Preventing falls among people living with dementia webinar

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Preventing falls among people living with dementia webinar

1. Preventing falls among people living with dementia: an overview of the research
2. Designing environments around the needs of those with dementia
3. Delivering falls prevention exercise for people living with dementia
4. Q&A with panel

**Remember:** you can submit your questions at any time during the presentations using the Questions box on the right
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University of Stirling

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The University of Manchester
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Preventing falls in dementia: the state of current research

Dr Louise Allan
Clinical Senior Lecturer and Honorary Consultant Geriatrician
Outline

• Falls in older people
• Falls in people with dementia
• Risk factors
• Gait and Balance
• Interventions
• Making inferences from the research
• Good clinical practice
What is a fall?
an event whereby a person comes to lie on
the ground or another lower level with or
without loss of consciousness.

Older people may have amnesia for loss of consciousness
Falls in older people

- Approximately one third of people aged over 65 fall per year
- There is a substantial body of research into risk factors: cognitive impairment has been identified as a risk factor in several studies
  - Risk of falls increased 2-3 x
- Many trials of both single and multifactorial interventions to prevent falls in older people in different settings
Multifactorial assessment in people without dementia

- falls history
- gait, balance and mobility, and muscle weakness
- osteoporosis risk
- assessment of the older person’s perceived functional ability and fear relating to falling
- visual impairment
- assessment of cognitive impairment and neurological examination
- urinary incontinence
- assessment of home hazards
- cardiovascular examination and medication review.
Multifactorial intervention

- general diagnosis and management of causes and recognised risk factors
- strength and balance training
- home hazard assessment and intervention
- vision assessment and referral
- medication review
The problem of falls in people with dementia

- Increased risk of delirium
- Poor recovery
- Increased institutionalisation
- Higher mortality
- Specific consideration of dementia in both risk factor and intervention studies has been much less frequent
Common cause of hospitalisation in dementia

- Voisin et al 2009
- 686 patients with AD followed for 2 years
- 26.2% hospitalised per year
- 20.9% of hospitalisations were because of fall and fractures
Annual prevalence of falls

- Salva et al 2012
  - Outpatient/day care cohort in a trial
  - 35.6%

- Allan et al 2009
  - Secondary care cohort
  - 47-90% depending on type of dementia

- Pellfolk et al 2009
  - 160 people in group dwellings for people with dementia
  - 40% fell in 6 months

- Eriksson et al 2008
  - Residential care
  - 62%
Annual prevalence of falls in different dementia subtypes

- Allan et al 2009

<table>
<thead>
<tr>
<th></th>
<th>Controls</th>
<th>AD</th>
<th>VAD</th>
<th>DLB</th>
<th>PDD</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls</td>
<td>36%</td>
<td>47%</td>
<td>47%</td>
<td>77%</td>
<td>90%</td>
<td>61%</td>
</tr>
</tbody>
</table>
Time to first fall by diagnosis

- Control
- Alzheimer’s disease
- Vascular dementia
- Parkinson’s disease
- Dementia with Lewy bodies
- Parkinson’s disease dementia
# Annual incidence of falls/ 1000 persons

<table>
<thead>
<tr>
<th>Control</th>
<th>AD</th>
<th>VAD</th>
<th>DLB</th>
<th>PDD</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1023</td>
<td>2486</td>
<td>3135</td>
<td>9087</td>
<td>19 000</td>
<td>4617</td>
</tr>
</tbody>
</table>
### Annual incidence of falls/ 1000 persons

