



The Royal
Melbourne Hospital

Falls and Dementia

Dr Eric Seal

The Royal Melbourne Hospital

Royal Park Campus

Falls and Balance Clinic

Parkville Victoria

Incidence of Falls

- $1/3$ of people > 65 yo
- $1/2$ of people > 90 yo
- Females $>$ Males

Risks associated with Falls

- 1/2 those who fall will have ≥ 2 falls
- 10% to A&E
- 6% of all hospital admissions (≥ 65)

Risk Factors

Gender: F > M

Age (>80)

Hx of prior falls

Restricted activity

Visual impairment

Urinary incontinence

> 1 chronic illness

Cognitive impairment

Depression

Polypharmacy

Psychoactive medication

Diuretics

Type 1 Antiarrhythmics

Impaired Proprioception

Lower Limb Weakness

Gait abnormalities

Fear of Falling

Environmental Hazards

Dementia and Falls

High RF for falls

Under Researched

> 25 000 medline papers on dementia

only 48 assoc with falls

only 13 of any use

No RCT's

(Slide from 2003)

2006- 162 papers assoc with falls, 27 of use!

Dementia 1

- Prevalence = 5% in persons > 65 yo
- Rises exponentially
- Falls in dementia sufferers = 40 - 60%
- 1/4 demented fallers will fracture
- Poorer long term prognosis

Dementia 2

- Dementia = syndrome – multiple aetiologies
- Gait assessment important in dementia dx
- The development of gait abnormalities is a RF for the development of Non-AD dementia

Dementia 3

Gait patterns

- Alzheimer's disease
- Vascular dementia
- Parkinson's disease/DLB
- Hydrocephalus
- Alcohol related dementia
- Huntington's disease
- Frontal lobe disease

Dementia 4

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Terms = unsteady, ataxic, frontal, parkinsonian, neuropathic, hemiparetic, spastic.

Dementia 5

Alzheimer's disease

- Increased falls risk
- Slower gait
- Slower approach to objects
- Balance impairment correlates with memory and naming deficits
- Reduced dual task performance (Talking when walking)

Dementia 6

Shaw et al 1998: “Why do patients with dementia fall?”

- Impaired central processing – reduced balance and gait
- Medications
- CVS disorders – dysautonomia

Puiseux et al. 2005: “Dementia & Falls: 2 related syndromes in old age

- Gait & Balance Disorder
- Behavioural disorder
- Impaired Vision
- Malnutrition
- Adverse Drug Reactions
- Fear of Falling
- Neurocardiovascular Disorders
- Environmental Hazards

Dementia 7

Other factors leading to falls in dementia sufferers

- Gait disturbance due to disease causing dementia
- Dyspraxia
- Medications – sedatives, neuroleptics, antidepressants
- Wandering/exhaustion in agitated patients
- Decreased attention to co-morbid pathologies
- Decreased ability to verbalize – to say what is wrong
- Inability to observe hazards and show due caution – “No Fear of Falling”
- Deconditioning
- Malnutrition/vitamin deficiency
- Medications – sedatives/neuroleptics/antidepressants
- Dysautonomia
- Alterations in sleep wake cycle
- Associated incontinence
- Inability to use appropriate gait aids
- Perception that these patients are inappropriate for rehabilitation

Dementia 8

- Most RCT's in falls exclude patients with dementia
- Very little research in interventions in patients with dementia and falls

Dementia 9

- Jensen et al JAGS 2003 – RCT in Residential Care Facility. Dementia MMSE < 19 Non Dementia ≥ 19 No benefit of Multi Factorial Intervention in dementia patients
- Fiona Shaw et al BMJ 2003 – RCT in Community. 1 yr Post ER presentation. No benefit with multi-factorial interventions
- Horikawa et al Int Med 2005 – followup of 124 patients with AD. Falls assoc with PVWM Isch and Psychoactive Medications

Dementia 10

- Van Iersel et al JNNP 2006 “Frail elderly patients with dementia go too fast”

Overall slower but faster than expected for degree of physical impairment

Vergheze et al NEJM 2002 “Abnormality of Gait as a predictor of non-Alzheimer’s dementia” Gait abnormalities in non-demented elderly is powerful predictor of development of dementia

Dementia 11

- Hill et al Research Proposal 2006

RCT

Assessment of Gait and Balance Parameters in patients with early dementia

Determine whether a balance training program at an early stage will improve physical abilities incl balance and potentially reduce LT risk of falls as dementia progresses

Questions?

