Difficult access, lack of ramp (for wheelchair) • Emptying bins from in the house	To maintain independence it is important to many to be able to access the outside space of their home. Ensuring that paths are flat, and easy to maneuver aids on, reduces the chances of people trying to walk without adequate support.	Steps can be easier to see if the front edge is painted. Or try placing a non slip strip along the front edge Contact your local council if the paving outside your house is broken or uneven Keep paths free of leaves and moss, take extra care in the wet. Ensure that there is adequate lighting. Assistance may be needed to empty bins into the refuse collection outside.

Issue	Rational	Helpful suggestions
Living Room • Height and seating position of chair • Heating; Gas fire – bending low to ignite the fire • Lack of space for safe mobility / too much clutter/ furniture / rubbish • Loose carpet in doorway /door sticking on carpet • Loose rugs • Badly fitted carpet / rucked carpet • Trailing flexes – telephone / heaters / T.V./ too many plugs • Poor lighting	Transferring into and out of a chair that is not the right height is a time when people can over balance. Bending to light gas and electric fires becomes a risk when balance is poor. A cluttered environment can lead to tripping hazards Older people do not always maintain the ability to lift their feet up to avoid even small obstacles such as the lip of a rug. Walking aids can catch the edges of loose rugs Changes in the retina result in reduced vision in poor light.	Use a high seat chair which the person can transfer from independently and safely. Avoid rushing to the telephone; where possible place it near where you sit. Removing clutter and ensuring that there is clear passage to move with walking, aids if required, around the home. If rugs are unable to be removed apply non-slip backing or tape down the edges Ensure that trailing leads from heaters and telephones are not lying in walking areas In all areas ensure good lighting , consider installing movement activated lights in hall ways Allow time for eyes to adjust when moving between light and dark areas
Kitchen • Cooker safety – check if old, or non automatic gas appliance • Reaching into high or low cupboards • Distance for carrying food, hot drinks, rubbish • Accessibility of kettle and items in everyday use. • Height of fridge, freezer, oven • Floor surface – loose lino, broken floor tiles • Poor lighting	Reaching into appliances and bending, particularly with hot or heavy cooking items can destabilize a person and make it difficult to use aids to steady oneself Reduced balance can make moving food and drinks from the kitchen hazardous. Tripping or overbalancing on faulty floor coverings. As above	Arrange most frequently used items within easy reach to avoid carrying hot or heavy items Tray trolleys can help transport items safely Counters and tables should be sturdy enough to take a persons weight if they lean on them Ensure plugs and sockets can easily be reached. Heavy kettles can be filled using a plastic jug to save carrying from the sink.

Issue	Rational	Helpful suggestions
Bedroom • Height of bed • Quality of mattress • Type of bedding • Position of bed – space around bed for walking aids, and best side to get in • Heating • Availability of commode • Loose carpet in doorway / carpet restricting door opening / difficult access for walking aid • Poor lighting • Loose flexes • Loose rugs/ rucked carpet	Beds which are either too high or too low will cause increase the difficulty in standing and balancing and can cause sliding off the bed. Check the bed mattress has a firm ridge edge reducing the chances of it sagging and the person slipping off on to the floor. Identify which side of the bed the person is more confident or used to getting in and out of and ensure this continues when in hospital Also ensure that bed transfer is made on correct side for a hip fracture “good leg in first” rule Ensure there is no unnecessary clutter	Have a light within reach of your bed. Consider a touch lamp or night light A bed at the right height with a firm edged mattress will assist the person in getting out of bed Advise individuals who feel dizzy on sitting up to pause and wait for the dizziness to settle before standing and inform the GP if it persists Keep a torch next to the bed as a back up If the person wears glasses ensure they are kept within easy reach
Bathroom • Height and position of toilet • Position of hand basin • Position of hot radiator • Loose rugs/ mats • Type of bath – correct aids and rails • Shower access • Slippery floor • Space to use walking aid safely.	Wet areas are more likely to become slippery. Getting on and off the toilet which is, in particular too low or high increases the risk of over balancing	Advise not to use the hand basin or radiator to get up from toilet, they are often not firm enough to take weight Fit hand rails by bath/toilet Use suction mat in bath or non slip strips Shower and/ or bath aids which allow the individua to sit down and rise safely should be suggested Non slip flooring should be used in the bathroom

Issue	Rational	Helpful suggestions
Stairs and landing Inadequate lighting Lack of banister rails / newel rail / other additional rails for safety Loose carpet Awkward steps Ability to move and open door in restricted space Availability of 2nd walking aid for upstairs Stair lift	Being able to see the stairs clearly and any potential hazards ahead. Using the stairs can be more hazardous if balance, muscle strength and flexibility are affected	Handrails on both sides of stairs is preferable Extra lighting on stairs is useful, automatic lighting can be used Place bright coloured strips on the edge of any steps Handrails on both sides of stairs is preferable Stair lifts can be considered if stair climbing becomes difficult
Other Pets Housework Laundry Bed changing Climbing up to high cupboards Poor footwear	Certain tasks around the house increase a persons risk of falling as they are strenuous or require bending and stretching while using both hands The temptation to wear favourite old slippers around the house can increase the risk of falling, also shoes with slippery soles and high heels or pointed toes should be avoided	Having someone else to assist in carrying out the most hazardous tasks may be a solution Fitting the cat with a bell on the collar may alert the older person of where it is. Shoes that reduce the risk of falling have a slightly rounded heel less than one inch 2.5 cm high, with a firm non-slip sole that bends mainly at the ball of the foot. The shoe also needs to fit well and ideally have an adjustable fastener.