<table>
<thead>
<tr>
<th></th>
<th>Control (39)</th>
<th>AD (38)</th>
<th>VAD (32)</th>
<th>DLB (30)</th>
<th>PDD (40)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incidence:</strong> number of falls/ 1000 person years</td>
<td>1023</td>
<td>2486</td>
<td>3135</td>
<td>9087</td>
<td>19 000</td>
</tr>
<tr>
<td>Incidence density ratio (95 % CI) c.f. control group</td>
<td>1</td>
<td>1.95</td>
<td>1.77</td>
<td>6.06</td>
<td>20.5</td>
</tr>
<tr>
<td>Incidence density ratio (95 % CI) c.f. AD group</td>
<td>1</td>
<td>0.907</td>
<td>3.10</td>
<td>10.5</td>
<td></td>
</tr>
<tr>
<td>Incidence density ratio (95 % CI) c.f. VAD group</td>
<td>1</td>
<td>3.41</td>
<td>11.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence density ratio (95 % CI) c.f. DLB group</td>
<td>1</td>
<td>1</td>
<td>3.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fractures:</strong> number of fractures recorded during study</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Risk factors for falls in dementia

• 25 prospective studies
• Varying quality
• Many small
• Dementia not always clearly specified
• Younger onset dementias
• Some examining single risk factor only
• Few examining comprehensive range of multiple factors or using multivariate analyses
## Multiple risk factors in the community

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Setting</th>
<th>Total</th>
<th>Age</th>
<th>Diagnoses</th>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buchner DM</td>
<td>1987</td>
<td>Secondary care</td>
<td>157</td>
<td>AD</td>
<td>Wandering, toxic reactions to drugs, co-morbid illnesses</td>
<td></td>
</tr>
<tr>
<td>Asada T</td>
<td>1996</td>
<td>Community</td>
<td>86</td>
<td>Dementia</td>
<td>Previous falls, dementia severity, need for assistance with basic care</td>
<td></td>
</tr>
<tr>
<td>Ballard CG</td>
<td>1999</td>
<td>Secondary care</td>
<td>65</td>
<td>30 DLB, 35 AD</td>
<td>Multiple falls: DLB, Parkinsonism, previous falls, impaired ADLs, age</td>
<td></td>
</tr>
<tr>
<td>Lowery K</td>
<td>2000</td>
<td>Secondary care</td>
<td>65</td>
<td>30 DLB, 35 AD</td>
<td>Parkinsonism, No association with environmental hazards</td>
<td></td>
</tr>
<tr>
<td>Sato Y</td>
<td>2004</td>
<td>Secondary care</td>
<td>225</td>
<td>Female AD</td>
<td>Increased falls and fractures with vit D deficiency and high PTH</td>
<td></td>
</tr>
<tr>
<td>Horikawa E</td>
<td>2005</td>
<td>Outpatient</td>
<td>124</td>
<td>AD</td>
<td>Age, neuroleptic drug use, increased postural sway, periventricular white matter lesions</td>
<td></td>
</tr>
<tr>
<td>Allan LM</td>
<td>2009</td>
<td>Secondary care</td>
<td>179</td>
<td>38 AD, 32 VAD, 30 DLB, 40 PDD, 39 Controls</td>
<td>Lewy body disorder, Previous falls, Orthostatic hypotension, Depression, Physical activity protective</td>
<td></td>
</tr>
<tr>
<td>Kikuchi R</td>
<td>2009</td>
<td>Outpatient</td>
<td>79</td>
<td>Cognitive impairment</td>
<td>Using a stick</td>
<td></td>
</tr>
<tr>
<td>Ryan JJ</td>
<td>2011</td>
<td>Community</td>
<td>43</td>
<td>AD</td>
<td>Gait aid</td>
<td></td>
</tr>
<tr>
<td>Farrell MK</td>
<td>2011</td>
<td></td>
<td>34</td>
<td>Dementia</td>
<td>Previous fall</td>
<td></td>
</tr>
<tr>
<td>Salva A</td>
<td>2012</td>
<td>Outpatient/Day care</td>
<td>626</td>
<td>Dementia</td>
<td>Age, Activities of daily living, Previous falls</td>
<td></td>
</tr>
</tbody>
</table>
## Multiple risk factors in care homes

