Evidence tables for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Table 9: Evidence tables

Study details	Participants	Interventions	Outcomes and Results	Comments
Full citation Akkurt, Halil, Karapolat, Hale U., Kirazli, Yesim, Kose, Timur, The effects of upper extremity aerobic exercise in patients with spinal cord injury: a randomized controlled study, European Journal of Physical and Rehabilitation Medicine, 53, 219-227, 2017 **Ref Id** 1129290 **Country/ies where the study was carried out** Turkey **Study type** RCT **Aim of the study** To investigate the effectiveness of upper extremity exercises on the exercise capacity of patients	**Sample size** N = 40 (randomised) • Aerobic exercise + standard rehabilitation: 20 • Standard rehabilitation: 20 N = 33 (analysed) • Aerobic exercise + standard rehabilitation: 17 • Standard rehabilitation: 16 **Characteristics** Age in years [Median (IQR)]: • Aerobic exercise = 33 (15-42) • Standard rehabilitation = 37 (19-62) Gender (M/F): • Aerobic exercise (N) = 16/1 • Standard rehabilitation (N) = 13/3 Time since injury [Median (min-max)]:	**Interventions** • *Intervention group: Aerobic exercise + standard rehabilitation.* Standard rehabilitation exercises and aerobic exercise using arm-crank ergometer for 12 weeks. As described in standard rehabilitation plus 3 additional 30 mins (total 1.5 hours) exercise sessions per week (total 156 sessions). Additional sessions included lightly hard-moderately hard arm ergometer rowing and breathing exercises (pursed lips breathing, segmental breathing, diaphragmatic breathing, voluntary isocapnic hyperpnoea and air shifting. Air shifting was performed 2 times per day for 10 repetitions, 7 days per week). • *Control group: Standard rehabilitation.* Standard rehabilitation for 12 weeks,	**Results** *Quality of Life (measured using WHOQOL-Bref-Tr Physical domain) [median (range)]* Higher = better. Week 6 (during intervention): • Aerobic exercise (N=17): 11.4 (6.9-14.3) • Standard rehabilitation (N=16): 10.86 (8.6-13.7) • No significant difference between groups (p>0.05, Mann-Whitney U-test) Week 12 (intervention completion): • Aerobic exercise (N=17): 10.9 (7.4-13.1) • Standard rehabilitation (N=16): 10.9 (6.3-14.3) • No significant difference between groups (p>0.05, Mann-Whitney U-test)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI – Paper simply states that the subjects were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – No differences between groups at baseline. Risk of bias judgement: High risk. Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments
with SCI. A secondary aim was to investigate the effect of this training programme on cardiopulmonary risk factors, metabolic syndrome, mental health, quality of life, and disability. **Study dates** Not reported. **Source of funding** Not reported.	• Aerobic exercise (months) = 15 (2-144) • Standard rehabilitation (months) = 15 (3-120) Injury cause: not reported Level of injury (ASIA Grade A/B/C/D): • Aerobic exercise (N) = 9/1/5/2 • Standard rehabilitation (N) = 10/0/5/1 **Inclusion criteria** Patients had to: • Be aged between 15-65 years old • Have traumatic cause of injury • Have a lesion level between C7-L5 • Be at least 1 month post-injury • Be spending less than 2 hours per week engaged in physically active training or outdoor mobility • Have received medical approval to engage in physical activity • Be able to read and understand Turkish **Exclusion criteria**	adapted for neurological levels and skills of each participant. Rehabilitation sessions were 2 times a day, 5 x per week for 12 weeks (total of 120 sessions). Exercises were performed in a variety of positions and consisted of: passive, assisted and active range of motion, upper-body and lower-body strengthening exercises (targeting pectorals, deltoids, triceps, biceps, latissimus dorsi, wrist flexors/extensors, torso flexors/extensors, quadriceps, hamstring and gastrocnemius), 1-rep maximum, core and balance exercises. If possible, locomotor training was also included (either with or without body support).	*Quality of Life (measured using WHOQOL-Bref-Tr Psychological domain) [median (range)]* Higher = better. Week 6 (during intervention): • Aerobic exercise (N=17): 13.3 (10.0-7.3) • Standard rehabilitation (N=16): 12.0 (7.3-14.7) • No significant difference between groups (p>0.05, Mann-Whitney U-test) Week 12 (intervention completion): • Aerobic exercise (N=17): 13.7 (5.0-17.0) • Standard rehabilitation (N=16): 12.7 (9.0-17.0) • No significant difference between groups (p>0.05, Mann-Whitney U-test) *Changes in ADL (measured using FIM score) [median (range)]* Higher = better. Week 6 (during intervention): • Aerobic exercise (N=17):	of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement:

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Secondary health problems (including pressure sores, bladder infections, cardiovascular disease) • Medical conditions that prevent performing physical activity		63 (50-118) • Standard rehabilitation (N=16): 72 (56-94) • No significant difference between groups (p = 1.00, Mann-Whitney U-test) Week 12 (intervention completion): • Aerobic exercise (N=17): 62.5 (50-118) • Standard rehabilitation (N=16): 74 (56-119) • No significant difference between groups (p = 1.00, Mann-Whitney U-test)	Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 17/20 participants in intervention and 16/20 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI – No reasons given regarding loss to follow-up. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN – Similar drop-out rates between the groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
				groups? PN.
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI - Baseline assessors blinded but no mention of outcome assessors.
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY - Both outcomes are subjective.
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN - All participants underwent some form of rehabilitation.
				Risk-of-bias judgement: Some concerns
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI.
				Is the numerical result being assessed likely to have been

Study details	Participants	Interventions	Outcomes and Results	Comments
				selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias: High risk Other information None
Full citation Alexeeva, Natalia, Sames, Carol, Jacobs, Patrick L., Hobday, Lori, Distasio, Marcello M., Mitchell, Sarah A., Calancie, Blair, Comparison of training methods to improve walking in persons with chronic spinal cord injury: a randomized clinical trial, The journal of spinal cord medicine, 34, 362-79, 2011 **Ref Id** 1024500 **Country/ies where the study was carried out** USA **Study type**	**Sample size** N= 35 (randomised) • BWS on fixed track: 14 • BWS on treadmill: 9 • Control: 12 N= 35 (analysed) • BWS on fixed track: 14 • BWS on treadmill: 9 • Control: 12 **Characteristics** Age in years (range): • BWS on fixed track= 21-61 • BWS on treadmill= 19-63 • Control= 22-63 Gender (M/F): • BWS on fixed track (N): 12/2 • BWS on treadmill (N):	**Interventions** • All groups received training 3 days per week for 13 weeks, totalling 39 sessions. Sessions were for a maximum of one hour, to mimic a typical outpatient rehabilitation schedule. Subjects were instructed to walk at a self-selected pace, although they were allowed to modify pace and take rests if needed. • *Intervention:* body weight supported (BWS) ambulation using 30% BWS provided with a parachute-type harness, adjusted to be tight across the lower pelvis but loose about the thighs to allow	*Patient acceptability (measured using Satisfaction with Abilities and Well-Being Scale (SAWS) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 32.4 (7.6) • Treadmill BWS: 35.2 (8.7) • Control (physiotherapy): 29.0 (7.9) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 32.4 (6.4) • Treadmill BWS: 31.2 (7.8) • Control (physiotherapy):	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - simply described as random 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY – staff member not associated with the study, drew printed labels from a box 1.3 Did baseline differences between intervention groups suggest a problem with the

Study details	Participants	Interventions	Outcomes and Results	Comments
RCT **Aim of the study** This RCT aimed to compare two device-specific training interventions, body weight supported ambulation on a fixed track or body weight supported ambulation on a treadmill to comprehensive physical therapy in adults after spinal cord injury (SCI). **Study dates** Recruitment: Not reported **Source of funding** Supported by National Institute of Health, the State University of New York - Upstate Medical University, and Miami Project to Cure Paralysis - The University of Miami.	8/1 • Control (N): 10/2 Time since injury (range in years): • BWS on fixed track= 1-37 • BWS on treadmill= 1-12 • Control= 1.2-25 Level of injury (AIS grade range): • BWS on fixed track= all C-D • BWS on treadmill= all C-D • Control= all C-D **Inclusion criteria** Participants had to: • Be aged 16 to 70 years old • Have SCI at level of T10 (vertebral) or rostral • Be injured at least one year prior to enrolment • Have voluntary movement in at least one leg • Be able to rise from seated to standing with no more than moderate assistance and advance one leg • Agreed to maintain their current routine of medications and activity levels while training	for un-restricted hip flexion and extension. Amount of BWS was determined using either load cells attached to lifting bar (all treadmills and some fixed track participants) or force plates along the walking path (remaining fixed track participants). Duration of training, average heart rate and distance walked was recorded for each sessions. • BWS ambulation on fixed track: participants helped by an assistant without formal rehabilitation training. The assistant provided encouragement during training sessions but was told not to offer training-specific advice. • BWS ambulation on treadmill: suspension was accomplished by ceiling-mounted pulley system. Support rails on either side of the treadmill were removed to prevent subject unloaded through the arms but there were grab handles in place at the front of the machine for stabilisation if needed. • *Control:* Comprehensive physiotherapy sessions delivered by a licensed	31.4 (5.5) *Overall quality of life (measured using SF-36 General health perception score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 2.5 (0.7) • Treadmill BWS: 2.6 (1.1) • Control (physiotherapy): 2.8 (0.8) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 2.6 (1.0) • Treadmill BWS: 2.2 (1.36) • Control (physiotherapy): 2.9 (0.7) *Overall quality of life (measured using SF-36 Energy score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 10.8 (3.0) • Treadmill BWS: 10.9 (3.2) • Control (physiotherapy): 11.8 (2.9)	randomization process? PN – no statistical analysis presented but text states 'no differences' Risk-of-bias judgement Low risk Domain 2: Risk of bias due to deviations from the intended interventions (*effect of assignment to intervention*) 2.1. Were participants aware of their assigned intervention during the trial? PY - not possible to blind due to nature of intervention 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY - not possible to blind due to nature of intervention 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Medically cleared by study physician **Exclusion criteria** • Degenerative myelopathy, neoplasm or congenital spinal cord abnormalities • Prior gait training with BWS • Bi-lateral knee-ankle-foot orthoses needed for standing • Ability to run or jog	physical therapist. Programmes were individually designed for each subject and involved gait, balance, and functional activity modalities e.g. strengthening, stretching and aerobic exercises. Physical therapist kept detailed log of activity, along with average heart rate.	4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 14.7 (2.7) • Treadmill BWS: 9.8 (4.5) • Control (physiotherapy): 11.4 (2.7) *Overall quality of life (measured using SF-36 Mental health perception score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 8.0 (1.9) • Treadmill BWS: 8.7 (1.7) • Control (physiotherapy): 7.5 (1.6) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 7.7 (2.0) • Treadmill BWS: 7.0 (1.9) • Control (physiotherapy): 7.3 (1.7) *Overall quality of life (measured using SF-36 Fatigue score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 24.6	effect of assignment to intervention? Y - ITT analysis 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			(2.5) • Treadmill BWS: 24.4 (3.2) • Control (physiotherapy): 24.6 (2.8) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 23.2 (3.9) • Treadmill BWS: 25.0 (3.7) • Control (physiotherapy): 23.6 (3.4) * Study authors report using measurements derived from corresponding SF-36 domains, but not all questions.	outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? No - assessors blinded to intervention group 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales,

Study details	Participants	Interventions	Outcomes and Results	Comments
				definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement Some concerns Overall risk of bias Risk-of-bias judgement Some concerns **Other information** None.
Full citation Aquilani, R., Zuccarelli Ginetto, C., Rutili, C., Pisano, P., Pasini, E., Baldissarro, E., Verri, M., Boschi, F., Supplemented amino acids may enhance the walking recovery of elderly subjects after hip fracture surgery, Aging Clinical and Experimental Research, 31, 157-160, 2019 **Ref Id** 1129324 **Country/ies where the study was carried out** Italy **Study type** RCT	**Sample size** N = 83 (randomised) • Rehabilitation + essential amino acids: 28 • Rehabilitation + placebo: 28 • Rehabilitation only: 27 N = 83 (analysed) • Rehabilitation + essential amino acids: 28 • Rehabilitation + placebo: 28 • Rehabilitation only: 27 (not included in data extraction after this point) **Characteristics** Age in years [Mean (SD)]: • Rehabilitation + essential amino acids = 79.6 (8.0) • Rehabilitation + placebo =	**Interventions** • *Intervention group: Essential amino acids + rehabilitation.* Standard rehabilitation as described in control group + 2 x 4g packets of essential amino acid supplements containing leucine, lysine, isoleucine, valine, threonine, cysteine, histidine, phenylalanine, methionine, tyrosine and tryptophan (for full details: Aminotrofic®, ErreKappa, Milan, Italy). Packets were given at 10:00 and 16:00, starting day after randomisation to discharge. • *Control group: Placebo + rehabilitation.* Standard rehabilitation consisted of 40-50 minute rehabilitation sessions x 2 per day, 5	**Results** *Changes in mobility (measured using 6MWT in m) [mean (SD)]* At baseline (at admission): • Essential amino acids + rehabilitation (N=28): 46.4 (44.1) • Placebo + rehabilitation (N=28): 72.2 (69.9) • No significant difference between groups (p > 0.05, Kruskal-Wallis test) At discharge (exact time not specified but mean 66 days after admission): • Essential amino acids + rehabilitation (N=28): 164.6 (108.1) • Placebo + rehabilitation	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Paper simply states that participants were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant differences between groups at baseline.

Study details	Participants	Interventions	Outcomes and Results	Comments

Aim of the study
To investigate 1. The effectiveness of an extensive rehabilitation programme on mobility and 2. The effectiveness of supplemented amino acids on the rate of mobility recovery, both in hip fracture patients.
 	
Study dates
Not reported.
 	
Source of funding
Not reported.
	82.0 (6.3)
	
	Gender (M/F):
	• Rehabilitation + essential amino acids (N) = 12/16
	• Rehabilitation + placebo (N) = 10/18
	
	Time since injury: not reported.
	
	Injury cause: not reported.
	
	Location of fracture: not reported
	
	Inclusion criteria
	Not reported.
	
	Exclusion criteria
	• Not fully reported but examples include:
	  ○ Heart failure
	  ○ Musculo-skeletal disorders
	  ○ Lung disease
	  ○ Depression
		days per week. Sessions consisted of passive-assisted active mobilisation, isotonic and isometric strengthening exercises and assisted gait training with walking sticks. Placebo intervention was 2 x 4g packets isocaloric maltodextrin. Packets were given at 10:00 and 16:00, starting day after randomisation to discharge.	(N=28): 145.8 (98.7)
			• Significance not reported
			
			Gain (discharge-admission):
			• Essential amino acids + rehabilitation (N=28): 118.2(100.3)
			• Placebo + rehabilitation (N=28): 73.6 (66.3)
			• Statistically significantly higher (better) in Rehabilitation + amino acid compared to rehabilitation + placebo (p=0.024, Kruskal-Wallis test).
			
			% patients achieving minimal clinical significant different in 6MWT
			
			Minimal Clinically important gain reported as +50m in paper.
			
			At discharge (exact time not specified but mean 66 days after admission):
			• Essential amino acids + rehabilitation (N=28): 75%
			• Placebo + rehabilitation (N=28): 46.4%
			• Standard rehabilitation (N=27): 66.7%
			• No significant difference between groups (p=0.075,
				Risk-of-bias judgement: Some concerns
				Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)
				2.1. Were participants aware of their assigned intervention during the trial? NI.
				2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI.
				2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY - Intervention occurred until discharge rather than fixed time point and only mean discharge time from admission was reported for whole group. Some subjects may have had more exposure to intervention.
				2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NI - Mean time to discharge for whole group only reported.
				2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? Y.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Chi-squared test)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat.
				2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA.
				Risk-of-bias judgement: High risk
				Domain 3: Missing outcome data
				3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants.
				3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA.
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA.
				3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA.
				Risk-of-bias judgement: Low risk
				Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
				4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN - Outcome measured at admission and discharge only. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - 6MWT objectively measured. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information Study also included a 3rd standard rehabilitation only arm but data not extracted.
Full citation Bailey, C. S., Urquhart, J. C., Dvorak, M. F., Nadeau, M., Boyd, M. C., Thomas, K. C., Kwon, B. K., Gurr, K. R., Bailey, S. I., Fisher, C. G., Orthosis versus no orthosis for the treatment of thoracolumbar burst fractures without neurologic injury: a multicenter prospective randomized equivalence trial, Spine Journal, 14, 2557-2564, 2014 **Ref Id** 1127368	**Sample size** N= 96 (randomised) • Thoracolumbosacral orthosis = 47 • Immediate mobilisation = 49 N= 96 (analysed) • Thoracolumbosacral orthosis = 47 • Immediate mobilisation = 49 **Characteristics** Age in years [Mean (SD)]: • Thoracolumbosacral	**Interventions** • *All groups:* Patients were placed under 90 degrees hip flexion precautions and a lifting/carrying restriction of 5 kg for the first 8 weeks, and received an outpatient rehabilitation program administered by physiotherapists, which was a simple graded functional program lasting 3 months and consisted of walking for the first 4 weeks and then isometric spine stabilization exercises progressing to isotonic exercises at 8	**Results** *Changes in mobility (Roland Morris Disability Questionnaire) [mean (SD)]* Scale 0 (best) – 24 (worst). At baseline: • Thoracolumbosacral orthosis: 17.2(5.0) • Immediate mobilisation: 18.1(5.4) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y Randomisation done using "a concealed, computer-generated, site-specific randomization list. The allocation was concealed from the recruiting surgeon before the randomization assignment." (p. 2558)

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out Canada **Study type** RCT **Aim of the study** "To determine whether TLSO is equivalent to no orthosis (NO) in the treatment of acute AO Type A3 thoracolumbar burst fractures with respect to their functional outcome at 3 months." (p. 2557) **Study dates** 2002-2009 **Source of funding** VHHSC Interdisciplinary Research Grant, Zimmer/University of British Columbia Research Fund, Hip Hip Hooray Research Grant and Aspen Medical	orthosis = 40.5 (14.8) • Immediate mobilisation =39.8 (15.3) Gender (M/F): • Thoracolumbosacral orthosis (N) = 33/14 • Immediate mobilisation (N) = 34/15 Time since injury: Not reported for each group, but patients were acute patients recruited within 3 days of injury. Injury cause: • Thoracolumbosacral orthosis = all traumatic • Immediate mobilisation (N) = all traumatic Level of injury (T11/T12/L1/L2/L3): • Thoracolumbosacral orthosis (N) = 2/9/21/12/3 • Immediate mobilisation (N) = 2/9/29/3/6 **Inclusion criteria** Patients had to: • Be aged 16-60 years old • Be neurologically intact • Have isolated AO-A3 burst	weeks. "At 9 weeks, all patients had occupation-specific rehabilitation incorporated into their program." (p. 2559) • *Intervention group: Thoracolumbosacral orthosis (TSLO).* TSLO preceded by strict bed rest. Mobilisation in the brace performed by a physiotherapist. The TSLO to be worn at all times, with the exception of when lying flat in bed, for a total of 10 weeks. Weaning off the brace to begin at 8 weeks. • *Control group: Immediate mobilisation.* As tolerated, performed by physiotherapist, "with restrictions to limit bending and rotating through their trunk. They were encouraged to return to normal activities after 8 weeks." (p. 2558)	months post-injury) • Thoracolumbosacral orthosis: 8.7 (0.7) • Immediate mobilisation: 9.8 (0.6) • Treatment effect (difference): 1.1 (-0.8 to 2.9) *Patient acceptability (measured using Satisfaction with treatment score) [mean (SD)]* Scale 1 (worst) – 7 (best). At baseline: • Thoracolumbosacral orthosis: 6.4 (1.0) • Immediate mobilisation: 6.0 (1.6) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 6.4 (0.1) • Immediate mobilisation: 6.2 (0.1) • Treatment effect (difference): -0.3 (-0.6 to 0.02) *Quality of life (measured*	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	fracture (vertebral body compression with retropulsion of the posterior vertebral body into the canal and excludes posterior element injury) between T10 and L3 • Have kyphotic deformity lower than 35° **Exclusion criteria** • Pathological or open fracture • Pregnancy • BMI > 40 (i.e., unable to wear a brace) • Dependent on drugs or alcohol • Mobilised with or without a brace before recruitment • History of injury or surgery to the thoracolumbar region • Unable to complete the outcome questionnaires		*using SF-36 Physical component score) [mean (SD)]* Higher = better. • At baseline: Thoracolumbosacral orthosis: 28.1 (11.2) • Immediate mobilisation: 30.1 (9.1) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 39.1 (1.1) • Immediate mobilisation: 36.6 (1.1) • Treatment effect (difference): -2.6 (-5.6 to 0.5) *Quality of life (measured using SF-36 Mental component score) [mean (SD)]* Higher = better. At baseline: • Thoracolumbosacral orthosis: 52.8 (2.8) • Immediate mobilisation:	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y Intention-to-treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concern Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			18.3 (13.1) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 52.2 (1.2) • Immediate mobilisation: 50.8 (1.2) • Treatment effect (difference): -2.1 (-5.5 to 1.3) *Pain (average weekly pain measured using VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). • At baseline: Thoracolumbosacral orthosis: 5.4 (2.6) • Immediate mobilisation: 6.0 (2.4) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 2.7 (0.2) • Immediate mobilisation: 3.4 (0.3) • Treatment effect	4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N "The outcome measures were assessed by a blinded evaluator in each centre who was not involved in the patients' care." (p. 2559) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan

Study details	Participants	Interventions	Outcomes and Results	Comments
			(difference): 0.6 (-0.03 to 1.3) When all of these outcomes were analysed at the different follow-up time points separately, they did not differ between the groups either. These data are available on figures.	that was finalized before unblinded outcome data were available for analysis? Y Outcomes and analysis time points corresponds to those in the protocol Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? N 5.3 ... multiple analyses of the data? N Risk-of-bias judgement: Low risk Overall risk of bias Low risk Other information None
Full citation Binder, Ellen F., Brown, Marybeth, Sinacore, David R., Steger-May, Karen, Yarasheski, Kevin E., Schechtman, Kenneth B., Effects of extended outpatient rehabilitation after hip fracture: a randomized controlled trial, JAMA, 292, 837-46, 2004 **Ref Id**	**Sample size** N= 90 (randomised) • Extended physical therapy + exercise therapy = 46 • Home exercise training: N = 44 N= 90 (analysed) • Extended physical therapy + exercise therapy = 46 • Home exercise training: N = 44	**Interventions** • *Intervention group: Extended physical therapy + exercise therapy.* Exercise sessions 3 times per week for 6 months. This was divided into 2 phases, lasting about 3 months each. Phase 1 Designed to prepare participants for progressive resistance training and reduce injuries. 45-90 minute exercise sessions	**Results** *Change in mobility (measured using Modified Physical Performance Test score) [mean (SD)]* Scale between 0 (worst) – 36 (best). 3 months (during intervention): • Physical therapy and	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Using computer-generated algorithm and block design. 1.2 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
1123000 **Country/ies where the study was carried out** USA **Study type** RCT **Aim of the study** To compare the effectiveness of a 6 month extended outpatient rehabilitation programme (including progressive resistance exercise training) with a low-intensity home exercise programme (focusing on flexibility) on measures of disability and physical performance in elderly patients with hip fracture. **Study dates** August 1998 - May 2003 **Source of funding** This study received funding from the National Institute of Aging, the Washington University General Clinical Research Center, the Washington University Clinical Nutrition Research Center and the Barnes	**Characteristics** Age in years [Mean (SD)]: • Extended physical therapy + exercise therapy = 80 (7) • Home exercise training = 81 (8) Gender (M/F): • Extended physical therapy + exercise therapy (N) = 13/33 • Home exercise training (N) = 10/34 Time since injury [Mean (SD)]: • Extended physical therapy + exercise therapy (days) = 99 (36) • Home exercise training (days) = 103 (30) Injury cause: not reported **Inclusion criteria** Participants had to: • Be at least 65 years old • Be living in the community upon discharge from physical therapy for hip fracture • Be able to attend a screening evaluation within 16 weeks of hip fracture	(depending on participant's tolerance) conducted in groups of 2-5 participants, with a physical therapist. These sessions used a programme of 22 exercises to increase flexibility, balance, co-ordination, speed and entire body strength. As the study progressed, when each participant was able to perform exercises easily, exercises were made harder by increasing the number of repetitions or by the physical therapist modifying the exercises. Additionally, the physical therapist ensured that exercises were suitably adapted to each participants physical impairment e.g. increased time spent on hip extensor/flexor flexibility of fractured leg. Participants also exercise on stationary bike/treadmill when it was safe to do so. These aerobic sessions started for a minimum of 5 minutes, progressing to a maximum of 15 minutes. Phase 2 Shortened version of phase 1 exercises and aerobic training, plus progressive resistance training added. One-	exercise training (N=44): 26.5 (6.3) • Home exercise (N=39): 23.7 (8.2) 6 months (intervention completion): • Physical therapy and exercise training (N=37): 29.0 (6.1) • Home exercise (N=43): 23.3 (7.4) • Significantly better in intervention group (p = 0.003, mixed model repeated-measures ANOVA) *Changes in mobility (measured as number of participants not using assistive device for gait if required at baseline) [N (%)]* Time point not reported: • Physical therapy and exercise training (N=33): 19(58) • Home exercise (N=35): 11 (31) • Significantly better in intervention group (p = 0.03, Chi-squared test) *Changes in ADL (measured using Functional Status*	sequence concealed until participants were enrolled and assigned to interventions? PY - No external organisation mentioned but randomisation occurred after baseline measurements taken. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistical difference between 2 groups at baseline. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN - Small deviations from the exercise intervention but reasons given are all

Study details	Participants	Interventions	Outcomes and Results	Comments
Jewish Hospital Foundation.	surgery • Have a modified Physical Performance Test score between 12-28 • Self-report difficulty of in need of assistance for at least 1 activity of daily living. **Exclusion criteria** • Pathological fracture • Bilateral femur fracture • Previous contralateral femur fracture • Inability to provide informed consent; Inability to walk at least 50 feet (with or without assistive devices) • Visual and/or hearing impairments that would interfere with a patients ability to follow directions or perform exercises safely • Cardiopulmonary disease or neuromuscular disease that would preclude participation in weight-bearing exercises • Conditions that would not be expected to improve with exercise training • Patient starting to take medication for either osteoporosis or hormone therapy within 12 months	repetition maximum voluntary strength measured for 6 different exercises, performed bilaterally on a Hoist weightlifting matching. Exercises were as follows: knee extension, knee flexion, seated bench press, seated row, leg press and biceps curl). Participants started at 6-8 repetitions at 65% of one-rep maximum weight, x1-2 sets. This increased to 8-12 repetitions at 85-100% of one-rep maximum, x2-3 sets. One-rep maximum weights were re-measured at 6 weeks. Participants had to complete 36 sessions per phase (72 total). Anyone who missed an exercise session were allowed to make it up (maximum of 9 sessions). • *Control group: Home exercise.* Low-intensity exercise that mimics standard care after surgical repair. Includes 9 of the 22 exercises used in phase 1 that focus on flexibility. Participants attended 1 hour training session and told to perform exercises at least 3 times per week. They could	*Questionnaire score) [mean (SD)]* Scale between 0 (best) – 36 (worst). 3 months (during intervention): • Physical therapy and exercise training (N=45): 26.3 (5.0) • Home exercise (N=41): 24.2 (5.5) 6 months (intervention completion): • Physical therapy and exercise training (N=40): 27.3 (5.7) • Home exercise (N=43): 24.8 (5.6) • Significantly better in intervention group (p=0.01, mixed model repeated-measures ANOVA) *Changes in ADL (measured using Instrumental ADL score) [mean (SD)]* Scale between 0 (worst) – 14 (best). 3 months (during intervention):	independent of intervention. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 36/44 participants in intervention and 32/46 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N - Although

Study details	Participants	Interventions	Outcomes and Results	Comments
	of initial recruitment screening • Terminal illness with a life expectancy < 1 year.	perform more if they wanted, and could undertake other exercise e.g. swimming, walking but were not allowed to undertake weight-training exercises. Number of exercise sessions were recorded on a calendar that was returned at the end of every month. There was no progression of intensity or difficulty throughout the study. 1 exercise session per month was a group session at the exercise facility, to enhance adherence. A 10 minute telephone call was made to each participant every week to control for the increased social contact of the physical therapy intervention.	• Physical therapy and exercise training (N=45): 11.7 (2.3) • Home exercise (N=41): 11.0 (2.6) 6 months (intervention completion): • Physical therapy and exercise training (N=40): 11.9 (2.6) • Home exercise (N=43): 11.3 (2.5) • No significant difference between groups (p = 0.58, mixed model repeated-measures ANOVA) *Changes in ADL (measured using Basic ADL score) [mean (SD)]* Scale between 0 (worst) – 14 (best). 3 months (during intervention): • Physical therapy and exercise training (N=45): 13.1 (1.1) • Home exercise (N=41): 12.7 (1.3) 6 months (intervention completion):	imputation performed. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? N - Reason for withdrawal all noted as being unrelated to study. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			- Physical therapy and exercise training (N=41): 13.2 (1.2) - Home exercise (N=43): 12.8 (1.3) - No significant difference between groups (p=0.34, mixed model repeated-measures ANOVA)	outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation Calthorpe, Sara, Barber,	**Sample size** N= 90 (randomised)	**Interventions** *Intervention group:*	**Results**	Limitations Quality assessment: Risk of

Study details	Participants	Interventions	Outcomes and Results	Comments
Elizabeth A., Holland, Anne E., Kimmel, Lara, Webb, Melissa J., Hodgson, Carol, Gruen, Russell L., An intensive physiotherapy program improves mobility for trauma patients, The journal of trauma and acute care surgery, 76, 101-6, 2014 **Ref Id** 1127506 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** "to determine whether an intensive physiotherapy program resulted in improved inpatient mobility." (p. 101) **Study dates** 2011-2012 **Source of funding** "This trial was funded by the Sir Edmund Herring Memorial Scholarship, Royal Automobile Club of Victoria,	• Physiotherapy + gym session + mobility = 45 • Physiotherapy only = 45 N= 73-87 (analysed) • Physiotherapy + gym session + mobility = 34-43 • Physiotherapy only = 39-44 **Characteristics** Age in years [Mean (SD)]: • Physiotherapy + gym session + mobility = 58 (22.2) • Physiotherapy only = 54.4 (20.4) Gender (M/F): • Physiotherapy + gym session + mobility (N) = 25/18 • Physiotherapy only (N) = 29/15 Time since injury: not reported. Injury cause: • Physiotherapy + gym session + mobility = All appear to be traumatic • Physiotherapy only = All appear to be traumatic	*Physiotherapy + gym session + mobility.* As the control group + 2 additional treatments per day by an interventional physiotherapist: 1) 30-minute ward gym session doing a supervised exercise program tailored to the individual (e.g., standing, balance and strength exercises, stretches and walking); 2) ward mobility which aimed to improve the functional level compared with the previous physiotherapy treatment "(e.g., require less therapist assistance, progress from bed transfers to walking, increase walking distance). Patients located in the intensive care unit had the two additional mobility treatments on the ward, rather than in the gym." (p. 102) • *Control group: Physiotherapy only.* Tailored physiotherapy treatment program consisting of 30-min sessions 7 mornings per week involving ≥1 bed- and chair-based limb exercises (e.g., strength exercises such as static	*Patient acceptability (measured as satisfaction with treatment) [not satisfied/somewhat satisfied/satisfied/very satisfied]* Time point not reported: • Physiotherapy + gym session + mobility (N=41): 0/3/10/28 • Physiotherapy only (N=41): 0/2/23/16 • Significantly better in intervention group (p<0.01) For risk ratios presented in the GRADE tables, results have been dichotomised into patients reporting that they were very satisfied compare to any other reports (not satisfied/somewhat satisfied/satisfied) *Changes in mobility (measured using measured by modified Iowa Level of Assistance score) [median (IQR)]* Scale 0 (best) – 36 (worst). At Day 3: • Physiotherapy + gym session + mobility (N=43):	bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y (Randomisation using computer-generated program) 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y (concealed allocation using opaque envelopes) 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? No Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? N for the control

