



BEST at home

Balance Exercise Strength Training

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BEST at Home Program Manager
Health Promotion Service

May 2017



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Local Health District

What is BEST at Home?

- Balance Exercise Strength Training – a home based exercise program for people aged 65 years and over
- NHMRC Partnership Grant
- Collaboration between:
 - Illawarra Shoalhaven Local Health District (ISLHD)
 - The University of Sydney
 - The George Institute for Global Health



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Background

- Falls are a major and increasing public health issue
- Uptake of evidence based exercise programs is low
- New delivery method for Otago Exercise Program
 - Piloted in 2010
- 50% of the adult population will experience shoulder pain each year



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Aim

- To determine the effectiveness and cost effectiveness of the BEST at Home program for reducing falls and preventing shoulder dysfunction in people aged 65 years and over.



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Methods

- Study Design - RCT
- Sample Size – 576 participants
- Participants
 - 65 years and over, living in the community
 - Not participating in a similar exercise program 2 or more times per week
 - No cognitive impairment (assessed by MIS)
 - No recent fracture or joint replacement
 - No progressive neurological condition
 - Sufficient English
 - Able to obtain medical clearance



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Intervention

- Exercise intervention is delivered via three workshops by physiotherapists (weeks 1,4 and 12)
- Participants receive an exercise manual and equipment to complete exercises at home
 - Intervention to prevent falls
 - Exercises to improve balance and lower limb strength
 - Intervention to prevent shoulder dysfunction
 - Exercises to improve upper limb strength and function



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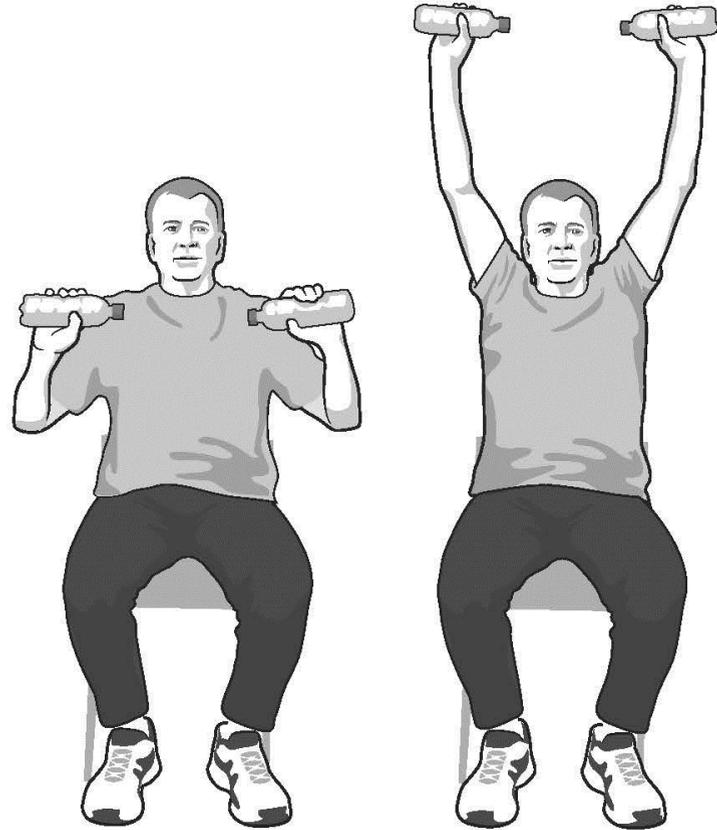
Side hip strengthening exercise

- Strap the weight on to your ankle
- Stand up tall beside the bench
- Hold on to the bench
- Keep the exercising leg straight and the foot straight forward
- Lift the leg out to the side and return
- Repeat ○ times
- Strap the weight on to the other ankle
- Turn around
- Repeat this exercise ○ times



Shoulder press

- 1 Sit with your feet on the ground, shoulder width apart.
- 2 Hold weights with your hands facing forward near your shoulders.
- 3 Pull your shoulder blades back and down your back.
- 4 Slowly straighten your elbows to lift your hands above your head and back to the starting position.
- 5 Make sure your shoulder blades do not lift up during the movement.
- 6 Repeat 10 times.