Much of this information is based on: College of Occupational Therapists (2006) Falls Management (Guidance)

Care Planning

Falls in the older population are a growing problem. As discussed at the beginning of this education pack a fall can be devastating to a person's life and carries a significant morbidity and mortality rate. As well as being costly to the individual it is also costly to health and social services.
It is impossible to take away all risk of falling without wrapping individuals in cotton wool. It remains the aim of intermediate care services to enable individuals and encourage independence.
Many older people would rather make the decision to take risk than end up living in an environment which they perceive as reducing their independence.
Therefore sometimes we aim only to reduce the risk and support individuals to make informed decisions about the risks they are taking.

This pack has covered many of the physical, psychological, social and environmental causes that increase the risk of falling. While some can be easily resolved, others may be more complex.
Individual practitioners may, with the right knowledge and advice, reduce risk. However more often there is the need for a multidisciplinary assessment.
In-patients should have access to this during their stay, with referral for follow-up in the community either to a day hospital or fall prevention clinic, if necessary.

Referral to falls clinics for those in the community, where a multidisciplinary team can carry out a comprehensive assessment during a visit, can be more effective than assessing a person piecemeal.

The following chart suggests some pathways to consider for individual issues, but it remains the responsibility of all practitioners to keep themselves up-to-date with what is offered locally in their community which support people at risk of falling, and working with others to influence the services provided for the population they support.

Suggested pathways for identified falls risk factors.

The table below

Problem	Intervention	Referral
History of falling	Review incidents, is there a common theme? Establish cause of falling. Discuss fear of falling. Does patient know how to get up after a fall? (seen the DVD?)	Multidisciplinary assessment/Day Hospital/Falls Clinic
Underlying medical condition	Rule out or detect underlying medical conditions. Ensure a comprehensive health history is taken looking for clues such as recent weight loss, reduced appetite, increased tiredness, change in bowel habit, increased urinary frequency. Undertake basic screening tests to include urine test, FBC, U&E's, LFT, TFT's, ESR, B_{12}	Referral as appropriate to any findings
On a number of medications/on specific high risk medications	Are all medications necessary? Are they producing side effects? When were they last reviewed?	GP /Dr and or Geriatrician, Pharmacist
Alcohol intake	Discuss effects of alcohol on the system, dulling of neurological capacity. Increased clearance time in an aging system and possible interaction with prescribed medication. More than one small glass of wine or half a pint of lager/ beer per day increases falls risk. Too much alcohol also damages the skeleton, but the odd glass of red wine actually helps bone tissue.	GP/Dr / Practice Nurse Ward Nurses
Postural / Orthostatic Hypotension	Rule out any correctable causes such as medication or illness. Discuss coping techniques to reduce effects such as avoiding standing up quickly, dehydration, straining at stool, hot baths, large meals, excessive alcohol. Use of an extra pillow to raise head, or raising the head of the bed, have small frequent meals and extra fluids.	GP / Geriatrician / Falls Clinic/Syncope Clinic
Vision	Identify any visual impairment through discussion with the individual and basic visual acuity (Snellen test) and field testing. Ask when the individual last attended the optician.	Optician / GP / specialist sensory deficit Social Work team

Problem	Intervention	Referral
	Advise to avoid bifocals or to take extra care when first wearing them. Advise use of contrasting colours on risk areas such as stairs. Ensure spectacles are cleaned regularly. Check for cataracts – test for diabetes & glaucoma. Ensure call bell is working & close to hand at all times	
Hearing	Rule out ear infection, remove wax from ears. Test hearing and correct or improve when possible. Discuss the use of visual cueing to improve communication. Hearing aid working?	Audiology / Specialist Hearing Therapist / Specialist sensory deficit Social Work team
Walking / Gait / Transfers	Discuss risk, ensure appropriate assessments. Check feet for poor nail care, and for any indication of poor circulation, and/ or neuropathy. Advise on modification of environment to reduce risk from cluttered areas.	Physiotherapist / Occupational Therapist / Falls Clinic / Day Hospital / Podiatry /Dr/ GP / community exercise classes
Balance	Discuss ways of moving safely. Ensure appropriate assessments and provision of equipment. Advice on modification of environment to reduce bending, twisting and over reaching. Exercise programme. Advise on appropriate supportive footwear	Physiotherapist / Occupational therapist / Falls clinic / Day hospital / Podiatry / GP /Dr/ community exercise classes
Environmental Hazards	Discuss and give information on risks around the home such as poor lighting, uneven surfaces, loose rugs and carpets. Remove obstacles from walk ways, reduce clutter. Suggest alarm systems (consider Telecare)	Occupational Therapist / community alarm schemes / Handyman service / Repair with Care
Cognitive function	Rule out acute confusional state caused by a medical condition, infection and/ or drug toxicity. Undertake basic MMSE or MEMES test. Minimize risk by assessing environment in line with agitation/confusion	GP / Geriatrician / CPN / Psychiatrist / Occupational Therapist