Study details	Participants	Interventions	Outcomes and Results	Comments
received by S.C. and E.A.B. For the remaining authors, no conflicts were declared. The Victorian State Trauma Registry (VSTR) is a Department of Health, State Government of Victoria and Transport Accident Commission-funded project. VOTOR is funded by the TAC via the Institute for Safety, Compensation and Recovery Research. R.L.G. is supported by a Practitioner Fellowship of the Australian National Health and Medical Research Council.C.H. is supported by an Early Career Research Fellowship from the Australian National Health and Medical Research Council." (p. 105)	Injury type (major trauma [ISS>15]/upper-limb fracture/lower-limb fracture/chest injury/spine injury/pelvic fracture/ICU admission): • Physiotherapy + gym session + mobility (N) = 16/14/15/18/21/3/12 • Physiotherapy only (N) = 18/9/16/22/28/7/10 **Inclusion criteria** Participants had to: • Be ≥18 years old • Admitted to the Alfred Hospital Trauma Unit • If had head injury, needed to pass the Westmead Post Traumatic Amnesia Score • Within 24 hours of initial mobilisation by physiotherapist • Be able to at least sit on the edge of bed with 2 physiotherapists helping **Exclusion criteria** • Unable to participate in therapy sessions secondary due to severe neurologic or cognitive impairment	quadriceps holds), chest physiotherapy (e.g., airway clearance and lung recruitment exercises), and gait retraining (e.g., gait aid practice, balance, walking, and endurance exercises) and has to aim of regaining independence in mobility with a view to achieve discharge to an appropriate destination (home or inpatient rehabilitation).	7 (1-15) • Physiotherapy only (N=44): 10 (4-19) • Significantly better in intervention group (p<0.02, ANOVA) • Pre-defined MID (8.5 points not exceeded) At Day 5: • Physiotherapy + gym session + mobility (N=43): 7.5 (2-15) • Physiotherapy only (N=44): 16 (4-24) • Significantly better in intervention group (p<0.04, ANOVA) • Pre-defined MID (8.5 points reached) *Changes in mobility (measured using number of participants reporting problems in mobility domain on EQ-5D) [N]* At 6 months following injury: • Physiotherapy + gym session + mobility (N=34): 14 • Physiotherapy only (N=39): 20 • Not significantly different	part of the treatment, but Y for the additional treatment in the intervention group 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Varied, in the intervention group data were

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Unable to walk due to non-weightbearing on lower limbs because of bilateral fractures Needing mobility assistance prior to accident, other than a gait aid • Residing in nursing home residents • Patients with SCI or burns to > 20% TBSA • No physical injuries • Discharged after first physiotherapy review • Unable to speak non-English		(p=0.39, ANOVA) *Quality of life (measured using Glasgow Outcome Scale-Extended) [median (IQR)]* Scale 0 (worst) – 8 (best). Part of 6-monthly routinely collected data (exact time point unclear): • Physiotherapy + gym session + mobility (N=34): 6 (3-7) • Physiotherapy only (N=39): 6 (5-6) • Not significantly different (p=0.65, ordinal logistics regression analysis) *Quality of life (measured using SF-12 Physical component score) [median (IQR)]* Scale 0 (worst) – 100 (best). Part of 6-monthly routinely collected data (exact time point unclear): • Physiotherapy + gym session + mobility (N=25): 36 (29-49) • Physiotherapy only	available for 41-43/45 participants and in the control group for 41-44/45 participants for the mobility and satisfaction outcomes. For QoL outcomes, the corresponding proportions were 25-34/45 and 32-39/45, respectively. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NI Risk-of-bias judgement: Some concerns for mobility and satisfaction; high risk for QoL Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=32): 33 (26-56) • Not significantly different (p=0.96, unclear which statistical test was used) *Quality of life (measured using SF-12 Mental component score) [median (IQR)]* Scale 0 (worst) – 100 (best). Part of 6-monthly routinely collected data (exact time point unclear): • Physiotherapy + gym session + mobility (N=25): 54 (37-58) • Physiotherapy only (N=32): 55 (50-58) • Not significantly different (p=0.37, unclear which statistical test was used) *Pain (measured using number of participants reporting problems in Pain or discomfort domain on EQ-5D) [N]* At 6 months following injury: • Physiotherapy + gym session + mobility (N=34): 17 • Physiotherapy only	assessors aware of the intervention received by study participants? N for mobility (measured by blinded physiotherapists on Days 3 and 5); NI for the other outcomes. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PY Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? N Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points)

Study details	Participants	Interventions	Outcomes and Results	Comments

			(N=39): 23
			• Not significantly different (p=0.44, ANOVA)
			
			Changes in ADL (measured using number of participants reporting problems in domain on EQ-5D) [N]
			
			At 6 months following injury:
			• Self-care problems:
			  ○ Physiotherapy + gym session + mobility (N=34): 10
			  ○ Physiotherapy only (N=39): 10
			  ○ Not significantly different (p=0.72, ANOVA)
			• Usual activities problems:
			  ○ Physiotherapy + gym session + mobility (N=34): 12
			  ○ Physiotherapy only (N=39): 10
			  ○ Not significantly different (p=0.37, ANOVA)
				within the outcome domain? NI
				5.3 ... multiple analyses of the data? NI
				Risk-of-bias judgement: Some concerns
				Overall risk of bias: Some concerns for mobility; high risk for satisfaction, QoL, pain and ADL
				Other information
				None

Full citation Cho, Yoon Soo, Jeon, Jong Hyun, Hong, Aram, Yang, Hyeong Tae, Yim, Haejun, Cho, Yong Suk, Kim, Do-Hern, Hur, Jun, Kim, Jong Hyun, Chun, Wook, Lee, Boung Chul, Seo, Cheong Hoon, The effect of burn rehabilitation massage	**Sample size** N= 160 (randomised) • Massage + standard care = 80 • Standard care = 80 N= 146 (analysed) • Massage + standard care = 76	**Interventions** • *Intervention group: Massage + standard care.* Standard care plus 30 minute rehabilitation burn massage sessions 3 times per week for each affected area. Massage was delivered by specialised	**Results** *Pain (measured using VAS score) [mean (SD)]* Range 0-10, better = lower At baseline: • Massage + standard care	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
therapy on hypertrophic scar after burn: a randomized controlled trial, Burns : journal of the International Society for Burn Injuries, 40, 1513-20, 2014 **Ref Id** 1127557 **Country/ies where the study was carried out** South Korea **Study type** RCT **Aim of the study** To investigate the effectiveness of burn massage therapy on hypertrophic scar burn outcomes. **Study dates** Not reported. **Source of funding** This study received funding from the Korean Health Technology R&D Project at Ministry of Health and Welfare.	• Standard care = 70 **Characteristics** Age in years [Mean (SD)]: • Massage + standard care = 46.06 (8.63) • Standard care = 47.21 (8.22) Gender (M/F): • Massage + standard care (N) = 61/15 • Standard care (N) = 50/20 Time since injury [Mean (SD)]: • Massage + standard care (days) = 148.77 (56.85) • Standard care (days) = 156.47 (56.48) Injury cause: not reported TBSA [mean(SD)]: • Massage + standard care (%) = 37.25 (18.60) • Standard care (%) = 35.64 (17.33) **Inclusion criteria** Patients had to be: • Admitted to study hospital • Undergoing rehabilitation of hypertrophic scars that developed after acute burn	burn rehabilitation massage therapists and consisted of application of Rosakalm® cream, moisturising Emu oil and Physiogel® lotion followed by effleurage, friction and petrissage massage. • *Control group: Standard care.* Range of motion exercises to prevent burn contracture, silicone gel application, pressure therapy, intralesional corticosteroid injection. Whitening cream, anti-redness cream and moisturising cream were also applied.	(N = 76): 5.63 (1.74) • Standard care (N = 70): 5.65 (1.48) • No difference between groups (p = 0.917, independent samples t-test) At discharge (specific time frame not reported): • Massage + standard care (N = 76): 3.02 (0.81) • Standard care (N = 70): 4.47 (1.34) • Adjusted difference: 1.36 (95% CI 0.69-2.02) • Significantly lower (better) in intervention group (p<0.001, ANCOVA, controlling variables not reported, no reported of controlling variables)	sequence random? Y - computer-generated random number table. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY - medical staff not involved in research. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - no significant differences between groups. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. 2.4. If Y/PY to 2.3: Were

Study details	Participants	Interventions	Outcomes and Results	Comments
	management (including skin grafts) **Exclusion criteria** Not reported.			these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - data available for 70/80 in control group and 76/80 in massage group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
				depend on its true value? NI. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN. Risk-of-bias judgement: Some concerns. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? PY - pain is self-assessed. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN. Risk-of-bias judgement: Some concerns. Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
				result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias Some concerns Other information None.
Full citation Choi, Ji Soo, Mun, Jeong Hyeon, Lee, Ju Youn, Jeon, Jong Hyun, Jung, Yun Jae, Seo, Cheong Hoon, Jang, Ki Un, Effects of modified dynamic metacarpophalangeal joint flexion orthoses after hand burn, Annals of rehabilitation	**Sample size** N= 42 (randomised) • Metacarpophalangeal orthosis = 21 • No orthosis = 21 N= 42 (analysed) • Metacarpophalangeal orthosis = 21	**Interventions** • *All groups:* "Both the control group and the orthotic group conducted the rest rehabilitation treatment equally, in addition to the application of orthoses." (p. 881) No further details reported.	**Results** *Upper limb function (Grip strength of right hand, measured in kg) [mean (SD)]* Baseline: • Metacarpophalangeal orthosis: 4.9 (3.4)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
medicine, 35, 880-6, 2011 **Ref Id** 1125380 **Country/ies where the study was carried out** South Korea **Study type** RCT **Aim of the study** Study aim "To assess the effectiveness of modified dynamic metacarpophalangeal (MCP) joint flexion orthoses for treatment of post-burn hand contractures." (p. 880) **Study dates** 2009-2010 **Source of funding** Not reported	• No orthosis = 21 **Characteristics** Age in years [Mean (SD)]: • Metacarpophalangeal orthosis = 39.52 (11.2) • No orthosis = 43.28 (12.84) Gender (M/F): • Metacarpophalangeal orthosis (N) = 18/3 • No orthosis (N) = 18/3 Time since injury in days [Mean (SD)]: • Metacarpophalangeal orthosis = 105.62 (49.31) • No orthosis = 115.52 (50.99) Injury cause: • Metacarpophalangeal orthosis = all traumatic • No orthosis = all traumatic TBSA: • Metacarpophalangeal orthosis (%) = 27.57 (23.64) • No orthosis (%) = 24.47 (18.25) Hand burn surface area:	• *Intervention group: Modified dynamic metacarpophalangeal joint flexion orthoses.* Worn for 8 weeks, 3 x 1 hour/day. "The orthoses used for this study did not obstruct the movements of proximal interphalangeal joint or the wrist and applied continuous extension in the direction of flexion of the second through fifth metacarpophalageal joints. The orthotic on the back of the hand was modified so that it would fit the average hand size of Koreans and the quality of material was adjusted to suit the state of patients'. The iron structure supporting both sides of the hand was made to be able to properly withstand pulling forces, and at the end, there is a ring, and a rubber band with improved elasticity toward the shape of a burn patient's hands and provides tension, with the dynamic correction force of joints being controlled by a change in the number of bands." (p. 881) • *Control group: No orthoses.* No further details	• No orthosis: 4.6 (8.1) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 10.1 (8.5) • No orthosis: 9 (11.1) Difference: • Metacarpophalangeal orthosis: 5.2 (5.8) • No orthosis: 4.4 (4.4) *Upper limb function (Grip strength of left hand, measured in kg) [mean (SD)]* Baseline: • Metacarpophalangeal orthosis: 4.6 (7.6) • No orthosis: 4.4 (4.2) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 7.6 (5.4) • No orthosis: 8.1 (7.1) Difference: • Metacarpophalangeal orthosis: 3 (2.6) • No orthosis: 3.7 (3.8) *Upper limb function*	sequence random? NI 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? No Risk-of-bias judgement: High risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI, but PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Metacarpophalangeal orthosis (%) = 3.62 (1.79) • No orthosis (%) = 3.95 (1.5) **Inclusion criteria** Patients had to: • Experience burns • Complete acute treatment in special burn centres for hand burns within 6 months of their injury • Be transferred to the rehabilitation medicine department • Have a flexion motion range of metacarpophalangeal joint < 61°. **Exclusion criteria** • 4th degree burns • Musculoskeletal diseases (including fractures, amputation, rheumatoid arthritis and degenerative joint disease) in the injured hand • Nerve diseases (including peripheral nerve disorder, cervical radiculopathy), Full-thickness skin injury • Injury to muscles and bone	reported.	*(Dominant hand writing measured using Jebsen-Taylor hand function test in sec) [mean(SD)]* Baseline: • Metacarpophalangeal orthosis: 17 (1.4) • No orthosis: 16.4 (3.2) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 8.9 (1.9) • No orthosis: 13.1 (2.6) Difference: • Metacarpophalangeal orthosis: -8.1 (2.8) • No orthosis: -3.3 (11.8) *Upper limb function (measured using Michigan Hand Outcomes Questionnaire) [mean (SD)]* Scale 0 (worst) – 100 (best). Baseline: • Metacarpophalangeal orthosis: 22.2 (17.3) • No orthosis: 23 (16) 8 weeks (intervention	have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NI Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? NI 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NI Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			completion): • Metacarpophalangeal orthosis: 46.2 (36.8) • No orthosis: 25 (8.6) Difference: • Metacarpophalangeal orthosis: 24 (29.7) • No orthosis: 2 (15.3) *Quality of life (measured using BSHQ score) [mean(SD)]* Higher = better. Baseline: • Metacarpophalangeal orthosis: 68.8 (23.7) • No orthosis: 63.2 (12.1) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 93 (19.8) • No orthosis: 85 (29.1) Difference: • Metacarpophalangeal orthosis: 24.2 (26.3) • No orthosis: 21.8 (25.1) *Changes in ADL (measured using FIM) [mean (SD)]*	4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? NI 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NI 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NI Risk-of-bias judgement: High risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being

Study details	Participants	Interventions	Outcomes and Results	Comments
			Scale 18-126, higher = better. Baseline: • Metacarpophalangeal orthosis: 98.4 (11.1) • No orthosis: 102.6 (8.7) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 104.4 (12) • No orthosis: 107.9 (8.3) Difference: • Metacarpophalangeal orthosis: 6 (3.3) • No orthosis: 5.3 (3.8) *Changes in ADL (measured using MHOQ ADL Score) [mean(SD)]* Scale 0 (worst) – 100 (best). Baseline: • Metacarpophalangeal orthosis: 21 (20.4) • No orthosis: 20 (27.6) 8 weeks (intervention completion): • Metacarpophalangeal	assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement High risk Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			orthosis: 36.6 (28.8) • No orthosis: 26.2 (49.2) Difference: • Metacarpophalangeal orthosis: 15.6 (21.8) • No orthosis: 6.2 (30.3) *Pain (measured using MHOQ Pain Score) [mean(SD)]* Scale 0 (best) – 100 (worst). Baseline: • Metacarpophalangeal orthosis: 62.2 (28.6) • No orthosis: 66 (26.1) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 58.7 (39.2) • No orthosis: 53.3 (24.6) Difference: • Metacarpophalangeal orthosis: -3.5 (40.5) • No orthosis: -12.7 (37) *Patient acceptability (measured using MHOQ Aesthetics Score) [mean(SD)]*	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Scale 0 (worst) – 100 (best).	

Baseline:
- Metacarpophalangeal orthosis: 29.1 (15.6)
- No orthosis: 28.1 (4.4)

8 weeks (intervention completion):
- Metacarpophalangeal orthosis: 31.2 (47.3)
- No orthosis: 31.2 (6.2)

Difference:
- Metacarpophalangeal orthosis: 2.1 (29)
- No orthosis: 3.1 (4.6)

Patient acceptability (measured using MHOQ Satisfaction with hand function score) [mean(SD)]

Scale 0 (worst) – 100 (best).

Baseline:
- Metacarpophalangeal orthosis: 20.3 (17.7)
- No orthosis: 18.3 (20.7)

8 weeks (intervention completion):
- Metacarpophalangeal

Study details	Participants	Interventions	Outcomes and Results	Comments
			orthosis: 35.2 (43.7) • No orthosis: 31.9 (4.8) Difference: • Metacarpophalangeal orthosis: 14.9 (28.4) • No orthosis: 13.6 (16.6)	
Full citation Dehghan, Niloofar, McKee, Michael D., Jenkinson, Richard J., Schemitsch, Emil H., Stas, Venessa, Nauth, Aaron, Hall, Jeremy A., Stephen, David J., Kreder, Hans J., Early Weight-bearing and Range of Motion Versus Non-Weight-bearing and Immobilization After Open Reduction and Internal Fixation of Unstable Ankle Fractures: A Randomized Controlled Trial, Journal of Orthopaedic Trauma, 30, 345-52, 2016 **Ref Id** 1127659 **Country/ies where the study was carried out** Canada **Study type** RCT	**Sample size** N = 110 (randomised) • Early weight-bearing = 56 • Late weight-bearing = 54 N = 107 (analysed) • Early weight-bearing = 53 • Late weight-bearing = 54 **Characteristics** Age in years [Mean (SD)]: • Early weight-bearing = 41.7(15.1) • Late weight-bearing = 42.1(15.4) Gender (M/F): • Early weight-bearing (N) = 32/24 • Late weight-bearing (N) = 27/27 Time since injury (reported as time to operation) [mean(SD)]: • Early weight-bearing	**Interventions** • *All groups:* Surgical fixation of unstable ankle fracture using open reduction internal fixation under standard protocol. Lateral malleolar fracture was fixed using a lag screw (if possible) along with plates and screws as needed. Medial malleolus fractures was fixed using 1-2 lag screws. Medial malleolar comminution and those with vertical fracture patterns were fixed with a tubular plate and buttress methodology. Syndesmosis was assessed during the operation and fixed if needed. All participants were immobilised using a below knee posterior plaster slab and told not to weight-bear on the affected ankle. The slab and surgical staples were removed at 2 week post-operative visit.	**Results** *Return to work (measured using number of participants returned to work at each time point)* NB: Only people who were employed (N=97) were included in this outcome measure. Baseline (2 weeks post-operation): • Early weight-bearing N=8/51 • Late weight-bearing N=15/46 • No significant difference between groups (p=0.05, Chi-squared test) 6 weeks post-operation (intervention completion): • Early weight-bearing N=23/49 • Late weight-bearing N=22/46	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Article simply states participants were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Study used concealed, sequentially numbered, opaque and sealed envelopes. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant differences between groups at baseline. Risk-of-bias judgement: Some concerns.

Study details	Participants	Interventions	Outcomes and Results	Comments
Aim of the study To investigate the effectiveness of early weight-bearing and range of motion exercises with a non-weight-bearing and immobilisation programme after surgery for unstable ankle fractures. **Study dates** 2010-2014 **Source of funding** This study received funding from Sunnybrook Health Sciences Centre, University of Toronto, Orthopaedic Trauma Association, Physicians Services Incorporation, Canadian Orthopaedic Trauma Society and Canadian Orthopaedic Association.	(days): 7.0(4.1) • Late weight-bearing (days): 6.2(4.3) Injury cause: not reported Fracture type (Uni-malleolar/Bi-malleolar/Tri-malleolar): • Early weight-bearing (N) = 26/25/5 • Late weight-bearing (N) = 18/27/9 **Inclusion criteria** Participants had to: • Have unstable unilateral ankle fracture • Require surgical fixation (including isolated lateral malleolus fracture with talar shift, vertical shear medial malleolus fracture, bimalleolar fracture, tri-malleolar fracture not requiring posterior fragment fixation • Closed, grade I and grade II open fractures were considered for inclusion **Exclusion criteria** • Skeletal immaturity • Previous ipsilateral ankle surgery	• *Intervention group: Early weight-bearing.* Boot orthosis fitted at 2-week post-operative visit and participants were instructed to fully weight-bear as much as tolerated. Participants were told to remove the boot 4 x per day and perform range of motion exercises consisting of ankle dorsiflexion, plantar flexion, inversion and eversion exercise. Physiotherapists gave advice regarding weight-bearing and ankle exercises. Participants were instructed to stop wearing the orthosis (over the next 2-4 weeks) at the 6-week post-operative visit. • *Control group: Late weight-bearing.* Below knee fibreglass cast fitted at 2-week post-operative visit and were not allowed to weight-bear for additional 4 weeks (total of 6 weeks immobilisation). The cast was removed at the 6 week post-operative visit before beginning full weight-bearing using a boot orthosis. Range of motion exercises were also	• No significant difference between groups (p=0.99, Chi-squared test) 3 month post-operation (6 week follow-up): • Early weight-bearing N=38/49 • Late weight-bearing N=36/44 • No significant difference between groups (p=0.61, Chi-squared test) 6 months post-operation: • Early weight-bearing N=44/46 • Late weight-bearing N=40/43 • No significant difference between groups (p=0.59, Chi-squared test) 12 months post-operation: • Early weight-bearing N=49/50 • Late weight-bearing N=45/46 • No significant difference between groups (p=0.95, Chi-squared test) *Return to work (measured using total days off work) [Mean]*	Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - Paper states that participants were unblinded to allocation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - Paper states that investigators were unblinded to allocation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI - Study had no way of verifying compliance with intervention. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Unable to walk before injury • Unable to comply with postoperative protocol • Medical comorbidity that doesn't allow surgery • Workers compensation patients • Polytrauma • Surgery > 14 days from time of injury • Grade III open fractures • Tibial plafond fractures • Syndesmotic injuries/fixation • Posterior malleolar fractures requiring fixation (typically 0.25% articular surface involved).	performed under advice from physiotherapist. Participants were instructed to gradually ween off the boot orthosis over the next 2-4 weeks.	Time point not reported: • Early weight-bearing (N=47): 51.2 • Late weight-bearing (N=43): 47.8 • No significant difference between groups (p=0.72, unclear which statistical test used) *Changes in mobility (measured using total ankle dorsiflexion/plantar flexion range of motion in degrees) [Mean (SD)]* Baseline (2 weeks post-operation): • Early weight-bearing (N=56): 19 (15) • Late weight-bearing (N=54): 15 (13) • (p=0.23, unclear which statistical test used) 6 weeks post-operation (intervention completion): • Early weight-bearing (N=53): 41 • Late weight-bearing (N=54): 29 • (p<0.0001, unclear which statistical test used)	treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Complete data available for 46/54 in late weight-bearing group and 46/56 in early weight-bearing group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN - Rates are balanced between groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			3 month post-operation (6 week follow-up): • Early weight-bearing (N=49): 49 • Late weight-bearing (N=51): 49 • No difference (p value not reported, unclear which statistical test used) 6 months post-operation: • Early weight-bearing (N=46): 56 • Late weight-bearing (N=46): 53 • No difference (p value not reported, unclear which statistical test used) 12 months post-operation: • Early weight-bearing (N=50): 60 • Late weight-bearing (N=52): 61 • No significant difference between groups (p value not reported, unclear which statistical test used) *Changes in mobility (measured using Olerud/Molander ankle functions scores) [Mean (SD)]*	4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Structured follow-up visits. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Paper states that investigators were unblinded to allocation. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Return to work and ankle mobility: N - Objective measurements. SF-36: PN - Structured and valid outcome questionnaire 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
			Higher = better. Baseline (2 weeks post-operation): • Early weight-bearing N=56: 22(18) • Late weight-bearing N=54: 23(18) • No significant difference between groups (p=0.78, unclear which statistical test used) 6 weeks post-operation (intervention completion): • Early weight-bearing (N=53): 45 • Late weight-bearing (N=54): 32 • Statistically higher (better) in intervention group (p=0.0007, unclear which statistical test used) 3 month post-operation (6 week follow-up): • Early weight-bearing (N=49): 62 • Late weight-bearing (N=51): 56 • No statistical difference between groups (p value not reported, unclear which statistical test used)	analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None.

Study details	Participants	Interventions	Outcomes and Results	Comments
			6 months post-operation: • Early weight-bearing (N=46): 77 • Late weight-bearing (N=46): 73 • No statistical difference between groups (p value not reported, unclear which statistical test used) 12 months post-operation: • Early weight-bearing (N=50): 89 • Late weight-bearing (N=52): 85 • No statistical difference between groups (p value not reported, unclear which statistical test used) *Overall quality of life (measured using SF-36 Physical component score) [Mean (SD)]* Higher = better. Baseline (2 weeks post-operation): • Early weight-bearing (N=56): 35 (12) • Late weight-bearing (N=54): 37 (14) • No statistical difference between groups (p value	

Study details	Participants	Interventions	Outcomes and Results	Comments
			not reported, unclear which statistical test used)	

6 weeks post-operation (intervention completion):
- Early weight-bearing (N=53): 51
- Late weight-bearing (N=54): 42
- Statistically higher (better) in intervention group (p=0.0008, unclear which statistical test used)

3 month post-operation (6 week follow-up):
- Early weight-bearing (N=49): 66
- Late weight-bearing (N=51): 64
- No statistical difference between groups (p value not reported, unclear which statistical test used)

6 months post-operation:
- Early weight-bearing (N=46): 79
- Late weight-bearing (N=46): 72
- No statistical difference between groups (p=0.07, unclear which statistical test used)

Study details	Participants	Interventions	Outcomes and Results	Comments
			12 months post-operation: • Early weight-bearing (N=50): 85 • Late weight-bearing (N=52): 79 • Significantly higher (better) in intervention group (p=0.04, unclear which statistical test used) *Overall quality of life (measured using SF-36 Mental component score) [Mean (SD)]* Higher – better. Baseline (2 weeks post-operation): • Early weight-bearing (N=56): 52 (20) • Late weight-bearing (N=54): 56 (19) • No statistical difference between groups (p=0.35, unclear which statistical test used) 6 weeks post-operation (intervention completion): • Early weight-bearing (N=53): 66 • Late weight-bearing (N=54): 54 • Significantly higher (better)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in intervention groups (p=0.0008, unclear which statistical test used) 3 month post-operation (6 week follow-up): • Early weight-bearing N=49: 74 • Late weight-bearing N=51: 73 • No statistical difference between groups (p value not reported, unclear which statistical test used) 6 months post-operation: • Early weight-bearing (N=46): 84 • Late weight-bearing (N=46): 79 • No statistical difference between groups (p=0.08, unclear which statistical test used) 12 months post-operation: • Early weight-bearing (N=50): 87 • Late weight-bearing (N=52): 83 • No statistical difference between groups (p=0.09, unclear which statistical test used)	
Full citation	**Sample size**	**Interventions**	**Results**	Limitations

Study details	Participants	Interventions	Outcomes and Results	Comments

Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006
 	
Ref Id
1025251
 	
Country/ies where the study was carried out
USA
 	
Study type
RCT
 	
Aim of the study
To compare the effectiveness of body-weight supported gait training on a treadmill and additional over ground practice with defined over ground gait training in patients with incomplete spinal cord injury.
 	
Study dates
June 2000 - January 2003
	N=146 (randomised)
	• Body-weight supported treadmill training: 75
	• Over ground gait training: 71
	
	N= 117 (analysed)
	• Body-weight supported treadmill training: 58
	• Over ground gait training: 59
	
	Characteristics
	Age in years [Median (range)]:
	• Body-weight supported treadmill training =
	  ○ ASIA level B+C: 26 (16-68)
	  ○ ASIA level C+D: 36 (17-69)
	• Over ground gait training =
	  ○ ASIA level B+C: 24 (16-61)
	  ○ ASIA level C+D: 23 (17-61)
	
	Gender (M/F):
	• Body-weight supported treadmill training (%) =
	  ○ ASIA level B+C: 85/15;
	  ○ ASIA level C+D: 83/17
	• Over ground gait training (%) =
		• *Intervention group: Body-weight supported treadmill training.* Standard inpatient and outpatient therapy from rehabilitation centre + 12 weeks of body-weight supported treadmill training for maximum 1 hour x 5 sessions per week (minimum of 45 and maximum of 60 sessions). Each session began with stretching exercises for 10 minutes followed by body-weight supported step training on a treadmill for 20-30 minutes in 3-10 minute increments (depending on each participant's comfort level). Once subjects were able to, walking training was practiced for additional 10-20 minutes each session. Weight was supported using a climbing harness attached to an overhead lift to enable vertical displacement during ambulation. Weight support and treadmill speed was set >0.72 m/sec but aimed to be > 1.07 m/sec. Subjects were allowed to stop before 45 sessions if they attained 0.98 m/sec. During training, trainers concentrated on trunk and	*Changes in mobility (measured using FIM-L score in ASIA B + C patients) [median (IQR)]*
			
			Scale 0 – 7.
			
