Occupational therapy in the prevention and management of falls in adults *Practice guideline*

College of Occupational Therapists

Quick Reference Guide

The Quick Reference Guide provides a summary of the recommendations in the College of Occupational Therapists practice guideline ***Occupational therapy in the prevention and management of falls in adults*** (COT 2015). It is intended to be used by practitioners as an easily accessible reminder of the recommendations for intervention. It should ideally be used once the practitioner has read the full guideline document. This is important to ensure an appreciation and understanding of how the recommendations were developed and their context.

The full practice guideline together with implementation resources can be found on the College of Occupational Therapists website: http://www.cot.co.uk/library-publications/cot-publications/practice-guidelines.

College of Occupational Therapists (2015) *Occupational therapy in the prevention and management of falls in adults.* London: COT.

1. Introduction

The objective of this practice guideline is to provide evidence-based recommendations that inform occupational therapists, working with adults who have fallen, are at risk of falling or are fearful of falling, of their role within the multifactorial assessment and intervention required to prevent and manage falls. The recommendations are intended to be used alongside the therapist's clinical expertise in their assessment of need and implementation of interventions. The occupational therapist is, therefore, ultimately responsible for the interpretation of the evidence-based guideline in the context of their specific circumstances and service users.

It is intended that occupational therapists use this guideline to inform their work with service users, with a particular focus on empowering the service user to fully engage and take responsibility for achieving individual goals. It should furthermore inform work with carers and people who support adults who have fallen or are at risk of falls. This may be particularly pertinent when the service user has a cognitive impairment. The application of this guideline will also inform the commissioning and delivery of evidence-based services.

This resource provides a quick reference to the guideline recommendations, together with tables outlining the nature of the strength and quality grading categories of the recommendations. Extracts from the full guideline document on the background to the clinical condition and an overview of the occupational therapy role are also provided. Evidence-based recommendations are, however, not intended to be taken in isolation and must be considered in conjunction with the contextual information, and full guideline development methodology, described in the practice guideline document, together with current versions of professional practice documents, of which knowledge and adherence is assumed (COT 2015, p10).

The studies from which the recommendations were developed are outlined in the full guideline in evidence tables (Appendix 6). Over half of the 33 items of evidence from which the recommendations were developed were assessed as being high or moderate quality studies. 24.3% of the evidence

was graded as high (A), 33.3% as moderate (B), 39.4% as low (C) and 3.0% as very low (D) quality. All 15 recommendations are graded as strong. The overall grade of a recommendation is depicted in the guideline with a numerical, then alphabetical grade to reflect the strength of the recommendation and quality of the evidence (e.g. 1A – strong recommendation, high quality).

Research priorities identified during the development of the guideline are outlined in the full guideline document (COT 2015, p56).

2. Guideline recommendations

The recommendations are based on the synthesis of the best available evidence. It should, therefore, be noted that the guideline is not able to be fully reflective of the role of occupational therapy in the prevention and management of falls.

The three recommendation categories reflect key aspects of occupational therapy in the prevention and management of falls in adults:

i. Keeping safe at home: reducing risk of falls.
ii. Keeping active: reducing fear of falling.
iii. Falls management: making it meaningful.

Keeping safe at home: reducing risk of falls ***It is recommended that:***	
1. Service users who have fallen or are at risk of falls should be offered an occupational therapist-led home hazard assessment, including intervention and follow-up, to optimise functional activity and safety. *(Campbell et al 2005 [A]; Clemson et al 2008 [A]; Clemson et al 2004 [A]; Costello and Edlestein 2008 [B]; Gillespie et al 2012 [A]; La Grow et al 2006 [A]; Nikolaus and Bach 2003 [A]; Pighills et al 2011 [A])*	1A
2. Occupational therapists should offer home safety assessment and modification for older people with a visual impairment. *(Campbell et al 2005 [A]; Clemson et al 2008 [A]; Gillespie et al 2012 [A]; La Grow et al 2006 [A])*	1A
3. Occupational therapists should consider carrying out a pre- or post-discharge home assessment to reduce the risk of falls following discharge from an inpatient rehabilitation facility, taking into account the service user's falls risk, functional ability and diagnosis. *(Di Monaco et al 2012 [B]; Di Monaco et al 2008 [B]; Johnston et al 2010 [C])*	1B
4. Occupational therapists should offer service users who are living in the community advice, instruction and information on assistive devices as part of a home hazard assessment. *(Steultjens et al 2004 [B])*	1B

Evidence overview
The evidence with respect to the effectiveness of the occupational therapist in home hazard assessments and interventions for people considered at high risk of falls (history of falling in past year, hospitalisation for a fall, severe visual impairment or functional decline) is both high quality and strong (COT 2015, p37).

