NKR 47: PICO 1, Styrketræning vs kombineret træning

Review information

Authors

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Citation example: S. NKR 47: PICO 1, Styrketræning vs kombineret træning. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Characteristics of studies

Characteristics of included studies

Bellomo 2013

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group **Open Label:** **Cluster RCT:**
Participants	**Baseline Characteristics** Intervention ● *Age (mean, SD)*: for both groups 70.9 (5.2) ● *Sex (% male)*: 100 ● *Co-morbifity (yes/no)*: NR ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR ● *Impairment (body functions and structure description)*: NR ● *Limitations (activitity description)*: NR ● *Restriction (participation description)*: NR ● *Housing (eg., residential homes, own home)*: NR ● *Civil status (% living alone)*: NR ● *In risk of falling (yes/no)*: NR ● *Cognitive impairements (yes/no)*: NR Control ● *Age (mean, SD)*: for both groups 70.9 (5.2) ● *Sex (% male)*: 100 ● *Co-morbifity (yes/no)*: NR ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR

	● *Impairment (body functions and structure description)*: NR ● *Limitations (activitity description)*: NR ● *Restriction (participation description)*: NR ● *Housing (eg., residential homes, own home)*: NR ● *Civil status (% living alone)*: NR ● *In risk of falling (yes/no)*: NR ● *Cognitive impairements (yes/no)*: NR **Included criteria:** Eligible patients were male volunteers with diagnosisof sarcopenia according to criteria of the Centers forDisease Control and Prevention The inclusion criteria were as follows: diagnosis of sarcopenia; normal ECG and blood pressure; and absence of musculoskeletal, metabolic, or cardiovascular diseases.Comorbidities not reported **Excluded criteria:** presenceofmetabolic and!orcardiovasculardiseases, evidenceofhereditary oracquired muscular disease, or diagnosis of respiratoryor psychiatric disorders. No subject was under treatmentwith testosterone or otherpharmacologicalinterventionsknown to influence muscle mass **Pretreatment:** Not reported - there is only information regarding age, weight, height and BMI for the total group.
Interventions	**Intervention Characteristics** Intervention ● *Description*: In the beginning of each training session, the subject carried out a warm-up on a stationary bicycle, pedaling for 10 minutes atan intensity equal to 60% of HR max, and performed stretching exercises for the musclesofthe lower limbs. further progressive resistance training 3 sets of 12 repetitions , with a 2-minute rest between sets ● *Duration (weeks)*: 12 weeks ● *Dose*: 3 sets with progression over 12 weeks with intensity from 60% in the beginning and up to 85% of maximum theoretical force in the end of the training period ● *Personnel*: not reported Control ● *Description*: A5-minute cycle ergometer warm-up at an intensity equalto 60% oft heoretical maximum heart rate, ,stretching exercises for the muscles of the lower limbs, and a 5-minute cool down were performed at each training session.The subject also undertook 20-minute training using the multi-sensory protocol for balance and flexibility withthe Imoove system . The subjects were invited toperform postural exercises in isometric contractions ona motor platform with elliptic oscillatory movements.Visual feedback required different tasks ● *Duration (weeks)*: 12 weeks ● *Dose*: 2 session per week ● *Personnel*: not reported
Outcomes	*Muskelstyrke EoT (muscle strength)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Isometric leg extension 90 0 ● **Unit of measure**: kg ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: range is dependent of the unit of measurement

Mobilitet Bevægelse og færden (mobility, activity level) (EOT)
- **Outcome type**: ContinuousOutcome
- **Reporting**: Fully reported
- **Scale**: Length of the half-step during gait analysis test
- **Unit of measure**: cm
- **Direction**: Higher is better
- **Data value**: Endpoint
- **Notes**: This is not a typical outcome measure within this group but more frequently used within populations with cognitive impairements. The outcome can not be pooled with measureas of gait speed, gait distances etc.

Mobilitet bevægelse og færden (mobility, activity level) (LF)
- **Outcome type**: ContinuousOutcome
- **Reporting**: Not reported

Balance (balance) (EOT)
- **Outcome type**: ContinuousOutcome
- **Reporting**: Fully reported
- **Scale**: Sway area measured with closed eyes
- **Unit of measure**: mm2
- **Direction**: Lower is better
- **Data value**: Endpoint
- **Notes**: This is a static balance measure and not a typical balance measure n this population

ADL (Activities of daily living including ADL or IADL) (EOT)
- **Outcome type**: ContinuousOutcome
- **Reporting**: Not reported

Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF)
- **Outcome type**: DichotomousOutcome
- **Reporting**: Not reported

Alvorlige bivirkninger (Serious adverse events) (EOT)
- **Outcome type**: AdverseEvent
- **Reporting**: Not reported

Fald (falls) (EOT)
- **Outcome type**: AdverseEvent
- **Reporting**: Not reported

Fraktur (fracture) (EOT)
- **Outcome type**: AdverseEvent
- **Reporting**: Not reported

Uønsket vægttab (unintentional weight loss)
- **Outcome type**: AdverseEvent
- **Reporting**: Not reported

	Balance (balance) (LF) ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported
Identification	**Sponsorship source:** Not reported **Country:** Italy **Setting:** not reported **Comments:** NA **Authors name:** R.G.BELLOMO **Institution:** DepartmentofHuman Movement, "G.d'Annunzio"University,Chieti, Italy **Email:** saggini@unieh.it **Address:** Unit of Physical Medicine and Rehabilitation, "G. d'Annunzio" University, Viale Abruzzo 322, 66013 Chieti, Italy Tel.: +390871587107 Fax: +393358339950
Notes	*Daniel Kaminski Rotenberg* on 29/03/2016 03:19 **Outcomes** Tilsyneladende er vi uenige om hvilken gruppe der skal bruges som kontrol. Jeg tænker det er den som studiet kalder "control" men jeg ser du konsekvent bruger tallene fra "gsm" som såvidt jeg forstår laver isometrisk træning, iblandet noget balance, lidt a là Yoga.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Quote: "The volunteers were randomly assigned to one of 4 groups with blind assessment, a control group and three training groups, which all followed a training period of 12 weeks as detailed below." Judgement Comment: The methods for sequence generation are not described
Allocation concealment (selection bias)	Unclear risk	Quote: "64 and 80 (Table I) participated in the study. The volunteers were randomly assigned to one of 4 groups with blind assessment, a control group and three training groups, which all followed a training period of 12 weeks as detailed below. Global Sensorimotor Training (Gsm) The" Judgement Comment: The allocation concealment is not described
Blinding of participants and personnel (performance bias)	High risk	Quote: "The volunteers were randomly assigned to one of 4 groups with blind assessment, a control group and three training groups, which all followed a training period of 12 weeks as detailed below." Judgement Comment: The blinding of participant are not described only the blinding of assessors
Blinding of outcome assessment (detection bias)	Low risk	Quote: "pharmacological interventions known to influence muscle mass (Fig. I). Forty male volunteers aged between 64 and 80 (Table I) participated in the study. The volunteers were randomly assigned to one of 4 groups with blind assessment, a control group and three" Judgement Comment: They say they blind the assesors, I found no reason to doubt that.
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: Figure 2 display drop outs for each group but there is no further discription of causes etc.

