Center for Healthy Aging
The Otago Exercise Program: Implementation Journeys

Tiffany Shubert
Carolyn Ham
Marissa Whitehouse
Polling Question #1

- Who is joining us today?
  - Community Providers (Area Agency on Aging/Senior Centers)
  - Physical Therapists/Rehab Agencies
  - Other Health Care Professionals
  - Personal Trainers/Exercise Instructors
Polling Question #2

- What is your experience with the Otago Exercise Program?
  - Brand new to the program
  - Have read about it, but never implemented
  - Experienced implementation
Presenters

- Tiffany E. Shubert, PT, PhD; Clinical Architect, Shubert Consulting
- Carolyn Ham, PTA; Older Adult Falls Prevention Specialist; Injury and Violence Prevention; Washington State Department of Health
Objectives

- Introduce the Otago Exercise Program
- Review the OEP Resources
- Discuss Washington State’s implementation Journey
The Otago Exercise Program

- Evidence-based fall prevention program from New Zealand
- Implemented in the home
  - 5 visits over 8 weeks
  - Follow up visits at 6 months and 1 year
  - Monthly phone calls when there is no face to face interaction
- Exercises
  - A series of warm up exercises
  - Up to 17 strength and balance exercises for 30 minutes/day, three times/week
  - Three exercises use ankle weights to provide added progressive resistance
  - A walking program done for up to 30 minutes/day, three times/week
## The OEP Experience

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<th>3</th>
<th>4</th>
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### Clinical/Supervised Phase

### Self-Management Phase

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- Initial visit in the 1st week of the Clinical/Supervised Phase.
- Follow-up visits in weeks 2 and 4.
- Three weekly calls in weeks 3, 4, and 6.
- Visit in week 8.
- Visit/Discharge call in week 12.
Most Appropriate For:

- Older adults who have experienced at least one fall
- Older adults who have significant balance impairments
- Older adults who would have challenges participating in a community-based program
Progressive Strength Exercises

Seated Leg Extension with weight

Hip Abduction with weight

Leg Flexion with weight
Progressive Strength Exercises

Supported Heel Raises  Unsupported Heel Raises

Supported Toe Raises  Unsupported Toe Raises
Progressive Balance/Strength Exercises

- Sit-to-Stand Two Hands
- Sit-to-Stand One Hand
- Sit-to-Stand No Hands
Progressive Static Balance Exercises

- Supported Heel – Toe Standing
- Unsupported One Leg Stand

- Supported
- Unsupported
Progressive Balance Exercises

Supported
Knee bends

 Unsupported

Supported
Backward Walking

 Unsupported
Progressive Balance Exercises

Sideways Walking

Supported Heel – Toe Walking

Unsupported Heel – Toe Walking

Walking and Turning Around
Progressive Dynamic Balance Exercises

Supported
Unsupported
Toe Walking

Backward walking

Stair Walking
Translation Challenges!

- Developed and implemented in a small country with nationalized healthcare
- OEP in-home visits and phone calls not aligned with Medicare documentation and reimbursement policies and procedures
US Modifications

- Implement in the home, outpatient clinic, or community setting
- Participants can exercise on their own, in a class, or using online applications, videos, or virtual programs
- Participants can use a variety of tools to track participation rates and progress
US Modifications

- Delivered by a PT or a Physical Therapy Assistant (PTA) and reimbursed by Medicare as long as the participant meets the requirements for physical therapy under Medicare Part A, B, or C.
- Required 8 week participation with a recommendation of a minimum of 6 months.
- Delivered by a community-based organization (by an individual with an exercise background and experience working with older adults).
Guidance Statement


Otago Exercise Program Guidance Statement

The purpose of this document is to provide information and guidance regarding implementation of the Otago Exercise Program for U.S. Administration for Community Living falls prevention grantees and other community-based organizations implementing Otago.

Otago Exercise Program Overview and Original Research

The Otago Exercise Program (OEP) was developed and tested by Dr. John Campbell and Dr. Clare Robertson at the University of Otago, New Zealand. Implementation and dissemination of the program in New Zealand was studied in the mid-1990s, and proven to decrease falls and fall-related injuries in high-risk older adults by 48% (Robertson, Devil, Gardner, & Campbell, 2001).

The OEP is considered to be one of the most appropriate fall prevention programs for older adults who are frail and may not be able to participate in a group-based program like Tai Chi. For this reason, the program was originally designed for delivery in the home by a physical therapist (PT).

Designed to continually challenge the participant’s strength and balance, the program consists of:

- A series of warm-up exercises
- 17 strength and balance exercises conducted in the home for 30 minutes/day, three times/week (three exercises use ankle weights to provide added resistance)
- Exercises selected and progressed by a PT based on the participant’s abilities (the participant does NOT do all 17)
- A walking program done for up to 30 minutes/day, three times/week
- Five PT participant visits over a period of 6 weeks
- Follow up visits at 6 months and one year, and
- Monthly phone calls during months were there is no face to face interaction.

Guidance for the United States Version of the Otago Exercise Program

In 2010, the OEP was selected as one of four programs for dissemination by the Centers for Disease Control and Prevention in the United States. As part of the US dissemination project, several aspects of the OEP were modified to facilitate adoption and implementation of the program by both healthcare providers and community-based organizations. These modifications do not in anyway compromise the fidelity of the program.