Keeping active: reducing fear of falling

It is recommended that:

5. Occupational therapists should explore with service users whether fear of falling may be restricting activity, both in and outside the home, and include the promotion of occupational activity within individualised intervention plans. *(Boltz et al 2013 [C]; Kempen et al 2009 [C]; Painter et al 2012 [C]; Wijlhuizen et al 2007 [C])*	1C
6. Occupational therapists should listen to an individual's subjective views about their falls risk, alongside using objective functionally based outcomes, to determine the influence of fear of falling on the service user's daily life. *(Schepens et al 2012 [B]; Wijlhuzen et al 2007 [C])*	1B
7. Occupational therapists should seek ways of enabling service users to minimise the risk of falling when performing chosen activities, wherever possible, as this may improve confidence and enable realistic risk taking. *(Wijlhuzen et al 2007 [C]; Zijlstra et al 2007 [B])*	1B
8. Occupational therapists should facilitate caregivers, family and friends to adopt a positive approach to risk. *(Boltz et al 2013 [C])*	1C

Evidence overview

The evidence on fear of falling highlights the integral link between fear and activity levels. Although reducing the number of falls may be a key outcome for falls prevention activities, the potential to restrict activity as a behavioural response to fear of falling can be to the detriment of activities of daily living and occupational engagement. People have different attitudes and levels of tolerance to risk. The occupational therapist therefore has a valuable role in working with service users, caregivers, family and friends to achieve a balance of risk and activity (COT 2015, p42).

Falls management: making it meaningful

It is recommended that:

9. Occupational therapists should share knowledge and understanding of falls prevention and management strategies with the service user. This should provide personally relevant information and take account of the service user's individual fall risk factors, their lifestyle and preferences. *(Ballinger and Clemson 2006 [C]; de Groot and Fagerström 2011 [C]; Haines et al 2006 [C]; Haines et al 2004 [B]; Stern and Jayasekara 2009 [B])*	1B
10. Occupational therapists should take into account the service user's perceptions and beliefs regarding their ability, and personal motivation, which may influence participation in falls intervention. *(de Groot and Fagerström 2011 [C]; Gopaul and Connelly 2012 [D]; Nyman 2011 [C])*	1C
11. Occupational therapists should maximise the extent to which the service user feels in control of the falls intervention. *(Currin et al 2012 [C]; Wilkins et al 2003 [C])*	1C

12. Occupational therapists should support the engagement of the service user in identifying the positive benefits of falls intervention. *(Ballinger and Clemson 2006 [C]; Nyman 2011 [C])*	1C
13. Falls prevention and management information should be available in different formats and languages to empower and engage all populations (e.g. web-based support, written information leaflets). *(Hill et al 2009 [B]; Nyman et al 2011 [C])*	1B
14. Physical and social activity, as a means of reducing an individual's risk of falls and their adverse consequences, should be encouraged and supported through the use of activities meaningful to the individual. *(Rosendahl et al 2008 [B])*	1B
15. Activities to improve strength and balance should be incorporated into daily activities and occupations that are meaningful to the individual, to improve and encourage longer-term participation in falls prevention interventions. *(Clemson et al 2012 [A]; Clemson et al 2010 [B]; Pritchard et al 2013 [B])*	1A

Evidence overview

Occupational therapists should maximise the engagement of the service user in falls management interventions, taking into consideration the service user's motivation, beliefs and knowledge.

A key message to be incorporated into falls prevention and management interventions is a focus on the potential benefits to the individual of interventions to improve mobility, independence and active participation, as distinct to the language used within the professional arena of 'reducing the incidence of falls' or 'decreasing the risk of falls'. Service users should be made aware of the potential implications of falling, but occupational therapists should highlight the positive outcomes rather than the negative connotations associated with falls.