Problem	Intervention	Referral
Osteoporosis risk	Establish osteoporosis risk. Discuss diet. Ensure that they are on appropriate treatment / preventative medication. Discuss the role of exercise. Give appropriate literature and information on community groups such as the National Osteoporosis Society. See locally developed Guidelines for Management of Osteoporosis www.bhps.org.uk/falls Smoking habits? (smoking has toxic effect on bone tissue therefore smokers have greater risk of osteoporosis)	GP / Dietician / Physiotherapist / Community exercise group /stop smoking groups

Referral to a Falls Prevention Clinic

There are Falls Prevention Clinics in Bracknell, St Mark's Day Hospital and Upton Day Hospital. Criteria for referral (as per NICE 2004) are one or more of the following:

- Injured fallers following treatment at medical facility
- Multiple faller (more than one in last year)
- Single faller with established gait and balance problem (e.g. Get Up and Go test)
- Fall due to loss of consciousness
- Unexplained fall with apparent complex medical cause (s)

The patient should also be aged 65 or over, have no serious memory problem, able to mobilize with frame or walking stick and be willing to attend. Please discuss any patient who does not fall into these criteria with the falls clinic manager.

See Appendix 5 for a referral form sample. The referral form can also be found on the local falls website www.bhps.org.uk/falls.

References

Andresen G (1998) Assessing the Older Patient. *RN.* March 47-55

Bates, B.(1995) *A Guide to Physical Examination and History Taking. 6th ed.* Philadelphia. Lippincott Comp.

Bateman,M (1998) *Prevention of falls over 65*, Nursing Times August, Volume 94, No 32, p60

Beattie (1984) *The price of political awareness*, Paper for the Challenge of Choice Conference, St Bartholomea Hospital

Beattie A (1991) *Knowledge and Control in Health promotion, A test case for social Policy and Social Theory in Cabe J, Calman M and Bury M. The Sociology of Health* Service,London Routledge

Beers MH, Berkow R (2000) *The Merck Manual of Geriatrics*. Merck Research Laboratories, NJ

Berg K, Wood-Dauphinee SL, Williams JI, Maki B. Measuring balance in the elderly: validation of an instrument. *Canadian Journal of Public Health* 2 July 1992. Vol/is. 83(0-1), 00084263

Berkshire East PCT (2007) *Guidelines for Osteoporosis Management.* www.bhps.org.uk/falls

Black DM, Steinbuch M, Palermo l, Dargent-Molina P, Lindsay R, Hoseyni MS and Johnell O Assessment Tool for Predicting Fracture Risk in Postmenopausal Women *Osteoporosis International* 2001 12:519-528

Bonema J, Maddens M (1992) Syncope in Elderly Patients. *Postgraduate Medicine.* 91(1) 129 –136, 142-143.

Colledge N, Barr-Hamilton R, Lewis S, Sellar R, *Wilson* J (1996) Evaluation of investigations to diagnose the cause of dizziness in elderly people: a community based controlled study *BMJ* 313, 788-792

College of Occupational Therapists (2006) Falls Management (Guidance). London: COT

Cryer C, Patel S (2002) *Falls, Fragility & Fractures. National Service Framework for older people: The case for and strategies to implement a joint Health Improvement and Modernisation Plan for Falls and Osteoporosis*. Alliance for Better Bone Health

Darowski D (2008 a) Lecture Notes on "*Medicines and Falls*" Oxford John Ratcliffe Hospital.

Darowski D (2008 b) Lecture Notes on *"Cardiovascular Assessment"* Oxford John Radcliffe Hospital

Department of Health (2001) *National Service Framework for Older People.* London: DOH.

Department of Health (2003) *How can we help older people not fall again?* London: Department of Health Publications

Dinan S, Young A, *Activity in Later Life,* BMJ 22.01.2005,Volume 330, No 7484, p 189-191

Folstein, M. Folstein, S. McHugh, P. (1987) Mini-mental State: A Practical Method for Grading the Cognitive Status of Patients. *Journal of Psychiatric Research* 12. 189-198

Help the Aged (2007) Preventing Falls Policy Statement 2007. www.helptheaged.org.uk

Johnell O, Gulberg B, Allander JA, Kanis JA, the MEDOS Study Group (1992) The Incident of Hip Fracture in Europe: A Study of National Register Sources. *Osteoporosis International*, 2 pp 298-302

Kennedy-Malone, L. Fletcher, K. Plank, L. (2000) *Management Guidelines for Gerontological Nurse Practitioners.* Philadelphia. F.A. Davis Company.

McCance L, Huether S (1994) *Pathophysiology: The Biological Basis for Disease in Adults and Children.* St Louise Mosby.

McIntosh S, Da Costa D, Kenny RA.(1993) Outcome of an integrated approach to the investigation of dizziness**,** falls and syncope in elderly patients referred to a "syncope" clinic. *Age Ageing*;22: 53-8

Mosby (1998) Mosby's Medical, Nursing & Allied Health Professionals Dictionary . 5th Ed St Louis. Mosby.

