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Falls Among Older Adults: Summary of Research Findings

Facts About Senior Falls

- For people ages 65 and older, falls are the leading cause of injury death (CDC 2001).
- Among seniors, falls are the underlying cause of a large proportion of fatal traumatic brain injuries (TBI). From 1989 to 1998, the fall-induced TBI death rate among people ages 80 and older increased 60% (Stevens 2001).
- The risk of falling increases exponentially with age (Samelson 2002).
- Older adults who have fallen previously or who stumble frequently are two to three times more likely to fall within the next year (Tinetti 1988; Teno 1990).
- For people ages 65 and older, two-thirds to one-half of falls occur in or around the home (Nevitt 1989; Wilkins 1999).
- At least 95% of hip fractures among older adults are caused by falls (Nyberg 1996).
- Fall-related death rates and hip fracture hospitalization rates have been increasing (Stevens 1999).

Frequently Reported Risk Factors for Falling

- Being female (Baker 1992; Tromp 1998).
- Being white (Baker 1992).
- Having had a previous fall (AGS 2001).
- Having lower body weakness or gait or balance problems (Nevitt 1989; Lord 1993; AGS 2001).
- Having physical limitations (Koski 1996), wearing glasses, or having other visual problems (Ivers 1998; Lord 2001).
- Having more than one chronic disease (Tinetti 1986), history of stroke (Dolinis 1997), Parkinson's Disease (Northridge 1996; Dolinis 1997), neuromuscular disease (Lau 1991), urinary incontinence (Tromp 2001), or postural hypotension (Kario 2001).
- Being cognitively impaired (Tromp 2001).

- Taking more than four medications or using psychoactive medications (Cumming 1998).
- Wearing shoes with thick, soft soles (e.g., jogging shoes) (Robbins 1994).

Fall Prevention Research

- Intervention programs are most effective when they are designed to reach those at greatest risk of falling (Tinetti 1994).
- Simple, clinical screening tests can accurately identify seniors who are more likely to fall (Studenski 1994; Lord 1996; Shumway-Cook 1997).
- The most effective interventions include multiple components (Tinetti 1994; Wolter 1996; Gillespie 2000).
 - Including exercise, medication review with modification, and education about risk factors can reduce falls among community-dwelling older adults (Tinetti 1994).
 - Combining attention to individual patients' needs, reducing environmental hazards (e.g., putting in grab bars and removing tripping hazards), increasing the safety and fit of wheel chairs, and limiting the use of psychoactive drugs can reduce falls among nursing home residents (Ray 1997).
- Exercises that improve lower body strength and balance reduce the risk of falls and fall-related injuries (Judge 1993; Wolf 1996). Studies have shown that practicing Tai Chi can reduce falls (Wolf 1996).
- Although vigorous exercise reduces the risk of fall-related fractures among healthy seniors, it increases risk among those with functional limitations. Such older adults may require individualized exercise programs (Stevens 1997).
- Among frail individuals living in nursing homes, progressive resistance training can increase strength and improve mobility (Fiatarone 1994).
- If a person falls, hip pads can effectively prevent most hip fractures (Kannus 2000).
- Although untested as a community or home strategy to reduce fall injuries, newly developed flooring material

reduces fall impact by 15% under laboratory conditions (Casalena 1998).

- There is little evidence that modifying the home environment alone will reduce fall risk (AGS 2001).
- Calcium, along with vitamin D, is critical at all ages to maintain healthy bone. For older adults who may have already lost bone mass, adequate calcium intake (obtained through diet or supplements) may not be sufficient to prevent hip fractures (Stevens 1997). Medications that increase bone mass may be needed to reduce fracture risk.

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