			At baseline:
			• Body-weight supported treadmill training (N=52): 1.0 (1-1)
			• Over ground gait training (N=57): 1.0 (1-1)
			• No significant difference between groups (p=0.47, Fisher test)
			
			At 6 months (3 months after intervention completion):
			• Body-weight supported treadmill training (N=52): 6 (1-6)
			• Over ground gait training (N=57): 6 (2-6)
			• No significant difference between groups (p=0.39, regression analysis)
			
			Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months measured using FIM-L) [median (IQR)]
				Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2)
				Domain 1: Risk of bias arising from the randomization process
				1.1 Was the allocation sequence random? NI - Simply stated random permuted block randomisation.
				1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI.
				1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant difference between groups at baseline.
				Risk-of-bias judgement: Some concerns
				Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)
				2.1. Were participants aware of their assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind.
				2.2. Were carers and people delivering the interventions

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding This study received funding from NIH at the National Institute for Child Health and Human Development, La Foundation Quebequoise Sur La Moelle Epiniere and La Foundation Pour La Recherche ur La Moelle Epiniere.	○ ASIA level B+C: 74/26 ○ ASIA level C+D: 70/30 Time since injury: not reported but inclusion criteria states within 56 days. Injury cause: not reported but inclusion criteria states traumatic. Level of injury (Cervical/Thoracic/Lumbar SCI): • Body-weight supported treadmill training (%) = ○ ASIA level B+C: 67/19/14 ○ ASIA level C+D: 66/24/21 • Over ground gait-training (%) = ○ ASIA level B+C: 54/23/23 ○ ASIA level C+D: 55/0/0 **Inclusion criteria** Participants had to: • Be aged 16-70 years old • Be within 56 days of traumatic SCI injury and within 1 week of admission for rehabilitation • Have incomplete lesion between C4 on at least one side of the body to L3	lower extremity kinematics and limb loading as well as cutaneous and proprioceptive feedback, assisting participants to attain levels approaching those in healthy subjects. Task difficulty increased throughout training to maintain attention of subjects and to re-enforce skill acquisition. Participants were allowed to stand and walk as needed for other rehabilitation programmes and to perform ADL. Leg and trunk strengthening exercises were also allowed. • *Control group: Over ground gait training.* Standard inpatient and outpatient therapy from rehabilitation centre + 12 over ground gait training for maximum 1-hour x 5 sessions per week (minimum of 45 and maximum of 60 sessions). Each session began with stretching exercises for 10 minutes followed by a minimum of 30-minutes ambulation using parallel bars, assistive devices, braces or assistance from 1-2 therapists. Depending	Scale 0 – 7. At baseline: • Body-weight supported treadmill training (N=27): 1.0 (1-1) • Over ground gait training (N=18): 1.0 (1-1) • No significant difference between groups (p=0.44, Fisher's test) At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=27): 6 (6-7) • Over ground gait training (N=18): 6 (6-7) • No significant difference between groups (p=0.69, regression analysis) *Changes in mobility (measured using velocity in ASIA C + D (UMN and LMN) patients in m/sec) [median (IQR)]* At baseline: not reported. At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=35):	aware of participants' assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or

Study details	Participants	Interventions	Outcomes and Results	Comments
	on either side of the body • Be unable to ambulate over ground without moderate assistance at time of randomisation (defined as FIM locomotion score ≤ 3) • Have MMSE score ≥ 26 • Admitted for rehabilitation to 1 of 6 participating regional SCI centres **Exclusion criteria** • Symptomatic orthostatic hypotension or >30 mmHg blood pressure drop when using body-weight support apparatus • Spine stabilising device and surgeon advises body-weight supported training is not suitable • Contra-indication for weight-bearing on lower extremities • Pressure sore ≥ stage 2 and located where intervention could impact healing • Disease before SCI that led to exercise intolerance and limited ADL • Anti-spasticity medications • Premorbid major depression or psychosis, and if SCI was due to	on each participant's comfort level, this increased from 30 min to 45 min. If participants were unable to walk, they started at 30 minutes standing practice. Subjects were not allowed to use body-weight support devices or treadmills. Participants were allowed to stand and walk as needed for other rehabilitation programmes and to perform ADL. Leg and truck strengthening exercises were also allowed.	1.1 (0.8-1.4) • Over ground gait training (N=33): 1.0 (0.7-1.5) • Estimate = -0.06 • Standard error = 0.13 95% CI = -031-0.19 • No significant difference between groups (p=0.65, regression analysis) *Changes in mobility (in UMN ASIA C + D patients measured using velocity in m/sec) [median (IQR)]* At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=30): 1.0 (0.6-1.5) • Over ground gait training (N=25): 1.2 (0.9-1.7) • Estimate = -0.08 • Standard error = 0.16 • 95% CI = -0.40-0.22 • No significant difference between groups (p=0.58, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using velocity in m/sec) [median (IQR)]*	nearly all, participants randomized? N - Data available for 58/75 in intervention group and 59/71 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y - Reasons for drop out were given, with a few relating to the intensity of therapy. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? N - Paper states that no differences in drop out number of reasons between groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Follow up at 6 months. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
	suicide attempt • Unlikely to complete intervention or follow-up • Taking part in another research study		At baseline: not reported At 6 months (3 months after intervention completion) • Body-weight supported treadmill training (N=27): 1.1 (0.6-1.5) • Over ground gait training (N=18): 1.1 (0.4-1.7) • No significant difference between groups (p=0.98, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using distance in m) [median (IQR)]* At baseline: not reported. At 6 months (3 months after intervention completion) • Body-weight supported treadmill training (N=27): 312 (165-477) • Over ground gait training (N=18): 401 (366-483) • No significant difference between groups (p=0.27, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months,*	assessors aware of the intervention received by study participants? N - Outcome assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of

Study details	Participants	Interventions	Outcomes and Results	Comments
			measured using LEMS score) [median (IQR)] Scale 0 (worst) – 50 (best). At baseline: • Body-weight supported treadmill training (N=27): 22 (16-27) • Over ground gait training (N=18): 25 (15-27) • No significant difference between groups (p=0.85, Fisher's test) At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=27): 45 (43-49) • Over ground gait training (N=18): 45 (36-49) • No significant difference between groups (p=0.45, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using Walking Index for SCI score) [median (IQR)]* Scale 0 (worst) – 20 (best).	the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: • Body-weight supported treadmill training (N=27): 0 (0-1) • Over ground gait training (N=18): 0 (0-1) • No significant difference between groups (p=0.30, Fisher's test) At 6 months (3 months after intervention completion) • Body-weight supported treadmill training (N=27): 18 (13-19) • Over ground gait training (N=18): 18 (13-19) • No significant difference between groups (p=0.69, regression analysis)	
Full citation Dobkin, B., Barbeau, H., Deforge, D., Ditunno, J., Elashoff, R., Apple, D., Basso, M., Behrman, A., Harkema, S., Saulino, M., Scott, M., Spinal Cord Injury Locomotor Trial, Group, The evolution of walking-related outcomes over the first 12 weeks of rehabilitation for incomplete traumatic spinal cord injury: the multicenter randomized Spinal Cord Injury Locomotor Trial, Neurorehabilitation and	Same study as Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006. See that study for full details.	• Same study as Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006. See that entry for full details.	**Results** *Changes in mobility (in participants with SCI level of ASIA B measured using FIM-L) [mean (SD)]* Scale 1 – 7. 6 weeks (during intervention): • Body-weight supported treadmill training (N=14): 1.07 (0.27) • Over ground gait training	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Simply stated random permuted block randomisation. 1.2 Was the allocation sequence concealed until participants were enrolled

Study details	Participants	Interventions	Outcomes and Results	Comments
Neural Repair, 21, 25-35, 2007 **Ref Id** 1125530			(N=17): 1.06 (0.24) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=13): 1.31 (1.11) • Over ground gait training (N=16): 1.94 (1.73) *Changes in mobility (in participants with SCI level of ASIA B measured using LEMS) [mean (SD)]* Scale 0 – 50. 6 weeks (during intervention): • Body-weight supported treadmill training (N=14): 4.1 (5.5) • Over ground gait training (N=16): 4.6 (6.5) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=13): 6.1 (8.6) • Over ground gait training: (N=16): 7.3 (10.3) *Changes in mobility (in participants with SCI level of*	and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant difference between groups at baseline. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?

Study details	Participants	Interventions	Outcomes and Results	Comments
			ASIA B measured using walking distance in m) [mean (SD)] 12 weeks (intervention completion): • Body-weight supported treadmill training (N=9): 10.7 (32.0) • Over ground gait training (N=12): 16.4 (36.3) *Changes in mobility (in participants with SCI level of ASIA C + D measured using FIM-L) [mean (SD)]* Scale 1-7. 6 weeks (during intervention): • Body-weight supported treadmill training (N=39): 3.0 (2.1) • Over ground gait training (N=39): 3.9 (2.1) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=43): 4.7 (2.1) • Over ground gait training (N=40): 5.5 (1.4)	NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 65/75 in intervention group and 68/71 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y - Reasons for drop out were given, with a few relating to the intensity of therapy.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (in participants with SCI level of ASIA C + D measured using walking velocity in m/sec) [mean (SD)] 6 weeks (during intervention): • Body-weight supported treadmill training (N=21): 0.69 (0.40) • Over ground gait training (N=29): 0.51 (0.42) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=34): 0.85 (0.55) • Over ground gait training (N=37): 0.84 (0.54) *Changes in mobility (in participants with SCI level of ASIA C + D measured using LEMS) [mean (SD)]* Scale 0 – 50. 6 weeks (during intervention): • Body-weight supported treadmill training (N=40): 29.1 (14.2) • Over ground gait training	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN - Dobkin 2006 states that no differences in drop out number of reasons between groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Follow up at 6 months. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Outcome assessors with blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=39): 29.5 (11.5) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=43): 34.7 (13.3) • Over ground gait training (N=40): 35.7 (11.3) *Changes in mobility (in participants with SCI level of ASIA C + D measured using walking distance in m) [mean (SD)]* 12 weeks (intervention completion): • Body-weight supported treadmill training (N=34): 247.7 (187.6) • Over ground gait training (N=36): 251.3 (203.7)	received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk **Other information** None
Full citation Ebid, A. A., Ibrahim, A. R., Omar, M. T., El Baky, A. M. A., Long-term effects of pulsed high-intensity laser therapy in the treatment of	**Sample size** N = 49 (randomised) • Active laser group: 24 • Placebo laser group: 25	**Interventions** • *All partipants:* Participants took 3 x 10mg cetirizine daily + 4 x 5 min massage of burn scar with coconut oil daily.	**Results** *Quality of life (Pruritus-related QoL measured using mDLQI) [mean(SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
post-burn pruritus: a double-blind, placebo-controlled, randomized study, Lasers in Medical Science, 32, 693-701, 2017 **Ref Id** 1129565 **Country/ies where the study was carried out** Saudi Arabia **Study type** RCT **Aim of the study** To investigate the long-term effects of pulsed high intensity laser therapy (HILT) on itching, pain, quality of life, anti-histamine intake and hand grip stength in burn patients. **Study dates** Not reported. **Source of funding** This study received no funding.	N = 49 (analysed) • Active laser group: 24 • Placebo laser group: 25 **Characteristics** Age in years [Mean (SD)]: • Active laser group = 30.25 (12.05) • Placebo laser group = 32.45 (11.21) Gender (M/F): • Active laser group (N) = 16/9 • Placebo laser group (N) = 15/11 Time since injury [Mean (SD)] • Active laser group (days) = 33.46(3.38) • Placebo laser group (days) = 34.67(2.45) Injury cause: not reported. TBSA [Mean (SD)]: • Active laser group (%) = 19.33(6.40) • Placebo laser group (%) = 20.45(7.55) **Inclusion criteria** Patients had to:	• *Intervention group: Active laser therapy to forearm and hand.* 3 x weekly sessions of pulsed Nd:YAG laser for 6 weeks (total of 18 sessions). Pulse emission = 1064nm, very high peak power, energy density = 510-1780 mJ/com, frequency = 10-40Hz (low), duration = 120-150 µm (brief), duty cycle $\cong$ 0.1%, probe diameter = 0.5 cm, spot size = 0.2cm2. Total energy dose = 3000J applied in 3 phases. The first phase was fast manual scanning in both transverse and longitudinal direction for 1300J (sub phases = 610, 710 and 810 mJ/cm2). Middle phase was applied to 16 spots on the itching area of forearm and hand (each point received 25 J, fluency = 610 mJ/cm2, duration = 14 sec, total of 400 J). Last phase comprised of slow manual scanning in both transverse and longitudinal direction for 1300J. Total time of high intensive laser therapy session = 15 minutes. • *Control group: Placebo*	Scale 0-21. Lower = better At baseline: • Active laser group (N=24): 10.3(4.9) • Placebo laser group (N=25): 9.5(4.8) • No significant difference between groups (p = 0.566, Mann-Whitney) 6 weeks from baseline (intervention completion): • Active laser group (N=24): 5.6(3.5) • Placebo laser group (N=25): 8.6(4.5) • Significantly better (lower) in the intervention group, p = 0.0125, Mann-Whitney) 12 weeks from baseline (6 weeks after intervention completion): • Active laser group (N=24): 3.1(3.4) • Placebo laser therapy (N=25): 8.2(4.2) • Significantly better (lower) in the intervention group, p = <0.0001, Mann-Whitney) *Pain (measured using VAS) [mean(SD)]*	arising from the randomisation process 1.1 Was the allocation sequence random? Y - Using computer-generated randomisation list. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - no significant differences in baseline characteristics reported. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? N – Participants were blinded during trial. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? N – People delivering laser therapy were blinded during trial.

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Be aged 15-50 years old • Have TBSA >10% • Have deep second-degree burns on upper extremities • Have burns either in healing phase (i.e. >80% wounds have epithelialised) or had healed completely a maximum of 1 month prior to study starting • Have moderate to severe (6-10) itching VAS score • Be able to complete entire assessment questionnaire **Exclusion criteria** • Age <15 years old; • Split skin grafting; • Burns taking longer than 1 month to heal • Using other topical treatments to relieve itching symptoms • Diabetes • Hand deformity • Diagnosed skin condition • Kidney disease • Pregnancy or lactation • Refusing to volunteer for the trial	*laser therapy to forearm only.* 3 x weekly sessions of placebo laser for 6 weeks (total of 18 sessions). Total time of placebo high intensive laser therapy session = 15 minutes.	Scale 0-10. Better = lower. At baseline: • Active laser group (N=24): 8.55(2.65): • Control group (N=25): 8.45(3.55) • No significant difference between groups (p = 0.9118, Mann-Whitney) 6 weeks from baseline (intervention completion): • Active laser group (N=24): 3.58(3.35) • Control group (N=25): 7.43(3.76) • Significantly better (lower) in intervention group, p = 0.0004, Mann-Whitney) 12 weeks from baseline (6 weeks after intervention completion): • Active laser group (N=24): 4.44(4.21) • Control group (N=25): 7.67(3.55) • Significantly better (lower) in intervention group, p = 0.0055, Mann-Whitney)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NA 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result

Study details	Participants	Interventions	Outcomes and Results	Comments
				was not biased by missing outcome data? NA.
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA
				3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA
				Risk-of-bias judgement: Low risk
				Domain 4: Risk of bias in measurement of the outcome
				4.1 Was the method of measuring the outcome inappropriate? PN.
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN.
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N.
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA.
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias: Some concerns Other information None.
Full citation Faqih, A. I., Bedekar, N., Shyam, A., Sancheti, P., Effects of muscle energy	**Sample size** N = 30 (randomised) • Early muscle energy technique: N = 15	**Interventions** • *Both groups:* Participants were given a home exercise programme to	**Results** The authors of this paper have interpreted higher	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool

Study details	Participants	Interventions	Outcomes and Results	Comments
technique on pain, range of motion and function in patients with post-surgical elbow stiffness: A randomized controlled trial, Hong Kong Physiotherapy Journal, 39, 25-33, 2019 **Ref Id** 1129592 **Country/ies where the study was carried out** India **Study type** RCT **Aim of the study** To study the effect of muscle energy technique on pain, range of motion and joint function in patients undergoing rehabilitation for post-surgical elbow stiffness. **Study dates** Not reported. **Source of funding** This study received no financial support.	• Delayed muscle energy technique: N = 15 N = 27 (analysed) • Early muscle energy technique: N = 13 • Delayed muscle energy technique: N = 14 **Characteristics** Age in years: not reported. Gender: not reported. Time since injury: not reported. Injury cause: not reported. **Inclusion criteria** Participants had to: • Be aged 18-50 years old • Have post-operative elbow stiffness after distal humerus and/or radius or ulna fractures • Be without ligament injury • Have a minimum immobilisation period of 3 weeks **Exclusion criteria** • Pathological fractures • Revision surgeries	perform 2 x per day. • *Intervention group: Early muscle energy technique (MET).* MET started immediately after removal of immobilisation which was given by a trained physiotherapist. 6 days x week for 3 weeks, 8-10 repetitions of post-isometric relaxation and/or inhibition for 5-7 sec for 6 days per week. Per day, participants also received 10 repetitions x 2 sets of active flexion and extensions while lying down, 10 repetitions x 2 sets active assisted flexion and extension with a wand, 10 repetitions x 2 sets exercises for wrist flexion, extension, protonation, supination and shoulder flexion, extension, abduction, adduction and rotation. MET resistance was set at 20% of isometric contraction. • *Control group: Delayed MET.* As per the intervention group but immobilisation continued for another week (totalling 4 weeks before MET was started.	DASH and VAS scores as better function and better pain respectively. However, when used as validated, both measurement tools report that lower values are better. The paper makes no mention of inversion of data scales or transformation. We have chosen to interpret the results as per the tool guidance rather than the authors, meaning our conclusions differ from that of the authors for these outcomes. *Upper limb function (measured using DASH score) [mean (SD)]* Range 0-100, lower = better. At baseline: • Early muscle energy technique (N=13): 81.9 (7) • Delayed muscle energy technique (N=14): 87 (6) • Significantly lower (better) in intervention group (p=0.00, Mann-Whitney U test) 3 weeks (intervention completion): • Early muscle energy	(RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y – Chit method used. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? Y – DASH scores were significantly lower (better) in intervention group. Risk-of-bias judgement: High risk. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Ipsilateral fractures • Neurovascular disorders		technique (N=13): 45.9 (6.7) • Delayed muscle energy technique (N=14): 27.7 (4.7) • Mean change: 18.2 (2.2) (95% CI 13.5-22.8) • Significantly lower (better) in intervention group (p<0.00001, Mann-Whitney U test) *Changes in mobility (measured using elbow flexion) [mean(SD)]* At baseline: • Early muscle energy technique (N=13): 84.4 (4.2) • Delayed muscle energy technique (N=14): 82.2 (5) • Significantly higher in control group (p=0.2, unpaired t-test) 3 weeks (intervention completion): • Early muscle energy technique (N=13): 47.8 (5.7) • Delayed muscle energy technique (N=14): 36.1 (8.4) • Mean change: 11.7 (2.8)	arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? N – Per-protocol analysis used. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? Y. Risk-of-bias judgement: High risk. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y – Data available for 14/15 in intervention group and 13/15 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing

Study details	Participants	Interventions	Outcomes and Results	Comments
			(95% CI 5.9-17.4) • Significantly higher in control group (p=0.0003, unpaired t-test) *Changes in mobility (measured using elbow extension) [mean(SD)]* At baseline: • Early muscle energy technique (N=13): -46 (7) • Delayed muscle energy technique (N=14): -44 (4.1) • Significantly higher in control group (p=0.03, unpaired t-test) 3 weeks (intervention completion): • Early muscle energy technique (N=13): -40.2 (5.3) • Delayed muscle energy technique (N=14): -31.6 (5.1) • Mean change: 8.5 (2.0) (95% CI 4.4-12.7) • Significantly higher in control group (p=0.0002, unpaired t-test) *Pain (measured using VAS) [mean(SD)]*	outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N – 3 week follow-up. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors were blinded to group assignment. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			Range 0-10, lower = better. At baseline: • Early muscle energy technique (N=13): 6.6 (0.7) • Delayed muscle energy technique (N=14): 6.9 (0.9) • Significantly higher in control group (p=0.2, Mann-Whitney U test) 3 weeks (intervention completion): • Early muscle energy technique (N=13): 5.6 (0.9) • Delayed muscle energy technique (N=14): 4.3 (0.4) • Mean change: 1.2 (0.2) (95% CI 0.6-1.8) • Significantly higher in control group (p=0.0013, Mann-Whitney U test)	outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from… 5.2. … multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 … multiple analyses of the data? PN. Risk-of-bias judgement Some concerns Overall risk of bias: High risk **Other information** None
Full citation Glinsky, Joanne, Harvey, Lisa, Korten, Monique,	**Sample size** N= 32 (randomised) • Progressive resistance	**Interventions** • *Intervention group: Progressive resistance*	**Results** *Wrist muscles trained*	Limitations Quality assessment: Risk of bias assessed using revised

Study details	Participants	Interventions	Outcomes and Results	Comments
Drury, Craig, Chee, Shane, Gandevia, Simon C., Short-term progressive resistance exercise may not be effective at increasing wrist strength in people with tetraplegia: a randomised controlled trial, The Australian journal of physiotherapy, 54, 103-8, 2008 **Ref Id** 1025584 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To examine 1) whether an 8-week progressive resistance exercise program is effective for increasing strength in the wrist muscles of people with tetraplegia, and 2) whether it is effective for improving muscle endurance and participants' perceptions about use of their hands for activities of daily living. **Study dates**	training + routine care = 16 • Routine care = 16 N= 29-31 (analysed) • Progressive resistance training + routine care = 15 • Routine care = 14-16 **Characteristics** Age in years [Mean (SD)]: • Progressive resistance training + routine care = 37 (16) • Routine care = 47 (20) Gender (M/F): • Progressive resistance training + routine care (N) = 12/3 • Routine care (N) = 15/1 Time since injury in years [Median (IQR)]: • Progressive resistance training + routine care = 1 (3.7) • Routine care = 0.4 (0.9) Injury cause (Traumatic/non-traumatic/not reported): • Progressive resistance training + routine care = all traumatic • Routine care = all	*training + routine care.* 8-week progressive resistance training on randomly selected wrist, 3 times per week, consisting of 3 sets of 10 repetition maximum of one wrist extensor or flexor muscles, with the resistance adjusted "to ensure that participants could only lift the weight 10 times through a full range of motion......Participants received a 1–3 minute rest before repeating the 10 repetitions a second and third time. The weight was increased over the 8-week training period as soon as participants could perform more than 10 repetitions in a set." (p. 104). A specifically designed device was used to undertake the program, allowing "very weak patients to move all the way through range in an anti-gravity position while ensuring that the resistive torque was constant throughout...... Participants were seated in a wheelchair or chair with the forearm in pronation when training the wrist extensor muscles. The forearm was placed in	*(extensors/flexors):* • Intervention (N) = 13/2 • Control (N) = 15/1 *Patient acceptability (measured using COPM participant perception satisfaction score) [mean (SD)]* Scale 1 (worst) – 10 (best). At baseline: • Progressive resistance training + routine care (N=16): 5.1 (3.1) • Routine care (N=16): 4.9 (2.1) Week 8 (intervention completion): • Progressive resistance training + routine care (N=15): 5 (2.6) • Routine care (N=16): 5.1 (2.3) Difference between Week 8 and Week 0: • Progressive resistance training + routine care (N=15): -0.1 (1.8) • Routine care (N=16): 0.3 (2)	Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y ("A computer-generated random allocation schedule was produced prior to the trial by a person not otherwise involved in subject recruitment or allocation. Allocations were placed in opaque, sequentially numbered envelopes and sealed. They were opened after each participant's baseline measurement was completed." p. 104) 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N, although mean ages differed by 10 years between the groups Risk-of-bias judgement: Low risk of bias Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments
Not reported **Source of funding** "Grant and financial support from Royal Rehabilitation Centre Sydney Rehabilitation and Disability Research Foundation; University of Sydney Australian Post Graduate Award; Royal North Shore Private Hospital Ramsay Health PhD scholarship." (p. 108)	traumatic Level of injury (all patients had complete or incomplete tetraplegia with motor level C4-C7 – ASIA scale A/B/C/D): • Progressive resistance training + routine care (N) = 9/0/3/3 • Routine care (N) = 6/4/2/4 **Inclusion criteria** Participants had to: • Be either in-patients or out-patients in 3 participating SCI units • Have complete or incomplete cervical lesion according to ASIA • Have symmetrical (defined as within 1 grade of each other) bilateral weakness (defined as 2-4 of 5) of their wrist extensor or flexor muscles • 2 months post-SCI. *NB. Patients trained only one muscle group – the wrist extensor, rather than the flexor, muscles were selected for training if patients had weakness in both muscles groups.*	supination when training the wrist flexor muscles." (p. 104) + Routine care, including physiotherapy and occupational therapy. • *Control group: Routine care.* Includes physiotherapy and occupational therapy.	• Intervention minus control: -0.3 (95% CI -1.6 to 1) *Changes in ADL (measured using COPM participant perceptions score) [mean(SD)]* Scale 1 (worst) – 10 (best). At baseline: • Progressive resistance training + routine care (N=16): 4.3 (2.4) • Routine care (N=16): 4.4 (1.6) Week 8 (intervention completion): • Progressive resistance training + routine care (N=15): 4.9 (2.2) • Routine care (N=16): 5.2 (2.3) Difference between Week 8 and Week 0: • Progressive resistance training + routine care (N=15): 0.6 (2) • Routine care (N=16): 0.9 (2.3) • Intervention minus control: -0.3 (95% CI -1.9 to 1.2)	of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? N 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? PN 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y (intention to treat) 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low

Study details	Participants	Interventions	Outcomes and Results	Comments
	Exclusion criteria • Patients with recent history of trauma to the forearm or hand • Contractures limiting wrist range of motion • People unlikely to remain within the Sydney or Adelaide metropolitan area for 8 weeks • People unlikely to comply with the intervention (estimated from compliance with other aspects of their ongoing rehabilitation and care)			concern Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N 4.4 If Y/PY/NI to 4.3: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
				assessment of the outcome have been influenced by knowledge of intervention received? NA
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA
				Risk-of-bias judgement: Low risk
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN
				5.3 ... multiple analyses of the data? PN
				Risk-of-bias judgement: Low risk
				Overall risk of bias Low risk
				Other information

Study details	Participants	Interventions	Outcomes and Results	Comments
				None

Study details	Participants	Interventions	Outcomes and Results	Comments
Full citation Harvey, L. A., Batty, J., Crosbie, J., Poulter, S., Herbert, R. D., A randomized trial assessing the effects of 4 weeks of daily stretching on ankle mobility in patients with spinal cord injuries, Archives of physical medicine and rehabilitation, 81, 1340-7, 2000 **Ref Id** 1185187 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of 4 weeks of ankle stretching on the ankle joint mobility of patients with recent SCI. **Study dates** Not reported. **Source of funding**	**Sample size** N= 28 ankles (randomised) • Ankle stretching = 14 ankles • No ankle stretching = 14 ankles N= 28 ankles (analysed) • Ankle stretching = 14 ankles • No ankle stretching = 14 ankles **Characteristics** *Characteristics only reported for all patients, not split by intervention group.* Age in years [Mean (SD)]: 36 (16) Gender (M/F): 14/0 Time since injury [Mean (SD)]: 4 (2.7) months Injury cause: not reported Level of injury (Tetraplegia/Paraplegia): (N) 10/4 **Inclusion criteria**	**Interventions** • *Intervention group: Ankle stretching.* The experimental ankle was constantly stretched for 30 minute sessions, 5-7 times per week for 4 weeks, rotating the ankle into dorsiflexion with the knee extended. A device was designed specifically for this, consisting of a footplate that rotated the ankle through the sagittal plane and a rope that attached to the footplate to a 15cm radius wheel and pulley. By suspending 5kg weight from the rope, the ankle was rotated into dorsiflexion at a constant torque of 7.5Nm. Participants could either be supine on beds or sitting in wheelchair for the session. Participants received no manual therapy (including passive movements or other stretches) and did not weight-bear (either standing or walking) on either ankle for the study period. • *Control group: No ankle stretching.* The control ankle received no	**Results** *Changes in mobility (measured using mobility around ankle with no torque and knee extended in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 89 (9.9) • No ankle stretching: 87 (10.3) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: -1 (95% CI: -5.4-3.1) • No significant differences between groups (p=0.57, paired t-test) 4 weeks from baseline (intervention completion): • Difference: 2 (95% CI: -2.7-5.7) • No significant differences between groups (p=0.45, paired t-test) 5 weeks from baseline (1	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - computer-generated random allocation schedule. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Researchers used sealed, opaque, sequentially numbered envelopes which were not opened until baseline tests completed. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - differences in ankle mobility between participants but no significant differences between ankles. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments
This study received funding from the Motor Accident Authority of New South Wales.	Participants had to: • Have an SCI in previous 12 months • Be participating in a rehabilitation programme • Only have minimal muscle activity in muscles around both ankles (defined as not above grade 1 of 5 motor strength) • Be willing to cease assisted-standing and all passive exercises and stretches to ankles for duration of study **Exclusion criteria** • Heels with pressure sores preventing stretching or testing • Unlikely to co-operate with study protocol	stretches during the study period. No further details reported.	week follow-up): • Difference: -1 (95% CI: -4.7-3.7) • No significant differences between groups (p=0.80, paired t-test) *Changes in mobility (measured using mobility around ankle with no torque and knee flexed in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 104 (10.1) • No ankle stretching: 104 (11.1) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: 2 (95% CI: -1.2-5.2) • No significant differences between groups (p=0.20, paired t-test) 4 weeks from baseline (at intervention completion): • Difference: 2 (95% CI: 0-4.4) • No significant differences	of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - within participant randomisation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - within participant randomisation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. Mention of 3 patients stopping treatment for a time but unrelated to intervention and missed sessions made up. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was

Study details	Participants	Interventions	Outcomes and Results	Comments
			between groups (p=0.05, paired t-test) 5 weeks from baseline (1 week follow-up): • Difference: 1 (95% CI: -2.3-5.1) • No significant differences between groups (p=043, paired t-test) *Changes in mobility (measured using mobility around ankle with 10nm torque and knee extended in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 106 (9.8) • No ankle stretching: 105 (10.4) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: 1 (95% CI: -2.5-3.7) • No significant differences between groups (p=0.68, paired t-test) 4 weeks from baseline (at intervention completion):	there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - no reported drop-out. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Difference: 0 (95% CI: -3.3-3.3) • No significant differences between groups (p=0.99, paired t-test) 5 weeks from baseline (1 week follow-up): • Difference: 0 (95% CI: -3.0-3.1) • No significant differences between groups (p=0.95, paired t-test) *Changes in mobility (measured using mobility around ankle with 10nm torque and knee flexed in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 121 (10.2) • No ankle stretching: 120 (9.7) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: 2 (95% CI: -0.7-4.8) • No significant differences between groups (p=0.13,	outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - assessors unblinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - degree of mobility is an objective measurement. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			paired t-test) 4 weeks from baseline (at intervention completion): • Difference: 0 (95% CI: -2.7-2.4) • No significant differences between groups (p=0.92, paired t-test) 5 weeks from baseline (1 week follow-up): • Difference: 0 (95% CI: -3.2-2.4) • No significant differences between groups (p=.77, paired t-test	results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias Some concerns Other information None.
Full citation Harvey, Lisa A., Byak, Adrian J., Ostrovskaya, Marsha, Glinsky, Joanne, Katte, Lyndall, Herbert, Robert D., Randomised trial of the effects of four weeks of daily stretch on extensibility of hamstring muscles in people with spinal cord injuries, The Australian journal of physiotherapy, 49, 176-81, 2003 **Ref Id** 1025731 **Country/ies where the**	**Sample size** N= 32 hamstrings (randomised) • Hamstring stretching = 16 hips • No stretching = 16 hips N= 32 hamstrings (analysed) • Hamstring stretching = 16 hips • No hamstring stretching = 16 hips **Characteristics** *Characteristics only reported for all patients, not split by intervention group.*	**Interventions** • *Intervention group: Hamstring stretching.* The experimental hamstrings were constantly stretched for 30 minute sessions, 5 times per week for 4 weeks, rotating the ankle into dorsiflexion with the knee extended. A device was designed specifically for this, consisting of a wheel mounted to the side of a physiotherapy trolley and a leg splint on the wheel for the participant to be attached to, so the 2 could be rotated together. The leg splint prevented	**Results** *Changes in mobility (measured using differences in hip flexion between stretched and unstretched hamstrings with 48nm torque) [mean difference (95%CI)]* 4 weeks from baseline (intervention completion): • Difference: 1 (95% CI: -2-5) • No significant differences between groups (p value not reported, paired t-test)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - computer-generated random allocation schedule. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - researchers used sealed, opaque, sequentially

Study details	Participants	Interventions	Outcomes and Results	Comments
study was carried out Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of 4 weeks of hamstring stretching on muscle extensibility of patients with recent SCI. **Study dates** Not reported. **Source of funding** This study received funding from the Motor Accident Authority of New South Wales.	Age in years [Mean (SD)]: 33 (15) Gender (M/F): not reported Time since injury [Mean (SD)]: 3 (1) months Injury cause: not reported Level of injury (Tetraplegia/Paraplegia): (N) 10/6 **Inclusion criteria** • Participants had to: Have an SCI in previous 12 months • Started sitting out of bed after initial injury • Have less than 110 ° passive hip flexion with knee extended **Exclusion criteria** • More than small voluntary muscle activity around hips and knees (defined as above grade 2 of 5 motor strength) • Unlikely to remain in the SCI unit for 4 weeks • Historical trauma to pelvis or upper leg Unable to tolerate stretching due to pain, sacral pressure area	knee flexion, hip abduction and hip rotation. Hamstrings were stretched at a constant pressure of 30Nm by 11.4kg weight from the 27cm diameter wheel. Participants received no manual therapy (including passive movements or other stretches) for the study period. • *Control group: No hamstring stretching.* The control hip received no stretches during the study period. No further details reported.		numbered envelopes which were not opened until baseline tests completed. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - differences in hamstring mobility between participants but no significant differences between hips. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - within participant randomisation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - within participant randomisation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. Mention some participants missing up to 3 sessions but for reasons unrelated to study. A few participants received 1 or 2 extra

Study details	Participants	Interventions	Outcomes and Results	Comments
	or medical complications			sessions to ensure stretching continuing to the day before testing. However, missed sessions were made up and mean number of treatments was as per protocol. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - no reported drop-out.