Nandy S, Parsons S, Cryer C, Underwood M, Rashbrook E, Carter Y, Eldridge S, Close J, Skelton D, Taylor S, Feder G.(2004) Development and preliminary examination of the predeictive validity of the Falls Risk Assessment Tool (FRAT) for use in Primary Care . *Journal of Public Health* Vol.26 , No 2, pp 138-143

National Institute for Clinical Excellence (2004) *Falls: Assessment and Prevention of Fall in Older People* www.nice.org.uk/CG021NICEguideline (accessed Aug 2005)

National Institute for Clinical Excellence (2005a) TA 87 Bisphosphonates (alendronate, etidronate, residronate), selective oestrogen receptor modulators (raloxifene) and parathyroid hormone (teriparatide) for the secondary prevention of osteoporotic fragility fractures in postmenopausal women. www.nice.org.uk

National Institute for Clinical Excellence (2005b) Appraisal Consultation document:Alendronate, etidronate, residronate, raloxifene, strontium ranelate and teriparatide for the secondary prevention of osteoporotic fragility fractures in postmenopausal women. www.nice.org.uk

National Osteoporosis Society (2002) *Primary Care strategy for Osteoporosis and Falls* www.nos.org.uk (accessed Aug 2005)

National Osteoporosis Society (2006) *Osteoporosis facts and Figures v1.1.* www.nos.org.uk

National Patient Safety Agency (2007) *Slips, trips and falls in hospital*. London NPSA

Oliver D, Daly F, Martin FC, McMurdo MET (2004) Risk factors and risk assessment tools for falls in hospital in-patients: a sytematic review. *Age and Ageing* 33:122-130

Oliver D et al (2005) Prevention of falls in hospitals and care homes and in persons in those settings with cognitive impairment or dementia. Department of Health Accidental Injury Prevention Programme. In NPSA 2007

Pikna J, K (1998) *Concepts of Altered Health in Older Adults in Pathophysiology: Concepts of Altered Health Status***.** Edited by Porth C, M 5th ed. Philadelphia. Lippincott

Rang, H. Dale, M. Ritter, J. (1996) *Pharmacology* 3rd Ed. London: Churchill Livingstone.

Royal College of Physicians (2001) Osteoporosis Clinical Guidelines for Prevention and Treatment. www.rcplondon.ac.uk

Royal College of Physicians (2002) Glucocorticoid-induced osteoporosis - A concise guide to prevention and treatment www.rcplondon.ac.uk (accessed June 2007)

Smith R (1994) Validation and Reliability of the Elderly Mobility Scale. *Physiotherapy* 80, 744-747

The Treasury Department. *Securing Good Health for the Whole Population.* www.hm-treasury.gov.uk/media/7F4/00/Wanless04_ch5.pdf (accessed Aug 2005)

The University of York (2000) *The Economic Cost of Hip Fracture in the UK.* Paper commissioned by Health Promotion England. York University.

Tinetti ME (1986) Performance orientated assessment of mobility problems in elderly patients. *Journal of the American Geriatrics Society*, 34, 119-126

Vaughan D and Asbury T (1983) *General Ophthalmology*, Lange Medical Publications, California

Wybar K, Kerr Muir M (1984) *Ophthalmology* London: Bailiiere Tindall

Yardley L, Beyer N, Hauer K, Kempen G, Piot-Ziegler C, Todd C (2005) Development and initial validation of the Falls Efficacy Scale- International (FES-I) *Age and Ageing* ; 34: 614-619

Bibliography

American Geriatric Society, British Geriatric Society and American Academy of Orthopedic Surgeons Panel on Fall Prevention (2001) Guideline for the Prevention of Falls in Older people *JAGS* 49: 664 – 672 Online http://www.bgs.org.uk/acrobat%20files/JGS49115.pdf (Accessed Aug 2005)

Axford J (1996) Editor *Medicine* Oxford. Blackwell.

Oliver D, Britton M, et al (1997) Development and Evaluation of Evidence based Risk Assessment Tool (STRATIFY) to Predict Which Elderly Inpatients Will Fall: case-control and cohort studies. *BMJ* 315: 1049-1053

RCN *Clinical Practice Guidelines and Prevention of Falls in Older People* http://www.rcn.org.uk/publications/pdf/guidelines/CPG-assessmentPreventionofFallsOlderPeople.pdf

Queensland Government *Falls Prevention Best Practice Guidelines* online www.health.qld.gov.au/fallsprevention (Accessed Aug 2005)

The Merck Manuals online Medical Library. Eye Disorders. http://www.merck.com/mmpe/sec09/ch098/ch098a.html?qt=Snellen&alt=sh#sec09-ch098-ch098a-6 (accessed 13 August 2008)

Useful web sites

Bandolier→Vitamin D and Falls in the Elderly
http://www.jr2.ox.ac.uk/bandolier/band125/b125-5.html

Department of Trade and Industry→ Home Safety Network→ Falls
http://www.dti.gov.uk/homesafetynetwork/fl_intro.htm

East Berkshire Falls & Fracture Prevention - Access for your local up – to - date services and initiatives and links to other sites http://www.bhps.org.uk/falls/index.htm

