

## Additional file 9

### Description, frequency of use, and effect sizes of motor assessments applied in previous randomised controlled trials without available information on psychometric properties

**Table S7.** Description, frequency of use, and effect sizes of motor assessments applied in randomised controlled trials (no psychometric properties investigations available)

Motor Assessment	Description	Frequency of use	Time*group interaction effect size
<i>Balance</i>			
<b>Near-tandem test</b>	<i>Task:</i> adopting near-tandem position with eyes closed (not exactly specified) <i>Measurement:</i> not specified	1 RCT (n=19) [61]	-
<b>Single leg stance/One Leg Standing Balance Test [127]</b>	<i>Task:</i> standing on a single leg alternately for 60/30 seconds with both eyes open and closed <i>Measurement:</i> time [s]	2 RCT (n=63) [65, 83]	Large <sup>c</sup>
<b>One-leg balance test [128]</b>	<i>Task:</i> standing on one leg unsupported for five seconds (preferred leg) <i>Measurement:</i> recording if participant is able to maintain one-leg stance for five seconds [ $\geq 5$ s: normal, $< 5$ s: abnormal]	1 RCT (n=110) [89]	-
<b>Inertial sensors assessing postural sway [129]</b>	<i>Task:</i> standing quietly with feet together for 30 seconds, while wearing an inertial sensor (DynaPort) <i>Measurement:</i> sway area [sq cm]	1 RCT (n=81) [94]	Small/medium <sup>r</sup>
<b>Posturography platforms assessing postural sway</b>	<i>Task:</i> standing quietly on a posturography platform (QFP) for 51.2 seconds with eyes open <i>Measurement:</i> elliptical area covered by moving centre of gravity [mm <sup>2</sup> ]	1 RCT (n=20) [85]	-
<b>Wii Balance Board assessing postural sway [130]</b>	<i>Task:</i> standing quietly on a Wii Balance Board for 15/30 seconds under four conditions: feet apart with eyes open and closed, feet together with eyes open and closed <i>Measurement:</i> centre of pressure velocity [cm/s], centre of pressure path length [cm/s]	1 RCT (n=20) [73]	-

**Table S7.** Description, frequency of use, and effect sizes of motor assessments applied in randomised controlled trials (no psychometric properties investigations available) (*Continued*)

Motor Assessment	Description	Frequency of use	Time*group interaction effect size
<i>Mobility and gait</i>			
<b>Get-Up and Go Test</b> [131]	<i>Task:</i> standing up from a chair, walking three metres, turning around, walking back to the chair, and sitting down, use of a walking aid is allowed <i>Measurement:</i> score from 1 to 5 [1=no instability to 5=very abnormal]	1 RCT (n=110) [89]	-
<b>10-meter walk test</b> [88]	<i>Task:</i> walking ten metres with comfortable pace, use of walking aid is allowed <i>Measurement:</i> walking speed [m/s], time [s]	2 RCT (n=209) [84, 98]	-
<b>10-meter walk test with dual Task</b> [88]	<i>Task:</i> walking ten metres with comfortable pace while naming month backwards/counting backwards from 50, use of walking aid is allowed <i>Measurement:</i> walking speed [m/s]	1 RCT (n=189) [84]	-
<b>8-foot walk test</b> [88]	<i>Task:</i> walking eight foot with comfortable/fast pace, use of walking aid is allowed <i>Measurement:</i> walking speed [m/s], time [s]	3 RCT (n=78) [74, 77, 98]	Medium <sup>r</sup>
<b>Gait analysis with dual task performance</b> [92]	<i>Task:</i> walking with comfortable pace over an electronic walkway (GAITRite) while counting forward by twos/backward by threes <i>Measurement:</i> dual-task cost in motor performance [%] for walking speed, cadence, stride length, stride time, single support, dual-task cost in combined performance [%]	1 RCT (n=49) [126]	-
<b>Southampton Assessment of Mobility</b> [132]	<i>Task:</i> different tasks of mobility (sit-to-stand, standing balance, gait, stand-to-sit) <i>Measurement:</i> score [0=immobile, 18=able to walk four steps]	1 RCT (n=78) [125]	Small <sup>c</sup>
<b>Hierarchical Assessment of Balance and Mobility</b> [133]	<i>Task:</i> getting up from bedside and walking, which is rated in three areas: in-bed mobility, transfers, and walking <i>Measurement:</i> score [0-65]	1 RCT (n=123) [94]	Small <sup>r</sup>
<b>Acute Care Index of Function</b> [134]	<i>Task:</i> 20 items that are divided into four subscales - mental status, bed mobility, transfers, and mobility <i>Measurement:</i> score [0-1]	1 RCT (n=82) [105]	-

**Table S7.** Description, frequency of use, and effect sizes of motor assessments applied in randomised controlled trials (no psychometric properties investigations available) (*Continued*)

