



# PHYSIOTHERAPY WORKS THE EVIDENCE

## FALLS PREVENTION

Physiotherapy can help treat and prevent falls, one of the leading causes of hospitalisation in New Zealand.

### About falls

Falls, which include slipping and tripping, are the single largest cause of injury for New Zealanders across all age groups. Falls are most common in those over 65 years of age; causes can range from poor vision and balance to certain types of medicine or a medical conditions.

Falls are the leading cause of hospitalisation, and one of the top three leading causes of death by injury, in New Zealand<sup>1</sup>.

### Who is at risk?

New Zealand's population is ageing – currently 14% is over the age of 65 and this percentage is increasing rapidly. A person over the age of 65 has a one in three chance of falling in a year and this increases to a 50% chance of falling once over the age of 80<sup>2</sup>.

Around 20% of older people who fall sustain a serious injury requiring medical intervention and often hospital based care<sup>3</sup>. Fractures to the arm and hip are the most common.



**A targeted exercise programme from a physio can reduce both the rate and the risk of falling**

## How physiotherapy can help

Physios have an important role to play in both fall prevention and treatment after a fall.

A physio can:

- Prevent falls using risk assessments and targeted programmes
- Maintain strength, mobility and independence with evidence-based exercise programmes
- Treat injuries after a fall and help restore independence and confidence following a fall
- Run tailored exercise programmes for individuals or in community group settings
- Liaise with other health professionals
- Develop strategies to prevent further falls.

## The evidence

The 2012 Cochrane Review<sup>2</sup> on: Interventions for preventing falls in older people living in the community concludes:

1. Group and home-based exercise programmes, and home safety interventions reduce rate of falls and risk of falling.
2. Multifactorial assessment and intervention programmes reduce rate of falls but not risk of falling.
3. Tai Chi reduces risk of falling.
4. Overall, vitamin D supplementation does not appear to reduce falls but may be effective in people who have lower vitamin D levels.

## Physiotherapy as a cost saving

The cost to ACC of injuries from falls in the home in 2010 was \$272,000,000. Falls are also one of the main reasons that people move from independent living to residential care, this care costs the government around \$800 per week per person<sup>4</sup>.

A targeted exercise programme from a physio can reduce these costs. These programmes have been shown to reduce the rate of falling by 22 – 27% and the risk of falling by 17 – 35%.<sup>1</sup>



Research has shown physiotherapy to be a cost effective intervention for decreasing falls in elderly people living in the community.

## A case study

The Otago Exercise Programme was developed in New Zealand. It is recognised worldwide as an evidence-based falls prevention programme. It has been widely implemented in the United Kingdom, United States and Australia. Research from New Zealand and overseas has shown it to be a cost effective intervention for decreasing falls in elderly people living in the community<sup>5,6,7</sup>. The programme consists of a core set of exercises over seen and progressed by a physiotherapist; however the patient does the exercises independently on a daily basis.

In New Zealand funding for the programme by ACC was cut in 2009. Physiotherapists continue to provide the programme on a private basis and in some areas implementation is occurring in a group setting.

## Conclusion

Physiotherapy intervention in this area can lead to long term cost savings and improved quality of life for elderly people and can result in them continuing to live independently. If you are afraid of falling or have an elderly relative afraid of falling – see your local physiotherapists for an assessment and treatment programme.

## References

- <sup>1</sup> Hale, L Taylor D & Waters D (2012) Exercise is a proven fall prevention strategy: it should be embedded into usual physiotherapy practice. NZJP 40: 45 – 47
- <sup>2</sup> Gillespie LD, Robertson MC, Gillespie WJ, Sherrington C, Gates S, Clemson LM & Lamb SE (2012) Interventions for preventing falls in older people living in the community (Review) Cochrane Library Issue 9
- <sup>3</sup> Garrett S, Elley CR & O'Dea D (2008) The cost of falls in older adults in the community. NZ Family Physician 35 (1): 22- 27
- <sup>4</sup> ACC 2011: Falls in the home cost New Zealand \$272 million <http://www.acc.co.nz/news/WP/C095508>
- <sup>5</sup> Thomas S, Mackintosh S & Halbert J (2010) Does the 'Otago exercise programme' reduce mortality and falls in older adults?: a systematic review and meta-analysis. Age Ageing 39(6): 681-687
- <sup>6</sup> Davis JC, Robertson MC, Ashe MA, Liu-Ambrose T, Khan KM & Marra CA. (2010) Does a home-based strength and balance programme in people aged ≥ or = 80 years provide the best value for money to prevent falls? A systematic review of economic evaluations of falls prevention interventions. Br J Sports Med 44 (2): 80 -89
- <sup>7</sup> Campbell AJ, Robertson MC, Gardner MM, Norton RN, Tilyard MW & Buchner DM. (1997) randomised controlled trial of a general practice programme of home based exercise to prevent falls in elderly women. BMJ 35 (7115): 1065 – 1067

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