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Setting</th>
<th>Sample Size</th>
<th>Diagnosis</th>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van Dijk PT</td>
<td>1993</td>
<td>Nursing home</td>
<td>240</td>
<td>Dementia</td>
<td>Recent admission, ward transfer, dementia severity, physical impairment, male</td>
</tr>
<tr>
<td>Nakamura T</td>
<td>1996</td>
<td>Nursing home</td>
<td>97</td>
<td>AD</td>
<td>Dementia severity, stride length variability</td>
</tr>
<tr>
<td>Eriksson S</td>
<td>2008</td>
<td>Residential care</td>
<td>103</td>
<td>103 dementia, 83 without dementia</td>
<td>Walking aid</td>
</tr>
<tr>
<td>Pellfolk T</td>
<td>2009</td>
<td>Group dwelling for people with dementia</td>
<td>160</td>
<td>Dementia</td>
<td>Help with hygiene, Challenging behaviour, Able to rise from chair, Walking aid, Participating in outdoor walks</td>
</tr>
</tbody>
</table>
# Single risk factor studies

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Setting</th>
<th>Sample Size</th>
<th>Diagnosis</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katz IR</td>
<td>2004</td>
<td>Residential care</td>
<td>537</td>
<td>Dementia (patients participating in risperisone trial)</td>
<td>Decreased falls at 1mg risperidone /day, increased falls at 2 mg/day in ambulatory individuals with low levels of wandering</td>
</tr>
<tr>
<td>Olsson RH</td>
<td>2005</td>
<td>Long term care facility</td>
<td>364</td>
<td>Dementia</td>
<td>Poor performance on Reality Comprehension Clock test</td>
</tr>
<tr>
<td>Sterke CS</td>
<td>2010</td>
<td>Nursing home</td>
<td>75</td>
<td>Dementia</td>
<td>Tinetti score</td>
</tr>
<tr>
<td>Sterke CS</td>
<td>2012</td>
<td>Nursing home</td>
<td>57</td>
<td>Dementia</td>
<td>Gaitrite: reduced velocity and stride length</td>
</tr>
<tr>
<td>Sterke CS</td>
<td>2012</td>
<td>Nursing home</td>
<td>248</td>
<td>Dementia</td>
<td>Dose of antipsychotics</td>
</tr>
<tr>
<td>Maggio D</td>
<td>2010</td>
<td>Community</td>
<td>110</td>
<td>Dementia</td>
<td>Caregiver burden</td>
</tr>
</tbody>
</table>
## Inpatient studies

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Year</th>
<th>Setting</th>
<th>Sample Size</th>
<th>Fall-related Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camicioli R</td>
<td>2004</td>
<td>Specialised AD care unit</td>
<td>42</td>
<td>42 advanced AD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morse Fall Scale, UPDRS, gait cadence</td>
</tr>
<tr>
<td>Eriksson S</td>
<td>2009</td>
<td>Psychogeriatric ward</td>
<td>204</td>
<td>Dementia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Male, poor copy design, any difficulty walking. Reduced risk with statins</td>
</tr>
<tr>
<td>Vasallo M</td>
<td>2009</td>
<td>Rehabilitation ward</td>
<td>825</td>
<td>&quot;Cognitive impairment&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unsafe gait</td>
</tr>
<tr>
<td>Imamura T</td>
<td>2000</td>
<td>Dementia research ward</td>
<td>561</td>
<td>362 AD, 50 VAD, 45 FTD, 28 DLB, 77 other</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fall related injuries higher in DLB compared with AD</td>
</tr>
</tbody>
</table>
Risk factors replicated in more than one study

- Age
- Previous falls
- Severity of dementia
- Walking aids
- Impaired activities of daily living
- Psychotropic drugs
  - Particularly anti-psychotics
Univariate analyses

Non-modifiable

• Lewy body disorder
• History of falls
• History of recurrent falls
• Duration of dementia

Modifiable

• Cardioactive drugs
• Autonomic symptoms
• Time for blood pressure to recover on standing
• Physical activity—protective
## Multivariate analyses