Help The Aged→ Healthy Ageing→ Preventing Falls
http://www.helptheaged.org.uk/Health/HealthyAgeing/Falls/default.htm

Later Life Training
http://www.laterlifetraining.co.uk/Resources.html (this site will also point you to many others)

Appendix 1 **Falls Risk Assessment And Care Plan**

Berkshire East
Community Health Services

Name:	NHS No: ☐ ☐ ☐ ☐ ☐ ☐ ☐	Initial Assessment Date:

History:

Admitted Post Fall		
Date of Last Fall		
Recollection of Fall		
Location of Fall		
Able to get up		
Patient fearful of falling		

Contributing Factors:	**Yes**	**No**
Cognitive /behavioural impairment		
Visual impairment		
Hearing impairment		
Patient requires frequent toileting		
Poor mobility and/ or unstable gait and/ or needs assistance to walk		
Known to have Parkinson's disease or previous CVA		
No history of falls but has identified risk factors		

Yes to one or more of the above questions require a full assessment and individual care plan aimed at fall reduction/ prevention.

Refer to Falls and Fracture Prevention in Hospital Education Pack.

Written patient information given to support verbal falls reduction/prevention discussion? Yes / No

Medication:

Medication review to be completed if patient on 4 or more medications or on drugs which increase risk of falling.

Appendix 1 **Falls Risk Assessment And Care Plan**

Berkshire East
Community Health Services

Date /Time	Assessment	Signature
	Lying BP Standing BP Pulse / min Regular/ Irregular Does the person become dizzy on standing Yes/ No	
	MSU taken (date) Result:	
	Snellen vision test R Eye L Eye Read big print only Y/N Corrected (glasses or contact lenses) / uncorrected Registered partially sighted/ blind Y/N Glasses? Reading/ Distance/ Bi-varifocals	
	Alcohol intake Y/N Units per day	
	Cognitive function (please ring if appropriate) Agitated Confused Depressed Poor concentration Delirium MMSE score	
	Footwear safe Yes/ No	
	Inside Mobility Assessment: Able to move from room to room Y/N Able to up / down stairs Y/N Able to get on /off chair Y/N Able to get into/out of bed Y/N Able to turn into bed Y/N Move from lying to sitting Y/N Get on/off toilet or commode Y/N **Outside Mobility:** Able to leave/enter home Y/N Able to take short walks Y/N Able to take longer walks Y/N Able to use public transport Y/N Able to get into/out of car Y/N	
	Fragility Assessment (Black Tool) Yes/ No	
	History of Fragility Fracture? Yes/ No Black Tool Low Risk Medium Risk High Risk	

Appendix 1 **Falls Risk Assessment And Care Plan**

Berkshire East
Community Health Services

CARE PLAN	DATE	SIGN
Osteoporosis treatment commenced		
Full physiotherapist movement/strength assessment requested Completion date		
Full occupational therapist assessment requested Completion date		
Medication review		

Date/Time	Actions to address identified problems from assessment	Sign

Appendix 1 **Falls Risk Assessment And Care Plan**

Berkshire East
Community Health Services

Date /Time	Expected outcome	Sign

Date /Time	Evaluation	Sign

A P P E N D I X 2

Berkshire East
Community Health Services

Reflective account of a professional activity or event

Area of practice

Type of learning activity (reading, event, clinical practice etc)

Date of learning activity

Summary of main issues/topics covered

What have I learnt which is new to me?

How can I apply this to my practice?

What will I do differently now?

APPENDIX 2

Berkshire East
Community Health Services

What else do I need to do/know to extend my development in this area of practice?

How will I do this?

What difference will I be able to make to patient/client care?

How will I share my new knowledge with others?

Share this document with your manager and place a copy in your personal portfolio.

PATIENT FALLS INCIDENT REPORTING FORM

Berkshire East NHS Primary Care Trust

Definition of a Fall - An event whereby an individual comes to rest on the ground or another lower level with or without loss of consciousness (NICE 2004)

NHS number is essential to ensure duplication is avoided

PATIENT'S NAME			NHS Number			
Male / Female		Ethnic Group (circle)	White	Mixed Race	Chinese	Bangladeshi
Age		Indian / Pakistani	Black Caribbean	Black African	Black Other	Other
Location of Patient:			Admission Date (ward) or Date Referred:			
Person completing form:	Name		Job Title and Team			
	Signature		Date reported			

Exact Location of Fall:		Date of Fall:	
		Time of Fall:	
Brief summary of what happened:			

Severity of Fall (please circle)	LOW No / minor injury – low risk of recurrence	MEDIUM Minor / moderate injury – medium risk of recurrence	HIGH Serious injury – high risk of recurrence

