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Training and attentional focus in older adults

Submission date 24/10/2008	**Recruitment status** No longer recruiting	[ ] Prospectively registered [ ] Protocol
Registration date 26/11/2008	**Overall study status** Completed	[ ] Statistical analysis plan [ ] Results
Last Edited 26/11/2008	**Condition category** Signs and Symptoms	[ ] Individual participant data [ ] Record updated in last year

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
N/A

Study information

Scientific Title
Training control of bodily orientation as a function of attentional focus in older adults

Study objectives
Individuals that receive an external focus (EF) instruction during training of dynamic balance skills will show different development of their balance ability compared to individuals that receive an internal focus (IF) instruction.

Ethics approval required
Old ethics approval format

Ethics approval(s)
The study was approved by the Ethics Committee of the Canton of Zurich on the 10/10/2006 (ref: EK 19/2006 [ETH])

Study design
Randomised single-blind controlled multicentre trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Other

Study type(s)
Treatment

Participant information sheet

Health condition(s) or problem(s) studied
Postural balance skills in elderly

Interventions
Balance assessment and training on a Biodex Stability System (BSS) (Biodex Medical Systems Inc., USA) device under two different verbal instruction conditions.

Participants in both groups were instructed to focus on the visual feedback screen whilst performing their exercises. The screen showed a moving point in the middle of a target and the participants were asked to follow the target through shifting their weight. All participants received an exercise protocol in which the exercises gradually became more complex.

The IF group participants were, prior to IF trials, instructed with the feedback that the moving point on the feedback screen represented their body centre of gravity. They were instructed to focus on this centre through concentrating on their belly (while looking straight ahead at the video screen) and to volitionally move this point on the screen through exertion of force on this imaginary point.

The EF group participants were instructed that the moving point on the feedback screen represented an air bubble in a level, (as used in the building industry to determine a level horizontal line), positioned in front of the feet of the participant standing on the plate. Such a level was attached to the platform with an electronic cable, thus suggesting a direct connection between movements of the air bubble in the level and the marker on the screen. The EF participants had to focus on the air bubble (while looking straight ahead at the video screen) and try to consciously move this bubble in the level.

All participants were expected to perform at least three practice trials per exercise on two week days for five consecutive weeks under the treatment conditions. Before every practice trial, participants were given short reminders to focus on the respective 'moving points'. In a fourth trial, the time needed to perform the exercise under test conditions was measured together with the Dynamic Stability Index of the participants. This procedure was chosen to rule out short-term learning effects. Training duration lasted between 25 and 35 minutes.

In order to avoid bias, the information that focus of attention of the participants possibly plays an important role in the speed of learning was not disclosed before training commenced. Following the five weeks training programme, complete information on the aim of the study was given to each participant in a debriefing session. The reason for not disclosing this information before the measurements was discussed at the debriefing. Only the results of participants who agreed with this procedure were included in the final data analysis.

Intervention Type
Other

Phase
Not Applicable

Primary outcome measure
The following were measured in each training session:
1. The weight shift score for medio-lateral movements on the stable BSS platform
2. Performance time on the unstable BSS platform for the dynamic limits of stability (LOS) test and the dynamic stability index derived from this test

Secondary outcome measures
The following were assessed at baseline (pre-training) and after completion of 10 training sessions (post-training):
1. The Expanded Timed Get-up-and-Go (ETGUG) test. Times for the component tasks are measured using a multi-memory stopwatch.
2. The time for 5 consecutive chair rises without the use of hands
3. The Falls Efficacy Scale International (FES-I) questionnaire as a measure of 'concern' about falling

Overall study start date
01/11/2006

Completion date
31/12/2006

Eligibility

Key inclusion criteria
1. Both males and females, 70 years of age and older
2. Assisted living
3. Ability to see a feedback marker on a computer screen
4. A score of 25 or more in the Mini Mental Status Examination (MMSE)
5. Ability to be able to follow verbal instructions in the German language and the ability to stand upright independently

Participant type(s)
Patient

Age group
Senior

Sex
Both

Target number of participants
40

Key exclusion criteria
1. A rapidly progressive or terminal illness
2. Acute illness or unstable chronic illness
3. Those who were undergoing balance training at the time of enrolment or had prior experience with the training task

Date of first enrolment
01/11/2006

Date of final enrolment
31/12/2006

Locations

Countries of recruitment
Switzerland

Study participating centre
Institute of Human Movement Sciences and Sport
Zurich
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Sponsor information

Organisation
Swiss Federal Institute of Technology Zürich (ETH Zürich) (Switzerland)

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Sponsor type
University/education

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ROR
https://ror.org/05a28rw58

Funder(s)

Funder type
University/education

Funder Name
Swiss Federal Institute of Technology Zürich (ETH Zürich) (Switzerland)

Results and Publications

Publication and dissemination plan
Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration