

Falls assessment and prevention; What does the evidence say?

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The public health problem

- People aged 65+ most at risk
- 30% of 65+ have at least 1 fall/year
- 50% of 80+ have at least 1 fall/year
- 90% of hip fractures result from a fall (Grisso et al., 1991)
- Inactivity leads to bone mineral loss
- A lifetime history of regular physical activity > 50% reduction in hip fracture risk

- Causes distress, pain, injury, loss of confidence, independence and mortality
- Wider effects on carers

- Cost the NHS £2.3 billion/year

NICE guidance 161





Risk/case ascertainment

- Older people routinely asked by healthcare professionals if they have fallen in past year
 - Frequency
 - Context
 - Characteristics
- Had a fall, recurrent fall, abnormal gait/balance
 - Offered multifactorial falls risk assessment
 - By skilled healthcare professional in e.g. specialist falls service
 - Offered a multifactorial, individualised, intervention



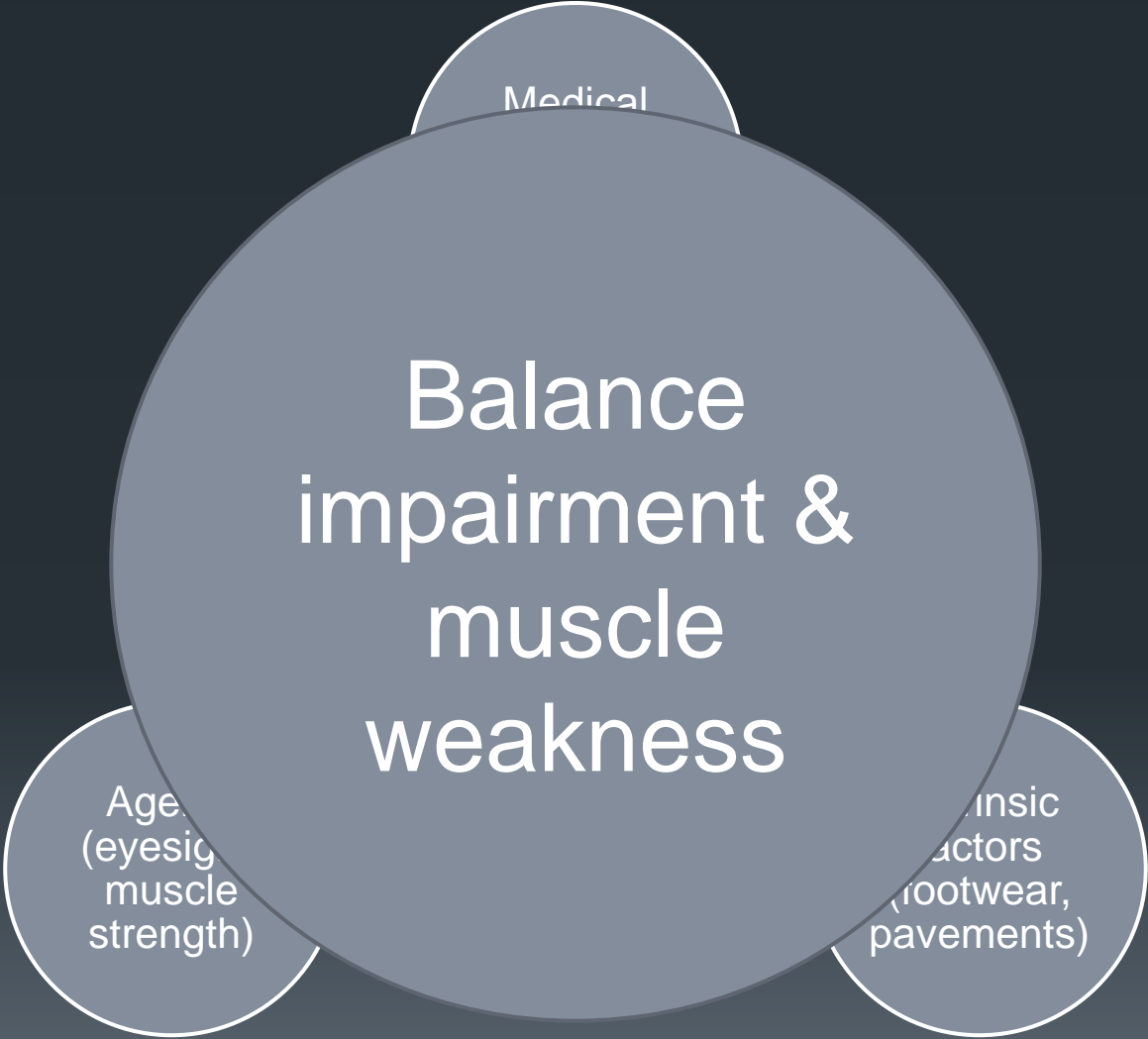
Multifactorial risk assessment

- Undertaken by a healthcare professional with appropriate skills and experience
- Normally in the setting of a falls service
- Includes assessment of:
 - Falls history
 - Gait, balance, mobility, muscle weakness
 - Osteoporosis risk
 - Perceived functional ability and fear of falling
 - Visual impairment
 - Cognitive impairment and neurological examination
 - Urinary incontinence
 - Home hazards
 - Cardiovascular examination
 - Medication review



Multifactorial intervention

- Medication review with modification/withdrawal
 - Including psychotropic medications
 - Cardiac pacing if appropriate
- Home safety or hazard assessment and intervention
 - Part of discharge planning
 - Timely
- Therapeutic exercise – strength and balance training
- Vision assessment and referral
