

# Intergenerational programs: part of the future of aged care

**Susan Kurrle**

Geriatrician, Hornsby Ku-ring-gai and Eurobodalla Health Services

Curran Professor in Health Care of Older People

Faculty of Medicine and Health, University of Sydney

**Pam Albany Guest**

**Lecture**

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**Health**  
Northern Sydney  
Local Health District

**OR**

**How to improve physical function and  
frailty with 4 year olds running the  
show**



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# Frailty and Falls



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# Definition of Frailty:

## Physical phenotype: 'physical frailty'

Operationally defined as:

“A clinical syndrome in which **three or more** of the following are present:

- unintentional weight loss (>4.5kgs in last year)
- self-reported exhaustion
- weakness (grip strength)
- slow walking speed
- low physical activity”



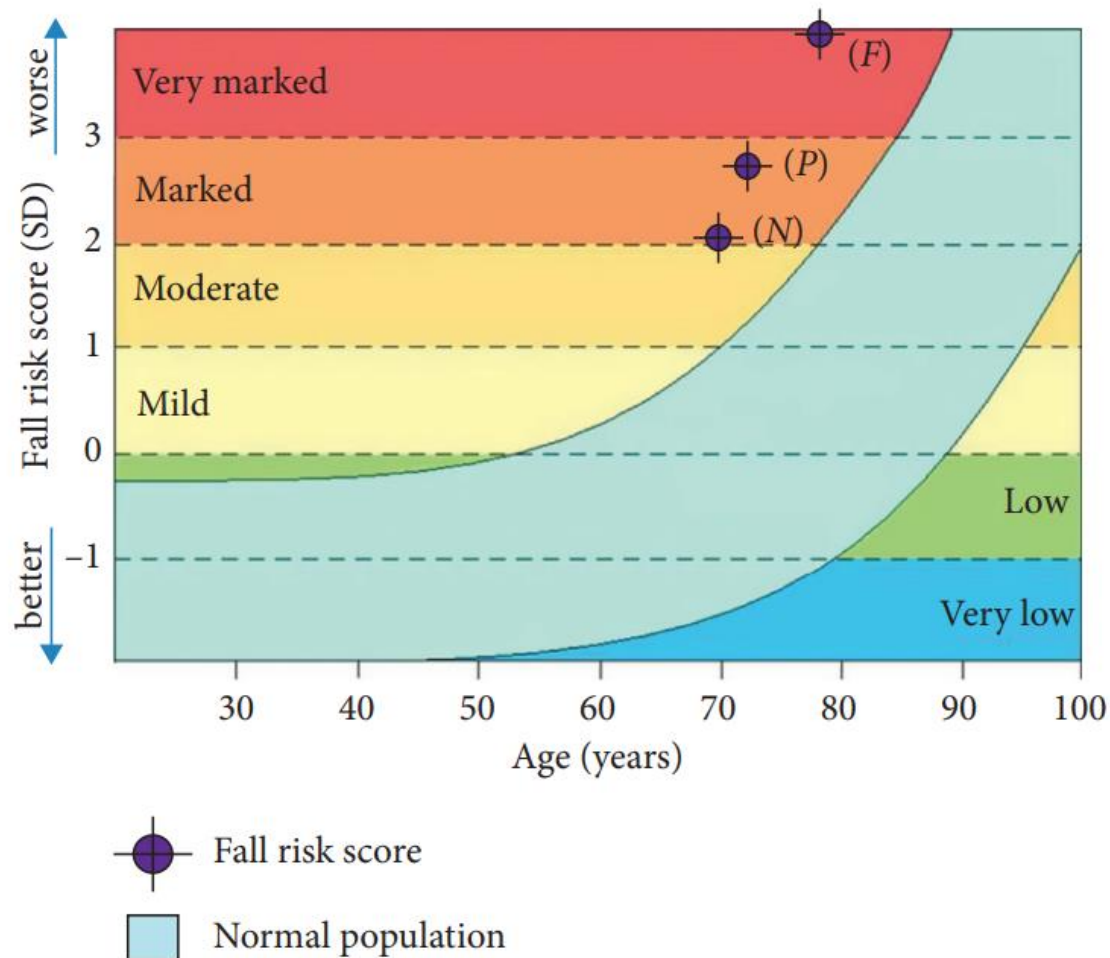
# FRAIL Scale

	Question	Scoring	Result
<b>F</b>	<b>Fatigue</b> How much of the time during the past 4 weeks did you feel tired? A = All or most of the time B = Some, a little or none of the time	A = 1 B = 0	
<b>R</b>	<b>Resistance</b> In the last 4 weeks by yourself and not using aids, do you have any difficulty walking up 10 steps without resting?	Yes = 1 No = 0	
<b>A</b>	<b>Ambulation</b> In the last 4 weeks by yourself and not using aids, do you have any difficulty walking 300 meters?	Yes = 1 No = 0	
<b>I</b>	<b>Illness</b> Did your Doctor ever tell you that you have?  <input type="checkbox"/> Hypertension <input type="checkbox"/> Diabetes <input type="checkbox"/> Cancer (not a minor skin cancer) <input type="checkbox"/> Chronic lung disease <input type="checkbox"/> Heart Attack <input type="checkbox"/> Congestive heart failure <input type="checkbox"/> Angina <input type="checkbox"/> Asthma <input type="checkbox"/> Arthritis <input type="checkbox"/> Stroke <input type="checkbox"/> Kidney disease	0 – 4 answers ✓ = 0  5 – 11 answers ✓ = 1	
<b>L</b>	<b>Loss of weight</b> Have you lost more than 5kg or 5% of your body weight in the past year?	Yes = 1 No = 0	
<b>Total Score</b>			
Scoring: Robust = 0, Pre-frail = 1-2, Frail = >3			

# Increased risk of falls in frailty

- Multiple studies have shown that physical frailty predicts falls in older people:
- 10 year study of 6000 community living people aged >65 years:
  - Frailty measured by physical frailty phenotype was associated with increased rate of falls (1.3 times increase)
- Study of 4125 community living people aged >60 years:
  - Short Physical Performance Battery (SPPB) <8 for men and <7 for women is consistent with physical frailty as measured by FRAIL Scale
  - SPPB scores <8 for men and <7 for women predicted increased risk of falls
- Study of 367 community living people aged > 60 years:
  - Frailty measured by physical frailty phenotype, falls risk measured by Fallscreen (quads strength, proprioception, body sway, reaction time, visual contrast sensitivity) showed increased falls risk with increasing frailty

# Falls risk score in normal (N), pre-frail (P), and frail (F) older people



# What can we do about frailty?

## Frailty Clinical Practice Guidelines

### Recommendations:

#### – Strong:

- Use a validated measurement tool to **identify frailty**
- Prescribe **physical activity** with a resistance training component
