

Maintaining and improving mobility in long-term care homes



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Your moderator

- Professional and personal experiences in LTC
- Advocate



Kate Ducak, MA, CPG

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About me...

- Registered physiotherapist
- Postdoctoral fellow
- Worked in LTC
- Research focus: improving rehabilitation across the continuum of care



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Tell me about you!



○ What is your primary role?

- A. Resident or family member
- B. Physiotherapy, kinesiology, or exercise/fitness
- C. Nurse (NP, RPN or RN), PSW, or medical doctor
- D. Recreation, life enrichment, or activities/programs
- E. Other (LTC staff or leadership, educators, researchers, etc)

Tell me about you!



- What sector do you work in the majority of the time?

OR

- If you are a resident or family member, where do you live or where do you visit?
 - A. Long-term care
 - B. Retirement home or assisted living
 - C. Home care or at home
 - D. Acute care (e.g., hospital) or inpatient rehab
 - E. Other (complex continuing care, etc)

Tell me about you!



What are hoping to get out of the webinar today?

Objectives:

- 1) discuss current evidence for strategies to maintain and improve resident mobility
- 2) present practical solutions for putting evidence about mobility into practice in long-term care homes
- 3) examine ways to modify suggestions for different physical and cognitive abilities.

Long-Term Care (LTC)

- 625 licensed LTC homes in Ontario:
 - 77 477 long-stay beds, 617 convalescent beds, 355 respite beds
- 7.1% of older adults over the age of 65 live in specialized care facilities, like LTC
- The Ontario government has plans to add 5000 more LTC beds over 4 years

Residents in LTC often have:

- o Complex co-morbidities
 - o 25.0% have diabetes, 4.4% have chronic obstructive pulmonary disease, 21.2% have experienced a stroke
- o Physical impairments:
 - o high prevalence of sarcopenia
- o Cognitive impairments:
 - o More than 80% of residents in LTC have some degree of cognitive impairment
 - o 56.3% of residents have a diagnosis of Alzheimer's or other dementias
- o Activity limitations:
 - o 95% of residents require some assistance with activities of daily living (ADLs)
 - o more than 80% require extensive care
 - o On average spend three quarters of their waking time in sedentary activities



What do you currently do in your home to help residents maintain or improve their mobility?

OR

If you are resident – what do you do to maintain or improve your mobility?

Recommendations for exercise and physical activity in LTC

JAMDA 17 (2016) 381–392



ELSEVIER

JAMDA

journal homepage: www.jamda.com



Special Article

Recommendations on Physical Activity and Exercise for Older Adults Living in Long-Term Care Facilities: A Taskforce Report



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Yves Rolland MD, PhD^{a,b} under the auspices of The International Association of
Gerontology and Geriatrics – Global Aging Research Network (IAGG-GARN) and the
IAGG European Region Clinical Section

Recommendations for exercise and physical activity in LTC

Box 1. Summary of Key Recommendations of Physical Activity and Exercise for Older Adults in Long-Term Care Facilities

Increasing Overall Physical Activity Levels in Daily Life	Exercise Training for Residents Dependent in Basic Activities of Daily Living, but Capable of Ambulating/Rising From a Chair*
1. Motivation and pleasure are the key aspects to take into account so as to increase overall activity levels among older adults living in long-term care facilities (LTCFs). 2. LTCF staff should adopt strategies for breaking (short breaks of 2–5 minutes) the sedentary time of LTCF residents, twice or 3 times a day. 3. LTCF staff should systematically use simple strategies to stimulate residents to move, such as walking to the lunch/dining hall rather than using wheelchairs for people who are able to ambulate. The risk/benefit of using drugs that reduce patients' activity levels, especially psychotropic drugs, must be systematically evaluated. Physical restraints should be avoided. The use of medical equipment and LTCF architecture should be oriented to optimize residents' mobility. 4. LTCF staff should organize group activities that are motivating and pleasant, such as groups to look after the garden, dance, or walk in green spaces. 5. The use of innovative solutions, such as using animal interventions and new technologies (eg, robots), should be encouraged to increase residents' motivation and pleasure and, then, overall activity levels.	1. Every resident who has no contraindications must have a personalized exercise program as part of his or her health care plan. 2. Exercise type. The best exercise type is a multicomponent training composed of muscle strength and cardiorespiratory endurance exercises as the core components. Other exercise types, particularly flexibility and balance, should be added to the exercise program whenever possible. 3. Exercise intensity. Moderate-intensity exercises are feasible, effective, and safe. Moderate exercises can be achieved by performing the following: (1) Strength, 1 or 2 sets of exercises, performed at 13–15 repetitions maximum; (2) Aerobic, exercises that noticeably increase heart and respiratory frequency, without generating breathlessness or undue fatigue (scoring 5 or 6 in a 10-point scale of perceived effort). High-intensity exercises can be executed, but may require closer monitoring. 4. Frequency. Twice a week, with an interval of at least 48 hours between sessions. Higher weekly frequency is safe and may be feasible for fitter residents. 5. Duration: 35–45 minutes per session. Lesser durations may be needed during the first weeks of exercise. Longer sessions are feasible for most people.

