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The effect of whole body vibration therapy on older people

Submission date
12/05/2010

Recruitment status
No longer recruiting

Registration date
12/05/2010

Overall study status
Completed

Last Edited
17/09/2012

Condition category
Injury, Occupational Diseases, Poisoning

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
5370

Study information

Scientific Title
The effect of whole body vibration therapy on older people: a single centre randomised intervention trial

Study objectives

Exercise based programmes reduce the risk of falling and can improve quality of life for older people, but they are unlikely to increase bone strength. Although muscles become weaker with ageing, strengthening exercises are effective in all age groups but require a sustained effort over long periods of time. Many people, irrespective of age, do not enjoy exercise and also the type of exercise necessary to increase muscle and bone strength is difficult for the more frail to perform.

Whole body vibration (WBV) has been reported to increase muscle strength and power, bone mineral density, balance and speed of movement all factors affecting the risk of both falling and sustaining a subsequent injury. The literature suggests that it is more effective for older and frail people than young highly trained ones. As relatively little effort is required for short periods the technique has real potential for improving the physical status of older people.

We have therefore incorporated WBV exercise into a strength and balance exercise class run for older individuals who have had multiple falls. This randomised controlled trial is conducted over 8 weeks with measures of strength, balance, bone strength and health related quality of life being made at the start of the class, 4 weeks and at the end of the class. In addition a number of subjects will have a 6-month follow up.

Ethics approval required
Old ethics approval format

Ethics approval(s)
St Thomas' Hospital Research Ethics Committee approved on the 9th June 2008 (ref: 08/H0802 /65)

Study design
Single centre randomised interventional trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Topic: Generic Health Relevance and Cross Cutting Themes; Subtopic: Generic Health Relevance (all Subtopics); Disease: Age and ageing

Interventions
Intervention group: performing WBV for 5 mins at the end of the exercise class at a frequency of 15 - 30 Hz and amplitude of 1 - 4 mm
Control group: exercise class only

The exercise class runs 3 x per week for 8 weeks. The WBV group perform an additional 5 minutes of WBV at the end of each class. A follow up is performed 6 months after completion of the class.

Study entry: single randomisation only.

Intervention Type

Other

Phase
Not Applicable

Primary outcome(s)
Physiological Profile Assessment, measured before and immediately upon completion of the exercise class

Key secondary outcome(s))
1. Six-metre walk test, measured at baseline, 4 and 8 weeks
2. Berg Balance Scale, measured at baseline, 4 and 8 weeks
3. Blood Analysis for markers of bone turnover, measured at baseline and 8 weeks
4. Falls Efficacy Scale - International (FES-I), measured at baseline and 8 weeks
5. 12-item short form health survey (SF12) version 2, measured at baseline and 8 weeks
6. Timed Up and Go Test, measured at baseline, 4weeks and 8 weeks

Completion date
30/05/2009

Eligibility

Key inclusion criteria
1. Men and women of all ages
2. Having had one or more falls
3. Attending the strength and balance group run in the Older Person Assessment Unit at Guy's Hospital

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
1. Artificial joints
2. Mini-mental state examination (MSSE) less than 20

Date of first enrolment
01/09/2007

Date of final enrolment
30/05/2009

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
King's College London
London
United Kingdom
WC2R 2LS

Sponsor information

Organisation
Kings College London (UK)

ROR
https://ror.org/0220mzb33

Funder(s)

Funder type
Charity

Funder Name
Research into Ageing (UK)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
	results				

Results article		01/10/2012		Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes