**Practice In depth**

**KEYWORDS** LEARNING DISABILITY | FALLS | RISK FACTORS

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**Falls in people with learning disabilities: what are the risk factors and prevention strategies?**

Falling is a common and disabling problem for people with learning disabilities. Nurses play an essential role in reducing the incidence of falls and related injuries.

**INTRODUCTION**

Falling is a common cause of physical injury and impaired quality of life for people with learning disabilities. About 2% of the population have a learning disability and, according to Finlayson et al. (2010), their risk of falling is perhaps three times higher than in the general population.

Data suggest that over a 33 month period more than half of people with a learning disability who live in residential facilities will have a fall and a third of these falls will result in injury (Wagemans and Cluitmans, 2006).

People living in the community are also at risk. A recent Scottish study found that 41% of community-based adults with a learning disability had experienced a fall in the previous 12 months (Finlayson et al, 2010).

The impact of falls is wide ranging. Bruckner and Herge (2003) noted that they can result in institutionalisation, increased incidence of injury, higher healthcare costs, heightened fear of falls and reduced physical activity. This has important implications for public health and highlights the need for a greater understanding of the risk factors associated with falls and how they can be prevented.

Although falls and their prevention have been extensively examined in the general population (Gillespie, 2004), there is a lack of evidence relating to people with learning disabilities. This article discusses and updates findings from a recent review, which examined the risk factors and management strategies for falls in people with learning disabilities (Willgoss et al, 2010).

**PRACTICE POINTS**

1. Work closely with carers and the rest of the multidisciplinary team to identify those at greatest risk.
2. Educate individuals and their carers about simple strategies for reducing falls and the impact of a fall.
3. Carry out a risk assessment to identify environmental hazards, which are likely to cause falls and reduce the chance of injury.

**RISK FACTORS FOR FALLS**

Understanding who is at the highest risk is an important step towards preventing falls and fall-related injuries. Research in the general population has established a number of risk factors associated with falling, including gait instability, confusion, and “culprit” medications such as sedatives (Oliver et al, 2004). At present only a handful of studies have been conducted which are specific to people with learning disabilities; these have identified a number of risk factors (Table 1.)

**Age**

Age appears to be an important risk factor in people with learning disabilities, with older individuals at greater risk of falling (Hsieh et al, 2001). Although this may seem obvious, it is particularly prominent in this population because life expectancy for people with learning disabilities is dramatically increasing (Cooper et al, 2004). It is predicted that the number aged over 60 will increase by 36% between 2001 and 2021 (Foundation for People with Learning Disabilities, 2007).

People with learning disabilities may experience early onset age-related degenerative changes (perhaps as early as 35 years). Developmental disability related osteoporosis is similar to postmenopausal osteoporosis and leads to reduced bone mineral density. The condition is commonly

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**TABLE 1. RISK FACTORS FOR FALLS IN PEOPLE WITH LEARNING DISABILITIES**

<table>
<thead>
<tr>
<th><strong>INTRINSIC</strong></th>
<th><strong>EXTRINSIC</strong></th>
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<tbody>
<tr>
<td>Increased age, psychopathologies, epilepsy, increased levels of mobility, ataxia, and gait abnormalities, absence of Down’s syndrome, urinary incontinence</td>
<td>Psychotropic medication, epileptic medication, time of year (autumn or winter)</td>
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found in younger men and women with learning disabilities (Glick et al, 2005). These degenerative changes may mean they are predisposed to falling at a younger age (Connolly, 1998).

**Epilepsy**

Evidence suggests those with epilepsy are at higher risk of falls. The estimated prevalence of epilepsy in people with moderate to profound learning disabilities is about 25%, compared with 0.5% in the general population (Lhatoo and Sander, 2001). The frequency of seizures has been associated with the risk of falling, both in the general population (Dickema et al, 1993), and in people with learning disabilities (Hsieh et al, 2001). Epileptic seizures often lead to serious injuries, notably fractures and head injuries.

**Mobility**

In the general population, people with impaired mobility are often at greatest risk of falls. Conversely, it appears that those with a learning disability who are the most mobile are also more likely to fall (Wagemans and Cluitmans, 2006). This may be because many subjects in studies are non-ambulatory and therefore may have fewer opportunities to fall. Others have suggested that less mobile individuals may be protected by their carers from hazards and situations in which a fall may occur.

A worrying finding is that people who are non-ambulatory or wheelchair users also have a high incidence of falls. In one study 67% of regular wheelchair users experienced a fall over a 33 month period (Wagemans and Cluitmans, 2006). This highlights the potential hazards associated with wheelchair use and the risks of everyday procedures such as transfers. People who usually use a wheelchair for mobility may be at increased risk of falling when walking.

Ataxia and abnormal gait patterns have also been identified as risk factors for falling (Bruckner and Herge, 2003). Impairments in coordination and gait are common in people with learning disabilities but identifying these abnormalities can be challenging. For example, few objective scales are validated to measure ataxia and gait in people with learning disabilities. Current evidence is based primarily on subjective findings and must therefore be treated with caution.

**Behavioural issues**

Evidence suggests that psychological disorders are a major risk factor for falls in people with learning disabilities. One study found that those with a clinical psychopathology were two and a half times more likely to sustain an injury – including injuries associated with falling – as those without (Sherrard et al, 2002). Behavioural problems such as movement impulsiveness, distractibility and hyperactivity are strongly linked to falls, and those with behavioural disorders such as attention deficit hyperactivity disorder (ADHD) may be at particularly high risk. Hale et al (2007) suggested that theremay be a link between being easily distracted and falling in an environment that requires more focused attention on balance.

**Down’s syndrome**

A recent study from Scotland found people with Down’s syndrome had a reduced risk of falls (Finlayson et al, 2010). Possible reasons may include slower walking pace and a lower centre of gravity due to a more endomorphic body shape.