CONTRIBUTING FACTORS		
Reporting Factors	Did you actually witness the fall?	YES / NO
	Were any staff with patient when fall occurred?	YES / NO
	Any additional comments on above factors:	
Environmental Factors	Buzzer / bell available to patient before fall?	YES / NO
	Was buzzer / bell in reach?	YES / NO
	Bed rails in use? (if fall from bed)	YES / NO
	Was bed set in lowest position? (if fall from bed)	YES / NO
	Was floor wet or dry?	WET / DRY
	Was footwear safe / suitable?	YES / NO
	Walking aid in use / in reach?	YES / NO
	Patient within view of nursing station?	YES / NO
	Any additional comments on above factors:	
Patient Factors	On Admission	
	Was the patient assessed for falls risk on admission?	YES / NO
	Date assessment completed?	
	Did the patient have a Falls care plan?	YES / NO
	Any additional comments:	
	Mental State	
	Delirium	YES / NO
	Dementia	YES / NO
	Agitation	YES / NO
	Confusion	YES / NO

Appendix 3		
	Sedation	YES / NO
	Fear of falling	YES / NO
	Other (please comment):	
	History of Falls	
	Is this the first time the patient has fallen since admission?	YES / NO
	If NO please give details including dates:	
	Medication	
	Do any of the patient's medications cause drowsiness, impaired balance, sleep disturbance, confusion or changes to pulse or blood pressure?	YES / NO
	If YES give details:	
	Has the patient had a medication review?	YES / NO
	Has the prescribing clinician been asked to review the medication *since the fall?*	YES / NO
	Patient Risk Factors Potentially Contributing to Fall (Was the patient suffering from any of the following at the time of the fall?)	
	Infection?	YES / NO
	Gait instability?	YES / NO
	Visual deficit / impairment?	YES / NO
	Lower limb muscle weakness?	YES / NO
	Orthostatic / postural hypotension?	YES / NO
	Syncope?	YES / NO
	Urinary incontinence or frequency?	YES / NO
	Poor sleep?	YES / NO
	Other (give details):	

Examination and Treatment of Patient Following Fall The patient should be examined, as soon as possible, by a doctor or medical practitioner. The examiner's comments should be recorded below.			
Examined by (name / job title):			
Date of examination:		Time of examination:	
Type of injury (specific):			
Further treatment / tests:			

TO BE COMPLETED BY WARD MANAGER OR TEAM LEADER:

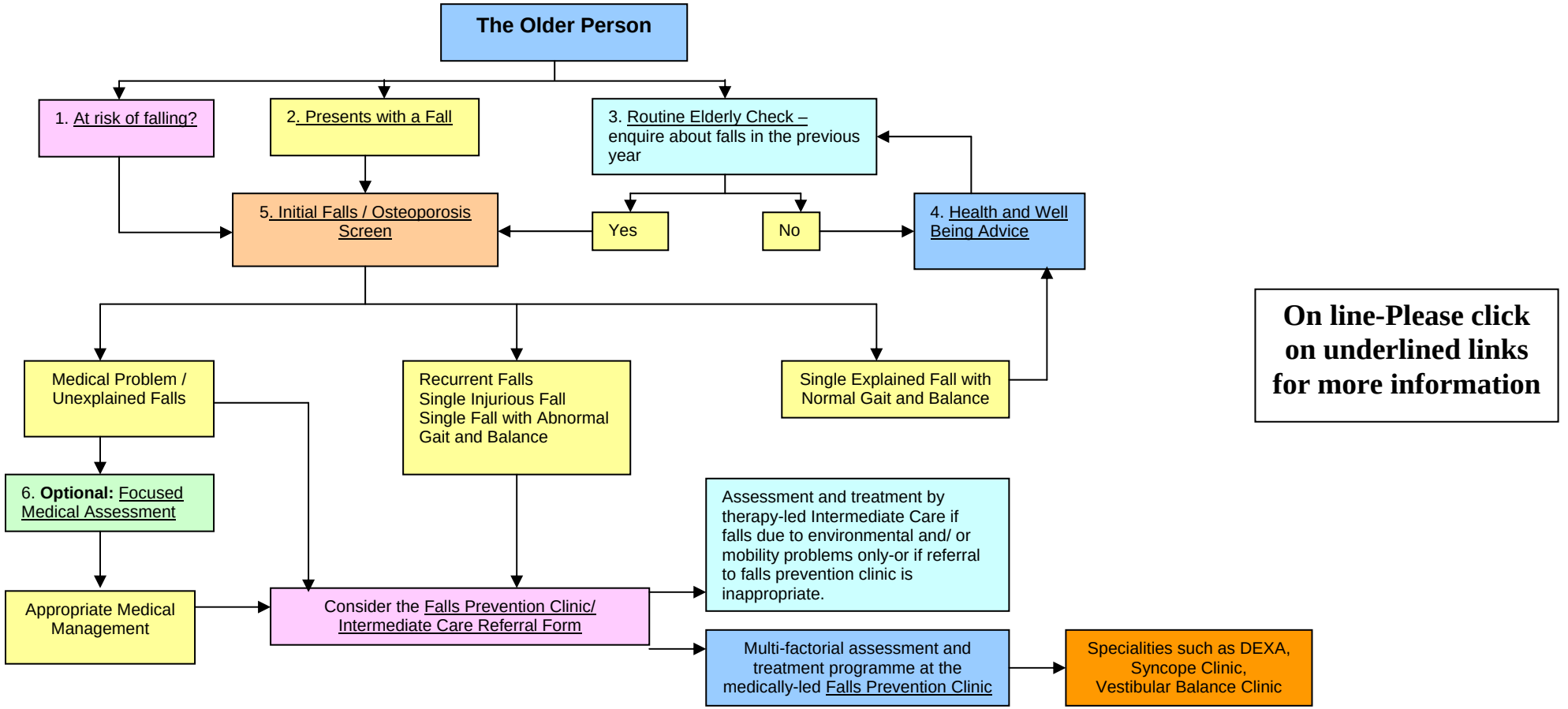
Risk of this happening again (please circle)	LOW	MEDIUM	HIGH
Using the factors you have identified above, what is the ACTION PLAN to reduce the risk of further falls for this patient?			