*Capable of ambulating/rising from a chair with or without human assistance.

Recommendations for exercise and physical activity in LTC

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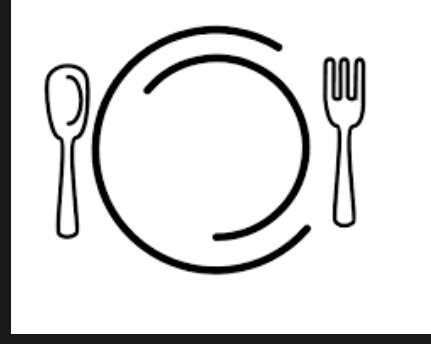
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Exercise to improve ADLs



- Exercise can have a small positive effect on ADLs when delivered:
 - 45-75 minute sessions
 - 2-3 times per week

Exercise to prevent falls

- 2012 Cochrane review:
 - the evidence surrounding exercise to prevent falls in LTC was inconsistent and did not demonstrate an overall benefit.
 - exercise programmes may increase the risk of falling for frailer residents, but reduce the risk of falling for less frail residents.
 - interventions targeting multiple risk factors may be effective – specifically gait, balance, and functional training
- 2013 systematic review by Silva et al.:
 - combined exercise programs (i.e., multiple types of exercise) that include balance tasks, are completed frequently (2-3 times per week), and over a long-term (greater than 6 months) were most effective at preventing falls.

Exercise to prevent falls

- 2015 umbrella review by Stubbs et al.:
 - multifactorial interventions were the most effective at preventing falls in LTC
- 2015 recommendations for fracture prevention in LTC:
 - balance, strength, and functional training should be included for residents who are not at a high risk of fracture, while for those at high risk, exercise should be provided as part of a multifactorial falls prevention intervention.
- 2016 systematic review by Sherrington et al.:
 - there was no evidence that exercise as a single intervention can prevent falls for residents in LTC.

MOST RECENT

The evidence for exercise to prevent falls

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JAMDA

journal homepage: www.jamda.com



Original Study

Progressive Resistance and Balance Training for Falls Prevention in Long-Term Residential Aged Care: A Cluster Randomized Trial of the Sunbeam Program

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^cUniversity of Queensland, Brisbane Street, St Lucia, Queensland, Australia

MOST RECENT

The evidence for exercise to prevent falls

- individually prescribed progressive resistance training plus balance training
- Group setting
- 2x/week, 1 hour session for 25 weeks – followed by a maintenance program for 6 months
- Results:
 - Decreased falls (142 vs. 277) and fall rate (1.31 vs. 2.91 falls per person-year)
 - Similar number of fall related fractures between groups (5 vs. 6)
 - Participants who attended more than 30 hours of training saw improvement in falls outcomes

Multifactorial falls prevention programs

- staff and resident education
- environmental modifications
- supply/repair/provision of assistive devices
- falls problem-solving conferences
- urinary incontinence management
- medication review

Crocker T et al. *Cochrane database Syst Rev.* 2013;2:CD004294.
Papaioannou A et al. *Can Med Assoc J.* 2015;187(15):1135-1144. doi:10.1503/cmaj.141331.
Jensen J, Lundin-Olsson L et al. *Ann Intern Med.* 2002;136(10):733-741.
Becker C et al. *J Am Geriatr Soc.* 2003;51(3):306-313. doi:jgs51103 [pii].
Huang T-T et al. *Aging Ment Health.* 2016;20(1):2-12. doi:10.1080/13607863.2015.1020411.