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>All participants with dementia</th>
<th>Stratified by diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relative Hazard ratio</td>
<td>95% confidence intervals</td>
</tr>
<tr>
<td>Cornell depression score (0-40, per point)</td>
<td>1.05</td>
<td>1.01-1.10</td>
</tr>
<tr>
<td>Total Autonomic symptom score (0-36, per point)</td>
<td>1.05</td>
<td>1.01-1.10</td>
</tr>
<tr>
<td>Symptomatic orthostatic hypotension</td>
<td>2.13</td>
<td>1.19-3.80</td>
</tr>
<tr>
<td>Physical activity score (0-9, per point)</td>
<td></td>
<td>0.827</td>
</tr>
<tr>
<td>Use of cardioactive medication</td>
<td></td>
<td>1.98</td>
</tr>
</tbody>
</table>
Descriptive studies: Triggers for individual falls

- **Tangman et al 2010**
  - Night shift
  - Acute illness
  - Acute drug side effect

- **Eriksson et al 2009**
  - Anxiety
  - Darkness
  - Not wearing shoes
  - Urine infection
  - Nocturnal activity
Gait and balance disorders in dementia

• Qualitative or quantitative studies?
• The type of gait disorder helps with making a diagnosis
• Quantitative studies nearly always show deficits in all types of dementia
• Reduced ability to “walk and talk”
• The severity of the deficit in early dementia is worse in the non-AD dementias
• In risk factor studies, “eyeball tests work”
Medication

• Cholinesterase inhibitors (but not memantine) increase the risk of syncope
  – Odds ratio 1.53 (1.02-2.30)
  – Kim DH et al 2011
• Antipsychotics increase the risk of hip fracture in nursing home patients
  – Odds ratio 1.26 (1.05-1.52)
  – Jalbert JJ et al 2010
Preventing falls in dementia: the trials

- Shaw et al 2003
- Fallers presenting to A&E
- MMSE <24
- Multifactorial intervention
- No reduction in falls or number of fallers, but
  - Mean MMSE was only 14
- 70% lived in care homes
Interventions to prevent falls in dementia in care homes

• Jensen et al. 2003
  – Intervention in a care home with analysis of efficacy in those with cognitive impairment
  – Lack of effect in those with MMSE<19

• Oliver et al. 2006
  – Review of intervention trials in care homes: possible association of higher prevalence of dementia with smaller effect size
More recent trials

- Bouwen A et al 2008
  - Staff oriented intervention RCT in nursing homes
  - Reduced risk of falling in both those with and without cognitive impairment

- Ward JA et al 2010
  - Cluster RCT with project nurse to implement fall risk factor modification in residential care homes
  - No effect
More recent trials

• Lapane KL et al 2011
  – Clinical informatics pharmacy tool
  – Automated care plans
  – Reduced other outcomes but not falls

• Bharwani et al 2012
  – Pilot study of a behaviour programme reduced falls by 32%
Hip fractures

• Sato et al. 2005-
  – risedronate reduced fractures in AD

• Stenvall et al 2012
  – RCT post hip fracture
  – Comprehensive geriatric assessment/ staff education/ rehabilitation
  – Falls reduced
  – Walking improved
What can we infer from the research?

• Consider the patient
  – Severity of dementia
  – Type of dementia
  – Presence of gait disorder
  – Degree of impairment in ADLs
  – Previous fall history
What can we infer from the research?

• Consider the setting
  – Does the patient live in their own home or a care home?
  – Where and why was the assessment triggered?
    • A&E
    • Day hospital
    • Admission to care home

• Consider the goals of the professional using the information
  – Fall prevention
  – Management of recurrent falling
  – Provision of other elements of person centred care
Good Clinical Practice: mild dementia

- An 85 year old lady with mild AD, no previous falls and qualitatively normal gait
  - No evidence for intervention, but medication review would be good practice
- The same lady with syncope after starting donepezil
  - Consider cardiovascular cause
- The same lady with one previous fall and a cautious gait
  - Possibly should be managed as though she does not have AD: offer a multifactorial intervention
Good clinical practice: moderate dementia