Meaningful activity can be integrally linked with motivation. Physical activity which can be incorporated into daily lifestyles is more likely to be sustainable; there is a key role here for occupational therapists given this functional approach. The value of such an occupational and activity-based approach is supported by the high-quality research by Clemson and colleagues. Although the primary research for the LiFE approach was undertaken in Australia (Clemson et al 2012, Clemson et al 2010), potentially it is easily translatable to the United Kingdom (COT 2015, p48).

It is recommended that occupational therapists participate in national and local audit of falls prevention services, and use the tool which is available to support this guideline to undertake audit against the above recommendations.

Information about organisational and financial barriers that may impact on an occupational therapist's ability to implement the recommendations are outlined in the full guideline (COT 2015, pp53-54)

3. Background to clinical condition

Falls may occur at any age, but the combination of risk factors means that whilst falls are not an inevitable part of ageing, they are more likely to occur with increasing age.

A key stage of any falls pathway for older people is to identify those who may be at risk of falling. Guidance within all four countries of the UK recommend that older people who are in contact with healthcare professionals should be asked about falls experienced in the previous year and, if

relevant, the frequency, context and characteristics of those falls (DHSSPNI 2013, NHS Quality Improvement Scotland 2010, NICE 2013a).

The interpretation of the evidence base for falls risk factors is often confounded due to the variety of study designs employed and heterogeneity of the older population. Studies have, however, identified some people who at higher risk of falls, including people with dementia, people with learning disabilities and older people with sight loss.

Although most falls do not result in serious injury, the negative outcomes of a fall are considerable and can include: 'psychological problems (for example, a fear of falling and loss of confidence in being able to move about safely); loss of mobility, leading to social isolation and depression; increase in dependency and disability; hypothermia; pressure-related injury and infection' (NICE 2013a, p26). The costs of rehabilitation and social care are great, with up to 90% of older patients who fracture their neck of femur while hospitalised failing to recover their previous level of mobility or independence (Murray et al 2007).

The importance of a comprehensive multifactorial falls risk assessment to identify the factors pertinent for an individual must be emphasised. NICE recommends that older people should be offered such an assessment if they present for medical attention because of a fall, if they report recurrent falls in the past year, or if they demonstrate abnormalities of gait and/or balance (NICE 2013a).

4. The occupational therapy role

Occupational therapy intervention with adults who have fallen, are at risk of falling or who are fearful of falling occurs in a wide range of settings in health, social care, voluntary and independent sectors, including hospitals, people's own homes, care homes, day centres and prisons.

The person-centred and holistic philosophy of occupational therapy underpins the recommendations within this guideline. The purpose of occupational therapy is to enable people to fulfil, or to work towards fulfilling, their needs and wishes in their lives. Occupational therapy provides practical support to enable people to overcome any barriers that prevent them from doing the activities (occupations) that matter to them. This helps to increase people's independence and maintain their dignity and satisfaction in all aspects of life. 'Occupation' refers to practical and meaningful activities that allow people to achieve their wishes and meet their needs. This could be essential day-to-day tasks such as getting dressed, work related activities, or leisure and hobbies.

Clinical reasoning must take account of individual preferences and needs, including the complexities of treating people with multiple pathologies and people with cognitive or emotional disorders, dementia and learning disabilities.

Occupational therapists consider the person, their environment and their occupation (Law et al 1996). These three domains have an alignment with the risk factor categories for falls: intrinsic (person), extrinsic (environment) and behavioural (occupation). Embracing the three means that occupational therapy falls prevention and management intervention maximises the potential to impact positively on an individual's ability to carry out daily activities ('occupational performance').

The occupational therapy role in falls prevention and management may include, but is not necessarily limited to, the key areas described in the sections below:

Identification of those at risk
Identifying those at risk is in line with NICE Clinical Guideline 161 which states that 'older people in contact with healthcare professionals should be asked routinely whether they have fallen in the past year and asked about the frequency, context and characteristics of the fall/s' (NICE 2013a, p11).