Putting it into practice



What is your favourite strength exercise?

Strength exercises

- the resident is working against resistance:
 - external resistance (e.g., dumbbell)
 - body weight moving against gravity (e.g., squat, wall push-up)

To change muscular strength, exercises need to be:

- Challenging:

- one to two sets of 6 to 8 (13 to 15) repetitions before being fatigued
- Residents who are particularly deconditioned may need to begin with lower intensity strength exercises (e.g., only do one set, with a lower resistance and progress to a higher resistance)

- Progressive:

- Progression could include increasing the number of sets (e.g., increase from one to two sets), the resistance (e.g., holding dumbbells while squatting), or the intensity of the exercise (e.g., squat lower or faster)

Example strength exercises



1. External resistance



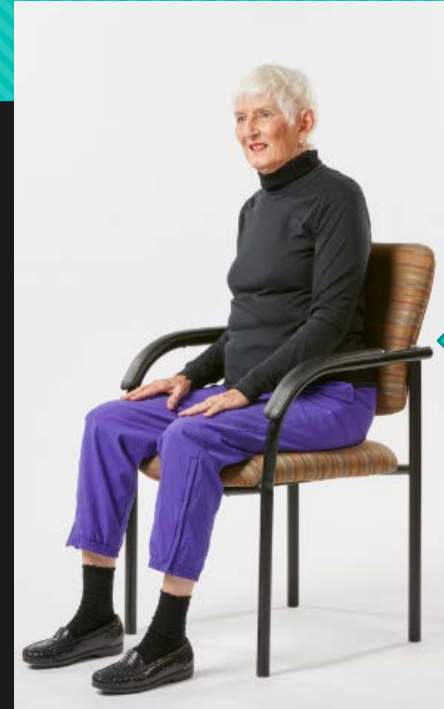
2. Body weight



Balance

- “...the efficient transfer of bodyweight from one part of the body to another or challenges specific aspects of the balance systems (e.g., vestibular system)”
(<http://www.profane.eu.org/taxonomy.html>)

Example static balance exercises



1. reducing the base of support
2. standing without using arms for support or reducing reliance on the upper limbs for support

3. moving the centre of gravity and control body position

Example dynamic balance exercises



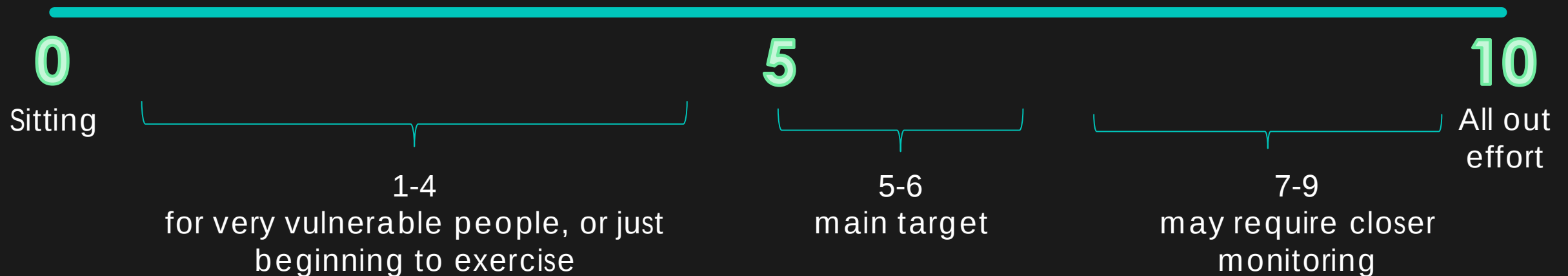
<https://carehomestoday.co.uk/older-people-arthritis-need-45-minutes-exercise-per-week-maintain-mobility/>



<http://startmovingstartliving.com/2014/12/how-much-does-physical-activity-help-maintain-mobility-in-older-adults/>

Aerobic exercise

- Exercises that noticeably increase heart rate and respiration, without breathlessness or undue fatigue



Aerobic exercise examples

- Examples:

- Walking

- Circuit training – walking in between other types of exercises

- Marching (avoid seated marching where possible!)