Primary outcomes

1. Rate of falls (assessed by 12 monthly calendars)
2. Upper limb pain and function (DASH questionnaire)

Measured at 12 months post-randomisation



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Secondary outcomes

Measured at 3, 6 and 12 months post-randomisation

- Proportion of fallers (monthly calendars)
- Strength and balance measures (SPPB, quadriceps strength, alternate step test)
- Shoulder strength (internal and external rotation force)
- Shoulder mobility (internal and external ROM)
- Physical Activity (Actigraph + self report - IPEQ)
- Attitudes to exercise
- Health and community service use (monthly calendars)
- Fear of falling (Short FES-I)
- Quality of life (SF12v2)



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Are you... 65 years or over? Want to stay strong and active?

We would like you to take part in our home-based exercise research.

- ✓ Be given exercises to do at home three times per week by a physiotherapist
- ✓ Attend three exercise instruction sessions (one hour each)
- ✓ Attend three sessions to measure your balance and strength
- ✓ Sessions will be held in your local area
- ✓ Participation is free of charge

Contact (02) 4221 6778 or
ISLHD-HealthPromotion@health.nsw.gov.au

Recruitment

- Oct 2015 – May 2017
- 616 ppts randomised
- 950 enquiries
 - 50% newspapers
 - 13% friend
 - 10% flyer
 - 4% radio
 - 4% groups eg Probus
 - 3% family



Wash out: Lachlan Street in Thirroul bore the brunt of flooding in late August after heavy rain led to Hewitts Creek overflowing its banks.

Picture: JESSICA O'BRIEN

Call for action on flood risk

BEN LANGFORD

WOLLONGONG City Council should fund capital works to fix a creek that repeatedly floods homes in Thirroul, a northern suburbs councillor says.

Residents of Lachlan Street in Thirroul were flooded after heavy rains in late August caused Hewitts Creek to swell beyond its banks.

The residents have been flooded several times in recent years, with some homeowners despairing that the council refused to help them clean up the damage.

Cr Greg Petty said the council's anti-blockage works had yet to improve the lot of these residents.

He wants the council's budget to include a capital works of maintenance item to address this fre-

quent flooding problem.

Hewitts Creek is forced to take two sharp turns as it weaves towards the bridge under Lachlan Street. These sharp turns make the creek vulnerable to flooding as the water seeks a more direct path – straight through Jannine Vincent's property.

"This is the third time that we've had a river come through the backyard," she told the Mercury after the August flooding.

At the time, council pointed out it had performed mitigation works on the Lachlan Street culvert.

Cr Petty will also lead the council into a debate about Wollongong's controversial culvert blockage policy. This policy is now under review after residents complained about its unfair impact.

When mapping flood risk, the

policy dictates that every culvert less than 6 metres across is considered to be completely blocked. This has the effect of exaggerating the risk of flooding in some areas that have never flooded.

Council has engaged consultants WMA Water to review the policy, awarding them a \$140,000 contract.

The dollar value puts it under the threshold of \$150,000 at which council must make contracts public on its website.

The contract was awarded by the council's general manager without a vote by councillors.

Cr Petty has called for the contract to be altered, so as to specifically request WMA Water engage a hydrologist's paper that presents an alternative method for modelling blockage.

The hydrologist, Wollongong-

based Paul Nichols and Anthony Bartholomew, have refined the original science that led to the blockage policy, creating a model that they say delivers more accurate outcomes.

Their paper is in the process of being adopted as the latest Engineers Australia guideline in its "industry bible" *Australian Rainfall and Runoff* series.

But when they offered to assist the council review of its blockage policy free of charge, they were knocked back.

Figtree resident John Mathieson has also written a comprehensive submission to the council's review, with recommendations about how the flood risk, and the skewed flood modelling, in his area could be corrected.



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Recruitment

- Advertising
 - Full colour, ¼ page
- \$20,000 over 18 months
 - \$21 per enquiry
- Venues (Clubs)
 - Familiar
 - Good access
 - Parking & public transport
 - Function rooms available during the day



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Current status

- Continue current groups
- Final groups will complete the program May 2018



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Research and Project Team

- Prof Cathie Sherrington
- A/Prof Anne Tiedemann
- Dr Susan Furber
- Professor Adrian Bauman
- A/Prof Karen Ginn
- Dr Paul van den Dolder
- Professor Kirsten Howard
- Ms Amanda Bates
- Ms Cathy Chittenden
- Ms Michelle Kershaw
- Ms Lisa Franco
- Ms Anne Smith
- Ms Vanessa Jackson
- Physiotherapists

Thank you



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