Has falls / fracture prevention information been given to this patient?	YES / NO	Date given:		Documented in notes?	YES / NO
Next of kin informed about this fall?	YES / NO	Date informed:			
Manager / Team Leader's Name:		Job Title:			
Signature:		Date:			

PLEASE RETURN COPIES OF THE COMPLETED FORM TO:

1. The Clinical Quality and Patient Safety Manager, 1st Floor, King Edward VII Hospital, Windsor, SL4 3DP
2. The Falls Co-ordinator, address as above.
3. Place a copy in the patient's notes.

East Berkshire Falls Pathway – APPENDIX 4



On line-Please click on underlined links for more information

Also see the local Falls Website: www.bhps.org.uk/falls

1. At risk of falling?

- History of previous fall?
- Fearful of falling?
- Frail and housebound?
- Lives alone?
- Long-term conditions?

2. Presents with a Fall

Definition of a fall:
"An event whereby an individual comes to rest on the ground or another lower level with or without loss of consciousness" (NICE 2004)

- Treat any injury due to a fall before an individual enters the falls pathway
- Treat any acute medical condition before an individual enters the falls pathway
- Consider engagement with carers

3. Routine Elderly Check

Older people in contact with health and social care professionals should be asked routinely (at least once a year) or as part of the Single Assessment Process, whether they have fallen in the past year and asked about the frequency and characteristics of the fall/s (NICE Clinical practice guideline for the assessment and prevention of falls in older people, 2004)

- Enquire about falls every 6-12 months
- Consider medication review (download)
- Advise routine eyesight test
- 'Healthy Bones' leaflet (download)
- 'Falls prevention' leaflet (download)

4. Health and Well Being

Give general advice about:

- Lifestyle (Physical and Mental Health)
- Alcohol awareness
- Smoking cessation
- Healthy Eating
- Home Safety / Housing
- Exercise
- Footwear
- Hearing and sight loss
- Avoiding risk
- Access to local sports / leisure facilities
- Information about local voluntary agencies
- Medication and falls risk

Guidance on some of the above may be obtained from the East Berkshire falls prevention website www.bhps.org.uk/falls

Or download:

- 'Healthy Bones' leaflet
- 'Falls prevention' leaflet

5. Initial Falls / Osteoporosis Screen

Basic screening by all:

- Take Falls History (download) (page 5)
- Falls Risk Assessment Tool (download)
- Black Osteoporosis Risk Assessment (download)

More in-depth:

- Physiotherapist: Check Gait and Balance: Get Up & Go (download); Tinetti tool (download)
- Occupational Therapist: Home hazard assessments: in development
- GPs, DNs, PNs: Consider Osteoporosis Risk (download)
- East Berks Osteoporosis Management guidelines in development- expected Autumn 2007
- District/ Practice Nurses:Falls Risk/ Osteoporosis Risk Nursing Assessment (download)
- Care Home assessment tool (download)

Medical Problem / Unexplained Fall/ Loss of consciousness
Refer to a local falls clinic

Recurrent falls / Single Injurious fall / Single fall with abnormal gait and balance
Refer to a local fall clinic

Single Explained Fall
If presenting with a single explained fall (eg clear slip on ice) with stable gait and balance, give Health and Wellbeing advice and review in 6-12 months

6. Focused Medical Assessment

For those who have suspected or confirmed blackouts, and those with unexplained falls, vertigo and dizziness

History from patient and witness

- Past Medical History including history of epilepsy, ischaemic heart disease, heart failure, diseases associated with autonomic neuropathy
- History of falls and blackouts
  - Frequency, circumstances and situation, description from witness
  - Prodromal symptoms- light-headed, dizziness, palpitations, chest pain
  - Post- event weakness, disorientation
- Drug History

Examination

- Pulse rate and rhythm
- Lying and standing blood pressure*
- Auscultate for aortic stenosis
- Sensory and motor neurological assessment
- Assess gait
- Anxiety / Depression

Basic Tests

U&E, FBC, B12, Calcium, LFT, RBG, TSH, 12 lead ECG, Urine dipstick and CXR as clinically indicated

* Measuring postural drop

- Lie patient flat for 5 minutes then take BP
- Stand patient and observe for postural sway and dizziness
- Record BP and any symptoms after 1 and 3 minutes of standing
- Record further if BP is falling after 3 minutes
- Observe for drop of Systolic BP by 20mmHg, diastolic by 10mmHg