Selective reporting (reporting bias)	Low risk	Quote: "The present study compared the effects of three different methods of training in the elderly on muscle strength, balance and walking." Judgement Comment: No study protokol available but the manuscript include all relevant outcomes
Other bias	Unclear risk	unclear

Joshua 2014

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group **Open Label:** **Cluster RCT:**
Participants	**Baseline Characteristics** Intervention ● *Age (mean, SD)*: 75.11 ± 5.497 ● *Sex (% male)*: 33.3 ● *Co-morbifity (yes/no)*: Y ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: N ● *Impairment (body functions and structure description) (Yes/No)*: NR ● *Limitations (activitity description) (Yes/No))*: Y ● *Restriction (participation description) (Yes/No)*: NR ● *Housing (eg., residential homes, own home)* : residential home ● *Civil status (% living alone)*: NR ● *In risk of falling (yes/no)*: Y ● *Cognitive impairements (Yes/No)*: N Control ● *Age (mean, SD)*: 75.17 ± 5.894 ● *Sex (% male)*: 33.3 ● *Co-morbifity (yes/no)*: Y ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: N ● *Impairment (body functions and structure description) (Yes/No)*: NR ● *Limitations (activitity description) (Yes/No))*: Y ● *Restriction (participation description) (Yes/No)*: NR ● *Housing (eg., residential homes, own home)* : residential home ● *Civil status (% living alone)*: NR ● *In risk of falling (yes/no)*: Y ● *Cognitive impairements (Yes/No)*: N **Included criteria:** Subjects aged 65 years and older, of both gender, medical screening clearance, Berg balance scale (BBS) score of 41 to 52 [, Mini Mental State Examination (MMSE) score of ≥ 23, a minimum score of 17.5 cm (7 inches) on FRT and a muscle strength grade of 4 or above for the lower limb muscle groups were considered as the criteria for including subjects for the study

	Excluded criteria: Symptomatic cardiovascular diseases, neurological conditions, peripheral neuropathy of lower limbs with significant dorsal column sensory loss, musculoskeletal condition of the lower quarter which could interfere with measuring outcome, malignancies, medications which carry the risk of causing falls, diagnosed vestibular disorders and subjects who underwent lower limb strength training and/or balance training during the past 3 months were the criteria to exclude the subjects. **Pretreatment:** The mean scores of most of the variables other than FRT, and incidence of falls last year [Table/Fig-2,3], were not statistically significant, suggesting that the three groups were essentially homogeneous with respect to those baseline values. The analysis of FRT scores revealed a statistically significant difference between the three groups (p=0.023). Post-hoc analysis (Tukey) of baseline values for FRT revealed a statistically significant difference between TBE and PRT groups (p=0.014).
Interventions	**Intervention Characteristics** Intervention ● *Description*: PRT of 8 key muscle groups in lower extrimity (65% of 1 RM) ● *Duration (weeks)*: 26 ● *Dose*: 2 times per week (duration per session 60 min.) 2 or 3 sets not clearly described ● *Personnel*: well-qualified physiotherapist Control ● *Description*: 8 component of different traditional balance exercises ● *Duration (weeks)*: 26 ● *Dose*: 4 time per week (duration per session 45 min) ● *Personnel*: well-qualified physiotherapist
Outcomes	*Muskelstyrke EoT (muscle strength)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *Mobilitet Bevægelse og færden (mobility, activity level) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *Mobilitet bevægelse og færden (mobility, activity level) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *Balance (balance) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Functional reach test ● **Unit of measure**: cm ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: Change from baseline also available. The Functional Reach Test is a static balance test *ADL (Activities of daily living including ADL or IADL) (EOT)* ● **Outcome type**: ContinuousOutcome

	● **Reporting**: Not reported *Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Not reported *Alvorlige bivirkninger (Serious adverse events) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fald (falls) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fraktur (fracture) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Uønsket vægttab (unintentional weight loss)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Balance (balance) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not reported **Country:** India **Setting:** Participants from old age homes **Comments:** No further comments **Authors name:** Dr. Abraham M. Joshua **Institution:** Department of Physical Therapy, Kasturba Medical College (Manipal University), Mangalore, India **Email:** E-mail: abraham.joshua@manipal.edu **Address:** Not teported
Notes	*Nkr 47 Geria* on 09/03/2016 23:45 **Outcomes** changes scores between baseline and 6 month follow up are available. Analyses are made per protocol and intention to threat. Intention to threat is used. Higher cm is better *Daniel Kaminski Rotenberg* on 23/03/2016 18:22 **Outcomes** Only outcome measured, is Functional Reach Test. I consider this a balance test. Test were done midway and at end og treatment only, so LF and EOT is the same.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "old age homes were screened. The eligible subjects were assigned to the study groups by sequenced generation using block randomisation. Block size of 6 was used in the trial to allocate the participants to the [table/Fig-1]: Consort diagram" Quote: "TBE and 2 COMBI interventions. The allocation concealment was done using sealed opaque envelopes which was sequentially arranged. The subjects who gave consent" Judgement Comment: The investigator describes sequence generation using block randomization and that envelopes were sequentially arranged
Allocation concealment (selection bias)	Low risk	Quote: "2 TBE and 2 COMBI interventions. The allocation concealment was done using sealed opaque envelopes which was sequentially arranged. The subjects who gave consent" Judgement Comment: I find it doubtfull the participants would be able to understand the difference between TBE, PRT and COMBI The one who enroled participant could not foresee assignement
Blinding of participants and personnel (performance bias)	High risk	Quote: "At the end of 3 rd and 6 th month the blinded outcome assessor re-assessed and recorded the outcome measure." Judgement Comment: Information on blinding of acssessors is only available
Blinding of outcome assessment (detection bias)	Low risk	SUPPORTING ANNOTATIONS *At the end of 3 rd and 6 th month the blinded outcome assessor re-assessed and recorded the outcome measure.*
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Figure 1 displays the flow in the studien (excluded participants with causes, sropouts with causes) Analyses are performed per protokol and as ITT
Selective reporting (reporting bias)	High risk	Judgement Comment: No study protokol is available and the study dont clearly prespecified their primary outcome. The only outcome which is presented is the FRT and it seems a strenge that there is not any muscle strength measure in a study where one of the study arms are resistance training
Other bias	Unclear risk	unclear

Mangione 2010

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group **Open Label:** **Cluster RCT:**
Participants	**Baseline Characteristics** Intervention ● *Age (mean, SD)*: 79.6 (5.9) ● *Sex (% male)*: 14 ● *Co-morbifity (yes/no)*: Y

	● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR ● *Impairment (body functions and structure description)*: Earlier fracture ● *Limitations (activitity description)*: gait speed between 1m/s and 0.3m/s ● *Restriction (participation description)*: High score on ADL/IADL ● *Housing (eg., residential homes, own home)*: Living in own home pre fracture ● *Civil status (% living alone)*: 36 ● *In risk of falling (yes/no)*: NR ● *Cognitive impairments (yes/no)*: N Control ● *Age (mean, SD)*: 82 (6.0) ● *Sex (% male)*: 25 ● *Co-morbifity (yes/no)*: Y ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR ● *Impairment (body functions and structure description)*: Earlier fracture ● *Limitations (activitity description)*: gait speed between 1m/s and 0.3m/s ● *Restriction (participation description)*: High score on ADL/IADL ● *Housing (eg., residential homes, own home)*: Living in own home pre fracture ● *Civil status (% living alone)*: 50 ● *In risk of falling (yes/no)*: NR ● *Cognitive impairments (yes/no)*: N **Included criteria:** Participants were included if they had successful fixation (partial or total hip replacement or open reduction internal fixation) of a hip fracture within the previous 6 months (5.5–6.5 months post fracture), were 65 years of age or older, were living at home prior to the fracture, had a physician referral and were discharged from physical therapy. **Excluded criteria:** Exclusioncriteria included a medical history of unstable angina or uncompensated congestive heartfailure, ongoing chemotherapy or renal dialysis, history of stroke with residual hemiplegia,Parkinson disease, absence of sensation in the lower extremities due to sensory neuropathy,life expectancy of less than six months, or Mini-Mental State Exam scores < 20.(10) Prior tobaseline testing, participants were additionally excluded if they ambulated ≥ 1.0 m/sec(indicating normal walking speed for elders and thus little chance for additionalimprovement)(11) or walking speeds < 0.3 m/sec (representing the lowest 10th percentile ofwalking speeds for older adults)(12) to create a more homogenous sample for this smalltrial. **Pretreatment:** No differences between groups for baseline data.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Strengthening exercises for the hip extensors, hip abductors, knee extensors, and ankleplantarflexors bilaterally two time a week, lasting 30-40 min. per session ● *Duration (weeks)*: 10 ● *Dose*: 8 RM, thevolume was 3 sets of 8 repetitions. Intensity was reevaluated every two weeks) ● *Personnel*: Physical therapist Control ● *Description*: Conventional transcutaneous electrical stimulation (TENS) for muscles of lower extrimity were stimulated for 7 minutes