Study details	Participants	Interventions	Outcomes and Results	Comments
				3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA.
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA.
				3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA.
				Risk-of-bias judgement: Low risk
				Domain 4: Risk of bias in measurement of the outcome
				4.1 Was the method of measuring the outcome inappropriate? PN
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN.
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - assessors blinded.
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA.
				4.5 If Y/PY/NI to 4.4: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
				likely that assessment of the outcome was influenced by knowledge of intervention received? NA.
				Risk-of-bias judgement: Low risk
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI.
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN.
				5.3 ... multiple analyses of the data? PN.
				Risk-of-bias judgement: Some concerns
				Overall risk of bias Some concerns
				Other information
				None
Full citation	**Sample size**	**Interventions**	**Results**	Limitations

Study details	Participants	Interventions	Outcomes and Results	Comments
Harvey, L. A., Herbert, R. D., Glinsky, J., Moseley, A. M., Bowden, J., Effects of 6 months of regular passive movements on ankle joint mobility in people with spinal cord injury: a randomized controlled trial, Spinal Cord, 47, 62-6, 2009 **Ref Id** 1125847 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of 6 months of ankle stretching on the ankle joint mobility of patients with recent SCI. **Study dates** Not reported. **Source of funding** This study received funding from The University of Sydney's Research and Development Grants	N = 40 ankles (randomised) • Ankle passive movement = 20 ankles • No ankle passive movement = 20 ankles N = 40 ankles (analysed) • Ankle passive movement = 20 ankles • No ankle passive movement = 20 ankles **Characteristics** *Characteristics only reported for all patients, not split by intervention group.* Age in years [Median (IQR)]: 39 (34-44) Gender (M/F): 17-3 Time since injury [Median (IQR)]: 8 (4-14) months Injury cause: not reported Level of injury: not reported but see inclusion criteria **Inclusion criteria** Participants had to: • Have tetraplegia • Be residing in the community	• *Intervention group: Ankle passive movement.* Twice per day the experimental ankle was passively stretched by carers for 10 minutes, 5 times per week for 6 months (totalling 260 sessions). Duration and frequency of these passive movement sessions were recorded in a diary, which were collected at least every second week during routine contact of researchers with participants. Carers received training and written instructions for how to administer the stretches. Participants and their carers were routinely visited (no schedule details given) to ensure the intervention was being given as per study protocol. No further details reported. • *Control group: No ankle passive movement.* The control ankle received no passive movements or stretches. No further details reported.	*Changes in mobility (measured using passive ankle dorsiflexion range of motion with 2nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 81 (9) • No ankle passive movement (N = 20): 81 (7) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 81 (10) • No ankle passive movement (N = 20): 78 (9) • Between group mean difference = 3 (95% CI 1-6) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 3 nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 81 (9) • No ankle passive movement (N = 20): 81 (7)	Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - computer-generated random allocation schedule. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - researchers used sealed, opaque, sequentially numbered envelopes which were not opened until baseline tests completed. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - differences in ankle mobility between participants but no significant differences between ankles. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware

Study details	Participants	Interventions	Outcomes and Results	Comments
Scheme.	• Be wheelchair dependent • Have mild to moderate ankle stiffness (defined as less than 101° ankle dorsiflexion with 12 nm torque but at least 15° motion) • Have paralysis around both knees and ankles • Have carers available to administer the stretching intervention **Exclusion criteria** Not reported.		6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 83 (9) • No ankle passive movement (N = 20): 80 (9) • Between group mean difference = 3 (95% CI 1-5) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 5nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 83 (9) • No ankle passive movement (N = 20): 82 (10) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 84 (9) • No ankle passive movement (N = 20): 81 (9) • Between group mean difference = 2 (95% CI -1-4) *Changes in mobility*	of their assigned intervention during the trial? Y - within participant randomisation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - within participant randomisation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. 96% adherence (mean 250 sessions compared to 260 as stated in protocol). Reasons for missing sessions were not related to intervention. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to

Study details	Participants	Interventions	Outcomes and Results	Comments
			(measured using passive ankle dorsiflexion range of motion with 7nm torque applied (degrees) [mean (SD)] At baseline: • Ankle passive movement (N = 20): 85 (9) • No ankle passive movement (N = 20): 85 (7) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 86 (10) • No ankle passive movement (N = 20): 83 (9) • Between group mean difference = 3 (95% CI 1-5) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 8nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 86 (9) • No ankle passive movement (N = 20): 86 (7) 6 months + 1 day	analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - no reported drop-out. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(intervention completion): • Ankle passive movement (N = 20): 88 (10) • No ankle passive movement (N = 20): 84 (9) • Between group mean difference = 4 (95% CI 1-6) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 10nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 87 (9) • No ankle passive movement (N = 20): 87 (7) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 84 (9) • No ankle passive movement (N = 20): 85 (9) • Between group mean difference = 4 (95% CI 2-6) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 12nm torque applied (degrees) [mean*	4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - assessors blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain?

Study details	Participants	Interventions	Outcomes and Results	Comments
			(SD)] Difference between stretched and unstretched ankles at 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 91 (10) • No ankle passive movement (N = 20): 87 (9) • Between group mean difference = 4 (95% CI 2-6) • Significantly higher (better) range of movement in intervention group (paired t-test, p = 0.002)	PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None

Full citation
Harwood, R. H., Sahota, O., Gaynor, K., Masud, T., Hosking, D. J., A randomised, controlled comparison of different calcium and vitamin D supplementation regimens in elderly women after hip fracture: The Nottingham Neck of Femur (NoNOF) study, Age and Ageing, 33, 45-51, 2004
 	
Ref Id
1123617
 	
Country/ies where the study was carried out
UK
	Sample size
	N = 150 (randomised)
	• Injected vitamin D: 38
	• Injected vitamin D + oral calcium: 36
	• Oral vitamin D + oral calcium: 39
	• Control: 37
	
	N= 139 (randomised)
	• Injected vitamin D: 35
	• Injected vitamin D + oral calcium: 334
	• Oral vitamin D + oral calcium: 36
	• Control: 34
	
	Characteristics
		Interventions
		• *Intervention group: Injected vitamin D.* One-time single injection of 300,000 units Vitamin D2 (ergocalciferol). No further details provided.
		• *Intervention group: Injected vitamin D + oral calcium.* One-time single injection of 300,000 units Vitamin D2 (ergocalciferol) + 1 x oral calcium carbonate tablet twice per day (total 1 g elemental calcium daily). No further details provided.
		• *Intervention group: Oral vitamin D + oral calcium.* 1 x combined oral vitamin
			Results
			
			Changes in mobility (Falls)
			
			Reported as no/yes, no fracture/yes, new fracture
			
			At 12 months follow-up:
			• No
			  ○ Injected Vitamin D = 28/30
			  ○ Injected Vit D + oral Ca = 19/25
			  ○ Oral Vit D + Ca = 22/29
			  ○ Control = 22/35
			• Yes, no fracture
			  ○ Injected Vitamin D = 2/30
			  ○ Injected Vit D + oral Ca =
				Limitations
				Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2)
				Domain 1: Risk of bias arising from the randomization process
				1.1 Was the allocation sequence random? Y - Computer generated random number list.
				1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Used sealed, opaque envelopes.
				1.3 Did baseline differences between intervention groups suggest a problem with the

Study details	Participants	Interventions	Outcomes and Results	Comments

Study type
RCT
 	
Aim of the study
To investigate the effectiveness of calcium and vitamin D supplementation on bone biochemical markers, bone mineral density and falls in elderly women with hip fractures.
 	
Study dates
Not reported.
 	
Source of funding
This study received funding from Provalis Healthcare.
	Age in years [Mean (range)]:
	• Injected vitamin D = 80 (67-91)
	• Injected vitamin D + oral calcium = 81(67-92)
	• Oral vitamin D + oral calcium = 83 (67-92)
	• Control = 81 (73-92)
	
	Gender: not reported but see inclusion criteria
	
	Time since injury: not reported
	
	Injury cause: not reported
	
	Location of fracture (intracapsular/extracapsular):
	• Injected vitamin D (N) = 30/8
	• Injected vitamin D + oral calcium (N) = 28/8
	• Oral vitamin D + oral calcium (N) = 21/18
	• Control (N) = 22/15
	
	Inclusion criteria
	Participants had to:
	• Be admitted to 'fast track' orthgeriatric rehabilitation ward
	• Female
	• No more than 7 days after
		D3 and calcium carbonate tablet twice per day (totalling 800 units cholecalciferol and 1g elemental calcium per day). No further details reported.
		
		• *Control group: No treatment.* No further details provided.
			3/25
			  ○ Oral Vit D + Ca = 4/29
			  ○ Control = 8/35
			• Yes, new fracture
			  ○ Injected Vitamin D = 0
			  ○ Injected Vit D + oral Ca = 3/25
			  ○ Oral Vit D + Ca = 3/29
			  ○ Control = 5/35
			• Significant difference between groups (p=0.04, Chi-squared test)
			
			Changes in mobility (measured using use of assistive devices)
			
			At 3 months follow-up:
			• No aid
			  ○ Injected Vitamin D = 4/35
			  ○ Injected Vit D + oral Ca = 4/34
			  ○ Oral Vit D + Ca = 7/36
			  ○ Control = 8/34
			• 1 stick
			  ○ Injected Vitamin D = 19/35
			  ○ Injected Vit D + oral Ca = 6/34
			  ○ Oral Vit D + Ca = 9/36
			  ○ Control = 14/34
			• 2 sticks
			  ○ Injected Vitamin D = 7/35
			  ○ Injected Vit D + oral Ca =
				randomization process? N - Fracture location and hypovitaminosis D unbalanced at baseline but no significant difference for all other variables.
				Risk-of-bias judgement: Low risk
				Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)
				2.1. Were participants aware of their assigned intervention during the trial? Y - Participants were not blinded due to financial restraints.
				2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - Therapists were not blinded due to financial restraints.
				2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI.
				2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA.
				2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	hip fracture surgery • Living in the community before accident • Independence in activities of daily living before the accident **Exclusion criteria** • Institutionalised patients • Diseases or medication known to affect bone metabolism • Abbreviated mental test score <7/10		14/34 ○ Oral Vit D + Ca = 11/36 ○ Control = 6/34 • Crutches ○ Injected Vitamin D = 0/35 ○ Injected Vit D + oral Ca = 2/34 ○ Oral Vit D + Ca = 0/36 ○ Control = 0/34 • Frame ○ Injected Vitamin D = 5/35 ○ Injected Vit D + oral Ca = 8/34 ○ Oral Vit D + Ca = 9/36 ○ Control = 6/34 • Significant difference between groups (p=0.0006, Chi-squared test) *Changes in mobility (measured as experience of falls)* At 12 months: • Vitamin D (all groups) 4/31 (10%) • Control 3/9 (33.3%) • RR of falling = 0.31 (95% CI: 0.08-1.14) • No significant difference between groups (p=0.11, Fisher exact test)	NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 30/35 injected Vit D group, 34/34 injected Vit D + oral calcium group, 36/36 for oral vitamin D and calcium group, and 34/37 control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
				true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Study was not blinded due to financial constraints. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - Outcomes all used objective measurements. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result

Study details	Participants	Interventions	Outcomes and Results	Comments
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PY. Various sub-group analyses carried out but not all were reported. Risk-of-bias judgement: High risk Overall risk of bias High risk Other information None
Full citation Hauer, K., Rost, B., Rutschle, K., Opitz, H., Specht, N., Bartsch, P., Oster, P., Schlierf, G., Exercise training for rehabilitation and secondary prevention of falls in geriatric patients with a history of injurious falls, Journal of the	**Sample size** N= 57 (randomised) • Physiotherapy + strengthening exercises = 31 • Physiotherapy + motor exercises= 26 N= 45 (analysed)	**Interventions** • *Intervention group: Physiotherapy + strengthening exercises*. Started immediately after discharge from hospital): ○ Resistance Training: 1.5 hour sessions 3 times a week for 12 weeks undertaken in groups of	**Results** Unless otherwise stated, the following patient numbers contributed data: Baseline: • Physiotherapy + strengthening exercises: 31	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI

Study details	Participants	Interventions	Outcomes and Results	Comments
American Geriatrics Society, 49, 10-20, 2001 **Ref Id** 1092518 **Country/ies where the study was carried out** Germany **Study type** RCT **Aim of the study** "To determine the safety and efficacy of an exercise protocol designed to improve strength, mobility, and balance and to reduce subsequent falls in geriatric patients with a history of injurious falls." (p. 10) **Study dates** Not reported **Source of funding** Ministerium für Wissenschaft, Forschung und Kunst Baden-Wuerttemberg and the University of Heidelberg.	• Physiotherapy + strengthening exercises = 23 • Physiotherapy + motor exercises = 22 **Characteristics** Age in years [Mean (SD)]: • Physiotherapy + strengthening exercises = 82.2 (4.1) • Physiotherapy + motor exercises = 82.1 (4.8) Gender (M/F): • Physiotherapy + strengthening exercises = all female • Physiotherapy + motor exercises = all female Time since injury: Not reported per group, but it was within 3 months for all patients Injury cause: • Physiotherapy + strengthening exercises (N) = all traumatic • Physiotherapy + motor exercises (N) = all traumatic **Inclusion criteria**	4-6 patients overseen by a therapeutic recreation specialist and consisting of high-intensity progressive resistance training of functionally relevant muscle groups. The exercises included knee and hip extensions performed on a leg press in a sitting position, hip abduction and extension performed in a standing position with the use of a cable pulley system, ankle plantar flexion performed by heel rises during erect standing and stretching of the trained muscle groups after all sets of resistance training. ○ Progressive functional-balance training: 45 min sessions 3 times a week for 12 weeks undertaken in groups of 4-6 patients overseen by a therapeutic recreation specialist after the resistance training sessions and consisting of training in basic (e.g., walking, stepping, and sitting) and subsequently more advanced (e.g., throwing and catching a ball with one person moving forward and one	• Physiotherapy + motor exercises: 26 At end of intervention: • Physiotherapy + strengthening exercises: 24 • Physiotherapy + motor exercises: 23 At 3 months follow up: • Physiotherapy + strengthening exercises: 23 • Physiotherapy + motor exercises: 22 *Upper limb function (measured as hand grip strength in kilopascal) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 101.68 (34.59) • Physiotherapy + motor exercises: 104.92 (28.95) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy +	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: High risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	Participants had to: • Be female • Aged >75 years old • Received ward rehabilitation due to an admission for falls and/or recent history of injurious falls that led to medical treatment • Live within 15 km of the study location • Be orthopaedically stable • Have orthopaedic surgeon consent to participate in study **Exclusion criteria** • Acute neurological impairment • Severe cardio-vascular disease • Unstable chronic or terminal illness, • Major depression Severe cognitive impairment • Severe musculoskeletal impairment • Syncopal falls • Falls due to a single identifiable disease (for example stroke, hypoglycaemia) or accident.	person moving backward) functions. Balance training performed in static and dynamic positions. When possible, group games, basic forms of dance, and basic forms of tai chi were also used. ○ Physiotherapy: Two 25-min sessions per week, consisting "mostly of massaging, stretching, and application of heat or ice predominantly to areas affected by fall-afflicted orthopaedic problems." (p. 12) and not strength and balancing training. • *Control group: Physiotherapy + motor exercises.* Started immediately after discharge from hospital. ○ 1-hour meetings of the patients 3 times a week to do motor placebo activities (e.g., flexibility exercise, calisthenics, ball games, and memory tasks while seated). ○ Physiotherapy: Two 25-min sessions per week, consisting "mostly of massaging, stretching, and application of heat or ice predominantly to	strengthening exercises: 102.50 (28.14) • Physiotherapy + motor exercises: 107.13 (23.97) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline strength and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 103.18 (29.49) • Physiotherapy + motor exercises: 106.23 (29.35) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline strength and medication/day) *Changes in mobility (measured with TUG test in sec) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 30.26 (11.56) • Physiotherapy + motor exercises: 26.65 (8.06) • Non-significant (p value not reported, ANCOVA	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? No, data available from 23/31 in the intervention group and 22/26 in the control group 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? PN 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: High risk Domain 4: Risk of bias in

Study details	Participants	Interventions	Outcomes and Results	Comments
		areas affected by fall-afflicted orthopaedic problems." (p. 12) and not strength and balancing training.	with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 19.50 (4.36) • Physiotherapy + motor exercises: 29.96 (12.86) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 24.73 (13.14) • Physiotherapy + motor exercises: 28.23 (11.37) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (Measured with gait speed in m/sec) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 0.52 (0.18)	measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N "A person blinded to the patients' group assignment documented main outcome parameters." (p. 12 Hauer 2001) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Physiotherapy + motor exercises: 0.53 (0.17) • Non-significant (ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 0.71 (0.18) • Physiotherapy + motor exercises: 0.51 (0.18) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 0.68 (0.22) • Physiotherapy + motor exercises: 0.51 (0.16) • Significant (p=0.002, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (measured using chair-rise time in sec) [mean (SD)]* Baseline:	analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			- Physiotherapy + strengthening exercises: 18.13 (6.57) - Physiotherapy + motor exercises: 17.15 (4.72) - Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: - Physiotherapy + strengthening exercises: 13.42 (2.96) - Physiotherapy + motor exercises: 19.57 (6.17) - Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: - Physiotherapy + strengthening exercises: 15.86 (4.86) - Physiotherapy + motor exercises: 20.14 (7.22) - Significant (p=0.012, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (measured maximal box step*	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in cm) [mean (SD)] Baseline: • Physiotherapy + strengthening exercises: 55.80 (12.12) • Physiotherapy + motor exercises: 62.00 (15.75) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 75.21 (14.93) • Physiotherapy + motor exercises: 66.59 (17.07) • Significant (p=0.006, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 72.96 (13.86) • Physiotherapy + motor exercises: 65.95 (17.15) • Significant (p=0.046, ANCOVA with adjustment for baseline age, baseline functional performance	

Study details	Participants	Interventions	Outcomes and Results	Comments
			and medication/day) *Changes in mobility (measured with stair flight in cm) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 25.19 (13.93) • Physiotherapy + motor exercises: 26.04 (13.94) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 15.17 (4.56) • Physiotherapy + motor exercises: 24.48 (12.37) • Significant (p=0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 17.18 (5.66) • Physiotherapy + motor exercises: 23.36 (9.41)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Significant (p=0.005, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (measured using physical/sports activity score) [mean (SD)]* Higher scores = more activity. Before admission to hospital: • Physiotherapy + strengthening exercises (N=28): 6.78 (4.45) • Physiotherapy + motor exercises (N=26): 5.03 (2.64) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 19.97 (3.40) • Physiotherapy + motor exercises: 6.80 (3.71) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline physical activity and	

Study details	Participants	Interventions	Outcomes and Results	Comments
			medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises (N=22): 8.46 (4.94) • Physiotherapy + motor exercises: 5.65 (4.42) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline physical activity and medication/day) *Changes in mobility (measured using total physical activity score) [mean (SD)]* Higher scores = more activity. Before admission to hospital: • Physiotherapy + strengthening exercises (N=28): 9.79 (5.38) • Physiotherapy + motor exercises (N=26): 7.17 (5.34) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			At end of intervention: • Physiotherapy + strengthening exercises: 22.00 (4.38) • Physiotherapy + motor exercises: 8.32 (4.42) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline physical activity and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises (N=22): 11.56 (6.86) • Physiotherapy + motor exercises: 7.85 (5.54) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline physical activity and medication/day) *Changes in mobility (measured as incidence of falls)* At 3 months follow up (covers 6 months: training period up to 3 months follow up): • Physiotherapy + strengthening exercises: 45% of 23 patients	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Physiotherapy + motor exercises: 60% of 21 or 22 patients • Relative risk: 0.753 (95% CI: 0.455–1.245; p = 0.2, chi-square) for patients in the intervention group compared with the control group *Changes in ADL (measured using Tinetti POMA score) [mean (SD)]* Scale 0 (worst) – 28 (best). Baseline: • Physiotherapy + strengthening exercises: 18.86 (4.14) • Physiotherapy + motor exercises: 19.44 (4.23) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 25.33 (2.71) • Physiotherapy + motor exercises: 20.96 (5.03) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline	

Study details	Participants	Interventions	Outcomes and Results	Comments
			functional performance and medication/day)	

At 3 months follow up:
- Physiotherapy + strengthening exercises: 23.02 (4.62)
- Physiotherapy + motor exercises: 20.07 (4.83)
- Significant (p=0.004, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day)

Changes in ADL (measured using Barthel ADL Index score) [mean (SD)]

Scale 0 (worst) – 100 (best).

Baseline:
- Physiotherapy + strengthening exercises: 90.5 (6.59)
- Physiotherapy + motor exercises: 89.40 (8.33)
- Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day)

At end of intervention:
- Physiotherapy + strengthening exercises:

Study details	Participants	Interventions	Outcomes and Results	Comments
			95.00 (4.63) • Physiotherapy + motor exercises: 93.18 (9.07) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 94.76 (6.80) • Physiotherapy + motor exercises: 94.29 (7.63) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in ADL (measured using Lawton Instrumental ADL Index score) [mean (SD)]* Scale 0 (worst) – 8 (best). Baseline: • Physiotherapy + strengthening exercises: 5.96 (1.57) • Physiotherapy + motor exercises: 5.41 (1.79)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 6.90 (1.18) • Physiotherapy + motor exercises: 5.95 (2.14) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 6.89 (1.49) • Physiotherapy + motor exercises: 6.30 (1.92) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day)	
Full citation Jang, Ki Un, Choi, Ji Soo, Mun, Jeong Hyeon, Jeon, Jong Hyun, Seo, Cheong Hoon, Kim, Jong Hyeon, Multi-axis shoulder	**Sample size** N= 26 (randomised) • Shoulder splint = 13 • No splint = 13	**Interventions** • *Both groups:* All participants also had the same exercise program (consisting of sessions of passive and active	**Results** *Upper limb function (measured using shoulder abduction angle in degrees) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
abduction splint in acute burn rehabilitation: a randomized controlled pilot trial, Clinical Rehabilitation, 29, 439-46, 2015 **Ref Id** 1128116 **Country/ies where the study was carried out** South Korea **Study type** RCT **Aim of the study** To examine "the effectiveness of a newly designed multi-axis shoulder abduction splint with an easy-to-change angle." (p. 439) **Study dates** Not reported **Source of funding** The Hallym University Medical Center Research Fund (01-2005-05).	N= 24 (analysed) • Shoulder splint = 11 • No splint = 13 **Characteristics** Age in years [Mean (SD)]: • Shoulder splint = 43.5 (10.4) • No splint = 48.3 (6.9) Gender (M/F): • Shoulder splint (N) = 9/2 • No splint (N) = 10/3 Time since injury: not reported but all the patients had to be within 30 days of the time of injury Injury cause: • Shoulder splint = all traumatic • No splint = all traumatic TBSA: • Shoulder splint (%) = 32.9 (21.9) • No splint (%) = 38.4 (20.6) Shoulder burn surface area: • Shoulder splint (%) = 8.4 (4.6) • No splint (%) = 10.2 (3.8)	mobilization and stretching for 30 minutes twice a day) and "the same medical treatment and regular burn therapy during their stay at the burn center." (p. 441) • *Intervention group: Multi-axis shoulder abduction splint.* Fitted to abduct the affected shoulder as close as possible to a 90 degree abduction angle. The splint was to be worn at all times, including at night, unless removed due to hygiene or medical procedures. "The multi-axis shoulder abduction splint consists of a light weight aluminium bar with a foldable connector. It can be attached and locked to the pole of the bed. Its angle can also be adjusted so that it fits to the position of the patient ……. It is applied by placing the patient's upper extremity onto the tilting trough board and then stabilizing the extremity with two detachable velcro straps. The foldable bar and connector can be adjusted so that the angle of the shoulder can be set according to the physician's preferred	Baseline: • Shoulder splint: 75.5 (18.6) • No splint: 81.7 (21.4) Week 1 (from baseline): • Shoulder splint: 79.4 (21.3) • No splint: 73.6 (17.3) Week 2 (from baseline): • Shoulder splint: 83.6 (19.2) • No splint: 81.3 (19.4) Week 3 (from baseline): • Shoulder splint: 89.5 (21.5) • No splint: 83.9 (19.1) Week 4 (from baseline): • Shoulder splint: 94.8 (22.0) • No splint: 87.0 (18.4) Repeated-measure ANOVA showed higher mean shoulder abduction angle over the 4 weeks in the intervention than the control group. Repeated-measure ANCOVA (adjusting for angle in week 0 and Shoulder burn depth index) showed higher mean shoulder abduction angle	arising from the randomization process 1.1 Was the allocation sequence random? Y Computer-generated random number sequence 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY Sealed envelopes with random numbers used to allocate the patients 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the

Study details	Participants	Interventions	Outcomes and Results	Comments
	Inclusion criteria Patients had to: • Have burn injury around shoulder joint • TBSA >10% and < 80% • Injured less than 30 days earlier • Burn centre inpatients **Exclusion criteria** • Septic condition that could limit patient participation • Severe cognitive deficit preventing participants from following instructions • Neurological impairment of the upper extremity relating to shoulder burn • Planning to undergo skin graft surgery around the shoulder	ROM" (p. 441) • *Control group:* No splint.	over the 4 weeks in the intervention than the control group. *Upper limb function (measured using shoulder flexion angle in degrees) [mean (SD)]* Baseline: • Shoulder splint: 84.1 (20.5) • No splint: 82.3 (28.2) Week 1 (from baseline): • Shoulder splint: 97.2 (28.8) • No splint: 80.0 (18.9) Week 2 (from baseline): • Shoulder splint: 100.0 (23.3) • No splint: 82.9 (25.5) Week 3 (from baseline): • Shoulder splint: 104.5 (24.4) • No splint: 90.9 (23.4) Week 4 (from baseline): • Shoulder splint: 107.3 (27.2) • No splint: 100.0 (23.2) Repeated-measure ANOVA showed higher mean	experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
			shoulder flexion angle over the 4 weeks in the intervention than the control group. Repeated-measure ANCOVA (adjusting for angle in week 0 and Shoulder burn depth index) showed no differences between the groups. *Upper limb function (measured using shoulder external rotation angle in degrees) [mean (SD)]* Baseline: • Shoulder splint: 30.0 (22.4) • No splint: 39.6 (24.5) Week 1 (from baseline): • Shoulder splint: 37.2 (25.1) • No splint: 34.7 (19.7) Week 2 (from baseline): • Shoulder splint: 41.5 (25.0) • No splint: 43.0 (23.9) Week 3 (from baseline) • Shoulder splint: 50.0 (28.8) • No splint: 58.2 (28.7) Week 4 (from baseline): • Shoulder splint: 54.5 (28.8)	likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N Blinded assessment by trained assessors 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low concerns Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No splint: 53.5 (24.6) Repeated-measure ANOVA showed no differences between the groups. Repeated-measure ANCOVA (adjusting for angle in week 0 and Shoulder burn depth index) showed no differences between the groups.	result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation Jansen, H., Jordan, M., Frey, S., Hölscher-Doht, S., Meffert, R., Heintel, T., Active controlled motion in early rehabilitation improves outcome after ankle fractures: a randomized controlled trial, Clinical Rehabilitation, 32, 312-318,	**Sample size** N = 50 (randomised) • Active controlled motion + physiotherapy: N = 25 • Physiotherapy only: N = 25 N = 48 (analysis) • Active controlled motion + physiotherapy: N = 24	**Interventions** • *Intervention group: Active controlled motion + physiotherapy.* Physiotherapy as described in control group plus active controlled motion was started 2-5 days post-operation using Camoped© device after	**Results** *Changes in mobility (measured using range of motion of ankle joint) [mean (SD)]* Higher = better.	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
2018 **Ref Id** 1129794 **Country/ies where the study was carried out** Germany **Study type** RCT **Aim of the study** To investigate the effectiveness of active controlled motion on rehabilitation outcomes after unstable ankle fractures. **Study dates** Not reported. **Source of funding** This study received no financial support.	• Physiotherapy only: N = 24 **Characteristics** Age in years [Mean (range)]: • Active controlled motion + physiotherapy = 46 (22-73) • Physiotherapy only = 53 (22-73) Gender (M/F): • Active controlled motion + physiotherapy (N) = 14/11 • Physiotherapy only (N) = 13/11 Time since injury (reported as time between injury and operation) [Mean (range)]: • Active controlled motion + physiotherapy (days) = 8.9 (0-16) • Physiotherapy only (days) = 7.4 (0-20) Injury cause (Ankle twist/bicycle accident/fall from horse) • Active controlled motion + physiotherapy (N) = 21/1/2 • Physiotherapy only (N) = 21/3/0 Fracture type (Weber type B/type C): • Active controlled motion +	participants received education from a trained physiotherapist. Participants were advised to use this device for 20 minutes per day, continuing after discharge from hospital. • *Control group: Physiotherapy only.* 20 minute physiotherapy sessions per day. These started on the first post-operative day while participants were still in the hospital, focusing on mobilisation using crutches and maintaining partial weight-bearing. After discharge, 20 minute physiotherapy sessions were continued at 2-3 x per week for 6 weeks. These later sessions focused on oedema management and range of motion exercises.	Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 49 (11.1) • Physiotherapy only (N=24): 41.3 (8.1) • Significantly higher (better) in intervention group (p=0.03, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 58.2 (12.4) • Physiotherapy only (N=22): 53.6 (4.7) • Significantly higher (better) in intervention group (p=0.08, unable to discern statistical test) *Changes in mobility (measured using range of motion of subtalar joint) [mean (SD)]* Higher = better. Baseline: not reported.	sequence random? NI - Simply states participants were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - No statistical analysis presented but report notes that there was no difference between group characteristics at baseline. Risk-of-bias judgement: High risk. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI.