- Information and advice to patient and carer(s)





Therapeutic exercise interventions

- Effective
 - 54% reduction (FaME group exercise) Skelton et al., 2005
 - 35% reduction (RCT, GP-led home based exercise programme) Campbell et al., 1997
- Scaled down doesn't work
- 'Dose' of 50 hours necessary (Sherrington et al., 2011 – meta-analysis)



But...need to be the right

- Type
- Duration
- Intensity



Type

- Strengthening leg and ankle muscles
- Balance
- Resistance training
- Standing
- Will be different for primary and secondary (more supported/targeted at muscle areas)



Frequency and duration

- Regular
- Frequent – 2-3 times/week ('in class' and at home)
- Minimum 50 hours – so ~ 6 months



Intensity

- Professionals trained to deliver
- Ensure progress

Programmes

Type	Falls prevention?	Details
Tai Chi, dancing, gardening	Primary	Younger adults, mild deficits
Otago and FaME/PSI	Secondary	Older people, higher risk
Chair based	No	Aim is to progress to being able to participate in falls prevention programme
Nordic walking, yoga	No	Maintains strength and balance (risk factors)

Not recommended by NICE (lack of evidence currently)

- Brisk walking
- Low intensity exercise with incontinence programmes
- Untargeted (not individually tailored) group exercise
- CBT
- Visual assessment alone
- Vitamin D prescribing
- Hip protectors



Hospital stays

Assessment

- people 65+ admitted into hospital should be considered for a multi-factorial assessment for risk of falling during their stay
- Also considered for community risk of fall
- Applies to 50+ if clinically appropriate
- Multifactorial assessment may include:
 - Cognitive impairment
 - Continence problems
 - Falls history and fear of falling
 - Footwear suitability
 - Health problems increasing risk
 - Medication
 - Posture, mobility and balance
 - Visual impairment
- Don't use risk prediction tools

