The Otago Program
Home based falls prevention program for older adults

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The Otago Program at HNEH

- HNE Health, Greater Newcastle Cluster Otago Exercise Program commenced on the 31st January 2011

- Inclusion of clients with cognitive decline and with progressive neurological conditions.

- This program is targeted at those clients living in the community who are not able to access centre based rehabilitation or not suitable for a community based program.
The Otago Program

- Individually tailored home based exercise program – PT/OT/EP
- 5 to 6 home visits over 12 month period
- Phone coaching and follow up/booster visits if required
- Strength exercises 3 x per week and walk at least 2 x per week, balance exercises daily (2hrs/week)
- Activity/Exercise Booklet and Diary
- Leg weights
- Outcome measures: TUG, Sit to stand x 5, Near Tandem stance and FES –I, ZBI
Evidence for the Otago Program

- Four controlled trials conducted at the University of Otago Medical School, New Zealand.
- 1016 people aged 65 to 97 living at home
- 35% reduction in both the number of falls and the number of injuries resulting from falls in both men and women
- Improvements seen in strength, balance and confidence in all ADLs
- Greatest effect in high-risk groups: over 80 yo who had had a previous fall
Challenges

- Non recurrent funding (max 1.5 staff)
- Staff security and job security
- Collaboration to meet the needs of the wider community and prevent falls
- To implement Otago across HNE LHD and all of NSW
Outcome Measures:
- Timed up and go (TUG)
- Sit to stand (STS)
- Near tandem stance (NTS)
- Falls Efficacy Scale – International (FES-I)
- Pain Scale
- Zarit Burden Interview (ZBI)
- Quality of Life Scale (QOL)
Inclusion and Exclusion Criteria

Inclusion Criteria:

- Lives in their own home who have had a fall or have a fear of falling
- Can mobilise within their own home +/- mobility aide
- > 65 years old or >45 years old for ATSI population
- Can exercise independently if they live alone
- Is medically stable i.e. no ongoing infections such as cellulitis, open leg wounds, #’s
- Unable to participate in a group setting i.e. due to anxiety/depression/CALD/cognitive/neurological/transport issues
Exclusion Criteria:

- Residents of aged care facilities
- People who have a terminal illness with a prognosis of less than 12 months as the Otago program is a 12 month program
- People who are dependent on a wheelchair for mobility
- People who are only able to transfer from chair to chair.
- Current open service request to other GNC service e.g rehabilitation, RPDH
Behaviour change and self management

- Motivational Interviewing → Behaviour change/self Mx
- Adult learning principles
- Exercises need to be maintained to sustain the benefits
- Start slowly and set realistic goals – short and long term
- Provide ongoing support and telephone contact between home visits
- **Involve the person’s family**
- Education re specificity in training
• Specificity
• Technique correction
• Education
• Follow up
• Understanding your clients
• Educational/cognitive level
Otago Outcomes

- **Program Duration**: 28 months
- **Clients Referred**: n = 946 clients
- **Participants Assessed**: n = 522 clients
- **Clients unable to participate/culled**: n = 220 clients
- **Reduction in falls**: 60% (but all data self reported and not objective as per other outcome measures)
Non-specific Population n= 286 clients

- TUG
- STS
- NTS
- FES-I

Weeks:
- Week 1
- Week 8
- 6 Months
- 12 Months

Seconds (TUG, STS, NTS) vs Points (FES-I)
Non-specific Population Results

Week 1 – 12 months improvements

• TUG: 34% improvement (Av 7.3 secs)
• STS: 36% improvement (Av 9.2 secs)
• NTS: 39% improvement (AV 2.4 secs)
• FES-I: 16 % improvement (Av 5 points)
Neurologically Impaired Population n= 107 clients
Neurologically Impaired Population Results

Week 1 – 12 month averages

• TUG: 38% improvement (Av 11.2 secs)
• STS: 37% improvement (Av 10.9 secs)
• NTS: 39% improvement (AV 1.6 secs)
• FES: 18% improvement (Av 7 points)
Cognitively Impaired Population n= 52 clients
Cognitively Impaired Population results

Week 1 – 12 month averages

• TUG: 40% improvement (Av 12 secs)
• STS: 34% improvement (Av 10 secs)
• NTS: 101% improvement (Av 3 secs)
• FES-I: 1% decrease in confidence
Good news story – Mr R

- Initial Ax – afraid to mobilise outdoors with 4ww
- Reliant on walker indoors at all times
- Housebound unless assistance available
- Now mobilising outdoors daily for 35 -40 minutes with 4ww
- Indoors single point stick
- Wk 1 TUG 44.86s 4ww; wk 8 15.36s s/stick
**Good News Story – Mrs T**

PHx: Vertigo, autonomic neuropathy, diabetic retinopathy, COPD, anxiety, HT, Type 1 diabetes

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Week 1</th>
<th>Week 8</th>
<th>6 Months</th>
<th>12 Months</th>
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<tr>
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<td>FES</td>
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References

• Campbell, A.J. & Robertson, M.C. (2007). Otago Exercise Programme to Prevent Falls in Older People: A home-based, individually tailored strength and balance and retraining programme.


References