- A 75 year man with moderate VAD, walking with a stick, living alone at home, no previous falls
  - Uncertain, review medication, consider the need to maintain independence
- A 75 year old man with DLB in A&E with his wife after a fall
  - Consider medical causes, especially amnesia for syncope
  - Consider wider goals: safety of discharge, carer stress
Good clinical practice: severe dementia

• A 92 year old lady with agitation, walking unsteadily without supervision, living in care home
  – Consider staff education, sensitive supervision, bed/chair alarms, causes of agitation, environment and need for occupation
  – Balance the risk of falls with quality of life
  – Consider hip protectors

• A 92 year old lady, bed bound, with occasional agitation, living in a care home
  – Fall risk now low but be aware of recovered mobility when agitated
  – Shift goals to pressure care etc.
References
Useful Resources

• NICE Clinical practice guideline for the assessment and prevention of falls in older people 2004

• Updated AGS/ BGS guidelines on falls 2011
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Professor June Andrews

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Designing environments around the needs of people with dementia

Professor June Andrews
What do we do?

• Information
• Training
• Consultancy
• Change and innovation
• Research
• Improving the public understanding of dementia
Dementia

- Alzheimers disease
- Vascular dementia
- Dementia with Lewy bodies
- Fronto-temporal dementia
- Mixed dementias
- Creutzfeldt-Jakob disease
How to diagnose dementia

- History
- Initial cognitive testing
- Screening for co-morbid conditions
- Use of imaging
- Cerebrospinal fluid & electroencephalography
- Neuropsychological testing
But in Hospital

• Just FIND them
How much of the UK £23 Billion spend on dementia is needlessly caused by social care and health staff’s deliberate interventions?
Dementia friendly design

• Innovation vs introduction of the basics
Assistive technology

- Downloadable materials
- Remote health monitoring and falls
- Locator devices and other practical issues
- Environmental monitoring
- Leisure and recreation
- Communication

www.dementia.stir.ac.uk
Influencing new building

- Training in dementia audit
- Professional advice
- Require dementia knowledge in successful providers
- Know about dementia, understand the system, be known.....

www.dementia.stir.ac.uk
Key features

- Floors
- Skirting and walls
- Handrails
- Ceilings
- Doors
- Signs
- Clocks and calendars
Key features

- Lighting
- Sound
- Furniture
- Mirrors
Key features

• Storage
• Nurse call systems
• Nurses stations
Key features

• Enabling relatives support
• Essential notices and leaflet racks
• Toilets
• Bedroom areas
• Bathrooms/shower rooms
• Waiting rooms
• Physio and OT rooms
Key features

• Day rooms (lounges/sitting rooms/activity rooms)
• Looking outside
• Getting outside
• Being outside
Special challenges

• Short stays are the norm and they are ill
• Observation
• Ensuring safety, infection control and ligation prevention
• Busy mixed settings with multiple interventions
• Key role of relatives
I don’t have time to help them eat…
Innovation competitions

• The Biometric lock
• The scent clock
• Location
• The Blue Butterfly
Basic principles

• Consider the impairment
• Use common sense
• Work with research
• Extrapolate from sensory and physical impairment
• Use international best practice
Dr Helen Hawley- Hague

The University of Manchester
Strength and balance exercises with older adults with dementia.

Dr Helen Hawley-Hague
The Issues

• We have an increasing ageing population.

• Projected that from 2000 until 2050, the world's population aged 60 and over will more than triple from 600 million to 2 billion (WHO, 2009).

• Increasing numbers of older adults and an increasing life span also means an increasing prevalence of long-term conditions (DH, 2008).

• Increasing number of conditions such as Stroke, CHD, Falls and Fracture.
What Physically happens?

Even healthy older people lose functional capacity.

- Muscle strength ‘lost’ at 1%-2% per year
- Muscle power ‘lost’ at 3%-4% per year
- Aerobic capacity ‘lost’ at 1% per year
- Bone density ‘lost’ at 1% in men and 2%-3% in women after menopause
- Flexibility and balance
- Proprioception and kinesthetic awareness
- Co-ordination and reaction
- Thermo-regulation

(Skelton and Dinan, 1999)
What about older people who may have dementia?