	for a total of 21 minutes each session. During the TENS, guided imagery was used to encourage theparticipant to envision the leg muscles being used in activities ● *Duration (weeks)*: 10 ● *Dose*: The physical therapist adjusted the intensity of the stimulation until the participant reported feeling a comfortable tingling in the musclebellies. ● *Personnel*: Physical therapist
Outcomes	*Muskelstyrke EoT (muscle strength)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Isometric strength in lower extrimity ● **Unit of measure**: N ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: The authors do not present muscle strength for the individually tested muscle groups in lower extrimity but as summed lower extrimity torque (The training did not target one specific muscle group, but rather the lower extremity as a whole; therefore, the isometric force values for each muscle group were added together to form asummed lower-extremity force score for each limb. Summed force scores have beenreported in the geriatric training literature because individual lower-extremity muscle forcescores are highly correlated. *Mobilitet Bevægelse og færden (mobility, activity level) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Gait speed usual pace ● **Unit of measure**: meters per second ● **Direction**: Higher is better ● **Data value**: Endpoint *Mobilitet bevægelse og færden (mobility, activity level) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Gait speed (usual pace) ● **Unit of measure**: meters per second ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: Follow up 1 year after fracture *Balance (balance) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: modified Physical performance test (mPPT) ● **Range**: 0-36 ● **Unit of measure**: Points ● **Direction**: Higher is better

	● **Data value**: Endpoint ● **Notes**: The mPPT is according to the authors a timed test consisting of nine tasks measuring static standing balance. In my point of view it is also including dynamic balance tasks. *Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF)* ● **Outcome type**: DichotomousOutcome *Alvorlige bivirkninger (Serious adverse events) (EOT)* ● **Outcome type**: AdverseEvent *Fald (falls) (EOT)* ● **Outcome type**: AdverseEvent *Fraktur (fracture) (EOT)* ● **Outcome type**: AdverseEvent *Uønsket vægttab (unintentional weight loss)* ● **Outcome type**: AdverseEvent *Activities of daily living, including ADL and IADL (EOT)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Not reported *Balance (balance) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: modified physical performance test (mPPT) ● **Range**: 0-36 ● **Unit of measure**: points ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: Reported at 1 year follow up
Identification	**Sponsorship source:** Funding provided by NIH/NICHD/NIA 1 R03 HD041944-01A1, 2002 **Country:** USA **Setting:** Community-dwelling older adults **Comments:** No comments **Authors name:** Kathleen K. Mangione **Institution:** Arcadia University, 450 S Easton Rd, Glenside, PA 19039, P: 215-572-2861, **Email:** Not reported **Address:** 450 S Easton Rd, Glenside, PA 19039
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "subjects were randomized to either the leg strengthening exercise group or the CON by unrestricted randomization method with opaque sealed envelopes."
Allocation concealment (selection bias)	Low risk	Quote: "testing, subjects were randomized to either the leg strengthening exercise group or the CON by unrestricted randomization method with opaque sealed envelopes." Judgement Comment: Envolopes were used and they were opaque and sealed
Blinding of participants and personnel (performance bias)	High risk	Quote: "was (ICC 3, 1) =0.83–0.99. The trainer was not blinded to exercise group. Participants Participants were included if" Judgement Comment: Not reported if the participants were blinded to the active intervention
Blinding of outcome assessment (detection bias)	Low risk	Quote: "The examiner was blinded to group assignment."
Incomplete outcome data (attrition bias)	High risk	SUPPORTING ANNOTATIONS *described the sample. Unpaired t-tests compared baseline characteristics for continuous data; and χ 2 tests were used for categorical data. Intention-to-treat analysis with the last observation carried forward was used to assess all outcome measures among the groups. The primary analysis was the* COMMENTS Figure 1 shows the number of missing data (patients who dropped out) and the reasons in both groups. The ITT analysis replaced missing values with last observation value. More than 10% dropout
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available, however all relevant outcomes are reported in the result secton. However, it is difficult to evaluate if they were prespecified.
Other bias	Unclear risk	unclear

Manini 2007

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group **Open Label:** **Cluster RCT:**
Participants	**Baseline Characteristics** Intervention ● *Age (mean, SD)*: 74.4 (+/-10.6) ● *Sex (% male)*: 9% ● *Co-morbifity (yes/no)*: Yes ● *Undernourised (yes/no)*: No (BMI 31.6 (+/-5.3)) ● *Frail (Yes/no)*: N ● *Impairment (body functions and structure description)*: Not reported

	● *Limitations (activitity description)*: Y ● *Restriction (participation description)*: Y (problems with climbing stairs) ● *Housing (eg., residential homes, own home)*: Not reported ● *Civil status (% living alone)*: Not reported ● *In risk of falling (yes/no)*: Not reported ● *Cognitive impairements (yes/no)*: Not reported Control ● *Age (mean, SD)*: 78.9 (+/-6.7) ● *Sex (% male)*: 0% ● *Co-morbifity (yes/no)*: Yes ● *Undernourised (yes/no)*: No (BMI 26.9 (+/-5.0)) ● *Frail (Yes/no)*: N ● *Impairment (body functions and structure description)*: Not reported ● *Limitations (activitity description)*: Y ● *Restriction (participation description)*: Y(problems with climbing stairs) ● *Housing (eg., residential homes, own home)*: Not reported ● *Civil status (% living alone)*: Not reported ● *In risk of falling (yes/no)*: Not reported ● *Cognitive impairements (yes/no)*: Not reported **Included criteria:** During phone interviews individuals self-reported their ability to rise from a chair or climb a flight of stairs. Those reporting ‘‘some’’ or ‘‘a lot’’of difficulty in either task were invited for qualification testing. Participants then completed a health history questionnaire as a risk assessment. Forty-three of the 86 participants invited to the laboratory needed to provide clearance from their physician for the following conditions:cardiovascular (not in the past year), musculoskeletal, shortness of breath , diabetes, balance problemsParticipants with a peak knee extension strength to bodyweight ratio 3.00 Nm/kg (a threshold of strength needed to walk 1.22 m/s and climb a flight of stairs without assistive devices) and who modified either rising from a chairor climbing a flight of stairs (i.e., use of hands) qualified fort he study. **Excluded criteria:** Not described **Pretreatment:** None detected
Interventions	**Intervention Characteristics** Intervention ● *Description*: Participants in the resistance training (RT) group performed three lower bodyexercises (leg press, leg extension, and leg curl) and threeupper body exercises (sitting dip [tricep extension], armcurl, and shoulder press) (Life-Fitness Inc., Schiller Park, IL). A 10-repetition maximum was established on the firsttraining session and repeated on the second training session.All training sessions began with one warm-up set using alight load and then two work sets. The load was increasedwhen a participant was able to complete.10 repetitions ● *Duration (weeks)*: All participants reported to the training facility two timesper week for 10 weeks. Each session lasted 30–45 minutes,and all protocols were developed for progressive intensity ● *Dose*: As described in protocol (p.619) ● *Personnel*: An exercise physiologist supervised all training sessions Control

	● *Description*: Participants in the FT group performed five exercises 2days per week: rising from a chair, rising from a kneelingposition, stair climbing, vacuuming a carpet with a weightedvacuum cleaner, and lifting and carrying a weighted laundrybasket. Because many of the participants were unable to dothese tasks without using modification, the intervention wascentered on task form and intensity according to Table 1. ● *Duration (weeks)*: All participants reported to the training facility two times per week for 10 weeks. Each session lasted 30–45 minutes. ● *Dose*: As described in protocol (p.619) ● *Personnel*: An exercise physiologist supervised all training sessions
Outcomes	*Muskelstyrke EoT (muscle strength)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: knee extension strrength fra isokinetisk dynamometer ● **Unit of measure**: newton meter ● **Direction**: Higher is better ● **Data value**: Change from baseline ● **Notes**: Data for knee extension strrength fra isokinetisk dynamometerer aflæst via graf og opgivet som change værdier median med IQR (75 og 25) data froisokinetisk albue flex og ekstension i median (SD), final er også mulige at ekstrahere *Mobilitet Bevægelse og færden (mobility, activity level) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Scale**: Usual walk ● **Unit of measure**: sec ● **Direction**: Lower is better ● **Data value**: Endpoint *Mobilitet bevægelse og færden (mobility, activity level) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *Balance (balance) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Single leg balance ● **Unit of measure**: sec ● **Direction**: Higher is better ● **Data value**: Endpoint *ADL (Activities of daily living including ADL or IADL) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Not reported