Falls, osteoporosis and osteoporotic fractures are inextricably linked, and occupational therapists should therefore be aware of higher-risk groups, the importance of diet, medication and (bone loading) physical activity, applying, as appropriate, any associated clinical guidance (NICE 2012, SIGN 2003).

NICE identifies 'older people' as those aged 65 and over, but in the case of hospital admissions also includes people aged 50-64 years who are deemed at risk of falling due to an underlying condition. Occupational therapists work with adults of all ages, who may be at risk or fearful of falling in a variety of settings, such as people living with Parkinson's who are at increased risk of falling due to postural instability, impaired balance, reduced saving reactions, visuospatial disturbances and difficulties with tasking (Aragon and Kings 2010, p34); people who have had lower limb amputations (COT 2011); and people undergoing total hip replacement (COT 2012). The occupational therapist, therefore, needs to be able to identify an individual's risk factors for falls, including those factors that can and cannot be modified.

Assessment of performance and function
Occupational therapists contribute to a number of the elements of a multifactorial assessment, notably with respect to the 'assessment of perceived functional ability and fear relating to falling', and 'assessment of home hazards' (NICE 2013a, p13).

Assessment includes an individual's ability to perform activities of daily living that they need or wish to perform independently and safely (e.g. getting dressed, cooking a meal, walking outside), roles (e.g. returning to work, caring for another person), social and psychological considerations, cognition, fear and confidence, and mental capacity.

Interventions and treatment plans
Interventions include positive risk-taking in activity, maximising functional performance, improving self-confidence and social engagement. Environmental advice and modification to reduce home hazards, education and practice in safe moving and handling, with provision of equipment as required, are also appropriate. All interventions should promote independence and personal safety. Reablement, where indicated, will involve working with support workers to resume activities of daily living and occupational roles (Social Care Institute for Excellence [SCIE] and COT 2011).

Occupational therapy intervention for falls may be in the context of condition management strategies. A pilot study in Australia examined the potential for the inclusion of occupational therapy and physiotherapy services within chronic disease management plans in the primary care setting; results demonstrated encouraging outcomes for reducing falls risk (Mackenzie and Clemson 2014).

Self-management strategies
Falls prevention education and information for service users should be congruent with the NICE clinical guideline (NICE 2013a). Information should include actions or behaviours the service user can utilise to prevent further falls; how to stay motivated if referred for falls prevention intervention that includes exercise or strength and balancing components; the preventable nature of some falls; the physical and psychological benefits of modifying falls risk; and where to seek further advice. Where a service user requires assistance to implement self-management strategies (e.g. as a consequence of a poor level of risk awareness due to cognitive impairment or learning disability), there is a role for occupational therapists in supporting the person's carers and family. Occupational therapists have a key role in signposting to falls prevention advice and support available locally and nationally.

Contingency planning for the management of future falls which may occur should be explored. This may include advice and practice, where appropriate, on how to summon help and how to avoid the consequences of a 'long lie'. Occupational therapists should help the service user to identify behaviours which may increase the risk of falls and assist with behaviour change to reduce those risks.

Telecare (technology such as a pendant alarm to summon assistance, or remote monitoring via items such as a falls detector) is an option which may be explored in the context of self-management. The evidence remains mixed with regard to telecare outcomes and cost-effectiveness (Henderson et al 2013, Steventon et al 2013). Qualitative studies have identified that when sensitively tailored to the needs of the individual, telecare has the potential to increase confidence and reduce fear of falling (Horton 2008, Stewart et al 2012). The use of technology is likely to be influenced by intrinsic factors associated with an individual's attitude, choice, control, independence and perceived need for safety measures (Hawley-Hague et al 2014).

Outcome measures
Occupational therapists working in partnership with people who fall, are at risk of falling or are fearful of falling should evaluate the effectiveness of their intervention. This means ensuring that appropriate standardised assessment tools are used as a baseline from which change can be measured (COT 2014), seeking the views of individuals and carers regarding the effectiveness of the intervention, and documenting the process and results of assessments and interventions. Records and outcome measures should be used to ensure that progress is made towards the agreed goals and objectives (COT 2006, COT 2013a).

The College of Occupational Therapists Specialist Section-Older People Falls Clinical Forum provides an opportunity for occupational therapists to review and discuss current evidence and practice in relation to standardised assessments for falls.