- Dancing



○ What challenges do you have helping residents to exercise?

OR

○ If you are a resident, what challenges do you have exercising?

Modifications for physical impairments

- Residents are often complex, with multiple co-morbidities (e.g., stroke, Parkinson's disease, multiple sclerosis)
- Modifications may be required to accommodate for physical impairments (e.g., hemiplegia, drop foot, freezing gait)

Modifications for physical impairments

- Example: Hemiplegia - cannot fully activate the muscles of one arm
 - Suggestion: do resistance exercises with a dumbbell on the functioning side and active assisted range of motion (i.e., the exercise provider assists the resident to achieve full range of motion against gravity) on the hemiparetic side.
- Example: Parkinson's disease - freezing gait
 - Suggestion: visual or rhythmical verbal cues to be able to accomplish standing balance tasks such as altered walking patterns (e.g., wide or narrow stepping).

Modifications for physical impairments

Click the link to watch the *Modifying Exercises for Residents Who Can't Stand* video <http://www.gerascentre.ca/ltc-series>

This video will be available the week of
March 5, 2018.

Modifications for cognitive impairments

- More than 80% of residents have some degree of cognitive impairment
 - Result of: stroke, depression, traumatic injuries, medications, Parkinson's and Alzheimer's disease



<https://kids.nationalgeographic.com/explore/science/your-amazing-brain/>

Hirdes et al. *Can J Aging*. 2011; 30(3), 371-390
Patterson et al. *Alzheimer's Dement*. 2007;3(4):341-347.

Modifications for cognitive impairments

Common misconception:

residents with cognitive impairment cannot benefit from exercise because they cannot learn new skills and have difficulty following directions.



BUT!

evidence suggests that exercise can improve functional mobility for residents with cognitive impairment



may require a different approach because of difficulty following multi-step directions, responsive behaviours, or increased distractibility

Modifications for cognitive impairments

Approach the person from the front	When greeting the resident stand in front of them.
Identify yourself	Before starting the exercises, introduce yourself and say why you are there: <i>"Hello, I'm Caitlin and I'm here to do some exercises with you."</i>
Maintain eye contact	When describing the exercise and giving feedback, keep looking at the resident.
Address the resident by name	Use the resident's name when describing the exercise: <i>"Bob, I want you to stand up."</i>

Modifications for cognitive impairments

Repeat or rephrase the resident's responses to clarify what they are trying to tell you	<i>"That exercise made my legs feel wobbly." "Did that exercise give your legs a workout?"</i>
Ask "yes" or "no" questions and allow time for a response	<i>"Jim, are you feeling ok?" instead of "Jim, how do you feel?"</i>
Use gestures to back up your words	Demonstrate the exercise as well as describe it.

Modifications for cognitive impairments

Listen actively, acknowledge their emotional state

Acknowledge the reasons for why a resident may not want to exercise and provide an alternative:

Caitlin: *"Mary, I'm Caitlin. I'm here to do exercises with you today."*

Mary: *"I don't want to exercise, I am too tired right now."*

Caitlin: *"I understand you are tired right now. May I come back later?"*

Let the resident know if you are going to touch them to prevent startling

Let the resident know you are going to give them hands on feedback:

"Irene, I'm going to move your arm to the side."

Modifications for cognitive impairments

Click the link to watch the *Working with Residents with Dementia or Cognitive Impairment* video
<http://www.gerascentre.ca/ltc-series>

This video will be available the week of
March 5, 2018.

Summary

- Exercise is an important part of a multifactorial strategy to maintain and improve mobility for residents in LTC
- Strength, balance, and aerobic exercises are best
- Exercise should be done at least twice a week for 35 to 45 minutes
- To make a difference - exercises must be challenging
- Modifications can and should be made for physical and cognitive impairments

What did you learn?



- What's one thing you learned today that is going to change your practice or what you do on a daily basis?



Questions?

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