	Alvorlige bivirkninger (Serious adverse events) (EOT) ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fald (falls) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fraktur (fracture) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Uønsket vægttab (unintentional weight loss)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Balance (balance) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported
Identification	**Sponsorship source:** This work was (partially) supported by the University of Florida ClaudeD. Pepper Older American Independence Center (P3O-AG028740).This work was supported by a student research award from the AmericanCollege of Sports Medicine and the Kirby Foundation, by a MichaelPollack Memorial Grant from the Life Fitness Academy, and by SyracuseUniversity Graduate School.We thank Life Fitness Inc. for their donation of resistance trainingequipment.Work was performed at the Musculoskeletal Research Laboratory,Syracuse University, Syracuse, New York **Country:** USA **Setting:** Community living older **Comments:** No further comments **Authors name:** Todd Manini **Institution:** Department of Aging and Geriatrics, College of Medicine, Institute on Aging, University of Florida, Gainesville. **Email:** tmanini@aging.ufl.edu **Address:** Department of Aging andGeriatrics, College of Medicine, Institute on Aging, University of Florida,1329 SW 16th Street, Room 5262, Gainesville, FL 32605.
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "a sequential manner." Quote: "participants would complete the intervention. Participants were tested again (postcontrol) and randomly assigned to intervention groups by unrestricted randomiza- tion using lot drawing. Because participants qualified at different time points, random assignment was done in a sequential manner. Following 10"

		Judgement Comment: Participants were randomized based on a A sequential manner
Allocation concealment (selection bias)	Unclear risk	Quote: "8- to 10-week control period. The control period eliminated the need for a separate control group and acted as a ‘‘lead in’’ time to ensure that participants would complete the intervention. Participants were tested again (postcontrol) and randomly assigned to intervention groups by unrestricted randomiza- tion using lot drawing. Because participants qualified at different time points, random assignment was done in a sequential manner. Following 10" Judgement Comment: Methods are unclear described
Blinding of participants and personnel (performance bias)	High risk	Judgement Comment: Not described but difficult to blind personnel and participant in this type of intervention studies
Blinding of outcome assessment (detection bias)	High risk	Quote: "All measurements were obtained at precontrol, postcontrol, and posttraining sessions." Judgement Comment: Blinding of assessor is not described
Incomplete outcome data (attrition bias)	High risk	Judgement Comment: Figure 1 shows the flowcharge. Reasens for droupout is described in each group but ITT analyses was not used only per protocol. The drop out rate was high (26%)
Selective reporting (reporting bias)	Low risk	Judgement Comment: None detected
Other bias	Low risk	none detected

Seo 2012

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group **Open Label:** **Cluster RCT:**
Participants	**Baseline Characteristics** Intervention ● *Age (mean, SD)*: 70.7 (3.6) ● *Sex (% male)*: 0 ● *Co-morbifity (yes/no)*: NR ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR ● *Impairment (body functions and structure description)*: NR ● *Limitations (activitity description)*: Y ● *Restriction (participation description)*: NR ● *Housing (eg., residential homes, own home)*: NR ● *Civil status (% living alone)*: 12.9 ● *In risk of falling (yes/no)*: Y ● *Cognitive impairments (yes/no)*: N Control ● *Age (mean, SD)*: 71.1 (3.8) ● *Sex (% male)*: 0 ● *Co-morbifity (yes/no)*: NR

	● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR ● *Impairment (body functions and structure description)*: NR ● *Limitations (activitity description)*: Y ● *Restriction (participation description)*: NR ● *Housing (eg., residential homes, own home)*: NR ● *Civil status (% living alone)*: 9.1 ● *In risk of falling (yes/no)*: Y ● *Cognitive impairments (yes/no)*: N **Included criteria:** The inclusion criteria were ove 65-years, able to ambulate at least 10m independently (withoutadevice), having at least one fall experience within the past year, inability to stand on one leg for 5 seconds or more and having MMSE over 24 **Excluded criteria:** The exclusion criteria were as follows: history of severe cardiac or pulmonary problem, stroke, and spine fracture. **Pretreatment:** There were no statistically significant differences between among groups at baseline
Interventions	**Intervention Characteristics** Intervention ● *Description*: Progressive resistance training (PRT) with elastic bands each session 50 min in total (30 min for PRT). ● *Duration (weeks)*: 12 weeks (not reported how many time per weeks) ● *Dose*: 3 sets / 10 repetitions for upper and lower extrimities with increasing load (change of elastic band) ● *Personnel*: NR Control ● *Description*: Balance Training (BT) using physio-balls and typical balance exercise each session lasted 50 min in total (30 min for BT) ● *Duration (weeks)*: 12 weeks (not reported how many times per week) ● *Dose*: Not reported ● *Personnel*: NR
Outcomes	*Muskelstyrke EoT (muscle strength)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Isometric knee extension strength ● **Unit of measure**: Unclear ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: The unit of measurement is not clearly described (%MVC) I think it is N/body weight * 100 - however to a message is send to the author to clearify *Mobilitet Bevægelse og færden (mobility, activity level) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Timed up and go ● **Unit of measure**: seconds ● **Direction**: Lower is better

	● **Data value**: Endpoint *Mobilitet bevægelse og færden (mobility, activity level) (LF)* ● **Outcome type**: ContinuousOutcome *Balance (balance) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Figure-of-Eight-Running (FET) ● **Unit of measure**: seconds ● **Direction**: Lower is better ● **Data value**: Endpoint ● **Notes**: FET is a dynamic balance test *ADL (Activities of daily living including ADL or IADL) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Not reported *Alvorlige bivirkninger (Serious adverse events) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fald (falls) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fraktur (fracture) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Uønsket vægttab (unintentional weight loss)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Balance (balance) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported
Identification	**Sponsorship source:** NR **Country:** Syd Korea **Setting:** Recruitment from a senior welfare center **Comments:** No further comments **Authors name:** B.D.Seo

	Institution: Department of Physical Therapy, College of Health, Kyungwoon University, **Email:** oksbd@paran.com **Address:** Kyungwoon University, 55, Induckri, Sandong-myun, Gumi-si, Kyungsangbuk-do, Korea
Notes	*Daniel Kaminski Rotenberg* on 30/03/2016 03:29 **Outcomes** Jeg har indskrevet data for "balance". De har jo testet det, om end med en for mig ukendt metode. Unit; sec. Higher is better

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	SUPPORTING ANNOTATIONS *After the baseline measurement, 95 study participants were randomly assigned to one of three groups:* COMMENTS Information about the details of the sequence generation process is not reported
Allocation concealment (selection bias)	Unclear risk	Quote: "After the baseline measurement, 95 study participants were randomly assigned to one of three groups: the" Judgement Comment: No details available on allocation cencealment
Blinding of participants and personnel (performance bias)	Unclear risk	Quote: "This study was a single blind, controlled trial consisting of 12- week pre- and post-exercise assessments." Judgement Comment: No information available of who was blinded
Blinding of outcome assessment (detection bias)	Unclear risk	Quote: "This study was a single blind, controlled trial consisting of 12- week pre- and post-exercise assessments. A total of 152 women aged over 65 years were recruited from three" Judgement Comment: No information on who was blinded (patients or assessors)
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: Insufficient reporting of attrition to the individual outcome, according to table 2 or 3 all participants participated in assessment at all time points. However the authors don´t state it in the manuscript.
Selective reporting (reporting bias)	Unclear risk	Judgement Comment: No protocol available, the different outcomes used in this study would be expected, but it is not clear if reports of any preplanned measures are missing
Other bias	Low risk	none detected

Serra Rexach 2011

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group **Open Label:** **Cluster RCT:**