The United States version of the OEP maintained the following elements:

- A series of warm-up exercises
- Participation in a minimum of 5 sessions over 8 weeks with a provider of the OEP
- Select exercises from the 17 OEP exercises which challenge the participant’s strength and balance for up to 30 minutes, three times a week.
- A walking program for up to 30 minutes, three times a week

Outcomes from US Dissemination


- Improvements in functional outcome measures
- Improvements in perception of ability to sit, stand, kneel, walk
- Improvements in balance confidence and fear of falling

Target Audience

The original OEP demonstrated the greatest effectiveness with adults age 80 and older. For the US dissemination, the program was shown to be effective in adults age 60 and older who had a history of falls or were identified at an increased risk for a fall by the STEADI tool. The program is not appropriate for older adults who screen at low risk for falls or who have the strength and endurance to participate in a community-based Tai Chi class.

Participation Requirements

- Attend a minimum of 5 sessions over 8 weeks with a provider of the OEP. The first session is to introduce the participant to their exercise plan. The remaining sessions are to insures the participant can perform their exercise program either on their own or part of a class and to progress the intensity and challenge of the participant’s program.
- Sessions can be one-on-one or in a group setting.
- The sessions must be conducted by a PT, a PTA, or by a community provider with expertise in older adult exercise instruction.
- If sessions are conducted by a community provider, it is strongly recommended to establish a relationship with a PT to provide consultation services as needed.
- Complete their OEP plan up to 30 minutes/day, three days/week.
- Complete their walking program up to 30 minutes/day, three days/week.
Relevant Publications

Washington State’s Journey Towards Otago Exercise Program Implementation

January 24th, 2017

Carolyn Ham, PTA
Older Adult Falls Prevention Specialist

Injury and Violence Prevention
Washington State Department of Health
An Unmet Need

❖ As part of developing our state’s first Action Plan on Falls Prevention, an Advisory Group reviewed demographic data related to falls.

❖ They found that the risk of fall-related deaths in adults age 85+ was triple that of those ages 80-84.

❖ As individuals age, their ability to exit the residence and access community programs decreases.

❖ A review of currently offered programs revealed that our evidence based community offerings were targeted mainly at those older adults who could access the community.
Rate of Fall-Related Deaths By Age Group 2006-2015, Washington State
Looking for Solutions

❖ The highest risk population has the lowest access to our current “menu” of falls prevention programs

❖ The Otago Exercise Program targets this high-risk group and can be delivered through the current healthcare system or through alternative models

❖ Early conversations around Otago focused on obstacles

❖ Discovered there was already a community of Otago-trained PTs in Washington who were using the program
Exploring Otago in Washington

❖ Connecting Public Health Falls Prevention with PT’s implementing Otago

❖ Currently three pilot studies are ongoing in Washington with varying models of in-home delivery of Otago

❖ Hospital-affiliated outpatient falls clinic is utilizing program

❖ Positive feedback from Therapists currently using it

❖ Strong interest from Home Health in 8-week implementation model

❖ Major questions:
  ❖ Can non-PT clinicians take the training (Athletic Trainers, Nurses)?
  ❖ PTA role in implementation (Washington has a 5th visit supervision requirement)
  ❖ What are the opportunities to utilize Otago in individuals with dementia?
Questions
Thank you!
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Fidelity Mantra

- DO THE EXERCISES
- DO NOT MODIFY THE EXERCISES
Meeting with the participant five times over the first eight weeks of the program, in either one-on-one or group sessions

- Insuring the participant is challenged throughout the program
- Insuring the participant has access to ankle weights
- Supporting participant adherence and compliance
OEP Success Stories

“R” 80 Year Old OEP Participant

“During these 8 weeks I have felt myself get stronger, more confident, more knowledge about how balance of the body works. I love my muscles! I have had more energy during these weeks of work (and this program is work!).”
Resources

Strength Exercise Videos

- Arm Exercise
  - Front Arm Stretch
- Arm Pumps
- Rear Upper Arms Stretch
- Leg Exercise
- Rear Leg Stretch
- Full Stretch
- Full Stretch

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- Arm Exercise
- Rear Leg Stretch
- Full Stretch
- Full Stretch
- Rear Leg Stretch
- Rear Arm Stretch

- Arm Exercise
- Rear Arm Stretch
- Rear Leg Stretch
- Full Stretch
- Rear Leg Stretch
- Rear Arm Stretch

- Arm Exercise
- Rear Arm Stretch
- Rear Leg Stretch
- Full Stretch
- Rear Leg Stretch
- Rear Arm Stretch
Resources

- OEP implementors are required to complete the Otago Exercise Program Online Training at [http://www.med.unc.edu/aging/cgec/exercise-program](http://www.med.unc.edu/aging/cgec/exercise-program) (cost $35).
- Other information about training, resources, and marketing materials is available at [http://www.med.unc.edu/aging/cgec/exercise-program](http://www.med.unc.edu/aging/cgec/exercise-program).
- OEP Database
- [https://apps.hpdp.unc.edu/ACL/security/login](https://apps.hpdp.unc.edu/ACL/security/login)