**Incontinence**

Mixed incontinence (urge and stress) has been identified as a risk factor for falls in the general population (Takazawa and Aritaawa, 2005). For people with learning disabilities, urinary incontinence of any type (but not bowel incontinence) has been found to be a risk factor (Finlayson et al, 2010). The reasons for this increased risk are not clear; however, some have suggested that urge incontinence may be particularly hazardous as individuals might trip as they rush to the bathroom (Brown et al, 2000). Further research is needed to establish the relative risks of specific types of incontinence in people with learning disabilities.

**EXTRINSIC RISK FACTORS**

"Culprit" medications

Several medications are known to increase the risk of falls. Specific “culprit” medications are notoriously difficult to identify because dosages and combinations of medication will vary. However, certain groups of medication have been highlighted as posing a particularly high risk. One such group is anti-epileptic drugs, which have been found to be an independent risk factor for falls (Wagemans and Cluitmans, 2006); their side effects include drowsiness and dizziness. Some anti-epileptic drugs have been linked with decreased bone density, which may increase the risk of fractures (Ensrud et al, 2004).

Psychotropic medication may also increase the risk of falls; again this may be related to the side effects of specific medications, such as dizziness associated with stimulant medications for ADHD. Psychotropic drugs have been found to be a risk factor for injury in people with learning disabilities and a trend has also been observed that links them with falls (Hsieh et al, 2001). Additional research is needed to establish the risks of psychotropic medications in people with learning disabilities and to identify which groups of medications may be most culpable.

**Time of year**

A recent study of carers’ views found a connection between the time of the year and the incidence of fall-related injury. The study suggested people were more likely to be injured from a fall in the autumn and winter when the weather was bad (Findlayson et al, 2010).

**RECOMMENDATIONS FOR MANAGEMENT**

Falls management requires a person-centred, holistic approach. Considerable attention has been given to falls management in the general population; however, it remains a neglected area in people with learning disabilities. Recommendations aimed at preventing falls for nurses and other healthcare professionals who care for people with learning disabilities are outlined in Box 2.

**ENVIRONMENT MANAGEMENT**

Awareness of the environment is an important strategy for both preventing and reducing the impact of falls. Risk assessment will identify environmental hazards that are likely to cause falls and inform prevention strategies. For example, removing trip hazards such as rugs, cleaning up spillages and ensuring walkways are clear are simple yet effective ways of minimising the risk of falls indoors. For people who are mobile outdoors, awareness of weather conditions is vital and interventions – such as gritting walkways – are recommended.

While every effort can be made to prevent falls, it is important to minimise injury if they...
do occur – individuals with balance problems may fall even in a carefully managed environment. The principle of reducing energy transfer in falls is a generally accepted strategy and is worth considering installing padded surfaces. Although there is little empirical evidence to support this approach, padding hard or sharp surfaces may help to reduce the likelihood of severe injury.

Nurses can play an important role in environmental risk assessment, especially if involved in the direct care of people with learning disabilities. They can also educate individuals and carers about simple strategies for reducing falls and the impact of a fall. Educating both formal and informal carers is a cost effective, simple and empowering strategy.

PHYSICAL INTERVENTIONS
Sherard et al (2004) recommended that improving fitness and coordination could reduce falls and fall related injuries in people with learning disabilities. There is robust evidence supporting the use of exercise for preventing falls among the general population and studies have found balance, strength and endurance training may all be effective in reducing falls (Rubenstein, 2006).

To date, there has been little research examining physical interventions for people with learning disabilities. However, there is some evidence to suggest a strength and balance exercise programme may improve their functional balance and general health (Carmeli et al, 2004).

Physical exercise may have other associated benefits for people with learning disabilities, such as improved physical and social function, emotional mastery and quality of life (Carmeli et al, 2004). Exercise undertaken in a safe and controlled environment may be suitable for people with learning disabilities who are at risk of falls. The exact type and level of exercise will differ between individuals and referral to other professionals, such as a physiotherapist may be necessary. In all cases careful supervision and risk assessments is warranted, particularly if exercising in water or on hard surfaces.

The high prevalence of falls in people with learning disabilities who are wheelchair users warrants particular attention. Nurses are frequently involved in supervising and facilitating transfers, and should therefore be vigilant in promoting and educating patients and carers in safe practice.

MEDICINES MANAGEMENT
External risk factors such as “culprit” medications may be modified and often the focus of falls management. Given the risk of epilepsy and associated medication, comprehensive epilepsy medication management is recommended. Nurses play a very important role in administration and management of medication which, with careful planning, can ensure the effective control of seizures and prevention of falls. Nurses should be aware of “culprit” medications and educate patients and carers about the possible side effects of medicines. Increasing awareness is a simple but effective way of helping to prevent avoidable falls.

CONCLUSION
Falling is a common and disabling problem for people with learning disabilities. In a population that is set to grow both in number and average age, any screening or management strategy that can reduce falls or minimise the chance of injury is worth considering, but sound empirical research is needed to establish helpful and cost effective screening tools and interventions.

The risk factors associated with falls in people with learning disabilities are still unclear. However, this article has indicated some likely risk factors, and awareness of these will enable nurses and other professionals to screen those who may be at risk and to implement basic management principles.

The role of the carer should not be underestimated. Recent findings suggest that the carers of individuals with learning disabilities can provide accurate assessments of their risk of falling (Finlayson et al, 2010). Nurses involved in caring for this group can work closely with carers and the rest of the multidisciplinary team to identify those at greatest risk. Nurses may also play a valuable role in reducing the incidence of falls and educating others in falls prevention and management.

REFERENCES
Neurology; 62: 11, 2052-2057.