Study details	Participants	Interventions	Outcomes and Results	Comments
	physiotherapy (N) = 15/10 • Physiotherapy only (N) = 12/12 **Inclusion criteria** Participants had to: • Be aged 18 years old or above • Have operatively treated unstable ankle fracture (Weber classification type B or type C) • Need partial weight-bearing for 6 weeks • Be able to perform physiotherapy and active controlled motion • Have no problems with walking prior to fracture **Exclusion criteria** Not reported.		6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 16.3 (6.3) • Physiotherapy only (N=24): 14 (5.7) • Significantly higher (better) in intervention group (p=0.08, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 58.2 (12.4) • Physiotherapy only (N=22): 14 (5.7) • p Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using VAS for foot and ankle) [mean (SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion +	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? 6 week - Y, data available for 24/25 participants in both groups. 12 weeks - N, data available for 22/25 in both groups. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? 6 week - NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
			physiotherapy (N=24): 56 (13.7) • Physiotherapy only (N=24): 40.6 (10.5) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 77.7 (13.8) • Physiotherapy only (N=22): 61.4 (16.3) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using Philip score) [mean (SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 58.8 (14.1) • Physiotherapy only	12 weeks - N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? 6 week - NA. 12 weeks - PY, reasons given were simply refused further participation so might be related to study. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? 6 week - NA. 12 weeks - PN - Similar reasons and drop out number is small even if rate is not. Risk-of-bias judgement: 6 weeks - Low risk; 12 weeks - Some concerns. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Follow up at 6 weeks and 12 weeks. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Assessors were unblinded to group assignment.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=24): 52.1 (14.3) • No significant difference between groups (p=0.068, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 79.1 (10.9) • Physiotherapy only (N=22): 60.1 (21.7) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using Mazur score) [mean (SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 64.4 (12.3) • Physiotherapy only (N=24): 56.7 (11.8) • Significantly higher (better) in intervention group	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - All measurements were objective and used validated instruments. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(p>0.01, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 83.9 (10.7) • Physiotherapy only (N=22): 73.1 (14.1) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using AOFAS) [mean(SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 71.2 (12) • Physiotherapy only (N=24): 63.6 (8.7) • Significantly higher (better) in intervention group (p>0.02, unable to discern statistical test)	Risk-of-bias judgement: Some concerns. Overall risk of bias: High risk. Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 87.5 (7.9) • Physiotherapy only (N=22): 75.2 (11.7) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Return to work (measured using mean weeks of group) [mean (range)]* Lower = better. Baseline: not reported. No time point reported: • Active controlled motion + physiotherapy: 10.5 (3–17) • Physiotherapy only: 14.7 (9–26) • Significantly lower (better) in intervention group (p=0.02, unable to discern statistical test)	
Full citation Kasuga, S., Momosaki, R., Hasebe, K., Sawabe, M., Sawaguchi, A., Effectiveness of self-exercise on elderly patients after hip fracture: A	**Sample size** N = 375 • Self-exercise programme + standard rehabilitation = 146 • Standard rehabilitation =	**Interventions** • *Intervention group: Self exercise programme + standard rehabilitation.* Varied from hospital to hospital in terms of content	**Results** *Changes in mobility: (measured using discharge FIM-M score) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I):

Study details	Participants	Interventions	Outcomes and Results	Comments
retrospective cohort study, Journal of Medical Investigation, 66, 178-181, 2019 **Ref Id** 1129831 **Country/ies where the study was carried out** Japan **Study type** Retrospective cohort study **Aim of the study** To investigate the effectiveness of self-exercise programme on rehabilitation outcomes for elderly hip fracture patients. **Study dates** August 2005 - September 2015 **Source of funding** Not reported.	229 **Characteristics** Age in years [Mean (SD)]: • Self-exercise programme + standard rehabilitation = 82.7 (8.3) • Standard rehabilitation = 85.6 (6.9) Gender (M/F): • Self-exercise programme + standard rehabilitation (N) = 23/123 • Standard rehabilitation (N) = 40/189 Time since injury: not reported Injury cause: not reported Location of fracture (neck of femur/trochanteric/other): • Self-exercise programme + standard rehabilitation (N) = 72/70/4 • Standard rehabilitation (N) = 87/113/29 **Inclusion criteria** Patients had to be: • 65 years old or above • Admitted maximum one	and intensity. A survey was administered to a portion of the facilities, which reported that self-exercise programme focused on standing training, balance training and gait training. They were typically planned with a therapist. Supplemented formal therapy by repeating activity and motion. No further details reported. • *Control group: Standard rehabilitation.* Focused on gait training and exercises related to activities of daily living. Typically included 20-24 minutes of physical therapy every day, Monday-Friday only. The programme was designed to include muscle-strengthening exercises, standing training, balance training and ambulation. No further details reported.	Higher = better. At discharge (time point not reported): • Self-exercise programme + standard rehabilitation (N=146): 68.6 (18.0) • Standard rehabilitation (N=229): 51.0 (19.4) *Changes in mobility (measured using FIM-M score gain) [mean (SD)]* Higher = better. At discharge (time point not reported): • Self-exercise programme + standard rehabilitation (N=146): 34.9 (14.8) • Standard rehabilitation (N=229): 25.2 (16.7)	Domain 1: Bias due to confounding 1.1 Is there potential for confounding of the effect of intervention in this study? Y. 1.2. Was the analysis based on splitting participants' follow-up time according to intervention received? N – Either self-exercise or not. No ability to change groups. If N/PN, answer questions relating to baseline confounding (1.4 to 1.6) 1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains? Y – Regression analysis performed. 1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study? NI – Article mentions time spent exercising but not how this was measured or if this was comparable between centres. 1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention? N. Questions relating to

Study details	Participants	Interventions	Outcomes and Results	Comments
	day after injury • Have FIM data available from admission and discharge **Exclusion criteria** Not reported.			baseline and time-varying confounding Risk of bias: High risk. Domain 2: Bias in selection of participants into the study 2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? N If N/PN to 2.1: go to 2.4: 2.4. Do start of follow-up and start of intervention coincide for most participants? Y-Admission and discharge. 2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases? NA. Risk of bias: Low risk. Domain 3: Bias in classification of interventions 3.1 Were intervention groups clearly defined? N - Dichotomous outcome with no description of duration, intensity or programme components. Especially important as each hospital had different programmes. 3.2 Was the information used to define intervention groups recorded at the start of the intervention? NI – No

Study details	Participants	Interventions	Outcomes and Results	Comments
				mention of when the decision to classify was made, whether it was at any point during rehabilitation or if it was collected as intent to perform.
				3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome? N – Routinely collected data.
				Risk of bias: Moderate risk.
				Domain 4: Bias due to deviations from intended interventions
				4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice? NI – Lack of information on adherence.
				4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome? NA.
				Risk of bias: High risk.
				Domain 5: Bias due to missing data
				5.1 Were outcome data available for all, or nearly all, participants? Y.
				5.2 Were participants excluded due to missing data on intervention status?

Study details	Participants	Interventions	Outcomes and Results	Comments
				Y – Only hospitals including information on self-exercise were included in the analysis.
				5.3 Were participants excluded due to missing data on other variables needed for the analysis? Y – Participants excluded if FIM data was missing at either admission or discharge.
				5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions? NI.
				5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data? NA.
				Risk of bias: High risk.
				Domain 6: Bias in measurement of outcomes
				6.1 Could the outcome measure have been influenced by knowledge of the intervention received? N – Routine data collection.
				6.2 Were outcome assessors aware of the intervention received by study participants? N – Routine data collection.
				6.3 Were the methods of outcome assessment comparable across

Study details	Participants	Interventions	Outcomes and Results	Comments
				intervention groups? PY – No description but FIM is a standardised, validated measurement. 6.4 Were any systematic errors in measurement of the outcome related to intervention received? N. Risk of bias: Low risk. Overall risk of bias High risk Other information None.
Full citation Kronborg, Lise, Bandholm, Thomas, Palm, Henrik, Kehlet, Henrik, Kristensen, Morten Tange, Effectiveness of acute in-hospital physiotherapy with knee-extension strength training in reducing strength deficits in patients with a hip fracture: A randomised controlled trial, PLoS ONE, 12, e0179867, 2017 **Ref Id** 1129886 **Country/ies where the study was carried out** Denmark **Study type** RCT	**Sample size** N= 90 (randomised) • Physiotherapy with strength training = 45 • Physiotherapy only = 45 N= 90 (analysed) • Physiotherapy with strength training = 45 • Physiotherapy only = 45 **Characteristics** Age in years [Mean (SD)]: • Physiotherapy with strength training = 79.8 (7.7) • Physiotherapy only = 79.3 (7.5) Gender (M/F): • Physiotherapy with strength training (N) =	**Interventions** • Intervention group: Physiotherapy with strength training. ○ Physiotherapy: Daily (with 1±2 contacts per day) routine physiotherapy consisting of basic mobility and exercise therapy primarily aimed at lower extremities using 12 specific exercises that were progressed individually (repetitions and intensity were not standardised). Moreover, exercises consisting of basic mobility activities, balance and stair climbing aimed at regaining physical function corresponding with levels of pre-fracture habitual activity were	**Results** *Changes in mobility (measured with TUG test in sec) [mean (SD)]* NB. Only patients who had achieved independent mobility assessed At baseline: • Physiotherapy with strength training (N=39): 31.7 (12.5) • Physiotherapy only (N=39): 33 (14.5) End of training (intervention completion): • Physiotherapy with strength training (N=39): 25.4 (11.8) • Physiotherapy only	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y Allocated "by a neutral person (blinded to outcomes and patient characteristics) via a computer-generated list with notes placed in sealed envelopes and marked with participant numbers only........ Allocation was concealed to the data-assessor who was also blinded to all baseline data (archived in a locked cabinet) until end of the study." (p. 3) 1.2 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
Aim of the study To examine whether acute in-hospital physiotherapy with additional progressive knee-extension strength training of the fractured limb is more effective in reducing knee-extension strength deficit at follow-up compared to physiotherapy without strength training in patients with a hip fracture **Study dates** 2013-2015 **Source of funding** The IMK Foundation, The Research Foundation of the Capital Region, The Research Foundation of the Danish Physical Therapy Organisation, The Research Foundation of Hvidovre Hospital, and The UCSF Lundbeck Foundation	19/26 • Physiotherapy only (N) = 12/33 Time since injury: Not reported per group, but baseline data collected within 3 days of surgery and at the end of the intervention on post-operative day 10. Injury cause: not reported but probably all traumatic Type of fracture (Femoral neck/trochanteric): • Physiotherapy with strength training (N) = 18/27 • Physiotherapy only (N) = 20/25 **Inclusion criteria** Participants had to: • Be aged ≥ 65 years old • Be living at home • Be admitted to an acute orthopaedic hip fracture bed ward at participating University hospital • Receive primary hip fracture surgery • Follow a multimodal fast-track programme with the preoperative epidural kept	also undertaken. This programme was undertaken both as bedside exercise and in the ward gym. Patients also used walking aids according to their level of independent mobility. ○ Strength training: Daily individual progressive knee-extension strength training conducted by a physiotherapist, 3 X 10 repetitions at an intensity of 10 repetition maximum (i.e., ±2 repetition maximum of the fractured limb using ankle weight cuffs), consisting of 5 knee-extensions for each limb separately as a warm up-exercise with no loads. Subsequently, a weight-cuff matching the patient's initial level of 10 repetition maximum was attached around the ankle of the fractured limb. These "loads were adjusted on a set-to-set basis and 1-minute pauses separated the sets. The exercise was stopped at a maximum of 15 or less than 8 repetitions in a set and loads increased or decreased respectively	(N=39): 23.9 (9.6) End of training minus baseline: • Physiotherapy with strength training (N=39): -6.4 (7.2) • Physiotherapy only (N=39): -9.3 (10.1) • Intervention group minus control group (N=74): 3.0 (-1.1 to 7.1), non-significant (p value not reported, ANOVA) *Changes in mobility (measured using 10MWT)* At follow-up: • Mean (SD) of 0.54 (0.21) m/s for 76 participants. • No significant difference between groups *Changes in mobility (measured using fear of falling ShortFES-I)* At follow-up: • Mean(SD) score of 13.7 (5.5) point • Equates to moderate to high fear of falling. • No significant difference between groups (p value	sequence concealed until participants were enrolled and assigned to interventions? Y See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? PY 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NI

Study details	Participants	Interventions	Outcomes and Results	Comments
	until the 4th postoperative day • Be able to speak and understand Danish Independent pre-fracture indoor walking ability equal to a New Mobility Score ≥ 2 **Exclusion criteria** • Multiple fractures • Weight bearing restrictions • Terminal illnesses • Treatment with total hip arthroplasty or parallel pins • Patients unwilling to participate in appropriate rehabilitation or unable to cooperate in tests	for the following set" (p. 4). Strength training was conducted between postoperative days 2-8. • *Control group: Physiotherapy only.* As the intervention group.	not reported)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
				inappropriate? N
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA
				Risk-of-bias judgement: Low risk
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? Y
				Is the numerical result being assessed likely to have been selected, on the basis of the

Study details	Participants	Interventions	Outcomes and Results	Comments
				results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? N 5.3 ... multiple analyses of the data? N Risk-of-bias judgement: Low risk Overall risk of bias Low risk Other information None
Full citation Li-Tsang, Cecilia Wai Ping, Zheng, Yong Ping, Lau, Joy C. M., A randomized clinical trial to study the effect of silicone gel dressing and pressure therapy on posttraumatic hypertrophic scars, Journal of burn care & research : official publication of the American Burn Association, 31, 448-57, 2010 **Ref Id** 1185194 **Country/ies where the study was carried out** China **Study type**	**Sample size** N = 104 (randomised) • Pressure therapy: 30 • Silicone gel sheeting: 30 • Combined pressure therapy and silicone gel sheeting: 29 • Control group: 21 N = 84 (analysed) • Pressure therapy: 26 • Silicone gel sheeting: 22 • Combined pressure therapy and silicone gel sheeting: 24 • Control group: 12 **Characteristics** *Characteristics only reported for all patients, not split by*	**Interventions** • *Intervention group: Pressure garment therapy + 15 min massage of scar with lanolin daily.* Patients were instructed to wear a tailor-made padded pressure garment. No further details reported. • *Intervention group: Silicone gel sheeting + 15 min massage of scar with lanolin daily.* Silicone gel sheet applied to the wound for 24 hours a day (unless bathing). Micropore tape used to secure if needed. No further details reported. • *Intervention group: Pressure garment + silicone gel sheeting + 15 min massage of scar with*	**Results** *Pain (measured using VAS) [mean(SD)]* Scale 0-10. Better = lower. At baseline • Pressure garment therapy (N=30): 2.28(0.78) • Silicone gel sheeting therapy (N=24): 1.61(2.26) • Pressure garment + silicone gel sheeting (N=29): 1.88(2.34) • Massage only group (N=21): 1.42(2.47) • No significant difference between groups At 2 months from baseline	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomisation process 1.1 Was the allocation sequence random? Y. Draw lots method. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? NI - results of baseline characteristics statistical

Study details	Participants	Interventions	Outcomes and Results	Comments
RCT **Aim of the study** To compare the effectiveness of a combined therapy (pressure therapy + silicone gel sheeting) on the healing of hypertrophic scarring when compared to either pressure therapy alone, silicone gel sheeting alone or a control group. **Study dates** Not reported. **Source of funding** This study received funding from the Internal Central Research Grant, Hong Kong Polytechnic University, Hong Kong SAR.	*intervention group.* Age in years [Mean (SD)]: total 21.8(18.7) Gender [N (M/F)]: total 63/41 Time since injury [Mean (SD)]: total 14.9(30.8) months Injury cause (%) • Scald burn = 32.7 • Thermal burn = 25 • Traumatic injury = 18.3 • Chemical burn = 10.6 • Other = 13.4 TBSA (%): not reported **Inclusion criteria** Patients had to: • Have developed active hypertrophic scarring due to burns, scalds, or traumatic injuries • Scar surface area ≤ 16 cm^2 **Exclusion criteria** • Patients with other medical diseases e.g. diabetes mellitus.	*lanolin daily.* Silicone gel sheet was inserted underneath the padded pressure garment for 24 hours a day (unless bathing). No further details reported. • *Control group: 15 min massage of scar with lanolin daily.* No further details reported.	(during intervention) • Pressure garment therapy (N=30): 2(2.69) • Silicone gel sheeting therapy (N=24): 1.19(2.06) • Pressure garment + silicone gel sheeting (N=29): 1(1.69) • Massage only group (N=21): 0.41(0.90) • Significance not reported *At 4 months from baseline (during intervention) • Pressure garment therapy (N=30): 2.09(2.66) • Silicone gel sheeting therapy (N=24): 0.78(1.18) • Pressure garment + silicone gel sheeting (N=29): 0.64(1.44) • Massage only group (N=21): 1.25(1.77) • Significance not reported 6 months from baseline (intervention completion): • Pressure garment therapy (N=26): 2.70(3.16) • Silicone gel sheeting therapy (N=22): 0.84(1.64) • Pressure garment + silicone gel sheeting (N=24): 0.46(1.19) • Massage only group	analysis not reported. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? N – Participants were blinded during trial. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? N – People delivering laser therapy were blinded during trial. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NA. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y – Intention to

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=12): 1.54(2.20) • Significantly better (lower) pain scores in combined therapy (p = 0.004) and silicone gel sheeting (p = 0.001) groups when compared to control (ANOVA) • No significant difference reported for pressure garment therapy when compared to control 7 months from baseline (1 month follow-up): • Pressure garment therapy (N = 26): 2.00(2.79) • Silicone gel sheeting therapy (N = 22): 0.10(0.45) • Pressure garment + silicone gel sheeting (N = 24): 0.33(1.04) • Massage only group (N = 12): 1.36(1.74) • Significance not reported *Number of participants not reported at different time period, just original and after intervention completion. Therefore, have used the original trial numbers for 2 months and 4 months from baseline.	treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? No - Dropout rate of 19.23%. Data only available for 12/21 for control group, 26/30 pressure therapy, 22/24 silicone gel sheeting group and 24/29 combined therapy). 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PY. Differing dropout rates between control and treatment groups. Risk-of-bias judgement: High

Study details	Participants	Interventions	Outcomes and Results	Comments
				risk
				Domain 4: Risk of bias in measurement of the outcome
				4.1 Was the method of measuring the outcome inappropriate? N.
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN.
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Pain is self-assessed.
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY.
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN.
				Risk-of-bias judgement: Some concerns
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan

Study details	Participants	Interventions	Outcomes and Results	Comments
				that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PY - pain measured at baseline, 2 months, 6 months and 1 month follow-up. Analysis only conducted for 6 months and follow-up and significance only reported for 6 months.
				5.3 ... multiple analyses of the data? PN.
				Risk-of-bias judgement: High risk.
				Overall risk of bias: High risk.
				Other information
				None
Full citation Liu, Hongju, Li, Jianjun, Du, Liangjie, Yang, Mingliang, Yang, Degang, Li, Jun, Gao, Feng, Ma, Ke, Short-term effects of core stability training on the balance and ambulation function of individuals with chronic spinal cord injury: a pilot	**Sample size** N = 40 (randomised) • Unstable core training: 20 • Stable core training: 20 N = 29 (analysed) • Unstable core training: 14 • Stable core training: 15	**Interventions** • *Both group:* Residual extremity muscle strengthening exercises and task-specific body-weight supported treadmill training sessions 5 x per week for 12 weeks. • *Intervention group: Unstable core training.*	**Results** *Changes in mobility (measured using stride length, units not reported) [mean (SD)]* Higher = better.	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI –

Study details	Participants	Interventions	Outcomes and Results	Comments
randomized controlled trial, Minerva Medica, 110, 216-223, 2019 **Ref Id** 1022567 **Country/ies where the study was carried out** China **Study type** RCT **Aim of the study** To investigate the effectiveness of core training on an unstable surface compared to core training on an unstable core training in individuals with chronic SCI. **Study dates** Not reported. **Source of funding** This study received funding from the Special Fund for Basic Scientific Research of Central Public Research Institute.	**Characteristics** Age in years [Mean (SD)]: • Unstable core training = 43 (15.422) • Stable core training = 46 (13.675) Gender (M/F): • Unstable core training (N) = 11/3 • Stable core training (N) = 11/4 Time since injury [Mean (SD)]: • Unstable core training (months) = 8.21 (1.528) • Stable core training (months) = 8.20 (1.656) Injury cause (Car accident/falling/other) • Unstable core training (N) = 8/4/2 • Stable core training (N) = 11/3/1 Level of injury (ASIA c/ASIA D/Tetraplegia/Paraplegia/not reported): • Unstable core training (N) = 12/2/9/5 • Stable core training (N) =	Participants completed 5 x core stability sessions per week for 12 weeks, consisting of a variety of exercises performed while lying and sitting down. Pelvic bridge for 10 sec, planking for 10 sec and side planking for 10 sec were performed lying down with feet hooked in a sling. Lower trunk flexion extension, upper trunk lateral flexion, lower trunk lateral flexion, upper trunk rotation lower trunk rotation, weight shifting, forward reach and lateral reach exercises were performed which were performed while sitting on a physio-ball. • *Control group: Stable core training.* Participants completed 5 x core stability sessions per week for 12 weeks, consisting a variety of exercises performed while lying and sitting down. Pelvic bridge for 10 sec, planking for 10 sec and side planking for 10 sec were performed lying down with on a table. Lower trunk flexion extension, upper trunk lateral flexion, lower trunk lateral flexion, upper trunk	At baseline: • Unstable core training (N=20): 0.475 (0.177) • Stable core training (N=20): 0.392 (0.170) • No significant difference between groups (p=0.074, independent t-test) 12 weeks (intervention completion): • Unstable core training (N=14): 0.564 (0.189) • Stable core training (N=15): 0.454 (0.173) • Significantly higher (better) in intervention group (p=0.025, independent t-test) *Changes in mobility (measured using cadence, units not reported) [mean (SD)]* Higher = better. At baseline: • Unstable core training (N=20): 0.955 (0.484) • Stable core training (N=20): 0.828 (0.440) • No significant difference between groups (p=0.298, independent t-test)	Simply states randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – No significant differences between groups at baseline. Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
	9/6/5/10 **Inclusion criteria** Participants had to: • Be receiving inpatient treatment from participating rehabilitation centre • Be aged 18-50 years old • Have a SCI at or rostral to T10 level • SCI at least 6 months prior to enrolment • Be able to rise from sitting to standing with only moderate assistance, and walk a few steps without mobility devices • Agree to maintain their current medication and activity routine • Receive medical clearance from study physician **Exclusion criteria** • Significant pathology including significant osteoarthritis, heterotopic ossification or joint subluxation • Degenerative myelopathy, neoplasm or congenital spinal cord problems • Previous core stability training using physio-ball	rotation lower trunk rotation, weight shifting, forward reach and lateral reach exercises were performed which were performed while sitting on a table.	12 weeks (intervention completion) • Unstable core training (N=14): 1.111 (0.477) • Stable core training (N=15): 0.842 (0.429) • Significantly higher (better) in intervention group (p=0.028, independent t-test) *Changes in mobility (measured using comfortable walking speed, units not reported) [mean (SD)]* Higher = better. At baseline: • Unstable core training (N=20): 0.256 (0.192) • Stable core training (N=20): 0.179 (0.159) • No significant difference between groups (p=0.296, Mann-Whitney rank-sums) 12 weeks (intervention completion): • Unstable core training (N=14): 0.350 (0.226) • Stable core training (N=15): 0.209 (0.171)	2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y – Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NI. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N – Data available for 14/20 participants in intervention group and 15/20 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the

Study details	Participants	Interventions	Outcomes and Results	Comments
	or sling • Uncontrollable spasticity (defined as > grade 2 on Modified Ashworth scale) • Lower extremity orthosis needed for ambulation or standing • Able to jog or run		• Significantly higher (better) in intervention group (p=0.0.019, Mann-Whitney rank-sums)	outcome depended on its true value? PN – Author's note that many participant had travelled from far away to Beijing for SCI rehabilitation and wanted to return home. Risk-of-bias judgement: Some concerns. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N – Assessment occurred at baseline and 12 weeks. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N – Gait analysis was performed by specialist software. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by

Study details	Participants	Interventions	Outcomes and Results	Comments
				knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Overall risk of bias: High risk. Other information None.
Full citation Lucareli, P. R., Lima, M. O., Lima, F. P. S., de Almeida, J. G., Brech, G. C., D'Andrea Greve, J. M., Gait analysis following treadmill training with body-weight support	**Sample size** N= 30 (randomised) • Body-weight supported gait training: 15 • Over ground gait training: 15	**Interventions** • *Intervention group: Body-weight supported gait training.* 30 x 30 minute semi-weekly gait-training sessions using a treadmill that was coupled to a	**Results** *Changes in mobility (measured using velocity in m/sec) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
versus conventional physical therapy: a prospective randomized controlled single blind study, Spinal cord, 49, 1001-7, 2011 **Ref Id** 1078605 **Country/ies where the study was carried out** Brazil **Study type** RCT **Aim of the study** To compare the effectiveness of body-weight supported treadmill gait training with standard gait training and physiotherapy, in patients with SCI. **Study dates** Not reported. **Source of funding** None reported.	N= 30 (analysed) • Body-weight supported gait training: 15 • Over ground gait training: 15 **Characteristics** Age in years [Mean (95%CI)]: • Body-weight supported gait training = 31.4 (24.2-34.6) • Over ground gait training = 31.6 (24.8-38.4) Gender (M/F): • Body-weight supported gait training (N) = 7/5 • Over ground gait training (N) = 7/5 Time since injury in years [Mean (95%)]: • Body-weight supported gait training (months) = 9.9 (9.2-10.5) • Over ground gait training (months) = 9.8 (9.1-10.4) Injury cause: not reported. Level of injury (ASIA Grade C/ASIA Grade D): • Body-weight supported	weight support system. The training routine was 30 sec of passive stretching of all lower limb muscle groups (totalling roughly 8 minutes), followed by passive mobilisation of hip, knee and ankle joints for 5 minutes. The patient was then positioned on the treadmill using the weight support (a parachute harness stabilising the pelvic region and trunk of participant) and a pulley system was used to suspend the patient in order to eliminate some body-weight from lower limbs. During the first session for each subject, an assessment was undertaken to calculate the percentage of off-loaded body-weight, as well as the duration and velocity of treadmill training. Training initially began with 40% off-loading body-weight, which was reduced by 10% every 10 sessions while maintaining a participant selected velocity. 2 physiotherapists were present in all sessions in order to aid movements of the lower limb to stimulate a normal gait.	Baseline: • Body-weight supported gait training (N=12): 0.85 (0.32) • Over ground training (N=12): 0.96 (0.61) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 1.25 (0.41) • Over ground training (N=12): 0.98 (0.65) *Changes in mobility (measured using duration of gait cycle in sec) [mean (SD)]* Baseline: • Body-weight supported gait training (N=12): 3.1 (0.68) • Over ground training (N=12): 2.8 (0.53) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test)	arising from the randomization process 1.1 Was the allocation sequence random? NI – Study simply states randomised with selection by someone not involved in study. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Assignment performed after baseline assessment and just before 1st exercise session. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant difference between groups at baseline. Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PN - Study described as single-blinded and outcome assessors were blinded to allocation. 2.2. Were carers and people

Study details	Participants	Interventions	Outcomes and Results	Comments
	gait training (N) = 4/8 • Over ground gait training (N) = 5/7 **Inclusion criteria** Not reported specifically but reported that study participants were: • Between 23-40 years old • Able to walk using reciprocal gait pattern • Had mild spasticity (defined as a score ≤2 on modified Ashworth Scale) • Medical authorisation to undertake unsupervised physical activity **Exclusion criteria** • Not able to walk with reciprocal gait pattern • Cardiac pacemaker • Unstable angina or other decompensated heart disease • Chronic obstructive pulmonary disease • Uncontrolled autonomic dysreflexia • Pressure ulcers • Fractures of the lower limb • Tracheostomy • Deformity and rigidity of the hip or knee joints (defined as ≥ 20° flexion)	• *Control group: Over ground gait training.* 30 x 30 minute semi-weekly over ground gait-training sessions. The training routine was 30 sec of passive stretching of all lower limb muscle groups (totalling roughly 8 minutes), followed by passive mobilisation of hip, knee and ankle joints for 5 minutes. The participant then performed over ground gait training, supervised by a physiotherapist who issued verbal commands and manual correction of movement if needed. All of the patient's weight was placed on the ground but parallel bars were available for support if needed.	12 weeks (intervention completion): • Body-weight supported gait training (N=12): 3.95 (0.76) • Over ground training (N=12): 2.7 (0.93) *Changes in mobility (measured using percentage stance of whole gait cycle) [mean (SD)]* At baseline: • Body-weight supported gait training (N=12): 62.75 (1.86) • Over ground training (N=12): 65.0 (2.2) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 58.91 (1.44) • Over ground training (N=12): 64.9 (2.4) *Changes in mobility (measured using percentage swing of whole gait cycle) [mean (SD)]*	delivering the interventions aware of participants' assigned intervention during the trial? PN - See above. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data

Study details	Participants	Interventions	Outcomes and Results	Comments
	or of the ankle joints (defined as ≥10° of plantar flexion)		At baseline: • Body-weight supported gait training (N=12): 37.25 (1.86) • Over ground training (N=12): 34.6 (1.86) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 41.16 (1.52) • Over ground training (N=12): 33.9 (2.6) *Changes in mobility (measured using step length in cm) [mean (SD)]* At baseline: • Body-weight supported gait training (N=12): 59.16(2.44) • Over ground training (N=12): 55.6 (1.9) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test)	available for 12/15 in body-weight support group and 12/15 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN - Loss to follow-up balanced between groups although no reasons given. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Outcome assessors blinded to group allocation. 4.4 If Y/PY/NI to 4.3: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
			12 weeks (intervention completion): • Body-weight supported gait training (N=12): 69.41(2.06) • Over ground training (N=12): 56.1 (3.1) *Changes in mobility (measured using distance walked in m) [mean (SD)]* At baseline: • Body-weight supported gait training (N=12): 45(9.06) • Over ground training (N=12): 41.7 (6.6) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 55.75 (8.88) • Over ground training (N=12): 43.5 (7.4) *Changes in mobility (measured using cadence in steps/min) [mean (SD)]*	assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information

Study details	Participants	Interventions	Outcomes and Results	Comments
			Higher = better. At baseline: • Body-weight supported gait training (N=12): 93.33(7.67) • Over ground training (N=12): 89.42 (8.57) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion) • Body-weight supported gait training (N=12): 108.33 (8.96) • Over ground training (N=12): 93.61 (8.26) *Changes in mobility (measured using maximum dorsiflexion during stance, right leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 3.9 • Over ground training (N=12): 3.2 • No significant difference between groups (p>0.05,	None

Study details	Participants	Interventions	Outcomes and Results	Comments
			ANOVA)	

Gain during intervention [mean difference (95% CI)]:

- Body-weight supported gait training (N=12): -0.1 (-0.5-0.3)
- Over ground training (N=12): 0.8 (0.3-1.2)
- According to our calculations using Revman the 95% CI is 0.4-1.2 for the control group.