- Dementia: estimated to increase to 1.4 million by 2029, one in three people over 65 ending their lives with the condition (DH, 2009).

- Increased physical activity related to decreased incidence of dementia and can also delay the progression of the disease (Flicker, 2009).

- Exercise is feasible with older adults with dementia, but has tended to focus on cardiovascular rather than complex balance exercises (Hill et al, 2009).
General evidence around strength and balance and falls

- Exercise and strength and balance most effective and acceptable way to prevent falls (Yardley et al, 2006; 2007).

- Most evidence based factor that helps prevent falls and the only proven cost effective intervention! (Gillespie et al, 2012; Davis et al, 2009; Sherrington et al, 2008; Robertson et al, 2001)

- Something they can do for themselves to promote own independence/important social occasion (Hawley, 2009; Horne et al, 2009).

- By maintaining independence and social networks helps prevent social isolation, loneliness and depression.
Dementia and how it relates to strength and balance

• Greater balance and gait issues have been found in people with dementia when compared with older people in general (Manckoundia et al, 2006; Visser, 1983).

• These have been shown to occur in relatively early stages of the dementia pathway (Pettersson et al, 2002)

• Dementia can alter the ability to sequence tasks, cause disorientation, impair balance and reduce risk-awareness.
Key Programmes proven to reduce falls risk/rate

- **Otago**

  Campbell et al, 1997 & Robertson et al, 2011- Excluded if unable to comply with the study requirements.

- **FaME**

  Studies have excluded those who are cognitively impaired (Skelton et al, 2005)

- **Tai Chi**

• Gillespie et al, 2012

89/159 Trials included excluded people with cognitive impairment overall.
Strength and balance for those with dementia.

Heyn et al (2004) Meta analysis-

- Included studies that reported baseline Mini-Mental Status Examination (MMSE) score of less than 26, or subjects diagnosed by physician as having some degree of cognitive impairment/pre-existing diagnosis of dementia

- Does not look specifically at falls BUT shows improvements in strength and flexibility is possible.

- 487 cognitively impaired older adults who participated in strength training programs improved substantially more than the 492 control and comparison subjects in measures of strength ($P<0.001$).
• In a cohort of long-term care residents with dementia, combined forms of exercises (including Tai Chi), did not reduce falls, compared to controls (Nowalk et al., 2001).

• Jensen and colleagues (2003) found that amongst nine residential facilities in Sweden, participants in lower MMSE (<19) group:
  - lower exercise adherence (42% vs. 67%, *p* < .01)
  - less likely to have a reduction in fall risk compared to those MMSE (≥19) group.
• Institutionalised demented patients (MMSE < 21) with histories of falling, mobility performance can be improved by 16 weeks exercise training (Toulotte et al, 2003).

• Multicomponent interventions (e.g. combination of endurance, strength and balance) can improve physical functioning regardless of cognition (Blankevoort et al, 2010, Cochrane)
Care homes and hospitals

Cameron et al, 2010 (Cochrane)

- Large number of participants were cognitively impaired. Some studies actively recruited cognitively impaired and reported reduction of falls as a result of exercise (Toulotte et al, 2003; Buettner, 2002) but insufficient data to establish whether this was significant.

Overall, conclusion that evidence is in-consistent in care homes & community.
Something a bit different?

Lifestyle integrated Functional Exercise (LiFE) approach

- Taught principles of balance and strength training and integrated selected activities into everyday routines.

- Everyday activities that were altered for LiFe participants were determined through self report using a weekly planner and interview (person centred).