Participants	**Baseline Characteristics** Intervention ● *Age (mean, SD)*: 92 (2) ● *Sex (% male)*: 20 ● *Co-morbifity (yes/no)*: y ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR ● *Impairment (body functions and structure description)*: NR ● *Limitations (activitity description)*: Y ● *Restriction (participation description)*: Y (living at nursing home) ● *Housing (eg., residential homes, own home)*: nursing home resident ● *Civil status (% living alone)*: NR ● *In risk of falling (yes/no)*: NR ● *Cognitive impairements (yes/no)*: y Control ● *Age (mean, SD)*: 92 (2) ● *Sex (% male)*: 20 ● *Co-morbifity (yes/no)*: y ● *Undernourised (yes/no)*: NR ● *Frail (Yes/no)*: NR ● *Impairment (body functions and structure description)*: NR ● *Limitations (activitity description)*: Y ● *Restriction (participation description)*: Y (living at nursing home) ● *Housing (eg., residential homes, own home)*: nursing home resident ● *Civil status (% living alone)*: NR ● *In risk of falling (yes/no)*: NR ● *Cognitive impairements (yes/no)*: y **Included criteria:** Inclusion criteria were aged 90 and older,planning to stay in the same nursing home during the study,able to ambulate (with or without the assistance of a cane,walker, or parallel bars), able to communicate, and able andwilling to provide consent. **Excluded criteria:** Exclusion criteria were acute orterminal illness, myocardial infarction in the previous 3months, not able to ambulate, unstable cardiovascular dis-ease or other medical condition, upper or lower extremityfracture in the previous 3 months, severe dementia, unwill-ingness to complete the study requirements or be randomized into the control or training group, neuromusculardisease, and use of drugs affecting neuromuscular function **Pretreatment:** NR
Interventions	**Intervention Characteristics** Intervention ● *Description*: Mobility exercise 2 days a week like the control group and progressive resistance training for lower extrimity (intensity 30% RM at the beginnig of the 8 weeks ending at 70% RM at the end) They also did low intensity resistance training for the upper extrimities but one set of 10 repetition ● *Duration (weeks)*: 8 weeks ● *Dose*: Three times a week each session between 40-45 min (including warm up and stretching). 2-3 sets/day of 10 repetitions

	● *Personnel*: ualified fitness specialists carefullysupervised every training session and worked with groupsof two to three persons to ensure that participants wereperforming the exercises correctly Control ● *Description*: Participants were instructed on the positive effects of rexercise. They further performed mobility exercises. ● *Duration (weeks)*: 8 weeks ● *Dose*: They performed mobility exercises for 40 to 45 min./day, 5 days/ week ● *Personnel*: ualified fitness specialists carefullysupervised every training session and worked with groupsof two to three persons to ensure that participants wereperforming the exercises correctly
Outcomes	*Muskelstyrke EoT (muscle strength)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Dynamic muscular strength (leg press) ● **Unit of measure**: kilogram assessed as 1RM ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: The 1RM was estimated using an equation reported previously: 1RM =102.7- 2.78 X number of repetitions. Initial loads were 70% to 100% of body weight. After a brief rest period, increments of 2 to 4 kg were added until the participant could not lift the load more than six to seventimes, which usually occurred after five trials. Intention to threat analysis are used with baseline values for missing posttest values *Mobilitet Bevægelse og færden (mobility, activity level) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: 8 meters walk test ● **Unit of measure**: meters per minute ● **Direction**: Higher is better ● **Data value**: Endpoint ● **Notes**: The result is shown in a figure with mean and errorbars for SE there is no detailed information of estimates. ITT are used *Mobilitet bevægelse og færden (mobility, activity level) (LF)* ● **Outcome type**: ContinuousOutcome *Balance (balance) (EOT)* ● **Outcome type**: ContinuousOutcome *ADL (Activities of daily living including ADL or IADL) (EOT)* ● **Outcome type**: ContinuousOutcome *Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Not reported *Alvorlige bivirkninger (Serious adverse events) (EOT)* ● **Outcome type**: AdverseEvent

	● **Reporting**: Not reported *Fald (falls) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Partially reported ● **Scale**: Fall over the study period ● **Unit of measure**: mean number of fall per participants with 95% CI ● **Direction**: Lower is better ● **Notes**: The mean number of falls per participant recorded over the study period was 1.2 fewer in the intervention groupt han in the control group (95% CI50.0–3.0,P5.03 *Fraktur (fracture) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Uønsket vægttab (unintentional weight loss)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Balance (balance) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported
Identification	**Sponsorship source:** This study was partially supported by the SwedishCouncil for Working Life and Social Research, the Loo andHans Ostermans Foundation 2009 (2009Oste0043), theFondo de Investigaciones Sanitarias (PS09/00194) and theSpanish Ministry of Science and Innovation (RYC-2010-05957). **Country:** Spain **Setting:** Geriatric Nursing Home **Comments:** ClinicalTrials.gov ID: NCT00848978 **Authors name:** Jose´A. Serra-Rexach **Institution:** Geriatric Department, Hospital General Universitario Gregorio Maranon, Madrid, Spain; Universidad Europea de Madrid **Email:** jserra.hgugm@salud.madrid.org **Address:** Geriatric Department,Hospital General Universitario Gregorio Maranon, Madrid, Spain.
Notes	*Daniel Kaminski Rotenberg* on 29/03/2016 22:27 **Outcomes** Number of falls not written, only that 1,2 less falls were seen in the intervention Group, less than what ? What is the percentuel change ?

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The data manager randomly assigned participants to the control or training group with a block on sex and ambu- lation ability based on the Functional Ambulation Classi- fication (FAC) scale (score 0–3 vs 4–5) 18 using a computer- generated randomization sequence." Judgement Comment: A computer random number generator was used
Allocation concealment (selection bias)	Unclear risk	Quote: "The group assignment coding (0 for usual care and 1 for intervention) was concealed to the research group." Judgement Comment: The authors only report that the coding was concealed not how it was consealed
Blinding of participants and personnel (performance bias)	High risk	Quote: "Participants were explicitly informed as to the group to which they were assigned and the study hypotheses and reminded not to discuss their randomization assign- ment with assessment staff. It was not possible to conceal the group assignment from the staff involved in the training." Judgement Comment: The participants and the personnell involved in the training were not blinded
Blinding of outcome assessment (detection bias)	Low risk	Quote: "The assessment staff was blinded to participant randomization assignment." Judgement Comment: Outcome assessors were blinded
Incomplete outcome data (attrition bias)	Low risk	Quote: "Two participants (one per group) could not be as- sessed after the intervention period (Figure 1). Two study participants (both in the intervention group) died during the study period. One died at the age of 92 during the inter- vention period from a head injury after a fall in her room" Judgement Comment: The reason for missing data is well described and missing data are equally distributed between groups and unlikely to be related to the outcome
Selective reporting (reporting bias)	High risk	Judgement Comment: The studie is reported in Clinical Trials. Not all the prespecified outcomes are reported in the study.
Other bias	Low risk	none detected