Changes in mobility (measured using maximum dorsiflexion during stance, left leg) [mean]

Higher = better.

At baseline:

- Body-weight supported gait training (N=12): 3.8
- Over ground training (N=12): 3.2
- No significant difference between groups (p>0.05, ANOVA)

Gain during intervention [mean difference (95% CI)]:

- Body-weight supported gait training (N=12): 0.0 (-0.4-0.4)

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Over ground training (N=12): 0.7 (0.2-1.1) • According to our calculations using Revman the 95% CI for this control group: 0.3-1.1. *Changes in mobility (measured using maximum hip extension during stance, right leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 6.7 • Over ground training (N=12): 5.1 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): -0.2 (-1.4 – 1.08) • Revman has calculated and used the following 95% CI for this intervention group: -1.48-1.08. • Over ground training (N=12): -7.8 (-9.1 - -6.6) • According to our	

Study details	Participants	Interventions	Outcomes and Results	Comments
			calculations using Revman the 95% CI for this control group: -9- -6.6. *Changes in mobility (measured using maximum hip extension during stance, left leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 6.7 • Over ground training (N=12): 5.1 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): -0.2 (-1.4 – 1.09) • According to our calculations using Revman the 95% CI for this intervention group: -1.48-1.09 • Over ground training (N=12): -7.8 (-9.1 - -6.6) • According to our calculations using Revman the 95% CI for this control group: -9- -6.6	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (measured using maximum hip flexion during gait cycle, right leg) [mean]	
			Higher = better.	
			At baseline:	
			• Body-weight supported gait training (N=12): 28.1	
			• Over ground training (N=12): 31.2	
			• No significant difference between groups (p>0.05, ANOVA)	
			Gain during intervention [mean difference (95% CI)]:	
			• Body-weight supported gait training (N=12): 0.8 (-2.6 - 4.2)	
			• Over ground training (N=12): 1.1 (-2.3 – 4.5)	
			Changes in mobility (measured using maximum hip flexion during gait cycle, left leg) [mean]	
			Higher = better.	
			At baseline:	
			• Body-weight supported gait training (N=12): 28.1	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Over ground training (N=12): 31.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)] • Body-weight supported gait training (N=12): 0.7 (-2.7 – 4.1) • Over ground training (N=12): 1.1 (-2.3 – 4.5) *Changes in mobility (measured using maximum knee extension during stance, right leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 25.5 • Over ground training (N=12): 23.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): -1.4 (-4.9 – 2.1)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Over ground training (N=12): -1.1 (-4.6 – 2.5) • According to our calculations using Revman the 95% CI for this control group: -4.7-2.5 *Changes in mobility (measured using maximum knee extension during stance, left leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 25.5 • Over ground training (N=12): 23.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)] • Body-weight supported gait training (N=12): -1.4 (-4.9 – 2.1) • Over ground training (N=12): -1.1 (-4.6 – 2.4)	
Full citation Mendelsohn, Marissa E., Overend, Tom J., Connelly, Denise M., Petrella, Robert J., Improvement in aerobic	**Sample size** 20 (randomised) • Upper-body exercise programme + standard rehabilitation: 10	**Interventions** • *Intervention group: Upper-body exercise training + standard rehabilitation.* Standard rehabilitation	**Results** *Changes in mobility (measured using TUG test) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2)

Study details	Participants	Interventions	Outcomes and Results	Comments
fitness during rehabilitation after hip fracture, Archives of Physical Medicine and Rehabilitation, 89, 609-17, 2008 **Ref Id** 1126411 **Country/ies where the study was carried out** Canada **Study type** RCT **Aim of the study** To investigate the effectiveness of an upper-body exercise programme on cardiovascular and respiratory fitness in older hip fracture patient during inpatient rehabilitation. **Study dates** September 2006 - July 2007 **Source of funding** Not reported. However, there is a statement that no commercial party with a financial interest in the study will benefit the authors in any way.	• Standard rehabilitation: 10 N= 20 (analysed) • Upper-body exercise programme + standard rehabilitation: 10 • Standard rehabilitation: 10 **Characteristics** Age in years [Mean (SD)]: • Upper-body exercise training = 80.3 (7.4) • Standard rehabilitation = 81.1 (7.2) Gender (M/F): not reported Time since injury [Mean (SD)]: • Upper-body exercise training (days) = 5.3 (1.5) • Standard rehabilitation (days) = 4.9 (2.2) Injury cause: not reported Location of fracture (neck of femur/intertrochanteric/sub trochanteric): • Upper-body exercise training (N) = 8/1/1 • Standard rehabilitation (N) = 6/0/4 **Inclusion criteria**	plus 3 sessions exercise training per week x 4 weeks. Each session consisted of 5 minutes warm-up, 20 minutes endurance training, 5 minutes cool down. The endurance phase was set at 65% of VO2max. • *Control group: Standard rehabilitation.* Participants admitted after discharged from acute care/short-term convalescence. 5 intensive rehabilitation sessions (Monday-Friday), lasting about 45 minutes each x 4 weeks. Sessions included physical therapy and occupational therapy as well as range of motion, flexibility, strengthening, gait re-training, stair re-training and training in activities of daily living.	Lower = better. At baseline: not reported. 4 weeks from baseline (at discharge): • Upper-body exercise training (N = 9): 24.7 (8.7) • 95% CI = 19.1-30.4 • Standard rehabilitation (N = 9): 39.5 (12.3) • 95% CI = 31.4-47.6 • Significantly lower (better) in intervention group (p=0.012, ANOVA) • Multivariable linear regression analysis • Adjusted for age, sex, type of fracture, co-morbidities, pre-injury bedridden degree, admission FIM score, admission cognitive FIM score, amount of physical therapy, days from injury to surgery • Partial regression co-efficient = 3.49 [95% CI = -0.38-7.35] (p=0.08) *Changes in mobility (measured using 2MWT in m) [mean (SD)]* Higher = better.	Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Drawing labels out of a hat. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant difference between groups. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y – Participants were aware of allocation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Participants had to: Have unilateral hip fracture • At least 25% weight bearing status (determined by orthopaedic surgeon) **Exclusion criteria** • Limited cognitive function (defined as <24 MMSE) • Unstable cardiovascular disease • Unstable chronic obstructive pulmonary disease • Limited visual capacity • Unstable metabolic disease • Hearing and language issues limiting intervention participant • Any other medical factors that might affect rehabilitation and measurements		At baseline: not reported. 4 weeks from baseline (at discharge): • Upper-body exercise training (N = 10): 196.3 (76.4) • 95% CI = 148.6-243.7 • Standard rehabilitation (N = 10): 41.8 (20.4) • 95% CI = 29.2-54.4 • Significantly higher (better) in intervention group (p<0.01, ANOVA) *Changes in mobility (measured using 10MWT in m) [mean (SD)]* Higher = better. At baseline: not reported. 4 weeks from baseline (at discharge: • Upper-body exercise training (N = 10): 326 (175) • 95% CI = 217.5-434.6 • Standard rehabilitation (N = 10): 180 (75.7) • 95% CI = 133.1-226.9 • Significantly higher (better) in intervention group	because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
			(p=0.037, ANOVA) *Changes in ADL (measured using FIM score) [mean(SD)]* Higher = better. At baseline: not reported. At discharge (week 4 after baseline): • Upper-body exercise training (N = 10): 110.6 (5.0) • 95% CI = 107.5-114.1 • Standard rehabilitation (N = 10): 107.2 (8.3) • 95% CI = 31.4-47.6 • No significant difference between groups (p>0.05, ANOVA)	missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? TUG, 2MWT and 10MWT - PN. Very objective. FIM - PY. Measurement graded by assessor. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? TUG, 2MWT and

Study details	Participants	Interventions	Outcomes and Results	Comments
				10MWT - NA. FIM - PN. Risk-of-bias judgement: TUG, 2MWT and 10MWT - Low risk; FIM - Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Monticone, Marco, Ambrosini, Emilia, Brunati, Roberto, Capone, Antonio,	**Sample size** N= 52 (randomised) • Balancing exercises = 26 • Standard physiotherapy =	**Interventions** • *Intervention group: Balancing exercises.* Individually performed	**Results** *Changes in mobility (measured using WOMAC*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool

Study details	Participants	Interventions	Outcomes and Results	Comments
Pagliari, Giulia, Secci, Claudio, Zatti, Giovanni, Ferrante, Simona, How balance task-specific training contributes to improving physical function in older subjects undergoing rehabilitation following hip fracture: a randomized controlled trial, Clinical Rehabilitation, 32, 340-351, 2018 **Ref Id** 1130093 **Country/ies where the study was carried out** Italy **Study type** RCT **Aim of the study** "To evaluate the efficacy of a rehabilitation programme including balance task-specific training in improving physical function, pain, activities of daily living (ADL), balance and quality of life in subjects after a hip fracture." (p. 340) **Study dates** 2012-2014	26 N= 52 (analysed) • Balancing exercises = 26 • Standard physiotherapy = 26 **Characteristics** Age in years [Mean (SD)]: • Balancing exercises = 77.2 (6.6) • Standard physiotherapy = 77.7 (7.5) Gender (M/F): • Balancing exercises (N) = 7/19 • Standard physiotherapy (N) = 8/18 Time since injury in days [Mean (SD)]: • Balancing exercises = 7.9 (2.1) • Standard physiotherapy = 7.6 (2.5) Injury cause: not reported. **Inclusion criteria** Participants had to: • Be aged > 70 years old • Have received an internal fixation due to	balancing exercise program, consisting of 90-minute sessions 5 x per week for 3 weeks, involving "balance task-specific exercises while standing with open and closed eyes with the objective of looking for a symmetrical load on their legs, while standing and keeping proprioceptive pillows under their feet, while standing by shrinking the support base, or maintaining the tandem position, or maintaining their position with and without the use of a proprioceptive bubble." (p. 342). The participants also walked on a rectilinear trajectory +/- "crutches, while changing speed and direction, or while performing motor-cognitive tasks such as turning their head on the right and left side following physiotherapists' inputs." (p. 342) Moreover, the participants also undertook exercises "such as moving from a sitting to a standing position, ascending/descending stairs and climbing obstacles were also performed." (p. 342). All the patients also	*physical sub-score) [mean (SD)]* Scale 0 (best) – 100 (worst) At baseline: • Balancing exercises: 84.8 (3.7) • Standard physiotherapy: 80.9 (5.7) 3 weeks from baseline (intervention completion): • Balancing exercises: 39.8 (4.9) • Standard physiotherapy: 65.2 (7.1) 12 months after discharge from hospital: • Balancing exercises: 35.7 (6.2) • Standard physiotherapy: 61.0 (11.1) *Changes in mobility (measured using WOMAC stiffness sub-score) [mean (SD)]* 0 (best) – 100 (worst). At baseline: • Balancing exercises: 73.6 (16.3)	(RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y "the physiatrists emailed the principal investigator, who randomized the subjects to one of the two treatment programmes using a list of blinded treatment codes, generated in MATLAB, and an automatic assignment system made in MATLAB to conceal the allocation." (p. 342) 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PN 2.2. Were carers and people

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding None.	extra-capsular hip fractures • Have surgery 7–10 days before admission to the rehabilitation unit • Proficiency in Italian language **Exclusion criteria** • Previous hip and lower limb surgery • Systemic illness • Mini Mental State Examination score < 24 • Recent myocardial infarctions or cerebrovascular events Chronic lung or renal diseases • Other contra-indications present in medical history	received walking training, which was aimed at regaining a symmetrical gait pattern through reciprocal use of their crutches, and during the first session of treatment an ergonomic advice booklet to help them modify their daily living activities. • *Control group: Standard physiotherapy.* Individually performed general physiotherapy exercise program, consisting of 90-minute sessions 5 x per week for 3 weeks involving open kinetic chain exercises in the supine position on the couch aimed at improving the range of hip motion, increasing hip and lower limb muscle strength, and maintaining the length and elasticity of thigh tissues. All the patients also received walking training, which was aimed at regaining a symmetrical gait pattern through reciprocal use of their crutches, and during the first session of treatment an ergonomic advice booklet to help them modify their daily	• Standard physiotherapy: 74.5 (16.8) 3 weeks from baseline (intervention completion): • Balancing exercises: 14.5 (7.8) • Standard physiotherapy: 37.0 (19.3) 12 months after discharge from hospital: • Balancing exercises: 10.4 (9.5) • Standard physiotherapy: 34.2 (23.9) *Pain (measured using WOMAC pain sub-score) [mean (SD)]* Scale 0 (best) – 100 (worst). At baseline: • Balancing exercises: 84.0 (9.3) • Standard physiotherapy: 82.1 (10.3) 3 weeks from baseline (intervention completion): • Balancing exercises: 16.0 (5.6) • Standard physiotherapy: 53.6 (12.6)	delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NA 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y

Study details	Participants	Interventions	Outcomes and Results	Comments
		living activities. *NB. Patients received no other treatments (e.g. physical modalities, nerve blocks) or major pharmacological agents, while mild analgesics (e.g. paracetamol) and NSAIDs could be taken.*	12 months after discharge from hospital: • Balancing exercises: 9.6 (9.0) • Standard physiotherapy: 36.1 (16.4) *Pain (measured using SF-36 bodily pain domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best)] At baseline: • Balancing exercises: 10.3 (11.4) • Standard physiotherapy: 9.2 (9.2) 3 weeks from baseline (intervention completion): • Balancing exercises: 63.9 (31.2) • Standard physiotherapy: 37.0 (24.1) 12 months after discharge from hospital: • Balancing exercises: 78.4 (27.3) • Standard physiotherapy: 41.4 (20.5) *Pain (Current pain intensity*	3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N outcome assessor blinded 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			measured using numerical rating score) [mean (SD)] Scale 0 (best) – 10 (worst). At baseline: • Balancing exercises: 6.9 (1.6) • Standard physiotherapy: 7.2 (1.3) 3 weeks from baseline (intervention completion): • Balancing exercises: 1.6 (0.8) • Standard physiotherapy: 5.1 (1.4) 12 months after discharge from hospital: • Balancing exercises: 1.5 (0.8) • Standard physiotherapy: 4.4 (1.3) *Quality of life (measured using SF-36 physical function domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline: • Balancing exercises: 12.1 (12.2)	outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Standard physiotherapy: 12.3 (13.9) 3 weeks from baseline (intervention completion): • Balancing exercises: 56.6 (24.4) • Standard physiotherapy: 38.5 (22.1) 12 months after discharge from hospital • Balancing exercises: 73.3 (25.7) • Standard physiotherapy: 45.2 (14.4) *Quality of life (measured using SF-36 physical role domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best)] At baseline: • Balancing exercises: 12.8 (16.5) • Standard physiotherapy: 15.4 (16.9) 3 weeks from baseline (intervention completion): • Balancing exercises: 79.3 (35.1) • Standard physiotherapy:	

Study details	Participants	Interventions	Outcomes and Results	Comments
			46.7 (23.6) 12 months after discharge from hospital: • Balancing exercises: 81.3 (37.8) • Standard physiotherapy: 56.5 (21.2) *Quality of life (measured using SF-36 general health domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best) At baseline: • Balancing exercises: 34.8 (6.2) • Standard physiotherapy: 33.5 (7.7) 3 weeks from baseline (intervention completion): • Balancing exercises: 53.0 (17.0) • Standard physiotherapy: 33.6 (16.3) 12 months after discharge from hospital: • Balancing exercises: 70.4 (18.6) • Standard physiotherapy: 50.7 (23.1)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Quality of life (measured using SF-36 mental health domain sub-score) [mean (SD)] Scale 0 (worst) – 100 (best). At baseline: • Balancing exercises: 64.8 (23.8) • Standard physiotherapy: 62.2 (25.4) 3 weeks from baseline (intervention completion): • Balancing exercises: 67.7 (19.4) • Standard physiotherapy: 57.4 (22.4) 12 months after discharge from hospital: • Balancing exercises: 70.3 (22.7) • Standard physiotherapy: 49.6 (21.1) *Changes in ADL (measured using FIM score) [mean (SD)]* Scale 8 (worst) – 126 (best). At baseline:	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Balancing exercises: 61.8 (9.3) • Standard physiotherapy: 61.2 (9.1) 3 weeks from baseline (intervention completion): • Balancing exercises: 97.1 (11.2) • Standard physiotherapy: 80.8 (13.2) 12 months after discharge from hospital: • Balancing exercises: 106.9 (12.3) • Standard physiotherapy: 86.1 (13.2) All of these data were analysed using ANOVA. The authors report where these ANOVAs were significant (main effects and interactions), but no simple main effects are reported to show exactly when the groups differed significantly.	
Full citation Moseley, Anne M., Sherrington, Catherine, Lord, Stephen R., Barraclough, Elizabeth, St George, Rebecca J., Cameron, Ian D., Mobility training after hip	**Sample size** N = 160 (randomised) • High intensity gait re-training: 80 • Standard care: 80	**Interventions** • *Both groups:* All participants received usual post-operative mobilisation and rehabilitation care usually provided from other health professionals. Any	**Results** *Changes in mobility (measured as participants able to walk unaided or with sticks or crutches)*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the

Study details	Participants	Interventions	Outcomes and Results	Comments
fracture: a randomised controlled trial, Age and ageing, 38, 74-80, 2009 **Ref Id** 1185198 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To compare the effectiveness of a high-dose exercise programme with a low-dose exercise programme on rehabilitation outcomes in hip fracture patients. **Study dates** March 2002 - May 2005 **Source of funding** This study received funding from the National Health and Medical Research Council, Australia. 2 of the researchers also receive salaries from this organisation.	N = 150 (analysed) • High intensity gait re-training: 73 • Standard care: 77 **Characteristics** Age in years [Mean (SD)]: • High intensity gait re-training = 84 (8) • Standard care = 84 (7) Gender (M/F): • High intensity gait re-training (N) = 15/65 • Standard care (N) = 15/65 Time since injury (reported as time from fracture to rehabilitation admission) [Median (IQR)]: • High intensity gait re-training (days) = 14 (9-21) • Standard care (days) = 12 (9-19) Injury cause: not reported Location of fracture (Intra-capsular, displaced/Intra-capsular, displaced/Other/Missing): • High intensity gait re-training (N) = 14/26/38/2 • Standard care (N) = 14/24/42	mobility aids were progressed according to usual protocols. No other physiotherapy was given during the study. • *Intervention group: High intensity gait re-training.* 2 x fully weight bearing exercise sessions twice per day for a total of 60 minutes, for 16 weeks. 5 weight bearing exercises were performed along with walking exercises (using body-weight supported treadmill if still inpatients or a walking programme after discharge). The 5 prescribed exercises used both legs and involved stepping in different directions, standing up and sitting down, tapping the foot and stepping on and off a block. A hand support was available if needed. Exercises progressed throughout the intervention period by reducing support from hands, increasing block height, decreasing chair height and increasing the number of repetitions. The programme was started while patients were still inpatients and continued using home visits and a structured	Baseline: • High intensity gait re-training (N=80): 7/73 • Standard care (N=80): 6/74 4 weeks (during intervention): • High intensity gait re-training (N=78): 26/52 • Standard care (N=80): 23/57 • OR (95% CI): 1.2 (0.6–2.6) • No significant difference between groups (p=0.598, logistic regression) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 44/29 • Standard care (N=77): 46/31 • OR (95% CI): 1.0 (0.5–1.9) • No significant difference between groups (p=0.990, logistic regression) *Changes in mobility (measured as participants reporting good mobility compared to those reported poor or fair mobility)*	randomization process 1.1 Was the allocation sequence random? Y - Generated using computer software. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Used opaque, consecutively numbered and sealed envelopes. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - No statistical analysis presented but variables look visually similar. Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the

Study details	Participants	Interventions	Outcomes and Results	Comments
	Inclusion criteria Patients had to: • Be admitted with surgical hip fracture fixation to the inpatient rehabilitation units of 3 study hospitals • Have medical approval for weight bearing or partial weight bearing • Be able to tolerate exercise programmes • Be able to take < 4 steps with assistance from forearm support frame and 1 person • Have no medical contra-indications limiting ability to exercise • Living in the community or low care residential facility prior to accident AND plan to return to this destination after discharge • Additionally, subjects with cognitive impairment were included if they had a carer able to supervise exercise sessions. **Exclusion criteria** • Patients with >4 adjusted errors on Short Portable Mental Status Questionnaires without carers able to supervise	home exercise plan after discharge. • *Control group: Standard care.* 30-minutes partial weight bearing exercise sessions per day, for 4 weeks. Sessions consisted of 5 exercises that were performed sitting or lying down, and a small amount of walking using parallel bars or walking aids. Intensity of exercises was increased throughout the intervention period by increasing repetitions and resistance. The programme was started while patients were still inpatients and continued using weekly home visits and a structured home exercise plan after discharge. After the 4 weeks was up, participants were given a tailored partial weight bearing programme and encouraged to continue.	Baseline: • High intensity gait re-training (N=80): 13/67 • Standard care (N=80): 15/65 4 weeks (during intervention): • High intensity gait re-training (N=78): 28/50 • Standard care (N=80): 29/51 • OR (95% CI): 1.0 (0.5–2.0), • No significant difference between groups (p=0.981, logistic regression) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 41/32 • Standard care (N=77): 34/42 • OR (95% CI): 1.6 (0.8–3.1) • No significant difference between groups (p=0.157, logistic regression) *Changes in mobility (measured as participants that fell during study period)* 16 weeks (intervention completion):	experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 73/80 in HIGH group and 77/80 in standard care group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value?

Study details	Participants	Interventions	Outcomes and Results	Comments
	exercise sessions.		• High intensity gait re-training (N=73): 19/54 • Standard care (N=77): 22/55 • OR (95% CI): 0.9 (0.4–1.8) • No significant difference between groups (p=0.727, logistic regression) *Changes in mobility (measured using Modified Falls Efficacy Scale) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 57 (33) • Standard care (N=78): 63 (30) 4 weeks (during intervention): • High intensity gait re-training (N=78): 86 (32) • Standard care (N=79): 82 (29) • Adjusted mean difference (95% CI): 6 (−2–15) • No significant difference between groups (p=0.145, ANCOVA) 16 weeks (intervention	NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? ADLS and balance - N, outcome assessors blinded. Pain and QoL - NI, self-reported measurements. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? ADLS and balance - NA. Pain and QoL - PY, exercise known to affect both of these outcomes. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			completion): • High intensity gait re-training (N=72): 100 (36) • Standard care (N=76): 97 (32) • Adjusted mean difference (95% CI): 6 (−4–16) • No significant difference between groups (p=0.263, ANCOVA) *Changes in mobility (measured using velocity in m/sec) [mean (SD)]* Baseline: • High intensity gait re-training: 0.30 (0.22) • Standard care: 0.28 (0.16) 4 weeks (during intervention): • High intensity gait re-training (N=78): 0.53 (0.25) • Standard care (N=80): 0.48 (0.22) • Adjusted mean difference (95% CI): 0.03 (−0.03–0.10) • No significant difference between groups (p=0.345, ANCOVA) 16 weeks (intervention completion):	outcome was influenced by knowledge of intervention received? ADLS and balance - NA. Pain and QoL - PN, reasons for missing data all unrelated to intervention. Risk-of-bias judgement: ADLs and balance: Low risk; Pain and QoL: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NA. 5.3 ... multiple analyses of the data? NA. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• High intensity gait re-training (N=73): 0.63 (0.32) • Standard care (N=77): 0.60 (0.31) • Adjusted mean difference (95% CI): (−0.08–0.11) • No significant difference between groups (p=0.793, ANCOVA) *Changes in mobility (measured PPME score) [mean (SD)]* Scale 0 (worst) – 12 (best). Baseline: • High intensity gait re-training (N=80): 6.9 (1.9) • Standard care (N=80): 7.1 (1.6) 4 weeks (during intervention): • High intensity gait re-training (N=78): 8.9 (2.0) • Standard care (N=80): 8.7 (1.8) • Adjusted mean difference (95% CI): 0.3 (−0.2–0.9) • No significant difference between groups (p=0.219, ANCOVA) 16 weeks (intervention	

Study details	Participants	Interventions	Outcomes and Results	Comments
			completion): • High intensity gait re-training (N=73): 9.3 (2.4) • Standard care (N=77): 9.1 (2.4) • Adjusted mean difference (95% CI): 0.3 (−0.4–1.0) • No significant difference between groups (p=0.433, ANCOVA) *Changes in mobility (measured using Sit-to-stand test in stand ups per sec) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 0.15 (0.08) • Standard care (N=80): 0.16 (0.08) 4 weeks (during intervention): • High intensity gait re-training (N=78): 0.24 (0.15) • Standard care (N=80): 0.19 (0.09) • Adjusted mean difference (95% CI): 0.06 (0.02–0.10) • Significantly higher (better) in intervention group (p=0.002, ANCOVA)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			16 weeks (intervention completion): • High intensity gait re-training (N=73): 0.26 (0.14) • Standard care (N=77): 0.22 (0.11) • Adjusted mean difference (95% CI): 0.04 (0.01–0.08) • Significantly higher (better) in intervention group (p=0.026, ANCOVA) *Changes in mobility (measured using step test standing on affected leg) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 0.9 (2.5) • Standard care (N=80): 0.7 (2.1) 4 weeks (during intervention): • High intensity gait re-training (N=78): 4.8 (5.7) • Standard care (N=80): 2.9 (4.2) • Adjusted mean difference (95% CI): 1.9 (0.3–3.4) • Significantly higher (better)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in intervention group (0.017, ANCOVA) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 7.1 (5.2) • Standard care (N=77): 5.7 (5.0) • Adjusted mean difference (95% CI): 1.4 (−0.3–3.0), • No significant difference between groups (p=0.100, ANCOVA) *Pain (measured as participants reporting no or slight pain compared to those reporting some, moderate or severe pain) [OR (95% CI)]* Baseline: • High intensity gait re-training (N=80): 24/56 • Standard care (N=80): 25/55 4 weeks (during intervention): • High intensity gait re-training (N=78): 34/44 • Standard care (N=80): 39/41 • OR (95% CI): 0.8 (0.4–1.6)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No significant difference between groups (p=0.540) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 43/30 • Standard care (N=77): 48/29 • OR (95% CI): 0.9 (0.5–1.7) • No significant difference between groups (p=0.691) *Overall quality of life (measured using EQ-5D score) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 0.32 (0.25) • Standard care (N=80): 0.36 (0.25) 4 weeks (during intervention): • High intensity gait re-training (N=78): 0.53 (0.27) • Standard care (N=80): 0.52 (0.27) • Adjusted mean difference: 0.02 (−0.07–0.10) • No significant difference between groups (p=0.712,	

Study details	Participants	Interventions	Outcomes and Results	Comments
			ANCOVA)	
			16 weeks (intervention completion):	
			• High intensity gait re-training (N=73): 0.62 (0.30)	
			• Standard care (N=77): 0.62 (0.26)	
			• Adjusted mean difference (95% CI): 0.01 (−0.09–0.09)	
			• No significant difference between groups (p=0.919, ANCOVA)	
			Changes in ADL (measured using Barthel Index score) [median (IQR)]	
			Scale 0 (worst) – 100 (best).	
			Baseline:	
			• High intensity gait re-training (N=80): 65 (55 – 75)	
			• Standard care (N=80): 68 (56 – 75)	
			4 weeks (during intervention):	
			• High intensity gait re-training (N=78): 93 (85 – 100)	
			• Standard care (N=80): 90 (85 – 95)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Adjusted mean difference (95% CI): 3 (−2–8) • No significant difference between groups (p=0.196, ANCOVA) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 95 (90 – 100) • Standard care (N=77): 95 (85 – 100) • Adjusted mean difference (95% CI): 1 (−4–6) • No significant difference between groups (p=0.771, ANCOVA)	
Full citation Niitsu, Masaya, Ichinose, Daisuke, Hirooka, Taku, Mitsutomi, Kazuhiko, Morimoto, Yoshitaka, Sarukawa, Junichiro, Nishikino, Shoichi, Yamauchi, Katsuya, Yamazaki, Kaoru, Effects of combination of whey protein intake and rehabilitation on muscle strength and daily movements in patients with hip fracture in the early postoperative period, Clinical nutrition (Edinburgh, Scotland), 35, 943-9, 2016	**Sample size** N = 38 (randomised) • Whey protein + rehabilitation: 20 • Rehabilitation only: 18 N = 38 (analysed) • Whey protein + rehabilitation: 20 • Rehabilitation only: 18 **Characteristics** Age in years [Mean (SD)]: • Whey protein + rehabilitation = 80.5 (7.6) • Rehabilitation only = 78.8	**Interventions** • *Intervention group: Whey protein + standard rehabilitation.* Standard rehabilitation as described in control group + whey protein supplement. 42 g whey protein in 200-300 ml water, taken once per day both before and after rehabilitation sessions. If no rehabilitation occurred, supplement was taken throughout the day. Supplementation started the day after surgery and continued for 2 weeks. Per serving, whey protein also	**Results** *Changes in mobility (measured using BI Walking score) [median (IQR)]* Higher = better. At baseline: • Whey protein + rehabilitation (N=20): 10 (0-10) • Standard rehabilitation (N=18): 10 (0-10) Day 14 Post-operation (intervention completion):	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Paper slips withdrawn from opaque envelope by rehabilitation staff not involved in study. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1116452 **Country/ies where the study was carried out** Japan **Study type** RCT **Aim of the study** To compare the effectiveness of resistance training plus whey protein supplementation with resistance training alone on muscle strength and physical function in patients recently undergoing hip fracture surgery. **Study dates** Not reported. **Source of funding** This study received funding from Iwata City Hospital.	(8.6) Gender (M/F); • Whey protein + rehabilitation (N) = all female • Rehabilitation only (N) = all female Time since injury: not reported Injury cause: not reported Location of fracture (intracapsular/extracapsular): • Whey protein + rehabilitation (N) = 13/7 • Rehabilitation only (N) = 9/9 **Inclusion criteria** Participants had to • Have recent hip fracture • Have surgery and rehabilitation after surgery at study hospital **Exclusion criteria** • Advanced dementia and delirium • Need tube feeding • Contra-indication for high protein diets	contained 162 kcal, 32.2 protein, 2.0g lipid and 3.8 carbohydrate. • *Control group Standard rehabilitation.* Consisted mainly of sit-to-stand exercises and gait exercises. Sit-to-stand exercises were conducted on a 50cm high platform and were for a maximum of 30 repetitions (day 1 and 2 post-surgery), maximum of 50 repetitions (days 3-5 post-surgery) and maximum 100 repetitions (days 6-10 post-surgery). Participants were allowed the use of a handrail and physiotherapist assistance if needed. Gait exercises were set at a maximum of 300m per day. Participants were allowed the use of a handrail, walker or cane, and physiotherapist assistance if needed.	• Whey protein + rehabilitation (N=20): 15 (15-15) • Standard rehabilitation (N=18): 10(10-15) • Significantly better (higher) in intervention group (p < 0.05, Mann-Whitney U test) *Changes in mobility (measured using BI Stair score) [median (IQR)]* Higher = better. At baseline: • Whey protein + rehabilitation (N=20): 0 (0-5) • Standard rehabilitation (N=18): 0 (0-5) Day 14 Post-operation (intervention completion): • Whey protein + rehabilitation (N=20): 5 (5-5) • Standard rehabilitation (N=18): 5 (5-5) • No significant difference between groups (p > 0.05, Mann-Whitney U test) *Pain at rest (measured using*	interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant difference between groups at baseline. Risk-of-bias judgement: Some concerns. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Inability to communicate or understand • Swallowing disorder • Issues with ambulation		*VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). No significant difference between groups at any time point (p=0.74, ANOVA) At baseline: • Whey protein + rehabilitation (N=20): 2.0 (1.8) • Standard rehabilitation (N=18): 2.4 (1.5) • No significant difference between groups (p value not reported) Day 7 Post-operation (during intervention): • Whey protein + rehabilitation (N=20): 1.1 (2.0) • Standard rehabilitation (N=18): 1.5 (1.0) • No significant difference between groups (p value not reported) Day 14 Post-operation (intervention completion): • Whey protein + rehabilitation (N=20): 0.6 (1.2) • Standard rehabilitation	effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 15/20 in whey protein group and 17/18 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? N - All drop outs are for documented reasons unrelated to outcome. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=18): 1.0 (0.8) • No significant difference between groups (p value not reported) *Pain in motion (measured using VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). No significant difference between groups at any time point (p=0.22, ANOVA) At baseline: • Whey protein + rehabilitation (N=20): 5.2 (2.4) • Standard rehabilitation (N=18): 6.0 (2.4) • No significant difference between groups (p value not reported) Day 7 Post-operation (during intervention): • Whey protein + rehabilitation (N=20): 3.6 (2.5) • Standard rehabilitation (N=18): 5.1 (2.3) • No significant difference between groups (p value not reported)	measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI - Pain and ADL self-reported. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y – both subjective assessments. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? Pain - PN, participants still underwent some form of rehabilitation. ADL - NA. Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with