- Prescribed activity incorporating strategy of “bend knees” might involve squatting instead of bending at the waist to close a drawer, could be upgraded to picking things up from the floor.
• The overall incidence of falls in the LiFE programme was 1.66 per person years, compared with 1.90 in structured programme and 2.28 in control group

• However, Exclusion criteria were moderate to severe cognitive problems (<two errors on the short portable mental status questionnaire)

(Clemson et al, 2012)

BUT, could this approach work better because it is based on everyday functional tasks?
Is exercise for older adults with dementia unsafe? Should we bother?
Care home intervention including increasing low intensity physical activity.

Exercise alone? In high risk

Not beneficial in care home residents
RR 1.16 [0.81-1.65]

Sherrington et al, 2008

? Because the balance challenge is rarely great enough

? Too much focus on “safe” chair based exercise

Needs strength and power focus too?

Transfer training?
Specific

- **Adapting** = the condition specific adaptations (modifications) to session aims, structure, content, teaching and programming that need to be made to ensure optimal safety and effectiveness with all participants with osteoarthritis, diabetes AND DEMENTIA?

- **Tailoring** = the highly individual prescriptive solutions (adjustments/exclusions/additions) that are required to tailor the adapted exercise intervention to each participant's health, functional, psychosocial/ emotional needs

Dinan 2001, 2007
• **PALS TOOL- Jackie Pool**

PAL helps to develop profile of person's interests/likes and dislikes and complete checklist that reveals level of ability of individual.

www.jackiepoolassociates.org/pal/

• **The CLIPPER assessment tool by Jennie Powell (Care to Communicate)**

Considers 41 activities that could occur during a typical day. Caregivers note which activities occur, how often, and how the person seems to feel about each activity- Could this link to a LiFE approach?!
Group or individual?

- Brill et al (1995) found utilising simple exercise movements with continual repetition through 1:1 instruction were key.

- Delivered over 11 weeks, at 3 times per week, for 20 minutes per session. All participants, including the most severely demented individuals (MMSE 5–22), could follow exercise routine, 100% attendance (Brill et al, 1995).

- Teri and colleagues (1998) reported high exercise adherence in 153 community dwelling AD (mean MMSE 18, mean age 78) patients by using family caregivers as exercise facilitators.

Suggestion that 1 to 1 or small groups are better
Delivery techniques from the literature

Positive emotion–motivators (PEMs)

- Caregiver partners perform implicit instruction (kinesthetic facilitation, i.e., sensory)
- Assistance from their own body movements through the Sticky Hands technique.
- Explicit verbal cuing with each exercise move. Additionally, caregiver’s encouragement
- Recognition of participant’s performance emphasised throughout
- Reinforce their motivation to continue exercise.

(Yao et al, 2008)
**Sticky Hands technique**

- Caregiver working with person with dementia.

- Partners help each other to learn various movements by sticking to, or maintaining contact with each other.

- Successful during intervention but not on follow-up—worked better in a group! (Yao et al, 2008)

So, if involving carer, better in a group?
Things to remember when working with people with dementia:

- See the person and not the disease
- Support them to seek help and support, particularly to see the GP.
- Give them plenty of encouragement to join in and do things, but in their own way.
- Provide **meaningful** activity.
- Do things with the person, rather than for them.
- Think outside the box- with later stages use bright colours
What has worked in practice delivering Otago?

• Flexibility/adapting of the exercises because of clients physical and cognitive impairment.

• Some weeks better than others, so re-assess the person every time.

• Contact carers, involvement and inclusion of carers can increase compliance.

• Small groups or one to one (although group setting can help create a positive atmosphere)
• Reducing the amount of time on the educational information provided so no overload. More visual prompts!

• Start with something interactive to capture interest e.g. activity which involved throwing a ball, links in to reflexes.

• For Otago try to limit the amount of instruction e.g. sit to stand has lots of instruction we tried to simplify this.

• Yellow is a one of the last colours on the spectrum that can be seen.
• Music can be a useful addition, but opt for more soothing music if participants become agitated and be careful with sensory overload.

• Using facial expressions

• Time and patience

• Community-specific groups or integration?
Any Questions?

With special thanks to Professor Dawn Skelton

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Q&A with panel