

2023 Otago Exercise Program Guidance Statement

All you need to know:

- **Do the Otago Exercise Program (OEP) exercises at the appropriate challenge level and the appropriate amount of time each week**
- **Do not modify or change the exercises**

This document provides information and guidance for physical therapists, community providers, community-based organizations and falls prevention grantees who want to implement the OEP.

Always refer to the statement above when implementing the OEP.

Otago Exercise Program Overview and Original Research

The Otago Exercise Program (OEP) was developed and validated by Dr. John Campbell and Dr. Clare Robertson at the University of Otago, Otago, New Zealand. In the mid-1990s, the OEP was implemented, disseminated, studied, and proven to decrease falls and fall-related injuries in high-risk older adults living in New Zealand by 46% (Robertson, Devil, Gardner, & Campbell, 2001), and even to decrease risk of mortality (Thomas 2010).

The OEP is considered to be one of the most appropriate fall prevention programs for older adults at a high risk for a fall, or as an entry program for older adults starting their fall risk management journey. The secret sauce is a series of progressively more challenging strength and balance exercises, performed up to three times a week for up to 30 minutes. The OEP includes a walking program which is incorporated when the participant has the ability, with the goal of walking up to 3 times a week for up to 30 minutes. Exercises and walking can be performed in a class setting, at home, or in a mix of class and home.

Otago Exercise Program Key Components

- Warm up exercises
- 17 specific strength and balance exercises, personalized and progressed as appropriate to the individual's abilities to maximize benefits
- Ankle weights for select exercises
- Up to 30 minutes/day of strength and balance exercises, three times/week
- Up to 30 minutes/day of walking, three times/week at a schedule that works best for the participant.

Otago Exercise Program Implementation Models

The key component of the Otago Exercise Program is doing the exercises at the appropriate challenge level and the appropriate amount of time each week.

Delivery Settings: OEP has been validated and proven effective in multiple settings including: Skilled Nursing (Kocic 2018), Long Term Care (Ecsedy 2021), Assisted living (Beato, 2018), Outpatient (Shubert 2018), and online (Shubert 2018).

Delivery Format: OEP has been validated and proven effective delivered in an individual or group format

- Individual Delivery (1:1) In the original research, the OEP was delivered by a physical therapist working with an older adult in the home (Robertson, Devil, Gardner, & Campbell, 2001, Thomas 2010, Liu-Ambrose 2008, Yang 2012, Cederbom 2019, Hardy-Gostin 2022). Other studies have demonstrated the effectiveness of OEP delivered in a 1:1 format by non-physical therapist providers in the home and other settings such as: Peer-leadership (Robson 2003,, Shubert 2017), Virtual avatars (Shubert 2018), Certified occupational therapist assistants and exercise physiologists (Shubert 2017).
- Group Delivery (1:2+) In order to reach a larger number of participants, the group delivery model has been studied and demonstrated equivalent participant outcomes to the original 1:1 model. Group classes have been led by physical therapists (Kyrdalen 2014, Kocic 2018), non-physical therapists (Albornos-Munoz 2018, Ecsedy 2021, Wurzer 2014, Robson 2003), as well as avatar-led, using a mobile app, online videos, and a DVD (Martins 2020, Benavent-Caballer 2015, Baez 2016).

In all settings and models, a physical therapist either delivered the program or was available as a consultant to provide initial screenings of participants to ensure they were safe and appropriate for the program. The physical therapist as consultant was available throughout the duration of the program to assess fall risk levels or safety concerns. It is a best practice to collaborate with a physical therapist either to implement or consult when offering the OEP.

Participants

- Adults aged 65 and older who have a history of falls or identify at an increased risk for a fall by the [STEADI](#) tool
- Participants with mild cognitive impairments can participate if they have the capacity to follow directions or have access to a caregiver to assist
- Individuals who are the most frail and at higher levels of fall risk will receive the greatest benefits from this program
- The OEP is not a forever program for all participants. When a participant is no longer sufficiently challenged by the program, they should be referred to other programs or classes they are interested in to continue to challenge their strength and balance

Fidelity in the OEP is achieved by:

- An individualized program for the participant consisting of appropriate exercises from the OEP that is progressed to ensure continual challenge
- A duration of strength and balance training three times a week for 30 minutes or more
- A duration and frequency of a walking program for up to three times a week for up to 30 minutes or more
- The use of ankle weights
- Participate in a *supervised program a minimum* of eight weeks though a longer duration is typically more effective for most older adults

Why is implementation of the OEP different from many of the other Evidence-Based Fall Prevention Programs?

Some history:

The OEP was originally implemented and proven effective in a home-based model in New Zealand. A physical therapist would work with an older adult in the home for five visits over eight weeks and then call the older adult every month after for a period of one year with booster visits at 6 months and 12 months.

In 2010, the OEP was selected as one of three programs for dissemination in the United States by the Centers for Disease Control and Prevention. The OEP was selected, along with Tai Chi Moving For Better Balance and Stepping On, because these were the few fall prevention programs in 2011 that had been researched, validated, and manualized. The fact there was a manual was critical to program adoption and implementation with fidelity.

The OEP, unlike Stepping On and Tai Chi, did not have a dissemination center, a licensing process, or a mechanism to assess fidelity. In addition, the OEP was the only program at that time to be delivered by a licensed clinician, whose job it was to identify, recommend, and progress the exercise program. Though the original delivery model is highly effective, the widespread implementation of the program was limited by the number of physical therapists available to deliver the program, the requirement to deliver the program in the home, and reimbursement practices.

The OEP is one of the few programs that target a high-risk population. Because it is so effective in this population, efforts have been made to identify key components and to validate different delivery models with the goal of rapidly expanding older adult access.

Research studies have demonstrated the key components are doing the exercises at the appropriate intensity and duration. Setting, delivery system, and instructor have little to no impact on outcomes. Identification of these components has allowed for an increase in adoption and implementation of the OEP. There is not, nor will there be a dissemination center for the program.

Fidelity must be self-monitored and it is up to the individual and the organizations who offer the OEP to do so with integrity. The key fidelity requirements include: 1) Only incorporate the

specific OEP exercises into the program and do not change the exercises; 2) Provide ankle weights for appropriate exercises; 3) Include a walking program when appropriate; 4) Progress the exercises so the individual receives the appropriate intensity and challenge of exercises to achieve full benefits.

To learn more about evidence-based health promotion programs visit:

<https://www.ncoa.org/evidence-based-programs>

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