Study details	Participants	Interventions	Outcomes and Results	Comments
			Day 14 Post-operation (intervention completion) • Whey protein + rehabilitation (N=20): 1.7 (1.4) • Standard rehabilitation (N=18): 3.9 (2.4) • No significant difference between groups (p value not reported)	a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Norouzi Javidan, A., Sabour, H., Latifi, S., Abrishamkar, M., Soltani, Z., Shidfar, F., Emami Razavi, H., Does consumption of polyunsaturated fatty acids influence on neurorehabilitation in traumatic spinal cord-injured individuals? a double-blinded clinical trial, Spinal Cord, 52, 378-382, 2014 **Ref Id**	**Sample size** N = 110 (randomised) • Omega-3 group: 55 • Placebo: 55 N = 110 (analysed) • Omega-3 group: 55 • Placebo: 55 **Characteristics** Age in years [Mean (SD)]: • Omega-3 = 51.5 (13.43) • Placebo = 54.12 (11.76)	**Interventions** • *Intervention group: Omega-3 supplements.* 2 x MorDHA capsules (435mg of docosahexanoic acid + 65mg eicosapentaenoic acid) twice per day. No specific advice was given regarding food intake or diet modification. No further details reported. • *Control group: Placebo.* 2 x placebo capsules twice per day. No specific advice was given regarding food	**Results** *Changes in mobility (measured using FIM+FAM Motor sub-score) [mean (SD)]* Scale 16 (worst) – 112 (best). At baseline: • Omega-3 group: 77.67 (20.31) • Placebo group: 83.57	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Permuted balanced block randomization. 1.2 Was the allocation sequence concealed until participants were enrolled

Study details	Participants	Interventions	Outcomes and Results	Comments
1074936 **Country/ies where the study was carried out** Iran **Study type** RCT **Aim of the study** To investigate whether administration of omega-3 fatty acids had a beneficial effect on FIM+FAM scores in patients with SCI. **Study dates** November 2010 - April 2012 **Source of funding** This study received funding from Tehran University of Medical Sciences as part of a PhD project.	Gender (M/F): • Omega-3 (N) = 44/10 • Placebo (N) = 41/9 Time since injury [Mean (SD)]: • Intervention (years) = 8.96(5.44) • Control (years) = 9.56(7.20) Injury cause: not reported but see inclusion criteria Level of injury (Cervical SCI/Thoracic SCI/Lumbar SCI): • Omega-3 (N) = 14/32/8 • Placebo (N) = 7/33/10 **Inclusion criteria** Patients had to: • Have a traumatic SCI for at least 1 year **Exclusion criteria** • Non-traumatic SCI • Pregnancy or lactation • Undertaking any rehabilitation therapy • Patients with amputation • History of diabetes, cancer, endocrinology	intake or diet modification. No further details reported.	(21.65) • No significant difference between groups (p=0.16, t-test) 14 months follow-up: • Omega-3 group (N=54): 78.93 (19.42) • Placebo group (N=50): 84.13 (22.74) • No significant difference between groups (p=0.25, one-way ANOVA) *Changes in mobility (measured using FIM+FAM Locomotion sub-score) [mean (SD)]* Score 7 (worst) – 49 (best). At baseline: • Omega-3 group: 27.50 (11.27) • Placebo group: 30.72 (12.03) • No significant difference between groups (p=0.17, t-test) 14 months follow-up: • Omega-3 group (N=54): 27.90(10.98) • Placebo group (N=50): 30.62(12.29)	and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant differences between groups at baseline. Risk of bias: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN - 80% adherence over 14 months. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to

Study details	Participants	Interventions	Outcomes and Results	Comments
	disease or acute infection • Use of glucocorticoids, thyroid hormones, gonadotrophin-releasing hormone analogues, anticonvulsive drugs, heparin, aluminium containing antacids, lithium, omega 3 fatty acids or other nutrients supplements		• No significant difference between groups (p=0.28, one-way ANOVA) *Changes in ADL (measured using FIM+FAM score) [mean (SD)]* Range 30-210, higher = better. At baseline: • Omega-3 group: 168.23 (25.23) • Placebo group: 175.62 (26.42) • No significant difference between groups (p=016, t-test) 14 months follow-up: • Omega-3 group (N=54): 170.13 (23.37) • Placebo group (N=50): 176.34 (30.96) • No significant difference between groups (p=0.29, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Cognitive sub-score) [mean (SD)]* Scale 14 (worst) – 98 (best).	have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 54/55 in Omega-3 group and 50/55 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: • Omega-3 group: 91.07 (6.34) • Placebo group: 92.60 (6.25) • No significant difference between groups (p=0.24, t-test) 14 months follow-up: • Omega-3 group (N=54): 91.13 (6.50) • Placebo group (N=50): 91.95 (10.22) • No significant difference between groups (p=0.65, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Psychosocial sub-score) [mean (SD)]* Score 9 (worst) – 63 (best). At baseline: • Omega-3 group: 56.17 (6.25) • Placebo group: 57.56 (6.18) • No significant difference between groups (p=0.27, t-test) 14 months follow-up:	risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PN - FIM+FAM validated measurement tool complete with clear instructions for completion and scoring. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Omega-3 group (N=54): 56.80 (5.16) • Placebo group (N=50): 57.68 (6.86) • No significant difference between groups (p=0.50, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Communication sub-score) [mean (SD)]* Score 5 (worst) – 35 (best). At baseline: • Omega-3 group: 34.98 (0.13) • Placebo group: 35.00 (0.00) • No significant difference between groups (p=0.34, t-test) 14 months follow-up: • Omega-3 group (N=54): 34.34 (4.42) • Placebo group (N=50): 34.31 (4.52) • No significant difference between groups (p=0.07, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Self-care*	analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			sub-score) [mean (SD)] Scale 7 (worst) – 49 (best). At baseline: • Omega-3 group: 39.88 (10.13) • Placebo group: 41.77 (9.82) • No significant difference between groups (p=0.34, t-test) 14 months follow-up: • Omega-3 group (N=54): 39.88 (10.13) • Placebo group (N=50): 41.77 (9.82) • No significant difference between groups (p=0.34, one-way ANOVA)	
Full citation Oldmeadow, Leonie B., Edwards, Elton R., Kimmel, Lara A., Kipen, Eva, Robertson, Val J., Bailey, Michael J., No rest for the wounded: early ambulation after hip surgery accelerates recovery, ANZ Journal of Surgery, 76, 607-11, 2006 **Ref Id** 1124251	**Sample size** N = 60 (randomised) • Early ambulation: 29 • Delayed ambulation: 31 N = 60 (analysed) • Early ambulation: 29 • Delayed ambulation: 31 **Characteristics** Age in years [Mean (SD)]: • Early ambulation = 78.8 (2.14)	**Interventions** • *Both groups:* Participants received routine medical and nursing care post-surgery provided by study hospital and were assisted to sit out of bed as soon as possible. A physiotherapy gait re-training programme was performed once per day for 7 days, consisting of ambulation re-training, bed exercises and chest physiotherapy. Physiotherapists providing	**Results** *Changes in mobility (measured using distance walked in m [mean (range)]* Day 7 post-operation (intervention completion): • Early ambulation (EA) (N=29): 66 (SD not reported) • True early ambulation (TEA) (N=19): 82.55 (0.5-400)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Computer generated randomisation. 1.2 Was the allocation sequence concealed until

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of early ambulation on patient and hospital outcomes after hip fracture. **Study dates** March 2004 - December 2004. **Source of funding** Not reported.	• Delayed ambulation = 80.0 (2.08) Gender (M/F): • Early ambulation (N) = 8/21 • Delayed ambulation (N) = 11/20 Time since injury (reported as time to surgery) [Mean (range)]: • Early ambulation (hours) = 58.67(8.5-181) • Delayed ambulation = 54.74(6-264) Injury cause: not reported. Location of fracture: not reported but see inclusion criteria **Inclusion criteria** Participants had to: • Be admitted from A&E at study hospital for surgical fixation of neck of femur fracture **Exclusion criteria** • Pathological fractures • Post-operation orders excluded weight-bearing • Living in residential care prior to admission	care had training in the study protocol to ensure standardisation and that only time to walk was different between the 2 groups. • *Intervention group: Early ambulation.* Assisted by physiotherapist to ambulate as soon as possible, either post-operative day 1 or 2. • *Control group: Delayed ambulation.* Physiotherapists delayed ambulation until day 3 or 4 post-operation.	• Failed early ambulation (FEA) (N=10): 34.70 (5-103) • Delayed ambulation (DA) (N=31): 29.71 (0-150) • Significant difference between groups (p= 0.008 TEA vs DA, p= 0.03 EA vs DA, p= 0.15 TEA vs FEA, Wilcoxon rank sum test) *Changes in ADL (measured as number of participants able to independently negotiate one step)* Day 7 post-operation (intervention completion): • True early ambulation (N=14): 10 • Failed early ambulation (N=9): 0 • Delayed ambulation (N=24): 23 • Significant difference between groups (p= 0.12 TEA vs DA, p= 0.32 EA vs DA, p= 0.04 TEA vs FEA, Chi-squared test) *Changes in ADL (measured as number of participants able to independently transfer one step)* Day 7 post-operation	participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant differences between groups at baseline. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? Y - 10 participants assigned to early ambulation group failed to walk on day 1 or 2. 2.4. If No/PN/NI to 2.3: Were these deviations likely to have affected the outcome? Y. 2.5. If Y/PY to 2.4: Were

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Unable to ambulate prior to accident		(intervention completion): • True early ambulation (N=16): 11 • Failed early ambulation (N=10): 5 • Delayed ambulation (N=25): 4 • Significant difference between groups (p= 0.007 TEA vs DA, p= 0.009 EA vs DA, p= 0.00 TEA vs FEA, Chi-squared test)	these deviations from intended intervention balanced between groups? N - Only early ambulation group affected. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? N - As treated analysis used, where the 10 early ambulation participants who were unable to ambulate on day 1 or 2 were grouped into a 'failed early ambulation' group for analysis. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? Y - 10/29 participants were analysed as 'failed early ambulation' group. Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA.
				3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA.
				Risk-of-bias judgement: Low risk
				Domain 4: Risk of bias in measurement of the outcome
				4.1 Was the method of measuring the outcome inappropriate? PN.
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - All participants measured day 7 post-operation.
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Assessors were blinded to allocation.
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA.
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
				outcome was influenced by knowledge of intervention received? NA.
				Risk-of-bias judgement: Low risk
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? Y - modified Iowa Level of Assistance scale used to assess functional status, which grades domains on a scale of 0 (completely independent) to 5 (completely dependent). However, the results for transfer assistance and negotiation of step are presented in the paper as dichotomised yes/no and no total score presented.
				5.3 ... multiple analyses of

Study details	Participants	Interventions	Outcomes and Results	Comments
				the data? N - Multiple analyses conducted due to the deviation from protocols but all results presented. Risk-of-bias judgement: High risk Overall risk of bias High risk. Other information None.
Full citation Rau, B., Bonvin, F., de Bie, R., Short-term effect of physiotherapy rehabilitation on functional performance of lower limb amputees, Prosthetics and Orthotics International, 31, 258-70, 2007 **Ref Id** 1126716 **Country/ies where the study was carried out** Myanmar **Study type** RCT **Aim of the study** "to evaluate the effectiveness of a short and intensive physiotherapy programme	**Sample size** N = 58 (randomised) • Strengthening training programme: 29 • Usual care: 29 N = 58 (analysed) • Strengthening training programme: 29 • Usual care: 29 **Characteristics** Age in years [Mean (SD)]: • Strengthening training programme = 36.93 (10.90) • Usual care = 35.24 (7.99) Gender (M/F): • Strengthening training programme (N) = 29/0 • Usual care (N) = 29/0 Time since amputation in	**Interventions** • *Both groups:* All patients appear to have been fitted with a prosthesis • *Intervention group: Strengthening training programme.* Standardised individual intensive training of approximate 1 hour duration, consisting of 7 exercises including lower limb strengthening exercises (e.g., using boxes and ladder), weight bearing (e.g., in position of rice planting), coordination tasks, corrected walking, obstacle management (e.g., walking on uneven ground) and functional training (e.g., carrying water). The maximal post-fitting training period was 3 days for transtibial amputees and 5-7 days for transfemoral amputees.	**Results** NB. Transtibial amputees were tested the first day they were fitted (baseline) and then 2 days later (referred to as "Intervention completion" below); trans-femoral amputees were tested when walking out of the parallel bars (baseline) and 4 days later (referred to as " Intervention completion" below). *Changes in mobility (measured using improvement of distance achieved in 2MWT in metres) [mean (SD)]* Intervention completion: • Strengthening training programme: 20.15 (17.12) • Usual care: 8.93 (19.52) • Significantly higher (better)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y – computer-generated by computer 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI – study reports is that allocation was concealed, but not how 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: High risk Domain 2: Risk of bias due

Study details	Participants	Interventions	Outcomes and Results	Comments
versus usual care, mainly consisting of walking" (p. 258) **Study dates** 2002 **Source of funding** Not reported	years [Mean (SD)]: • Strengthening training programme = 11.3 (8) • Usual care = 9.6 (5) Injury cause (Traumatic/non-traumatic/not reported) • Strengthening training programme (N) = 27/2/0 • Usual care (N) = 28/1/0 Level of amputation (Transtibial/trans femoral) • Strengthening training programme (N) = 21/8 • Usual care (N) = 22/7 **Inclusion criteria** Participants had to: • Be aged >15 years old • Have unilateral trans-femoral, knee-disarticulation, transtibial, ankle disarticulation or partial foot amputations due to tumour or trauma • Be living in the local district and surrounding areas • Never have been fitted for a prosthetic device or had already one or more prosthetic device in good general condition	• *Control group: Usual care.* Consisted mainly of walking under supervision. The maximal post-fitting training period was 3 days for transtibial amputees and 5-7 days for transfemoral amputees.	in intervention group compared to control group (p = 0.024, ANOVA) *Changes in mobility (measured using improvement of walking speed in m/min) [mean (SD)]* Intervention completion: • Strengthening training programme: 10.08 (8.56) • Usual care: 3.94 (10.15) • Significantly higher (better) in intervention group compared to control group (p = 0.016, ANOVA). *Changes in mobility (measured using Locomotor Capability Index score) [mean (SD)]* Scale 0 (worst) – 42 (better). Intervention completion: • Strengthening training programme: 1.90 (4.42) • Usual care: 2.00 (4.68) • No significant difference between groups (p value not reported, ANOVA) *Changes in mobility (measured with TUG*	to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA

Study details	Participants	Interventions	Outcomes and Results	Comments
	Exclusion criteria • Bilateral and hip disarticulation amputation • Congenital deformation • Unable to stay for 5 days post-fitting training • Poor stump condition Cognitive limitations • Cardiopulmonary affections		*test in sec) [mean (SD)]* Intervention completion: • Strengthening training programme: 1.76 (2.33) • Usual care: 0.99 (2.73) • No significant difference between groups (p value not reported, ANOVA)	Risk-of-bias judgement: Low concern Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y

Study details	Participants	Interventions	Outcomes and Results	Comments
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NI
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN/PY
				Risk-of-bias judgement: Some concern
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN
				5.3 ... multiple analyses of the data? PN
				Risk-of-bias judgement: Low concern
				Overall risk of bias High risk

Study details	Participants	Interventions	Outcomes and Results	Comments
				Other information All participants stayed in the dormitory and received food for free. The majority of patients had never received any kind of rehabilitation.

Full citation
Renerts, K., Fischer, K., Dawson-Hughes, B., Orav, E. J., Freystaetter, G., Simmen, H. P., Pape, H. C., Egli, A., Theiler, R., Bischoff-Ferrari, H. A., Effects of a simple home exercise program and vitamin D supplementation on health-related quality of life after a hip fracture: a randomized controlled trial, Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation, 28, 1377-1386, 2019
 	
Ref Id
1130309
 	
Country/ies where the study was carried out
Switzerland
 	
Study type
Secondary analysis of RCT
	Sample size
	N = 173 (randomised)
	• Interventions
	   ○ High Vit D: 87
	   ○ Home exercise: 87
	• Control
	   ○ Low Vit D and no home exercise N: 86
	
	N = 173 (analysed)
	• Interventions
	   ○ High Vit D: 87
	   ○ Home exercise: 87
	• Control
	   ○ Low Vit D and no home exercise N: 86
	
	Characteristics
	Age in years [Mean (SD)]:
	• Interventions
	   ○ High Vit D = 83.4(7.2)
	   ○ Home exercise = 83.4(7.2)
	• Control
	   ○ Low Vit D and no home exercise = 85.1(6.5)
		Interventions
		• *Intervention group: Home exercise.* All subjects took 400IU Vitamin D and 500mg of calcium twice a day and received 30 minutes per day of physiotherapy. Participants in home exercise group had an extra 30 minutes for home exercise instruction each day consisting of balance, strength and mobility components. When discharged from hospital, subjects received a leaflet detailing the home exercise and a recommendation to practice 30 minutes a day. No further details reported.
		• *Intervention group: High Vit D.* 400IU Vitamin D3 + 500mg elemental calcium twice per day (with breakfast and at bed time) + another 1200 IU Vitamin D3 pill at breakfast
			Results
			
			Quality of life (measured using changes in the EQ-5D-3L index value) [mean change(95%CI)]
			
			Scale from -0.594 (worst) to 1.000 (best.
			
			• Study used a German translation of EQ-5D-3L and used a German Time-Trade-Off value set to calculate the EQ-5D-3L index value.
			• Data (n = 173 at baseline, n = 120 at 6 months, and n = 119 at 12 months)
			• Adjusted for baseline age, sex, Charlson Comorbidity Index, Folstein's Mini-Mental State Examination, living status, BMI and serum 25-hydroxyvitamin D concentration.
			• Pre-set MID of 0.074.
				Limitations
				Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2)
				Domain 1: Risk of bias arising from the randomization process
				1.1 Was the allocation sequence random? NI - Simply states randomised.
				1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI.
				1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN – although statistically significant difference between groups for 2 reported variables.
				Risk of bias judgement: High risk
				Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments

Aim of the study
To investigate the effectiveness of a vitamin D intervention with a simple home exercise programme on health-related quality of life in the first year after hip fracture.
 	
Study dates
January 2005 - December 2007
 	
Source of funding
This study received funding from the Baugarten Centre Grant for the Centre on Aging and Mobility and the University Research Priority Program 'Dynamics of Health Aging'. The original study received funding from the Swiss National Foundations, Vontobel Foundation, Baugarten Foundation and Swiss National Foundation.
	Gender (M/F):
	• Interventions
	  ○ High Vit D (N) = 9/87
	  ○ Home exercise (N) = 9/87
	• Control
	• Low Vit D and no home exercise (N) = 17/69
	
	Time since injury: not reported
	
	Injury cause: not reported
	
	Location of fracture: not reported
	
	Inclusion criteria
	Participants had to:
	• Have recent acute hip fracture with no previous history of hip fractures
	• Have undergone surgical intervention for hip fracture
	• Able to walk at least 3m prior to fracture
	• Have a Mini-Mental State Examination score of ≥ 15
	• Be able to understand German
	
	Exclusion criteria
	• Metastatic cancer or
		(totalling 2000IU Vitamin D3). Participants undertook 30 minutes per day of physiotherapy. No further details reported.
		
		• *Control group: Low Vit D and no home exercise.* All subjects took 400IU Vitamin D3 and 500mg of calcium twice a day (totalling 800IU Vitamin D3) and received 30 minutes per day of physiotherapy. A placebo pill was taken at breakfast. No further details reported.
			High Vit D versus low Vit D
			
			Between baseline and 6 months:
			• High Vit D: − 0.14 (− 0.24 - -0.04)
			• Significantly lower (worse) at 6 months compared to baseline (p=0.01, mixed-effects linear regression models)
			• Low Vit D: − 0.12 (− 0.21- − 0.02)
			• Significantly lower (worse) at 6 months compared to baseline (p=0.02, mixed-effects linear regression models)
			
			Between 6 months and 12 months:
			• High Vit D: 0.01 (-0.06-0.09)
			• No significant difference between time points (p=0.7, mixed-effects linear regression model)
			• Low Vit D: 0.08 (0.01-0.15)
			• Significantly higher (better) at 12 months compared to 6 months (p=0.03, mixed-effects linear regression models)
			
			Between baseline and 12 months:
				of assignment to intervention)
				2.1. Were participants aware of their assigned intervention during the trial? Vit D: PN – Blinding not stated but placebo pills were used in the control group. Home exercise: PY – Not possible to blind due to nature of intervention.
				2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Vit D: PN – Blinding not stated but placebo pills were used in the control group. Home exercise: Y – Physiotherapists unblinded.
				2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? Vit D: PN – 92% adherence for high Vit D group and 94% for low Vit D group. Home exercise: PY - Only 65% of intervention participants were adherent.
				2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? Vit D: NA. Home exercise: NI - No information given for control group.

Study details	Participants	Interventions	Outcomes and Results	Comments
	chemotherapy in previous year • Creatine clearance ≤ 15 mL/min • Kidney stones in past 5 years • Hypocalcaemia • Primary hyperparathyroidism • Sarcoidosis • Severe visual or hearing impairments		• High Vit D: -0.15 (-0.26 – -0.05) • Significantly lower (worse) at 12 months compared to baseline (p=0.004, mixed-effects linear regression models) • Low Vit D: − 0.20 (− 0.3-–0.09) 0.001 • Significantly lower (worse) at 12 months compared to baseline (p=0.001, mixed-effects linear regression models) _Home exercise versus no exercise_ Between baseline and 6 months: • Home exercise: − 0.10 (− 0.2-0.0) • Significantly lower (worse) at 6 months compared to baseline (p=0.04, mixed-effects linear regression models) • No home exercise: − 0.12 (− 0.21- − 0.02) • Significantly lower (worse) at 6 months compared to baseline (p=0.02, mixed-effects linear regression models) Between 6 months and 12	2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? Vit D: NA. Home exercise: Y. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Vit D: Low risk; Home exercise: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 119/173 of total participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
			months: • Home exercise: − 0.02 (− 0.09-0.05) • No significant difference between time points (p=0.6, mixed-effects linear regression models) • No home exercise: 0.08 (0.01-0.15) • Significantly higher (better) at 12 months compared to 6 months (p=0.03, mixed-effects linear regression models) Between baseline and 12 months: • Home exercise: − 0.08 (− 0.18-0.02) • No significant difference between time points (p=0.11, mixed-effects linear regression models) • No home exercise: − 0.20 (− 0.3-− 0.09) 0.001 • Significantly lower (worse) at 12 months compared to baseline (p=0.001, mixed-effects linear regression models) NB. As the authors do not note the loss-to-follow up for each of the study arms, we have assumed equal drop out between intervention and	true value? NI – No mention in paper of reasons for drop out or which group the drop outs belonged to. Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN – Baseline, 6 months and 12 months.. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in

Study details	Participants	Interventions	Outcomes and Results	Comments
			control groups for the purposes of the GRADE tables and effect analyses in appendix F. These estimates have been subsequently marked down for indirectness.	selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? Y. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? N. 5.3 ... multiple analyses of the data? N. Risk-of-bias judgement: Low risk Overall risk of bias High risk **Other information** 2x2 study design investigating both high Vit D and home exercise programmes. We have used a common control group (low vit D with no home exercise) for comparison.
Full citation Resnick, Barbara, Orwig, Denise, Yu-Yahiro, Janet, Hawkes, William, Shardell,	**Sample size** N = 102 (randomised) • Exercise only: 51	**Interventions** • *Intervention group: Exercise sessions.* Aerobic exercise sessions using a	**Results** *Changes in mobility*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool

Study details	Participants	Interventions	Outcomes and Results	Comments
Michelle, Hebel, J. Richard, Zimmerman, Sheryl, Golden, Justine, Werner, Michele, Magaziner, Jay, Testing the effectiveness of the exercise plus program in older women post-hip fracture, Annals of behavioral medicine: a publication of the Society of Behavioral Medicine, 34, 67-76, 2007 **Ref Id** 1185200 **Country/ies where the study was carried out** USA **Study type** RCT **Aim of the study** To investigate the effectiveness of the individual components of and the whole Exercise Plus Program intervention on self-efficacy, outcome expectations, and exercise behaviour in elderly women after hip fracture. **Study dates** August 2000 - September 2005	• Standard rehabilitation: 51 N = 76 (analysed) • Exercise only: 35 • Standard rehabilitation: 41 **Characteristics** Age in years [Mean (SD)]: • Exercise only = 82.4 (7.9) • Standard rehabilitation = 79.7 (6.7) Gender (M/F): not reported but inclusion criteria states female. Time since injury: not reported. Injury cause: not reported but inclusion criteria states non-pathological. Location of fracture (intertrochanteric/subcapital/sub trochanteric/other): • Exercise only (N) = 23/22/5/1 • Standard rehabilitation (N) = 27/22/1/1 **Inclusion criteria** Participants had to: • Be female • Be 65 years old or above	Stair step, strengthening programme focusing on main muscle groups relevant to hip fracture recovery, and stretching exercises. Participants performed aerobic exercises for 30 minutes 3 times per week and strength training for 30 minutes 2 times per week. Each patient started at their own level of intensity. Strength training sessions involved a combination of 11 resistance band exercises focusing on the both upper and lower extremities. The duration of each exercise was gradually increased until the participant could perform 3 x 10 repetitions on each side of the body. Intensity was then increased by adding resistance to the bands or by adding ankle/wrist weights. Not exposed to motivational component of intervention, exercise education, verbal feedback, and interventions to decrease unpleasant sensations or encouragement. • *Control group: Standard rehabilitation. As*	*(measured using Step Activity Measure count of number of steps taken by participants in a 48 hour period) [mean (SEM)]* 12 months follow-up: • Exercise only (N=35): 6459 (968) • Standard rehabilitation (N=40): 4060 (1012) • Significantly higher (better) in intervention group (p=0.03, Wald statistics) *Changes in mobility (measured using Yale Physical Activity Survey Exercise subscale in hours) [Mean (SEM)]* Higher = better. At baseline: • Exercise only (N=51): 1.21 (0.25) • Standard rehabilitation (N=51): 0.66 (0.20) • Significance not reported 2 months follow-up: • Exercise only (N=40): 1.77 (0.36) • Standard rehabilitation (N=42): 1.70 (0.36)	(RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Using freeware computer programme. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - Statistical analysis not reported but baseline characteristics look visibly similar. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PN - Participants not told their assignment and interventions were similar. 2.2. Were carers and people delivering the interventions aware of participants'

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding This study received funding from the National Institute on Aging and the Claude D. Pepper Older Americans Independent Center.	• Be residing in the community at the time of fracture • Be within 72 hours of admission for a non-pathological fracture • Have surgical repair of hip fracture • Not have medical problems that could increase the risk of falls when exercising at home • Be walking without assistance before the accident • Have Folstein Mini Mental State Examination score ≥ 20. **Exclusion criteria** Not reported.	prescribed by Medicare guidelines, generally including inpatient physical and occupational therapy as determined by the participant's ability and 1 home therapy evaluation for safety. Participants did not have any intervention sessions. No further details reported.	• Significance not reported 6 months follow-up: • Exercise only (N=39): 2.27 (0.29) • Standard rehabilitation (N=43): 1.02 (0.25) • Significance not reported 12 months follow-up: • Exercise only (N=35): 3.34 (0.66) • Standard rehabilitation (N=40): 0.92 (0.23) • Significance not reported	assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN - No statistically significant difference between numbers of visits between groups. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or

Study details	Participants	Interventions	Outcomes and Results	Comments
				nearly all, participants randomized? N - Data available for 35/51 participants in intervention and 41/51 in control.
				3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? Y - Sensitivity analysis performed.
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk
				Domain 4: Risk of bias in measurement of the outcome
				4.1 Was the method of measuring the outcome inappropriate? N.
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN.
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors were blinded to group allocation.

Study details	Participants	Interventions	Outcomes and Results	Comments
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA.
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA.
				Risk-of-bias judgement: Low risk
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN.
				5.3 ... multiple analyses of the data? PN.
				Risk-of-bias judgement: Some concerns
				Overall risk of bias Some concerns

Study details	Participants	Interventions	Outcomes and Results	Comments
				Other information Patients randomised into 4 groups: Control, Motivation only, Exercise only and Exercise + motivation. Data extracted for control and exercise only groups.