- Address **polypharmacy**

#### – Conditional

- Screen for, and address, **fatigue**
- Address **weight loss** with **protein/calorie** supplementation if appropriate
- Prescribe **Vit D** if Vit D deficient



# Nutrition and falls and fractures

## Effect of dietary sources of calcium and protein on hip fractures and falls in older adults in residential care: cluster randomised controlled trial

S Iuliano,<sup>1</sup> S Poon,<sup>1</sup> J Robbins,<sup>1</sup> M Bui,<sup>2</sup> X Wang,<sup>1</sup> L De Groot,<sup>3</sup> M Van Loan,<sup>4</sup> A Ghasem Zadeh,<sup>1</sup> T Nguyen,<sup>5,6</sup> E Seeman<sup>1</sup>

[the bmj](#) | BMJ 2021;375:n2364 | doi: 10.1136/bmj.n2364

- Cluster randomised trial over 2 years in Australia
- 7195 aged care facility residents, average age 86 years
- Given protein and calcium via extra milk, yoghurt and cheese, and compared with normal diet
- 11% reduction in falls
- 33% reduction in all fractures, 46% reduction in hip fractures

# Intergenerational programs in Australia



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# Intergenerational practice in Australia

- Programs which bring people from different generations together to participate in purposeful activities that are beneficial to all involved
- Aim is to reconnect generations that may have lost touch
- For older people, the programs have had a positive impact on their health and well-being with enjoyment and improved mood, and for children there has been an increase in confidence and communication skills
- Can implement in many different models:
  - Co-located child care/pre-schools with aged care
  - Visiting models – older people visiting pre-schools, or pre-schools visiting aged care facilities
  - Playgroups visiting aged care facilities
  - Baby groups visiting aged care facilities
  - Day care – with children and older adults together



# Intergenerational Care and Playgroups

- Intergenerational playgroups offer the benefits of intergenerational social interaction, learning and social inclusion. They promote fun, learning and friendship, and develop a sense of social connectedness
- Simplest model is for playgroups to meet weekly in an aged care facility rather than in a community or church hall
- Timeless Play programmes are available through PlaygroupNSW
- Timeless Play: Connects has been developed to address pandemic related issues and brings residents of aged care facilities together with children aged 3 to 6 and their families using iPads to connect



# Intergenerational learning in western Sydney: aged care facility, school, and invited guests

- Residents from an aged care facility, pupils from Year 6 at a local primary school, and several invited guests met for a lesson via Zoom (September 2021)



Diana hosted the Simon Says Game. Her challenge was asking everyone to rotate shoulders and arms.





# Research evidence for intergenerational care

## Welcome to the Intergenerational Care Project

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Research evaluating intergenerational programs

### Our purpose and vision

The overall purpose of the Intergenerational Care Project is to re-connect communities through the development, implementation and evaluation of intergenerational programs. Our long-term vision is for intergenerational interactions and programs to be a normal part of our everyday life in both formal and informal settings.