Sullivan 2007

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group **Open Label:** **Cluster RCT:**
Participants	**Baseline Characteristics**Intervention*Age (mean, SD)*: 76 (6.6)*Sex (% male)*: 85.7*Co-morbifity (yes/no)*: Y*Undernourised (yes/no)*: NR*Frail (Yes/no)*: Y*Impairment (body functions and structure description)*: NR*Limitations (activitity description)*: Y*Restriction (participation description) (%)*: 14.3*Housing (eg., residential homes, own home)*: NR*Civil status (% living alone)*: NR*In risk of falling (yes/no)*: NR*Cognitive impairements (yes/no)*: NControl*Age (mean, SD)*: 84.7 (4.6)*Sex (% male)*: 71.4*Co-morbifity (yes/no)*: Y*Undernourised (yes/no)*: NR*Frail (Yes/no)*: Y*Impairment (body functions and structure description)*: NR*Limitations (activitity description)*: Y*Restriction (participation description) (%)*: 28.6*Housing (eg., residential homes, own home)*: NR*Civil status (% living alone)*: NR*In risk of falling (yes/no)*: NR*Cognitive impairements (yes/no)*: N **Included criteria:** Physicians were asked to refer patients who had recent illness-induced functional decline, were aged 65 and older, and were capable of giving informed consent **Excluded criteria:** The exclusion criteria included a near-terminal medical disorder, unre-solved malignancy, disabling arthritis or

	irreversible neuro-logical disease that made a goal of independent ambulation unrealistic, and unstable cardiovascular disease. **Pretreatment:** The control group have higher age than the intervention group
Interventions	● **Intervention Characteristics** ● Intervention*Description*: Progressive high intensity resistance training for upper and lower extrimities*Duration (weeks)*: 12 weeks*Dose*: Starting at intensity of 20% of 1RM gradually increased to 80% of 1RM. (3 sets of 8 repetitions)*Personnel*: NR ● Control*Description*: Low intensity resistance training for upper and lower extrimities*Duration (weeks)*: 12 weeks*Dose*: Warm-up set using 10% of 1RM followed by 3 sets of 8 repetitions at 20% of 1RM (3 sets of 8 repetitions)*Personnel*: NR
Outcomes	*Muskelstyrke EoT (muscle strength)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Leg press ● **Unit of measure**: kg ● **Direction**: Higher is better ● **Data value**: Change from baseline ● **Notes**: Based on multifactor analysis of covariance of the log-transformed data. After intervention groups, the only baseline covariates to enter the model for leg press were admission serum total testosterone and amount of weight lost in the prior year. ITT analysis was used with baseline values for missing data *Mobilitet Bevægelse og færden (mobility, activity level) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Aggregate score ● **Range**: 0-12 ● **Unit of measure**: points ● **Direction**: Higher is better ● **Data value**: Change from baseline ● **Notes**: Each of four tests (the sit-to-stand maneuver, habitual gait speed, maximal safe gait speed, and stair climb) was scored on a 4-point scale (05cannot complete task;15needs assistance to complete task; 25completes task independently; 35completes task independently and inmedian time for control population of healthyelderly). The aggregate score represents the sum of these fours scores and can range from 0 to 12 points. ITT analysis was used with baseline values for missing data *Mobilitet bevægelse og færden (mobility, activity level) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *Balance (balance) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported *ADL (Activities of daily living including ADL or IADL) (EOT)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported

	Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF) ● **Outcome type**: DichotomousOutcome ● **Reporting**: Not reported *Alvorlige bivirkninger (Serious adverse events) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fald (falls) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Fraktur (fracture) (EOT)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Uønsket vægttab (unintentional weight loss)* ● **Outcome type**: AdverseEvent ● **Reporting**: Not reported *Balance (balance) (LF)* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Not reported
Identification	**Sponsorship source:** An investigator-initiated study that was funded by Bristol Meyers Squibb, Plainsboro, New Jersey. The sponsor did not contribute to any part of the study or the preparation ofthe manuscript. **Country:** USA **Setting:** In and outpatient geriatric unit **Comments:** No comments **Authors name:** Dennis H. Sullivan **Institution:** Geriatric Research, Education and Clinical Center andwPharmacyService, Central Arkansas Veterans Healthcare System, Little Rock **Email:** SullivanDennisH@uams.edu **Address:** Geriatric Research,Education and Clinical Center (3 J/NLR), Central Arkansas Veterans Healthcare System, 4300 W 7th Street, Little Rock, AR 72205
Notes	*Daniel Kaminski Rotenberg* on 23/03/2016 20:42 **Outcomes** DER ER MÅLT BÅDE "CHEST" (BÆNKRESS ?) OG "LEG. Jeg vurderer at u.e. styrke er mest relevant.Mobilitet og færden = aggregated score svarer meget godt til dette. Der er målt vægttab, som er uønsket, idet forsøget har endepunkt "vægtøging"

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: The sequence generation is not described the author only reports that subject were randomized by using a two-by-two factorial design
Allocation concealment (selection bias)	Low risk	Quote: "a particular subject in advance. A sealed envelope was sent to the pharmacy informing them of the subject's assignment to MA or placebo, thus maintaining" Judgement Comment: Allocation concealment using sealed envolopes
Blinding of participants and personnel (performance bias)	High risk	Quote: "The study was a double-blind (MA)/single-blind (PRMST) randomized, controlled experiment to establish the safety and efficacy of a 12-week treatment regimen consisting of PRMST alone or in combination with MA (800 mg/d orally)" Judgement Comment: The participants and personel were not blinded to group assignment (progressive resistance training)
Blinding of outcome assessment (detection bias)	Low risk	Quote: "For all testing, the observers were blinded to subjects' group assignment." Judgement Comment: Blinded assessors
Incomplete outcome data (attrition bias)	High risk	Quote: "Five subjects were withdrawn from the study before completing the 12-week exercise training protocol: three subjects from Group 1 and two from Group 4. In four cases, the subject was withdrawn after experiencing an exacerba- tion of an underlying medical problem. The remaining case was withdrawn when he developed ischemic changes (in- verted T waves) on his electrocardiogram and an exacer- bation of his chronic obstructive pulmonary disease 36 hours after exercising." Judgement Comment: causes and number of mmissing data were described. However the dropouts were not equally distributed. In the ITT analyzes missing values was replaced with baseline values
Selective reporting (reporting bias)	Unclear risk	Judgement Comment: Protocol not available accordingly unable to evaluate the possibility for selective outcome reporting
Other bias	High risk	Judgement Comment: More patient whithdraw from the study after giving their informed consent and there is a large drop out in the control group 3 out of 7 patients which can bias the results. Further more the test of physical performance had a floor effect in many patients complicating the use of theease outcome measures and the interpretation

Footnotes

References to studies

Included studies

Bellomo 2013

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Mangione 2010

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Manini 2007

Manini, T.; Marko, M.; VanArnam, T.; Cook, S.; Fernhall, B.; Burke, J.; Ploutz-Snyder, L.. Efficacy of resistance and task-specific exercise in older adults who modify tasks of everyday life. The journals of gerontology.Series A, Biological sciences and medical sciences 2007;62(6):616-623. [DOI: 62/6/616 [pii]]

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Seo B.D.; Kim B.J.; Singh K.. The comparison of resistance and balance exercise on balance and falls efficacy in older females. European Geriatric Medicine 2012;3(5):312-316. [DOI:]

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Excluded studies

Clegg 2014

Clegg,Andrew; Barber,Sally; Young,John; Iliffe,Steve; Forster,Anne. The Home-based Older People's Exercise (HOPE) trial: a pilot randomised controlled trial of a home-based exercise intervention for older people with frailty. Age and Ageing 2014;43(5):687-95. [DOI:]

Drey 2012

Drey,Michael; Zech,Astrid; Freiberger,Ellen; Bertsch,Thomas; Uter,Wolfgang; Sieber,Cornel C.; Pfeifer,Klaus; Bauer,Juergen M.. Effects of strength training versus power training on physical performance in prefrail community-dwelling older adults. Gerontology 2012;58(3):197-204. [DOI:]