APPENDIX 5

Berkshire East Community Health Services

East Berkshire Falls Service Referral Form

Client details Name: DOB: Address: Telephone no:	NOK/ Other contact: Name: Telephone no:
GP details: Name: Address: Telephone No:	English first language: Yes/ No Any safety considerations?
Social History: Any other services?	Medical History: Medication: Patient agreed to referral? Yes/ No Falls Clinic explained to patient? Yes/ No

Referral: **Routine** **Soon** **Urgent** (please circle)

Please explain if your request is urgent:

Brief description of Falls (*eg* indoors/ outdoors, possible cause etc)
Referrer details: Name/ Position: Telephone no: Signature: Date

PTO

Falls Clinic referral criteria:

If 'yes' is answered to any of questions 1-5, a referral to the medically led, multi-disciplinary Falls Clinic would be appropriate, providing all criteria in 6-9 are met. However, please discuss with the unit anyone who needs referral but does not meet the criteria (*eg* a person with dementia)

	Please tick as appropriate	**YES**	**NO**
1.	Injured faller-following treatment at medical facility		
2.	Multiple faller (more than 1 in last year)		
3.	Single faller with established gait and / or balance problem (*eg* by Get Up and Go Test)		
4.	Fell due to loss of consciousness		
5.	Unexplained fall with apparent complex medical cause(s)		
	Criteria For Falls Clinic (must meet all 4)		
6.	Aged over 65		
7.	No serious memory problem		
8.	Able to mobilise with frame or stick(s)		
9.	Willing to attend		

Referral to a Locality Falls Clinic- send or fax this form to:

Locality	**Telephone**	**Fax**	**Address**
Bracknell	01344-351450	01344-351441	Bracknell Forest Integrated Intermediate Care Services, Time Square, Market Street, Bracknell RG12 1JD
Windsor, Ascot and Maidenhead	01753- 638530	01753-638526	St Mark's Day Hospital, St Mark's Hospital, St Mark's Road, Maidenhead SL6 6DU.
Slough	01753-635354	01753-635447	Upton Falls Clinic, Upton Day Hospital, Albert Street, Slough SL1 2BJ.

Referral to Intermediate Care Team – send/ fax this form to:

If you believe that the falls are caused by mobility and/ or environmental hazards only and not medical reasons, or if a referral to the Falls Clinic is inappropriate please consider referring to the locality Intermediate Care Team.

Locality	**Telephone**	**Fax**	**Address**
Bracknell	01344-351450	01344 -351441	Bracknell Forest Integrated Intermediate Care Services, Time Square, Market Street, Bracknell RG12 1JD
Windsor, Ascot and Maidenhead	N/A	01628 -683573 (Mon - Fri 8.45 – 5.15 only)	Jayne Rigg or Jo Hackwood The Royal Borough of Windsor & Maidenhead Short Term Support and Rehabilitation Team York House Sheet Street Windsor SL4 1DD
Slough	01753- 476590	01753- 476595	Slough Intermediate Care Team, Dorchester Unit, Newbeech House, Long Readings Lane, Britwell, Slough SL2 1QP.

APPENDIX 6

FES-I Concern about Falling Questionnaire

We would like to ask some questions about how concerned you are about the possibility of falling. Please reply thinking about how you usually do the activity. If you currently don't do the activity (*eg* if someone does your shopping for you), please answer to show whether you think you would be concerned about falling IF you did the activity. For each of the following activities, please tick the box which is closest to your own opinion to show how concerned you are that you might fall if you did this activity.

		Not at all concerned 1	***Somewhat concerned 2***	***Fairly concerned 3***	***Very concerned 4***
1	Cleaning the house (*eg* sweep, vacuum or dust)	1 ☐	2 ☐	3 ☐	4 ☐
2	Getting dressed or undressed	1 ☐	2 ☐	3 ☐	4 ☐
3	Preparing simple meals	1 ☐	2 ☐	3 ☐	4 ☐
4	Taking a bath or shower	1 ☐	2 ☐	3 ☐	4 ☐
5	Going to the shop	1 ☐	2 ☐	3 ☐	4 ☐
6	Getting in or out of a chair	1 ☐	2 ☐	3 ☐	4 ☐
7	Going up or down stairs	1 ☐	2 ☐	3 ☐	4 ☐
8	Walking around in the neighbourhood	1 ☐	2 ☐	3 ☐	4 ☐
9	Reaching for something above your head or on the ground	1 ☐	2 ☐	3 ☐	4 ☐
10	Going to answer the telephone before it stops ringing	1 ☐	2 ☐	3 ☐	4 ☐
11	Walking on a slippery surface (*eg* wet or icy)	1 ☐	2 ☐	3 ☐	4 ☐
12	Visiting a friend or relative	1 ☐	2 ☐	3 ☐	4 ☐
13	Walking in a place with crowds	1 ☐	2 ☐	3 ☐	4 ☐
14	Walking on an uneven surface (*eg* rocky ground, poorly maintained pavement)	1 ☐	2 ☐	3 ☐	4 ☐
15	Walking up or down a slope	1 ☐	2 ☐	3 ☐	4 ☐
16	Going out to a social event (*eg* religious service, family gathering or club meeting)	1 ☐	2 ☐	3 ☐	4 ☐
Total score at start of programme					
Total score at end of programme					

FES-I: Prof Lucy Yardley and Prof Chris Todd