Staff education and training
Occupational therapists provide a crucial contribution to the education and training of other staff working in falls prevention, and support the delivery of the NICE recommendation that 'all healthcare professionals dealing with patients known to be at risk of falling should develop and maintain basic professional competence in falls assessment and prevention' (NICE 2013a, p16). In addition to traditional health care settings, the occupational therapist has an important role in working with and training staff in care homes (COT 2013b), and care workers delivering home care services and reablement (SCIE and COT 2011).

Improving health and wellbeing
Improving health, wellbeing and independence, including reducing falls, is a public health priority (DH and Public Health England 2014). It is important, therefore, to note that it is being increasingly recognised that allied health professionals 'have the potential to add to virtually every public health priority' (Hindle 2014). Public health guidance also identifies that occupational therapists have a valuable contribution in promoting mental wellbeing through physical activity interventions (NICE 2008). The public health guidance complements and supports the falls guideline (NICE 2013a) and occupational therapists should therefore explore and support opportunities for service users to participate in appropriate physical activity. Occupational therapists should also take into account potential health inequalities and any social determinants of health, which may be appropriate to the provision of services. In falls prevention and management, this can be addressed specifically through maximising individual capacity and control over life and strengthening the role and impact of ill health prevention (Marmot 2010, p15).

Multidisciplinary working
The multifactorial nature of falls prevention and management strategies means that working as an effective team member is vital. It is recognised that as part of a multidisciplinary team, there may be some key areas of assessment and intervention that overlap with the role of other health and social care personnel. Where an occupational therapist is unable to provide the required intervention, the service user should be referred to an appropriate service to meet his or her needs (COT 2006, p10).

Occupational therapy staff must work alongside other professionals in accordance with local service arrangements, to ensure the needs of the service user are met. Good communication across the primary and secondary care interface, and between health, social care, the independent and voluntary sectors, is imperative.

Summary
Health and social care services continue to move forward at pace. The move towards integrated working, generic roles, and multidisciplinary teams, means it is important that the role of different professions and team members are clearly understood. This is vital to ensure that service users can benefit from the range of expertise available to them and that specialist skills are utilised effectively in falls prevention and management services.

This guideline provides evidence-based recommendations for occupational therapists delivering services. It also sets out to increase understanding about the role of occupational therapy in the prevention and management of falls. In the context of the impact of falls and fractures on the individual, and the resulting treatment costs across the whole health and social care system (NICE 2013b, Tian et al 2013), the inclusion of occupational therapists as core members of falls prevention and management services should be considered by managers and commissioners as cost-efficient (COT 2015, p28-31).

5. Recommendation Grade Guide

Strength of grade (after Guyatt et al 2008)

Strength	Grade	Benefits and risks	Implications
Strong	1 'It is recommended...'	Benefits appear to outweigh the risks (or vice versa) for the majority of the target group.	Most service users would want or ***should*** receive this course of intervention or action.
Conditional	2 'It is suggested….'	Risks and benefits are more closely balanced, or there is more uncertainty in likely service user values and preferences.	The majority of service users would want this intervention but not all, and therefore they should be supported to arrive at a decision for intervention consistent with the benefits and their values and preferences.

GRADE quality of evidence grading (after GRADE Working Group 2004)

Quality of evidence	Grading	Characteristics	Confidence
High	A	Based on consistent results from well-performed randomised controlled trials, or overwhelming evidence of an alternative source e.g. well-executed observational studies with strong effects.	True effect lies close to that of the estimate of the effect. Further research very unlikely to change confidence in the estimate of the effect.
Moderate	B	Based on randomised controlled trials where there are serious flaws in conduct, inconsistency, indirectness, imprecise estimates, reporting bias or some other combination of these limitations, or from other study designs with special strengths.	True effect likely to be close to the estimate of the effect, but there could be a substantial difference. Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.
Low	C	Based on observational evidence, or from controlled trials with several very serious limitations.	True effect may be substantially different from the estimate of the effect. Further research very likely to have an important impact on confidence in the estimate of the effect and is likely to change the estimate.
Very low	D	Based on case studies or expert opinion.	Any estimate of effect is very uncertain and may be far from the true effect.

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