

# An evaluation of a 26-week class and home-based OTAGO exercise programme on self-reported balance confidence and physical performance in Older Adults in Ireland.

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## Background

Falls are the leading cause of functional decline, loss of independence and mortality in older adults<sup>(1, 2)</sup>

Substantial burden on the Irish economy and have negative physiological consequences for the individual<sup>(2,3)</sup>

The Otago exercise programme is a cost-effective falls prevention programme that can prevent 35% of falls<sup>(3, 4)</sup>

Using other professionals such as exercise therapist could be a cost effective method of delivery<sup>(5, 6)</sup>

## Aims

Evaluate the effectiveness of a 26-week modified Otago exercise programme (OEP) using a combined delivery approach of physiotherapists and exercise therapists on balance confidence and physical performance in older adults in rural Ireland.

## Methods

### How did we do it?

#### Study Design:

An evaluation study measuring the effectiveness of a modified OEP on balance confidence and physical performance.

#### Sample: (n=67)

73.1% female

91% were aged between 70 and 99 years

100% independently mobile and living at home

41% had fallen within the last year

#### Intervention:

Group-class (1x/week) & home OEP (3x/week).

Strength and balance exercises

Physiotherapist and exercise instructors (OTAGO leaders) delivery programme.

#### Data Collection:

CONFbal questionnaire (week 0 & week 26), Timed-up and go, 180° turn test,

30-second sit to stand, functional reach test, 4-stage balance test

Data was collected at 0, 6, 16 and 26 weeks

#### Statistical Analysis:

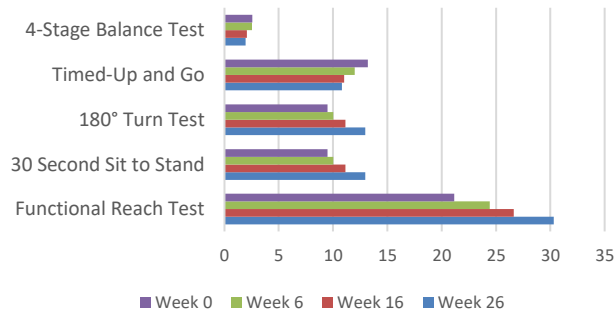
Data were assessed for normal distribution

Pre and post intervention analysis - Paired T-Tests and Wilcoxon Signed Ranks tests

A repeated-measures ANOVA compared OMs across 0,6,16 and 26. weeks

## Results

### Physical Performance Measures

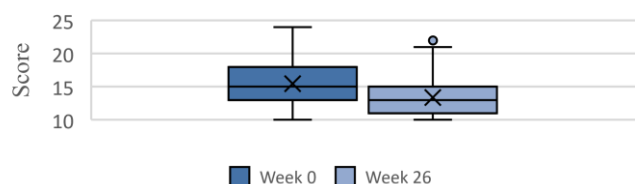


Variable	Baseline score Mean (SD)	26-Week score Mean (SD)	Difference Mean (95%CI)	P value
CONFbal	15.43 (3.163)	13.31 (2.856)	2.12 (1.353 to 2.803)	<.001*
FRT	21.156 (6.601)	30.314 (10.035)	9.158 (6.758 to 11.294)	<.001*
30 Second STS	9.48 (2.555)	12.97 (4.243)	3.49 (2.361 to 4.201)	<.001*
Variable	Baseline score Median (IQR)	26-Week score Median (IQR)	Difference Mean (95% CI)	P value
180° Turn Test	5.0 (2)	4.0 (2)	1.04 (3 to 5)	<.001*
TUG	12.51 (4.68)	9.38 (3.93)	2.38 (8.075 to 12.0)	<.001*
4-Stage Balance Test	3.0 (1)	2.0 (2)	0.61 (1.0 to 3.0)	<.001*

## Conclusion

- Confidence and physical performance improved following the OEP intervention.
- The physiotherapist and ET delivery of the programme is effective.
- Static and dynamic balance improvements may plateau after 6-weeks of the OEP.
- Lower limb strength and mobility continued to improve.

### CONFbal Scores



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