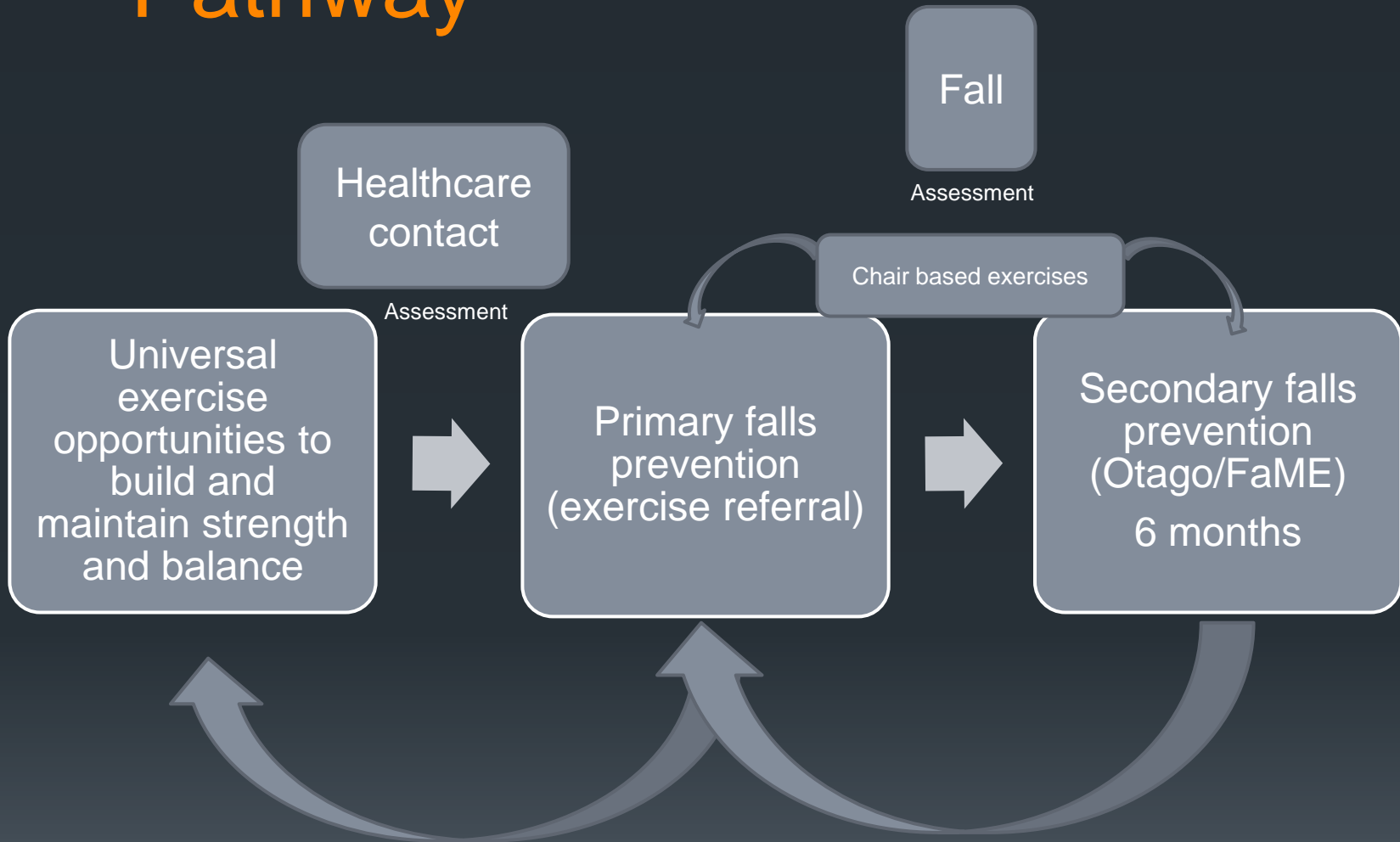


Hospital stays

Intervention

- Addresses risk factors identified
- Can the risk factors be treated, improved or managed during the stay
- Interventions need to be tailored
- Oral and written information
 - Risk factors
 - Using the nurse call system
 - Use of bed rails
 - Ask for help before getting up/moving about
 - Share information across services

Pathway





Consider

- Referral for exercise programmes – who can refer?
Housing? OTs? Physio? Self/carer referral?
- Falls service – who carried out assessments?
- Training needed
- Where? Community (own home), secondary and extended care
- Outcome measures (e.g. Timed Up and Go; Tinetti balance assessment tool; fear of falling; Sit to Stand; Functional Reach)