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Data and analyses

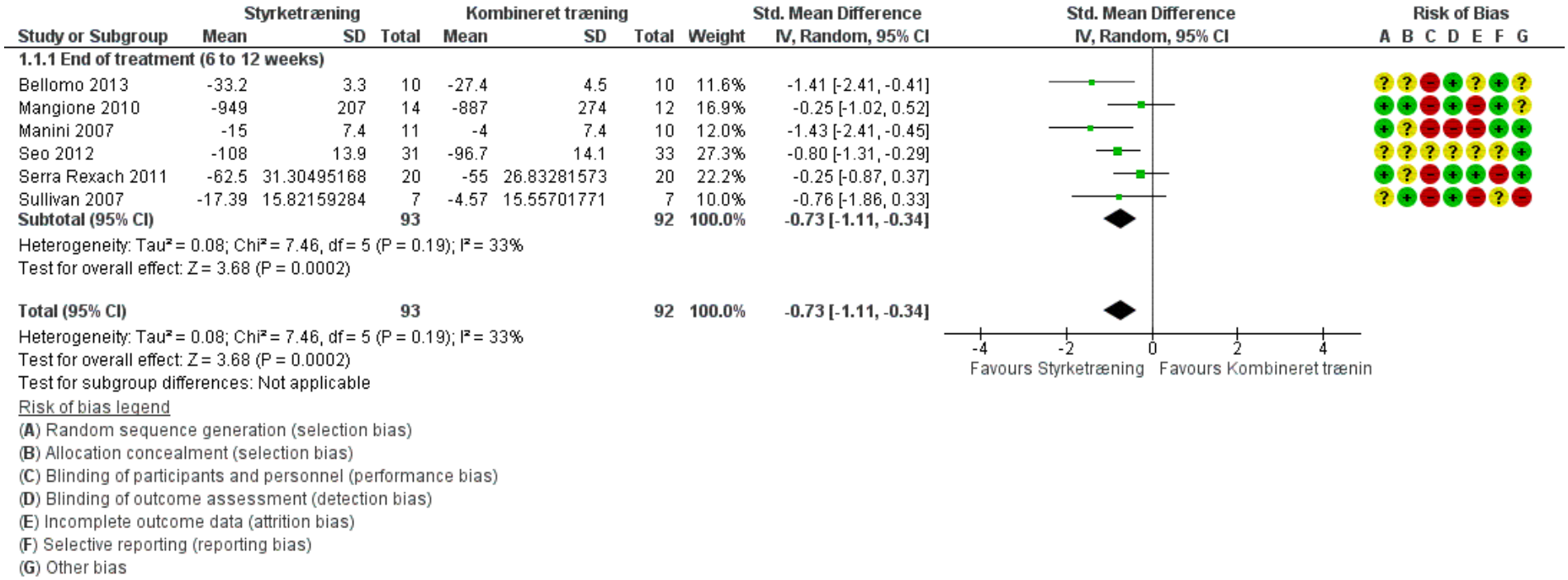
1 Styrketræning vs Kombineret træning

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.1 Muskelstyrke EoT (muscle strength)	6	185	Std. Mean Difference (IV, Random, 95% CI)	-0.73 [-1.11, -0.34]
1.1.1 End of treatment (6 to 12 weeks)	6	185	Std. Mean Difference (IV, Random, 95% CI)	-0.73 [-1.11, -0.34]
1.2 Mobilitet Bevægelse og færden (mobility, activity level) (EOT)	6	185	Std. Mean Difference (IV, Random, 95% CI)	-0.35 [-0.79, 0.09]
1.2.1 End of treatment (6 to 12 weeks)	6	185	Std. Mean Difference (IV, Random, 95% CI)	-0.35 [-0.79, 0.09]
1.3 Mobilitet bevægelse og færden (mobility, activity level) (LF)	1	26	Mean Difference (IV, Fixed, 95% CI)	-0.14 [-0.29, 0.01]
1.3.1 Follow up, 1 year, Scale: Gait speed (usual pace), higher=better	1	26	Mean Difference (IV, Fixed, 95% CI)	-0.14 [-0.29, 0.01]
1.4 Balance (balance) (EOT)	5		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
1.4.1 Static, End of treatment	3	77	Std. Mean Difference (IV, Random, 95% CI)	0.87 [-0.30, 2.04]
1.4.2 Dymanic, End of treatment	2	90	Std. Mean Difference (IV, Random, 95% CI)	-1.29 [-1.75, -0.83]
1.5 Balance (balance) (LF)	1	26	Mean Difference (IV, Fixed, 95% CI)	-7.30 [-11.06, -3.54]
1.5.1 Dynamic, Follow up, 1 year	1	26	Mean Difference (IV, Fixed, 95% CI)	-7.30 [-11.06, -3.54]
1.6 ADL (Activities of daily living) (EOT)	0	0	Risk Ratio (IV, Fixed, 95% CI)	Not estimable
1.7 Serious adverse events (SAE)	0	0	Odds Ratio (M-H, Fixed, 95% CI)	Not estimable
1.8 Fald (Falls) EOT	0	0	Odds Ratio (M-H, Fixed, 95% CI)	Not estimable
1.9 Frakturer (Fractures) EOT	0	0	Odds Ratio (M-H, Fixed, 95% CI)	Not estimable

1.10 Forblive i eget hjem, ændring af bopæls status (Changes of living status) (LF)	0		Risk Ratio (IV, Fixed, 95% CI)	No totals
1.11 Vægttab (Weight loss) EOT	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable

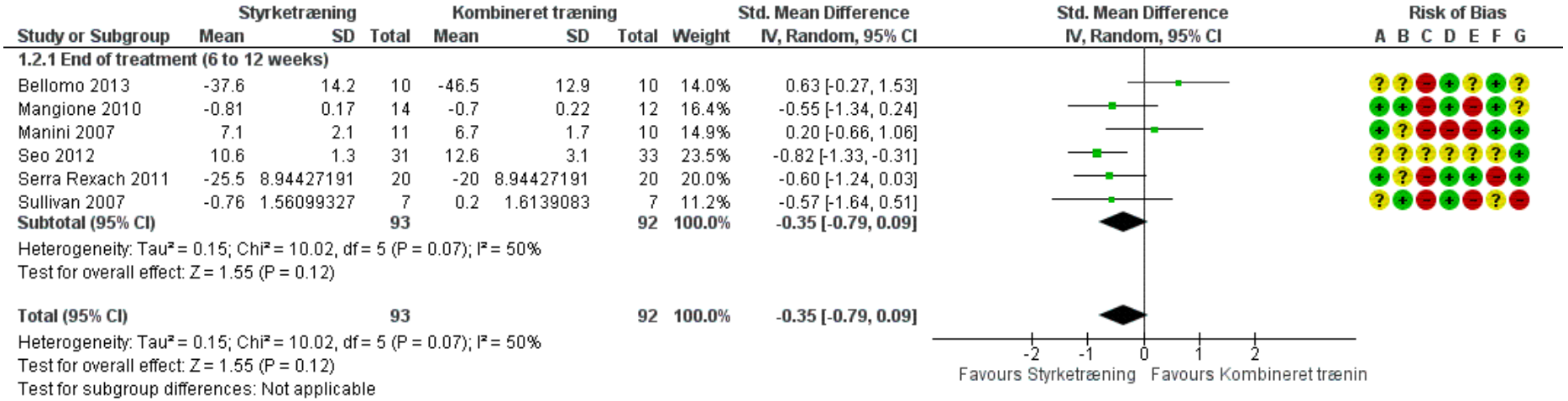
Figures

Figure 1 (Analysis 1.1)



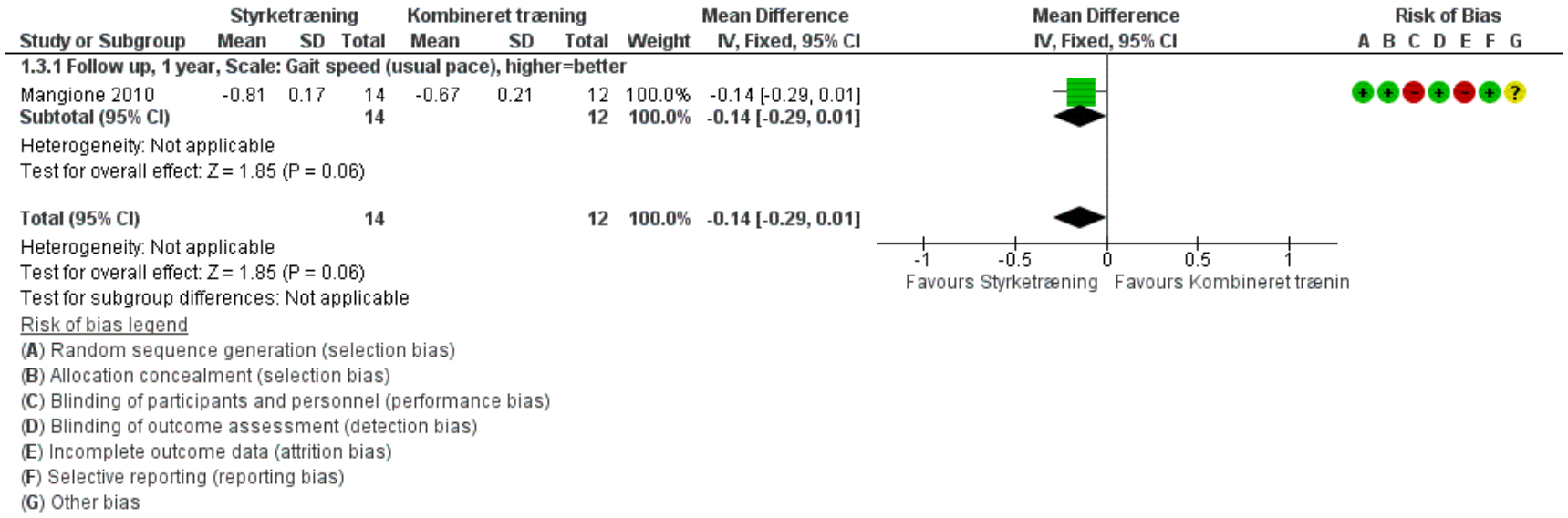
Forest plot of comparison: 2 Styrketræning vs Kombineret træning, outcome: 2.1 Muskelstyrke EoT (muscle strength).