<b>Motor Assessment</b>	<b>Description</b>	<b>Frequency of use</b>	<b>Time*group interaction effect size</b>
<i>Strength</i>			
<b>Body-fixed-sensor-based Sit-to-Stand analysis using DynaPort [40]</b>	<i>Task:</i> performing five repetitions of the sit-to-stand task without upper extremity assistance <i>Measurement:</i> total duration [s], duration of hip extension/flexion [s], maximum angular velocity during hip extension/flexion [deg/s] of stand-to-sit and sit-to-stand movements and trunk flexion range [deg], trunk flexion duration [s], maximum trunk flexion angular velocity [deg/s], sit-to-stand movement duration	2 RCT (n=106) [77, 100]	No to large <sup>c/r</sup>
<b>10-s chair-stand test [135]</b>	<i>Task:</i> performing as many repetitions of sit-to-stand task as possible in 10 seconds without upper extremity assistance <i>Measurement:</i> number of repetitions	1 RCT (n=40) [59]	Large <sup>c</sup>
<b>One-repetition maximum assessed with fitness machines</b>	<i>Task:</i> one-repetition maximum as achieved in the leg-press training machine for maximum dynamic concentric muscle strength in hip and knee extensors and in the abductor training machine for maximum strength in hip abductors, respectively <i>Measurement:</i> one-repetition maximum [kg]	2 RCT (n=232) [78, 94]	Medium/large <sup>r</sup>
<b>Stair-climbing performance [136]</b>	<i>Task:</i> climbing a flight with thirteen stairs <i>Measurement:</i> time [s]	1 RCT (n=107) [78]	-
<b>Physical therapy assessment</b>	<i>Task:</i> measure muscle strength in upper and lower extremities (not exactly specified) <i>Measurement:</i> score [not specified]	1 RCT (n=11) [76]	-
<i>Endurance</i>			
<b>2-min walk test [137]</b>	<i>Task:</i> walking for two minutes with comfortable pace, use of usual walking aids is allowed <i>Measurement:</i> distance [m]	2 RCT (n=152) [124, 125]	-
<b>400-m walk test [138]</b>	<i>Task:</i> walking 400m with fast pace <i>Measurement:</i> time [s]	1 RCT (n=189) [84]	-
<b>3-speed walking test</b>	<i>Task:</i> walking on a treadmill with 80%, 100%, and 120% of self-selected pace for five minutes <i>Measurement:</i> cost of walking [J/kg/m], VO <sub>2</sub> [ml/kg/min], heart rate [bpm]	1 RCT (n=34) [93]	Medium to large <sup>c</sup>
<b>6-min Astrand Cycle Ergometer test [139]</b>	<i>Task:</i> submaximal 6-minute cycle test <i>Measurement:</i> estimated maximum oxygen uptake [ml/kg/min]	1 RCT (n=189) [84]	-

**Table S7.** Description, frequency of use, and effect sizes of motor assessments applied in randomised controlled trials (no psychometric properties investigations available) (*Continued*)

<b>Motor Assessment</b>	<b>Description</b>	<b>Frequency of use</b>	<b>Time*group interaction effect size</b>
<b>Pedal Power</b>	<i>Task:</i> pedalling in seven steps from 10 to 70 W (not exactly specified) <i>Measurement:</i> exercise time [s], pedal rotations [number], total load [W/s]	1 RCT (n=31) [67]	-
<i>Flexibility</i>			
<b>Chair sit and reach</b> [140]	<i>Task:</i> stretching one leg keeping heel on the floor and trying to touch the toes with the fingers while sitting on a chair <i>Measurement:</i> distance between the fingers and toes [cm]	1 RCT (n=20) [85]	-
<i>Functional performance</i>			
<b>Physical Performance Test</b> [136]	<i>Task:</i> seven items (writing a sentence, transferring five beans from a bowl to a cup with a teaspoon, lifting a book onto a shelf, putting on a coat, picking up a coin from the floor, walking 50 feet, and turning 360° while standing in one place), which are scored on a 4-point Likert scale <i>Measurement:</i> score [0-28]	1 RCT (n=105) [112]	-
<b>Senior Fitness Test</b> [141]	<i>Task:</i> battery of tests including: (1) muscle dynamic strength endurance of legs (30-s chair stand test) and upper body (arm curl test), (2) flexibility of lower (chair sit-and-reach test) and upper body (back scratch test), (3) speed, agility and balance while moving (8-foot up-and-go test), (4) aerobic endurance (2-minute step test) <i>Measurement:</i> (1) number of repetitions, (2) distance between toes and fingers / fingers [cm], (3) time [s], (4) number of repetitions	1 RCT (n=16) [80]	Large <sup>c/r</sup>
<b>Jebsen Total Time</b> [142]	<i>Task:</i> performing a range of seven hand functions required for activities of daily living (writing, turning over 3 by 5 inch cards, picking up small common objects, simulated feeding, stacking checkers; picking up large objects, and picking up large heavy objects), while total time is evaluated <i>Measurement:</i> total time [s]	1 RCT (n=27) [98]	-

**Table S7.** Description, frequency of use, and effect sizes of motor assessments applied in randomised controlled trials (no psychometric properties investigations available) (*Continued*)

Motor Assessment	Description	Frequency of use	Time*group interaction effect size
<b>Physiological Profile Assessment</b> [143]	<i>Task:</i> five items evaluating visual contrast sensitivity, knee joint proprioception, quadriceps strength, simple reaction time, and postural sway while standing on a foam rubber mat with eyes open <i>Measurement:</i> fall risk score [z-score]	2 RCT (n=60) [52, 61]	-

n: number of analysed participants, RCT: randomised controlled trial/s  
<sup>°</sup> calculated effect size, <sup>r</sup> effect size provided of randomised controlled trial

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