Old Dogs – New Tricks?
Creative Ways with Falls Prevention
Exercise Programs
in Residential Care

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Layers and Levels
(in residential care...at the lowest level)

Many target groups involving multiple health states with varying ability levels

Very active & healthy
Active – independent
Average – coping ...but......

Less active...health, mobility, function problems
Frail - Failing struggling
Maintaining Movement
Residential Care Settings

Overall Goals for Physical Activity Programs

• Prevent and or slow down further functional decline to postpone onset of dependency and disability
• Optimise physical and mental function and well-being

Enable the individual

• To remain physically active and move as independently as possible with safety and confidence
• To achieve relevant and realistic mobility levels that maintain functional capacities (thereby reducing the incidences and impact of falls and injuries)
Exercise Programs

There are multiple exercise recommendations to select from but...

“One program will not suit and should not accommodate all (especially the frailer aged)... there are too many variables to consider and adaptations to make to ensure the exercises are appropriate, realistic and safe”

S. Castell 2013
Exercise Programs

• Changes and regression in body systems along with lack of practice leads to less effective movement

• Physical and mental skills become less efficient such as accuracy, speed, strength, endurance and flexibility resulting in a down turn in quality of performance, balance and safety

• Exercise programs can be very basic ranging to more complex, dependent on needs and abilities. There are multiple ways and choices possible to assist people to remain active and these in themselves can present many challenges
Program Selection

Different training programs and exercises have been developed which have different elements for the participants

The Big Questions

• Which prescription and or program
  Before - ? Protection and reducing falls risks
  After - ? Rehabilitation and prevention of further falls
• Which program for which target group?
• What screening and assessments to use?
• Program levels – group and/ or individual?
• What personnel to provide the programs etc.?
The Exercise Program

Major Aims

Undertake an appropriate exercise program to maintain optimal functional capacities to reduce falls risks

- Improve and increase muscle and bone strength
- Improve balance, co-ordination and reaction time
- Maintain flexibility and good joint ranges
- Maintain / improve energy levels
- Maintain physical and mental alertness (including social skills)
- Increase/ optimise confidence and self efficacy to reduce the fear of falling whilst encouraging self responsibility
Creativity, Activity and Variety

• Each person has unique attributes – seeking the knowledge and skills on how better to understand and provide the correct exercise program/ format for each individual’s needs and abilities will be a continuous and ongoing

• Creating new ways of encouraging people to exercise and remain motivated will always be a significant challenge that requires imagination and persistence. S.Castell 2013

★ Care is needed when introducing new concepts as frail older adults have more difficulty with performance in the initial stages of motor learning and may be more negativity affected by novelty
Exercise Planning

Programs need to be evidence based (as far as possible) and in context with the different settings and target groups considering participants fitness levels, conditions, abilities and interests in order to be most effective and sustainable.

- Simple
- Structured
- Systematic
- Effective
- Relevant
- Appropriate
- Challenging
- Safe
- Progressive
- Graded
- Specific
- Realistic
- Tailored
- Motivating
Fundamental Functional Movement Requirements

• **Walking**.....moving for many reasons and needs

• **Moving in all directions**...up and down at different levels... in and out ...... on and off.......up and down

• **Getting up and down** from lying or sitting

• **Bending**...reaching ... **lifting** ... **carrying**

• **Negotiating** – many different environments, surfaces and obstacles
Program Content Considerations

- Fun and stimulating
- Sufficiently challenging
- Realistic aims and objectives
- Appropriate, safe and relevant
- Systematic and structured yet flexible
- Graded and progressive
- Tailored / specific
- Ongoing
- Education and information
Exercise Foundations and Structure

Research evidence is showing that the long term implications of a failure to stay strong and well balanced is a reduction in functional independence and quality of life with a greater increase risk of falls and associated injuries (+ fractures)

The focus areas for strength and balance exercises to improve and or maintain safe activity levels are ....

Feet and Ankles
Knees
Hips
Trunk
Why Include Strength Exercises?

- Maintain good postural alignment and spinal integrity
- Improve muscle mass and quality
- Maintain overall joint stability and alignment
- Assist body control and balance
- Reduce the problems associated with osteoporosis
- Maintain good daily activities
- Increase overall stamina

Reducing & preventing effects of Sarcopenia
Why Include Balance Exercises?

- Control weight transfers (COG & Body Sway)
- Sustain good walking / movement patterns
- Challenge reaction & response time (cognition issues)
- Maintain protective postural strategies
- Maintain efficient and effective functional movements
- Good safe, walking patterns

Working on overall body control
Increasing the Balance Challenges

Tasks

• Grading of difficulty............. sitting / standing / moving
• Different speeds
• Different direction changes
• Dual / multi tasking – Distraction activities
• Different heights
• Different functional activities

Environment

• Different surfaces and incline negotiation
• Obstacle avoidance and negotiation
• Diminished visual field manipulation
• Limited space management
• Different situations e.g. lifts
Equipment

A. Sitting balance activities

★ Chairs
• Dynadisc
• Balance pad

★ Balls

★ Noodles
• Resistance bands / small weights

B. Environment Negotiation

• Half foam rollers / Noodles
• Discs / spots
• Cones
• Steps/ boxes
• Chairs

C. Surfaces challenge activities

• Balance pad
• Foam balance beam
• Foam surfaces different sizes shapes & surfaces

D. Multiple uses + multi-tasking

• Balls
• Sticks
• Noodles
• Balance beams
• Masking tape
★ Music
Variety - Recreation

Recreational activities that involve the fundamental falls exercise elements can provide many benefits for people and is a fun way of creating functional moves

• Physical
• Mental
• Psycho – social

Other benefits being ...
• Distraction and time out from personal problems and issues
• Something that can be developed and is ongoing
Becoming Active and Staying Involved

“We need to recognise that the trigger to start exercising and stay motivated will involve a certain level of cognition for people to have the ability, insight, willingness, desire and forward thinking to recognise and relate to the issues concerning the need to exercise to remain in control of their bodies to prevent falls and injuries”

S. Castell 2013
Creativity, Activity and Variety

“Essentially programs cannot be copied or mass produced (but the basic elements to reduce falls risks should and need to be included) because their very success depends on innovation, creativity and recognition of the individual....................... Program development is an evolving process, the ways, means and applications will require a degree of flexibility and “trial and error” where and when necessary for reasons of ability, safety, interest and progression”

S. Castell 2013