Figure 2 (Analysis 1.2)



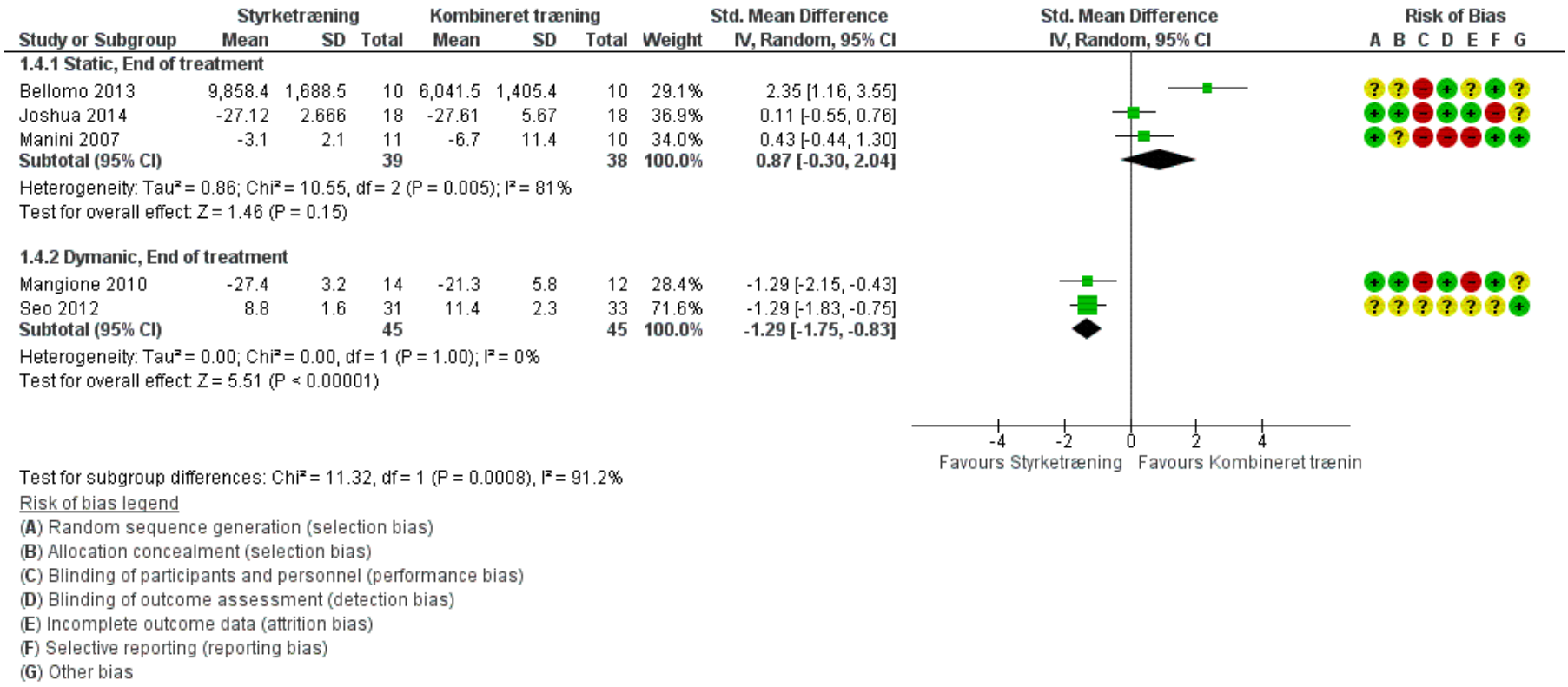
Forest plot of comparison: 2 Styrketræning vs Kombineret træning, outcome: 2.2 Mobilitet Bevægelse og færden (mobility, activity level) (EOT).

Figure 3 (Analysis 1.3)



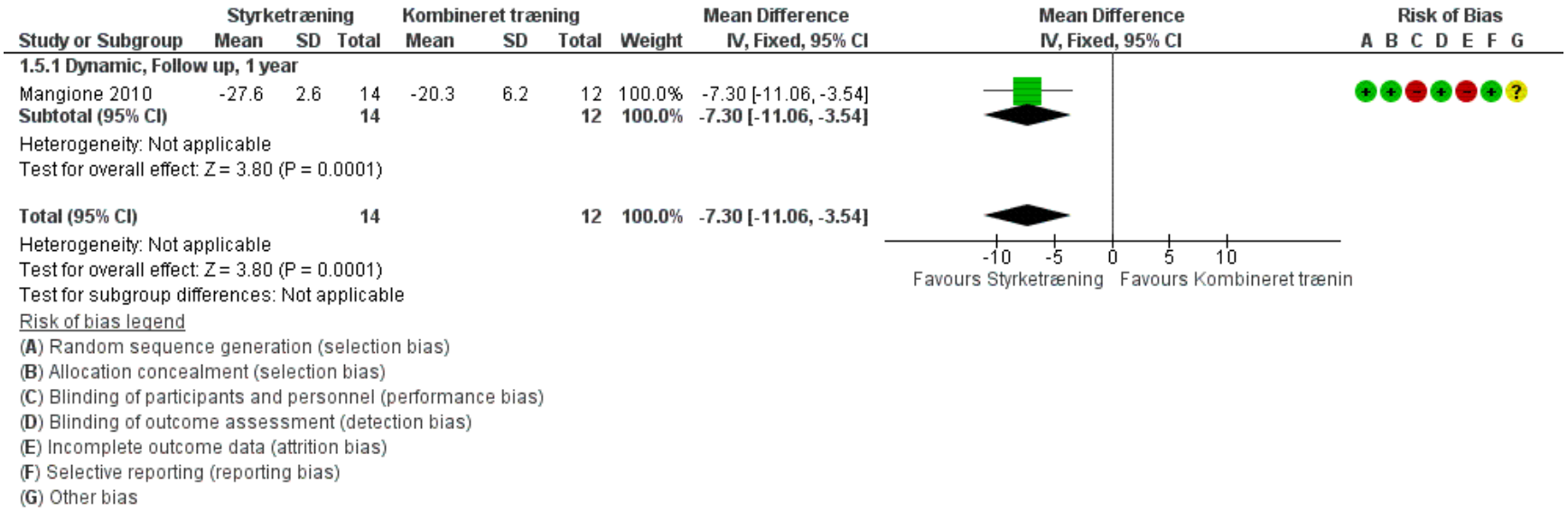
Forest plot of comparison: 2 Styrketræning vs Kombineret træning, outcome: 2.3 Mobilitet bevægelse og færden (mobility, activity level) (LF).

Figure 4 (Analysis 1.4)



Forest plot of comparison: 2 Styrketræning vs Kombineret træning, outcome: 2.4 Balance (balance) (EOT).

Figure 5 (Analysis 1.5)



Forest plot of comparison: 2 Styrketræning vs Kombineret træning, outcome: 2.5 Balance (balance) (LF).