CHAIR-BASED EXERCISE

Do whatever small amounts of physical activity you can do, as often as you can do it. Every minute of movement counts. Move more and move often.

Chair-based Exercise

Chair-based exercise is a supportive and safe way to exercise for people who may feel less able to take part in the standing and floor-based exercise classes or who have difficulty moving around or are concerned about their balance. Even when done seated, chair-based exercise and can really have a positive impact on physical and mental health.(1) Chair-based exercise has been shown to strengthen arm and leg strength.(1) Numerous types of exercises can be adapted to seated or supported options include aerobic or weight exercises, as well as Yoga and Tai Chi.(1) Chair-based exercises that use resistance bands have shown some good improvements in strength and balance in people over 80 years old and in those living in long term care facilities who also saw improvements in activities of daily living, lung capacity, handgrip strength, upper limb strength, lower limb strength, upper body flexibility, lower body flexibility, dynamic balance and reduced frailty.(2, 3) For people living in long term care facilities, chair-based resistance band exercise also reduced depression and improved sleep quality.(2)

Most of the studies relating to chair-based exercise have been done on people aged 65 and older who are living in long-term care facilities, are frail or may have been recently discharged from hospital. It has been shown in a systematic review (SR) that some chair-based exercise programmes did show some slight improvement in cardiovascular fitness, mobility and function and mental health in older frail people without any harmful effects.(4) In a randomised controlled trial (RCT), the seated exercise group had a reduced fall risk compared to those who just received social visits after being discharged from hospital.(5)

During a chair-based exercise class, participants remain seated in a sturdy upright chair or in their own mobility aid like a wheelchair. Someone doing the class may experience this as light to moderate exercise depending on their own ability and level of fitness. As the intensity of the exercise increases for a person, so will their heart rate, breathing rate and use of energy (“calorie burn”). Light exercises may include slow walking, gentle seated exercises or slow, supported movement. Some people may experience this as light exercise which may not usually cause substantial increase in the person’s heart rate or breathing. Moderate exercise would increase the heart and breathing rate and may cause someone to sweat.

Guidelines

The UK Chief Medical Officers’ and the World Health Organization guidelines recommend:(6, 7)

- Doing some physical activity is better than doing none; even small amounts can benefit one’s health.
- New to exercise? Start by doing small amounts and gradually, over time, increase how often, how intensely and for how long you exercise.
- For those age 65 years and over or with physical difficulties, be as physically active as your abilities allow and adjust how much effort you put into physical activity based on your fitness levels.

©Goldster Limited 2023

If ability allows, ultimately aim to get at least 150 minutes of moderate cardiovascular activity each week; or 75 minutes of vigorous activity each week.

GOLDSTER Points and Evidence Levels for this Activity

Domain	Impact Strength	Points	Information on Evidence	Evidence Type	Evidence Level
Cognitive	None	0	There is no available evidence that chair-based exercise has been proven to benefit cognitive function.	-	None
Physical	Medium	2	In older people, chair-based exercises have shown a moderate improvement in hand grip, arm strength and leg strength.(1) In older people who are frail, chair-based exercise has shown slight improvement in muscle-strength, cardiovascular fitness, mobility and function.(4) Chair-based exercise reduced risk of falls for older people discharged from hospital.(5) In older people in long-term care facilities, chair-based resistance band exercise has shown significant improvements in activities of daily living, lung capacity, handgrip strength, upper limb muscle endurance, lower limb muscle endurance, upper body flexibility, lower body flexibility, dynamic balance.(2) Both multimodal and resistance band chair-based exercise have shown reduced frailty in women living in long term facilities.(3)	Systematic Reviews, Randomised Controlled Trials	Low, Medium
Emotional	Mild	1	Evidence on chair-based exercise has shown slight improvement in mental health in older people who are frail.(4, 5) For people living in long term care facilities, chair-based resistance band exercise has been shown to reduce depression and improve sleep quality.(2)	Randomised Controlled Trial, Systematic Reviews	Low

References

1. Klempel N, Blackburn NE, McMullan IL, Wilson JJ, Smith L, Cunningham C, et al. The Effect of Chair-Based Exercise on Physical Function in Older Adults: A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2021;18(4). https://doi.org/10.3390/ijerph18041902
2. Efendi F, Tonapa SI, Has EMM, Ho KHM. Effects of chair-based resistance band exercise on physical functioning, sleep quality, and depression of older adults in long-term care facilities: Systematic review and meta-analysis. Int J Nurs Sci. 2023;10(1):72-81. https://doi.org/10.1016/j.ijnss.2022.12.002
3. Furtado GE, Carvalho HM, Loureiro M, Patrício M, Uba-Chupel M, Colado JC, et al. Chair-based exercise programs in institutionalized older women: Salivary steroid hormones, disabilities and frailty changes. Exp Gerontol. 2020;130:110790. https://doi.org/10.1016/j.exger.2019.110790
4. Anthony K, Robinson K, Logan P, Gordon AL, Harwood RH, Masud T. Chair-based exercises for frail older people: a systematic review. Biomed Res Int. 2013;2013:309506. https://doi.org/10.1155/2013/309506

©Goldster Limited 2023

5. Vogler CM, Sherrington C, Ogle SJ, Lord SR. Reducing risk of falling in older people discharged from hospital: a randomized controlled trial comparing seated exercises, weight-bearing exercises, and social visits. Arch Phys Med Rehabil. 2009;90(8):1317-24. https://doi.org/10.1016/j.apmr.2009.01.030
6. World Health Organization. WHO guidelines on physical activity and sedentary behaviour. Geneva: World Health Organization; 2020 [Available from: https://www.who.int/publications/i/item/9789240015128.
7. Department of Health and Social Care LCWG, Department of Health Northern Ireland, and the Scottish Government,. UK Chief Medical Officers' Physical Activity Guidelines. 2019 [Available from: https://www.gov.uk/government/publications/physical-activity-guidelines-uk-chief-medical-officers-report.

Disclaimer: The information in this document is provided for informational, educational and interest use only. The information has not been prepared for your specific requirements, and it is your responsibility to make sure it is appropriate for you. This information does not contain or constitute, and should not be interpreted as, medical or therapeutic advice. If you have any doubts about your health, you should consult your doctor before implementing anything you read about in this document. You acknowledge and accept that you read this information and undertake any activities discussed herein at your own risk. The information should not be shared with third parties or used for any commercial purposes.

©Goldster Limited 2023