<https://www.intergenerationalcare.org/>

# What the Australian research tells us

- Study of 2 models by Griffith University, QLD:
  - co-located childcare centre and aged care facility (2 centres)
  - aged care activity centre with visiting child care centre children (2 centres)
- Participants were older people with early cognitive impairment, and children aged 3 to 5 years
- Activity occurred for one hour/week over 16 weeks
- Positive cognitive and mood outcomes for older people and children, but also for the workforce of childcare workers and aged care organisation staff
- Physical function not measured
- Both older people and families of children were happy to pay extra for involvement (approximately \$5/day)



# What the international research shows: Benefits of intergenerational programs for participants

- For adults:
  1. Increased engagement in activities including physical activities
  2. Improved mood
  3. Improved self reported quality of life
- For children:
  1. More positive attitudes, and development of empathy towards older people and people with dementia
  2. Personal growth with improved communication and confidence



# ABC Old People's Home for 4 Year Olds

## Series 1

- A pre-post intervention study of frail and pre-frail older people living in a retirement village in independent or supported accommodation in late 2018
- Intervention over 7 weeks: interaction with ten 4 year-olds
- $N = 11$ , mean age 87.3 years (range 78-95)
- Primary outcomes: walking speed, handgrip strength, tandem stance (balance), depression screen (Geriatric Depression Scale)



# ABC Old People's Home for 4 Year Olds

## Series 1: Results

- Overall clinically and statistically significant improvement in all primary outcome measures, with all participants improving
- Effect sustained over 12 months in many participants
- Interactions between children and older people have continued
- International Emmy 2020



# ABC Old People's Home for 4 Year Olds

## Series 1: Results

- Average 750,000 viewers per episode
- > 1000 enquiries about implementing IG programs in Sept and Oct 2019
- Commencement of planning for playgroups in several aged care organisations (till COVID came along)
- AACTA Award for Best Documentary 2019
- International Emmy Award for Best Non Scripted Entertainment 2020





# ABC Old People's Home for 4 Year Olds

## Series 2

- A pre-post intervention study of frail and pre-frail older people living alone in the community in late 2020
- Intervention over 6 weeks: interaction with ten 4 year-olds
- $N = 11$ , mean age 85.5 years (range 76-94)
- Primary outcomes: frailty including walking speed, handgrip strength, tandem stance (balance), depression screen (Geriatric Depression Scale - Brief), QoL (Visual Analogue)



# ABC Old People's Home for 4 Year Olds

## Series 2: Results

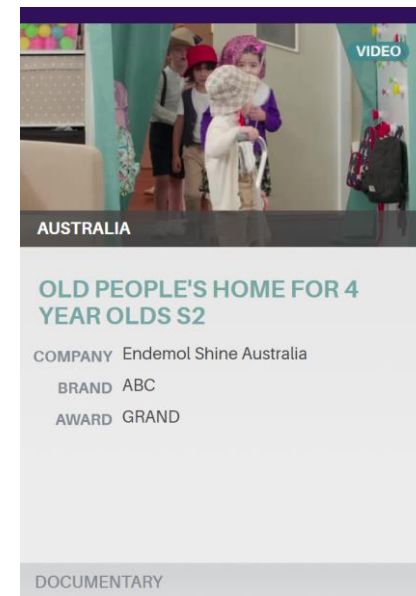
- Overall improvement in all primary outcome measures
- Participants improved particularly in components of **frailty** (6 improving significantly from frail to pre-frail or robust) and **quality of life** (all rating 7 out of 10 or higher) with average improvement from 6.3 to 8.5
- Effect sustained 6 months later
- Interactions between children and older people continue



# ABC Old People's Home for 4 Year Olds

## Series 2: Results

- Average 770,000 viewers per episode
- AACTA Award for Best Documentary 2021
- New York Film and Television Festival Grand Award Winner for Best Documentary – Social Issues 2022
- “we’ve shown the rest of the world how a group of 4 year olds can improve the lives of our elderly, hopefully this message will resonate beyond our shores....” *Deb Cuell Executive Producer*





# Where to now with intergenerational care?

- There are currently a small number of aged care facilities with attached childcare centres across Australia
- The playgroups in aged care facilities that were commencing pre-COVID will hopefully restart soon
- Current research:
  - Scoping reviews looking at barriers and enablers in residential aged care
  - Studies with older people and pre-school children in a combined learning environment, looking at length of sessions, content of program, and frequency of interaction
  - Large cluster randomised study looking at effect of IG programs on frailty



# Where to now with intergenerational care?





# It is never too late to start

BMJ 2020;368:m402 doi: 10.1136/bmj.m402 (Published 5 February 2020)

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## EDITORIALS

### Exercise in people over 85

Advanced age is no barrier to the benefits of tailored exercise

Mikel Izquierdo *professor*<sup>1,2</sup>, John E Morley *professor*<sup>3</sup>, Alejandro Lucia *professor*<sup>2,4</sup>

to benefit from it. Generalists should advise all patients, regardless of age, to be as active as possible. Medical schools should teach students that skeletal muscle remains a plastic, adaptable tissue throughout the human lifespan. It is never too late—and you are never too old—to contract muscles.