Full citation
Rigot, Stephanie, Worobey, Lynn, Boninger, Michael L., Gait Training in Acute Spinal Cord Injury Rehabilitation-Utilization and Outcomes Among Nonambulatory Individuals: Findings From the SCIRehab Project, Archives of Physical Medicine and Rehabilitation, 99, 1591-1598, 2018
 	
Ref Id
1130315
 	
Country/ies where the study was carried out
USA
 	
Study type
Prospective cohort study
 	
Aim of the study
To test the hypothesis that increased time practicing gait training in subjects with SCI who do not achieve
	Sample size
	N = 747
	• Gait training: 430
	• No gait training: 317
	
	Characteristics
	Age in years [Median (IQR)]:
	• Gait training = 43.0 (25.0-56.0)
	• No gait training = 20.0 (22.0-44.0)
	• Significant difference (p<0.05) between the 2 groups at baseline
	
	Gender (M/F):
	• Gait training (N) = 514/84
	• Control (N) = 250/67
	
	Time since injury: not reported but inclusion criteria states recent.
	
	Injury cause: not reported but inclusion criteria states traumatic
		Interventions
		• *Intervention group: Gait training.* Defined as the amount of time performing ambulation training (both gait training and pre-gait training), independent of surface, equipment, mechanical assistance or manual assistance. Pre-gait activities included strengthening and balance training for future ambulation and could include the use of assistive devices such as parallel bars or frames. No further details reported.
		• *Control group: No gait training.* No further details reported.
			Results
			
			Changes in mobility (measured using discharge mode of locomotion (N [%])
			
			• Gait training (N=430):
			  ○ Walking 109 (14.6)
			  ○ Both 53 (7.1)
			  ○ WC 266 (35.7)
			• No gait training (N=317):
			  ○ Walking 1 (0.1)
			  ○ Both 0 (0.0)
			  ○ WC 316 (42.4)
			• Statistically significant inter-group difference between wheelchair from walking and both (p<0.05, statistical test not reported)
			
			Changes in mobility (measured using CHART-Physical independence sub-score among those primarily using wheelchair) [median (IQR)]
				Limitations
				Quality assessment: Risk of bias assessed using Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I): Domain 1: Bias due to confounding
				1.1 Is there potential for confounding of the effect of intervention in this study? Y
				1.2. Was the analysis based on splitting participants' follow-up time according to intervention received? Y – Participants group was determined by amount of time spent on interventions in their physiotherapy sessions before dichotomised. The longer they spent in the rehabilitation, the higher chance they had at being included in the intervention group.
				1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the

Study details	Participants	Interventions	Outcomes and Results	Comments
functional ambulation will decrease training times for transfer and wheeled mobility, as well as increasing quality of life and self-perceived participation measures. **Study dates** 2007-2011 **Source of funding** This study received funding from the Administration on Community Living, National Institute on Disability, Independent Living and Rehabilitation Research.	Level of injury (ASIA A&B T1-S5/ASIA C C1-C8/ASIA C T1-S5/ASIA D): • Gait training (N) = 92/112/53/173 • Control (N) = 261/40/12/4 • Significant difference (p<0.05) between the 2 groups at baseline **Inclusion criteria** Participants had to: • Be aged 12 years or over • Have a recent traumatic SCI • Be admitted to a SCI rehabilitation centres that was taking part in SCIRehab data collection project. **Exclusion criteria** • Patients without follow-up data • Individuals with ASIA grade A & B SCI between C1-C8		Scale 0 (worst) – 100 (best). 1 year after discharge: • Gait training (N=144): 88 (48-100) • No gait training (N=299): 96 (76-100) • Significantly lower (worse) in intervention group (p=0.002, unclear which statistical test used) *Changes in mobility (measured using CHART-Mobility sub-score among those primarily using wheelchair) [median (IQR)]* Scale 0 (worst) – 100 (best). 1 year after discharge: • Gait training (N=140): 77 (57-100) • No gait training (N=297): 89 (63-100) • Significantly lower (worse) in intervention group (p=0.024, unclear which statistical test used) *Pain (measured using numerical scale reporting usual pain over last 4 weeks among those primarily using*	outcome? Y. If Y/PY, answer questions relating to both baseline and time-varying confounding (1.7 and 1.8). 1.7. Did the authors use an appropriate analysis method that adjusted for all the important confounding domains and for time-varying confounding? Y – Time spent on gait training was normalised as a percentage of total inpatient physiotherapy time to avoid bias caused by length of stay. 1.8. If Y/PY to 1.7 Were confounding domains that were adjusted for measured validly and reliably by the variables available in this study? PY – All measures are objective measurements. Risk of bias: Low risk. Domain 2: Bias in selection of participants into the study 2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? Y – 375/1376 patients entered the study but had injury ASIA A+B C1-C8 so were excluded from analysis.

Study details	Participants	Interventions	Outcomes and Results	Comments
			wheelchair) [median (IQR)] Scale 1 (best) – 10 (worst). 1 year after discharge: • Gait training (N=152): 5 (3-7) • No gait training (N=296): 4 (1-6) • No significant difference between groups (p=0.70, unclear which statistical test used) *Overall quality of life (measured using Diener SWLS among those primarily using wheelchair) [median (IQR)]* Scale 5 (worst) – 35 (best). 1 year after discharge: • Gait training (N=124): 19 (12-25) • No gait training (N=261): 22 (14-26) • No significant difference between groups (p=0.89, unclear which statistical test used)	2.2. If Y/PY to 2.1 Were the post intervention variables that influenced selection likely to be associated with the intervention? N – Reasoning given that clinical knowledge shows ambulation is not an expected outcome for these patients. 2.3. If Y/PY to 2.2 Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome? NA. 2.4. Do start of follow-up and start of intervention coincide for most participants? Y – Admission and discharge. 2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases? NA Risk of bias: Low risk. Domain 3: Bias in classification of interventions 3.1 Were intervention groups clearly defined? N – Gait training and pre-gait training clearly defined in terms of exercises but no mention of timings (just that they had been accounted for). 3.2 Was the information

Study details	Participants	Interventions	Outcomes and Results	Comments
				used to define intervention groups recorded at the start of the intervention? N – Decided throughout the study when threshold of gait training was reached. 3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome? N – Routinely collected data. Risk of bias: Serious risk. Domain 4: Bias due to deviations from intended interventions 4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice? NI – Lack of information on adherence to exercise programme or what would usually be seen in normal practice. 4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome? NA. 4.3. Were important co-interventions balanced across intervention groups? NI – No co-interventions described. 4.4. Was the intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
				implemented successfully for most participants? N – Of the participants who were included in the intervention group, 7% of participants only received pre-gait activity and 15.8 did not receive any pre-gait training. The definition of the intervention makes sure to include both pre-gait and gait training, but exercises differ between the 2.
				4.5. Did study participants adhere to the assigned intervention regimen? NI but time spent gait training was standardised and taken in to account during the analysis.
				4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention? NA.
				Risk of bias: Serious risk.
				Domain 5: Bias due to missing data
				5.1 Were outcome data available for all, or nearly all, participants? N – Data available for 747/1376 patients.
				5.2 Were participants excluded due to missing data on intervention status? NI.

Study details	Participants	Interventions	Outcomes and Results	Comments
				5.3 Were participants excluded due to missing data on other variables needed for the analysis? Y – Participants excluded if no follow up data available.
				5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions? NI.
				5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data? N – Appendix 1 has information on the participants who were excluded due to missing data, but no analysis reported to confirm robustness without them.
				Risk of bias: Serious risk.
				Domain 6: Bias in measurement of outcomes
				6.1 Could the outcome measure have been influenced by knowledge of the intervention received? N – Routine data.
				6.2 Were outcome assessors aware of the intervention received by study participants? N – Routine data.
				6.3 Were the methods of outcome assessment

Study details	Participants	Interventions	Outcomes and Results	Comments
				comparable across intervention groups? Y – All validated measurements (CHART, SWLS) apart from pain which was a numerical rating score of 0-10. 6.4 Were any systematic errors in measurement of the outcome related to intervention received? N Risk of bias: Low risk. Overall risk of bias High risk Other information None
Full citation Rohner-Spengler, Manuela, Frotzler, Angela, Honigmann, Philipp, Babst, Reto, Effective Treatment of Posttraumatic and Postoperative Edema in Patients with Ankle and Hindfoot Fractures: A Randomized Controlled Trial Comparing Multilayer Compression Therapy and Intermittent Impulse Compression with the Standard Treatment with Ice, The Journal of bone and joint surgery. American volume, 96, 1263-1271, 2014 **Ref Id** 1128754	**Sample size** N = 67 (randomised) • Compression bandage group: 21 • Intermittent compression group: 23 • Elevation and ice group: 23 N = 56 (analysed) • Compression bandage group: 21 • Intermittent compression group: 14 • Elevation and ice group: 23 **Characteristics** *Characteristics and baseline data are reported separately*	**Interventions** • *All groups:* All patients without external fixation treatment were given a custom-made vacuum orthosis for pre-operative fracture stabilisation and to standardise post-operative care. • *Intervention group: Compression bandage group.* Standard treatment + elevation for 24 hours using a Hess splint + multilayer compression bandage (22 hours of compression, 1 hour bandage removal and 1 hour bandage reapplication). In patients without external fixation, the bandage was applied	**Results** *Patient acceptability (measured using VAS) [median(IQR)]* Scale 0-100. Higher = better Baseline (1st post-operative day): • Bandage group: 74(54-84) • Intermittent compression group: 38(0-73) • Ice and elevation: 70(43-85) • No significant difference between groups (p = 0.49, Kruskal-Wallis) 12 weeks from baseline:	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomisation process 1.1 Was the allocation sequence random? Y - computer-generated randomisation sequence. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Used independent software specialists and sequentially numbered opaque, sealed envelopes.

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out Switzerland **Study type** RCT **Aim of the study** To compare the efficacy of multi-layer compression therapy with intermittent impulse compression with standard treatment (ice and elevation) on oedema reduction in patients with hindfoot or ankle fractures. **Study dates** January 2007 - January 2009 **Source of funding** This study received funding from Orthofix and Fachgruppe Lymphologische Physiotherapie Schweiz (national group of physiotherapists specialising in lymphatic drainage). Bandage material was donated by Smith & Nephew.	*for pre-operatively included and post-operatively included participants.* Age in years [Median (range)]: • Pre-operatively included ○ Compression bandage group = 35 (19-59) ○ Intermittent compression group = 26 (21-58) ○ Elevation and ice group = 46 (22-65) • Post-operatively included ○ Compression bandage group = 37 (19-59) ○ Intermittent compression group = 44 (21-64) ○ Elevation and ice group = 40 (19-65) Gender (M/F): • Pre-operatively included ○ Compression bandage group (N) = 11/5 ○ Intermittent compression group (N) = 8/3 ○ Elevation and ice group (N) = 11/8 • Post-operatively included ○ Compression bandage group (N) = 13/7 ○ Intermittent compression group (N) = 10/3 ○ Elevation and ice group	to provide moderate compression that was well tolerated by the patient without a feeling of discomfort. There was no cold application. • *Intervention group: Intermittent impulse compression.* Standard treatment + 1 second of 130 mmHg pressure, every 20 sec using A-V Impulse System. If possible, this was for 24 hours but minimum duration of mean 8 hours a day (SD +/- 2 hours) and 2 consecutive hours per session. This was applied with the lower limb in the horizontal position or lower during the impulse compression session and in the horizontal position during the off-session periods. There was no cold application and no additional compression (stockings or bandages). • *Control group: Elevation and ice packs.* Standard treatment + elevation for 24 hours using a Hess splint. 4 x 20 minute minimum ice gel packs daily. No compression to be applied (stockings or bandages). No further	• Compression bandage group (N=20): 85(74-93) • Intermittent compression group (N=11): 70(59-76) • Ice and elevation (N=22): 80(67-90) • No significant difference between groups (p = 0.10, Kruskal-Wallis) 1 year from baseline: • Compression bandage (N=19): 83(64-95) • Intermittent compression group (N=11): 87(54-100) • Ice and elevation (N=21): 90(80-96) • No significant difference between groups (p = 0.78, Kruskal-Wallis) *Changes in mobility (measured as range of plantar flexion (degrees)) [median(IQR)]* At baseline (1st post-operative day): • Bandage group:30(28-35) • Intermittent compression group: 40(30-45) • Ice and elevation: 33(28-37) • No significant difference between groups (p = 0.47,	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? NI – Characteristics reported as means and participant numbers. Median age visually appears to be lower in intermittent impulse group but no statistical analysis done between groups. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY - No description of participant blinding. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY - No description of carer blinding. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY - 5 participants in impulse compression group stopped due to pain. 2.4. If Y/PY to 2.3: Were

Study details	Participants	Interventions	Outcomes and Results	Comments

	(N) = 13/9
	
	Time since injury: not reported.
	
	Injury cause: not reported.
	
	Fracture type (OTA 42-A/43-B/43-C/44-A/44-B/44-C/72-A/72-B/72-C/73-C):
	• Pre-operatively included
	  o Compression bandage group (N) = 1/0/0/1/10/5/0/1/1/0
	  o Intermittent compression group (N) = 0/1/0/1/8/2/1/1/1/1
	  o Elevation and ice group (N) = 0/2/0/0/3/4/0/1/0/1
	• Post-operatively included
	  o Compression bandage group (N) = 1/0/0/1/12/6/0/1/1/0
	  o Intermittent compression group (N) = 0/1/1/1/11/3/1/0/1
	  o Elevation and ice group (N) = 0/2/0/0/5/5/0/0/0/1
	
	Inclusion criteria
	Patients had to :
	• Be aged 18-65 years old
	• Have unilateral ankle/hindfoot fractures
	• Be an inpatient referred
		details reported.	Kruskal-Wallis)
			
			Day 2 from baseline (during intervention)
			• Bandage group:35(30-40)
			• Intermittent compression group: 38(30-44)
			• Ice and elevation: 35(30-42)
			• No significant difference between groups (p = 0.92, Kruskal-Wallis)
			
			Day 3 from baseline (during intervention)
			• Bandage group: 40(35-50)
			• Intermittent compression group: 43(29-50)
			• Ice and elevation: 39(30-44)
			• No significant difference between groups (p = 0.70, Kruskal-Wallis)
			
			Day 4 from baseline (during intervention):
			• Bandage group:38(30-45)
			• Intermittent compression group: 38(24-40)
			• Ice and elevation: 35(24-40)
			• No significant difference between groups (p = 0.41, Kruskal-Wallis)
				these deviations from intended intervention balanced between groups? N.
				2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? PY.
				2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y.
				2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA.
				Risk-of-bias judgement: High risk
				Domain 3: Missing outcome data
				3.1 Were data for this outcome available for all, or nearly all, participants randomized? N. Data only available for 21/23 in control, 19/21 in bandage, 14/23 impulse compression group.
				3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI.
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y.

Study details	Participants	Interventions	Outcomes and Results	Comments
	from emergency department • Not be using walking aids before accident • Have pre-operative and/or post-operative oedema **Exclusion criteria** • Pathological fractures • Open fractures • Polytrauma • Cerebral trauma • Diabetes mellitus • Lymphedema • Peripheral arterial occlusive disease • Decompensated heart failure or renal insufficiency • Acute bacterial infection • Severe osteoporosis • Known tumours • Post-thrombotic syndrome or thrombosis • Neurological deficiencies • Use of diuretics • Pregnancy • Alcohol or drug abuse • Psychological disorders		Day 5 from baseline (during intervention): • Bandage group: 37(31-47) • Intermittent compression group: 37(25-40) • Ice and elevation: 31(30-41) • No significant difference between groups (p = 0.59, Kruskal-Wallis) 6 weeks from baseline (intervention completion): • Compression bandage (N=21): 35(30-42) • Intermittent compression group (N=12): 35(30-50) • Ice and elevation (N=22): 35(30-42) • No significant difference between groups (p = 0.87, Kruskal-Wallis) *Changes in mobility (measured as range of dorsiflexion (degrees)) [median(IQR)]* At baseline (1st post-operative day): • Bandage group: -18(-21--14) • Intermittent compression group: -15(-22--10) • Ice and elevation: -16(-21--	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PY - drop-out not balanced between groups. Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Pain and acceptability – Y, self-assessed. Mobility - N, assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Pain and acceptability - PY. Mobility - NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
			14) • No significant difference between groups (p = 0.34, Kruskal-Wallis) Day 2 from baseline (during intervention): • Bandage group: -10(-18--5) • Intermittent compression group: -13(-15--6) • Ice and elevation: -10(-15--5) • No significant difference between groups (p = 0.93, Kruskal-Wallis) Day 3 from baseline (during intervention): • Bandage group: -15(-17--5) • Intermittent compression group: -10(-10-0) • Ice and elevation: -8(-10-0) • Significant lower in bandage group compared to control group (p = 0.03, Mann-Whitney). No significant difference reported between the other groups. Day 4 from baseline (during intervention): • Bandage group: -10(-16--	received? Pain and acceptability - PN. Mobility - NA. Risk-of-bias judgement: Pain and acceptability, some concerns; Mobility, low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			5)	
			• Intermittent compression group: -10(-10--5)	
			• Ice and elevation: 0(-11-0)	
			• No significant difference between groups (p = 0.28, Kruskal-Wallis)	
			Day 5 from baseline (during intervention):	
			• Bandage group: -15(-20--3)	
			• Intermittent compression group: -9(-10--5)	
			• Ice and elevation: 31-10(-16--3)	
			• No significant difference between groups (p = 0.23, Kruskal-Wallis)	
			6 weeks (at intervention completion):	
			• Compression bandage group (N=21): 0(-4-9)*	
			• Intermittent compression group (N=12): 10(0-10)	
			• Ice and elevation (N=22): 5(0-10)	
			• No significant difference between groups (p = 0.32, Kruskal-Wallis)	
			• *Minus values represent plantar flexion	
			Pain (measured using VAS)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			[median(IQR)] Scale 0-10. Lower = better Baseline (1st post-operative day): • Bandage group: 19(8-34) • Intermittent compression group: 28(9-47) • Ice and elevation: 27(14-42) • No significant difference between groups (p = 0.49, Kruskal-Wallis) 6 weeks (at intervention completion): • Compression bandage group (N=21): 0(0-6.3) • Intermittent compression group (N=12):0(0-11) • Ice and elevation (N=22): 6.3(0-10) • No significant difference between groups (p = 0.24, Kruskal-Wallis)	
Full citation Samhan, Ahmed Fathy, Abdelhalim, Nermeen Mohamed, Impacts of low-energy extracorporeal shockwave therapy on pain, pruritus, and health-related quality of life in patients with burn: A randomized placebo-	**Sample size** N = 50 (randomised) • Low-energy extracorporeal shockwave therapy = 25 • Placebo shockwave therapy = 25 N = 45 (analysed)	**Interventions** • *All participants:* Standard physical therapy programme for 1 hour x3 days/week. Also received pressure garments, controlling of oedema, creams and sunscreen. • *Intervention group: Low-*	**Results** *Pain (measured using Numerical Rating Scale) [median (range)]* Scale 0-10, lower = better	**Limitations** Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
controlled study, Burns : journal of the International Society for Burn Injuries, 45, 1094-1101, 2019 **Ref Id** 1286600 **Country/ies where the study was carried out** Egypt **Study type** RCT **Aim of the study** To compare the effectiveness of low-energy extracorporeal shock wave therapy with placebo shockwave therapy in pain, itching and quality of life outcomes in burn patients. **Study dates** March 2017 - October 2018 **Source of funding** Not reported	• Low-energy extracorporeal shockwave therapy = 22 • Placebo shockwave therapy = 23 **Characteristics** Age in years [Mean (SD)]: • Low-energy extracorporeal shockwave therapy = 35.18 (10.23) • Placebo shockwave therapy = 32.78 (10.15) Gender (M/F): • Low-energy extracorporeal shockwave therapy (N) = 12/10 • Placebo shockwave therapy (N) = 13/10 Time since injury in days [Mean (SD)]: • Low-energy extracorporeal shockwave therapy = 42.50 (5.19) • Placebo shockwave therapy = 39.87 (8.07) Injury cause: • Low-energy extracorporeal shockwave therapy = all traumatic • Placebo shockwave therapy = all traumatic	*energy extracorporeal shockwave therapy.* Standard physical therapy plus 1 session/week of shockwave therapy for 4 weeks. 1000-2000 shocks per session and not exceeding 10 minutes. Intensity = 100shocks/cm2, energy flux density = 0.05–0.20mJ/mm2, frequency = 4Hz. • *Control group: Placebo shockwave therapy.* Standard therapy plus plus 1 session/week of shockwave therapy for 4 weeks. Parameters same as intervention group but without any energy output.	At 4 weeks from baseline (intervention completion): • Low-energy extracorporeal shockwave therapy = 2 (0 - 4) • Placebo shockwave therapy = 6 (5-9) • Significantly lower (better) in intervention group (p=0.012, Mann-Whitney)	sequence random? Y – Computer generated 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – Baseline demographics not significantly different. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? N – Paper states patients were blinded to allocation 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations likely to

Study details	Participants	Interventions	Outcomes and Results	Comments
	Total burn surface area [Mean (SD)]: • Low-energy extracorporeal shockwave therapy (%) = 18.54 (4.52) • Placebo shockwave therapy (%) = 19.56 (4.32) **Inclusion criteria** Patients had to: • Be aged 18-55 years old • Have a 2nd or 3rd degreed burns over upper or lower extremities, excluding hands and feet • Have a TBSA >10% • Have their injuries treated with skin craft or healed spontaneously at least 1 month prior to enrollment **Exclusion criteria** • Patients with malignancy • Patients with diabetes • Pregnancy • Fracture surrounding burned area • Psychiatric disorders (but only if the burn injury was as a result of suicide attempt) • Blood clotting disorders or patients on anti-coagulant medications • The potential for increased			have affected the outcome? NA 2.5 If No/PN/NI to 2.4: Were these deviations from intended intervention balanced between groups? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - ITT 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N – Data available for 45/50 (90%) f participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? PY 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the

Study details	Participants	Interventions	Outcomes and Results	Comments
	skin damage when using extracorporeal shock wave therapy.			outcome depended on its true value? PN – Loss to follow-up similar between groups Risk-of-bias judgement: Some conerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors blinded and assessments at same time points 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk

Study details	Participants	Interventions	Outcomes and Results	Comments
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN
				5.3 ... multiple analyses of the data? PN
				Risk-of-bias judgement Some concerns
				Overall risk of bias Some concerns
				Other information None.
Full citation Shamji, M. F., Roffey, D. M., Young, D. K., Reindl, R., Wai, E. K., A pilot evaluation of the role of bracing in stable thoracolumbar burst fractures without neurological deficit, Journal	**Sample size** N= 23 (randomised) • Thoracolumbosacral orthosis = 12 • Ambulation encouragement = 11	**Interventions** • *Both groups:* All patients requested to avoid strenuous activities, bending, twisting, or lifting. • *Intervention group: Customized*	**Results** *Changes in mobility (lumbar specific disability measured using revised Oswestry Disability Index score) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the

Study details	Participants	Interventions	Outcomes and Results	Comments
of Spinal Disorders and Techniques, 27, 370-375, 2014 **Ref Id** 1128887 **Country/ies where the study was carried out** Canada **Study type** RCT **Aim of the study** "Investigate clinical and radiologic outcomes of bracing versus no-bracing in the treatment of stable thoracolumbar burst fractures." (p. 370) **Study dates** 2005-2009 **Source of funding** Physicians' Services Incorporated Foundation, Toronto, ON, Canada and University of Ottawa, Ottawa, ON, Canada	N= 23 (analysed) • Thoracolumbosacral orthosis = 12 • Ambulation encouragement = 11 **Characteristics** Age in years [Median (IQR)]: • Thoracolumbosacral orthosis = 37 (not reported) • Ambulation encouragement = 43 (not reported) Gender (M/F): • Thoracolumbosacral orthosis (N) = 10/2 • Ambulation encouragement (N) = 4/7 Time since injury: not reported. Injury cause: • Thoracolumbosacral orthosis = all traumatic • Ambulation encouragement = all traumatic Level of injury (T12/L1/L2): • Thoracolumbosacral orthosis (N) = 3/7/2	*thoracolumbosacral orthosis.* Fitted by certified orthotist within 24 hours (of injury?), to be worn for 3 months whenever out of bed. • *Control group: Ambulation encouragement.* Initial period of immobilization followed by encouragement of ambulation as tolerated after 24 hours.	Scale 0 (best) – 100 (worst). Baseline: Not reported. 6 months follow up: • Thoracolumbosacral orthosis: 19 (6) • Ambulation encouragement: 16 (7) *Pain (measured using VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). Baseline: • Thoracolumbosacral orthosis: 5.4 (2.8) • Ambulation encouragement: 4.2 (2.1) 6 months follow up • Thoracolumbosacral orthosis: 1.0 (1.4) • Ambulation encouragement: 0.8 (1.6) *Quality of life (measured using SF-36 Physical component score) [mean (SD)]* Scale 0 (worst) – 100 (best).	randomization process 1.1 Was the allocation sequence random? Y Randomisation according to computer-generated block allocation 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y Allocation concealed by consecutively numbered, sealed, opaque envelopes 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Ambulation encouragement (N) = 2/8/1 **Inclusion criteria** Patients had to: • Have acute isolated stable thoracolumbar burst fracture • Fracture between T10 and L4 (AO type A3) • No neurological deficit • Injury appropriate for non-operative care • Recruited from participating tertiary care Level 1 trauma centres **Exclusion criteria** • Aged <18 years old • Previous spinal surgery or fracture • Neurological deficit or associated head injury • Lower extremity injury affecting weight bearing • Unable to communicate in English • Unavailable for 6-month follow-up		Baseline: Not reported 6 months follow up: • Thoracolumbosacral orthosis: 51.6 (11.6) • Ambulation encouragement: 51.2 (13.6) *Quality of life (measured using SF-36 Mental component score) [mean (SD)]* Scale 0 (worst) – 100 (best). Baseline: Not reported 6 months follow up: • Thoracolumbosacral orthosis: 43.3 (11.6) • Ambulation encouragement: 46.6 (10.7)	experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
				likely that missingness in the outcome depended on its true value? NA
				Risk-of-bias judgement: Low risk
				Domain 4: Risk of bias in measurement of the outcome
				4.1 Was the method of measuring the outcome inappropriate? PN
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y for the outcomes reported as they were patient-reported
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN
				Risk-of-bias judgement: Some concerns
				Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
				result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Low risk Overall risk of bias High risk Other information None
Full citation Shuai, L., Yu, G. H., Feng, Z., Wang, W. S., Sun, W. M., Zhou, L., Yan, Y., Application of a paraplegic gait orthosis in thoracolumbar spinal cord injury, Neural Regeneration Research, 11, 1997-2003, 2016 **Ref Id**	**Sample size** N= 36 (randomised) • Intervention: 18 • Control: 18 N= 36 (analysed) • Intervention: 18 • Control: 18 **Characteristics** Age in years [Mean (SD)]: • Intervention= 33.9 (11.1)	**Interventions** • *Intervention group*: The same rehabilitation training as the control group plus individualised paraplegic gait orthosis (including reciprocating gait orthosis, Walkabout, bilateral hip-knee ankle foot orthosis, bilateral knee-ankle foot orthosis, unilateral knee-ankle foot orthosis, and an	**Results** *Changes in ADL (measured using modified Barthel Index) [mean (SD)]* Higher = better. At 3 months follow-up (after intervention completion): • Training and orthosis: 63.62 (32.33)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - simply described as randomised

Study details	Participants	Interventions	Outcomes and Results	Comments
1023724 **Country/ies where the study was carried out** China **Study type** RCT **Aim of the study** This RCT aimed to compare the effectiveness of an individualised paraplegic gait orthosis plus functional rehabilitation (including FES) to functional rehabilitation (including FES) only for improving locomotion in adults with spinal cord injury (SCI). **Study dates** Recruitment: January 2008 to December 2015 **Source of funding** Not reported	• Control= 37.3 (10.2) Gender (M/F): • Intervention (n): 13/5; • Control (n): 11/7 Time since injury (reported as course of disease) in days [Mean (SD)]: • Intervention: 25.00 (4.52) • Control: 23.00 (6.29) Level of injury (AIS grade A/B/C/D)= • Intervention (N): 9/4/3/2 • Control (N): 8/6/4/0 Type of SCI (1.complete/incomplete; 2. acute/chronic): Not reported **Inclusion criteria** Participants had to: • Aged between 16 and 70 years old • Have thoracic or lumbar SCI (below T4, not ASIA Classification Grade E) • Have illness longer than 30 days duration **Exclusion criteria** • Cognitive disorder • Cancer • Serious organ function damage • Patients who did not consent	ankle foot orthosis), which was based on the level of SCI and the desired rehabilitation targets. Training included brace wearing and removal, standing balance function, conversion of gravity centre and ambulation. Training was performed twice a day, 30-40 mins each, with a therapist gradually moving the participants towards independence throughout the study period. • *Control group:* The following rehabilitation training was given to each participants, for 3-4 hours a day. • Maintenance of joint range of motion for 20-30 minutes daily - joints above SCI level were exercised by participant and below SCI were passively exercised by trained therapist. Particular emphasis was placed on passive hip extension exercises. • Residual muscle strength training - treatment modes transitioned from therapist-assisted strength training to progressive resistance strength training.	• Control (training): 29.98 (28.33)	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? No Risk-of-bias judgement Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (*effect of assignment to intervention*) 2.1. Were participants aware of their assigned intervention during the trial? PY – not possible to blind due to nature of intervention 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY – not possible to blind due to nature of intervention 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN – differences in othosis depending on level of SCI and rehab targets but same time spent with trained professionals and nature of SCI means different orthosis

Study details	Participants	Interventions	Outcomes and Results	Comments
		• Standing training for 40 minutes twice a day - initially assisted by an electric tilt table with a gradual transition to parallel bar-assisted standing training. • Balance training - gradual transition from the sitting position to erect position, as well as from static balance to dynamic balance. • FES for a 20 minutes per session - applied to key muscles below the SCI level. 15 sessions consisted of a treatment course. 2 weeks rest followed a treatment course before the next treatment course was started.		will be required 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
				true value? NA Risk-of-bias judgement Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? No – modified Barthel Index 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY – patient reported outcomes and unsure whether outcome assessors are blinded 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN – control was rigorous rehabilitation training Risk-of-bias judgement Some concerns Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
				result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? PY Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement Low risk Overall risk of bias Risk-of-bias judgement: Some concerns **Other information** None
Full citation Sherrington, C., Lord, S. R., Home exercise to improve strength and walking velocity after hip fracture: a randomized controlled trial, Archives of physical medicine and rehabilitation, 78, 208-12, 1997	**Sample size** N = 42 (randomised) • Step exercise: 21 • Control: 21 N = 40 (analysed) • Step exercise: 40 • Control: 40	**Interventions** • *Intervention group: Step exercise for 1 month.* Participants were provided with telephone books (7cmx23cmx5cm) to serve as stepping blocks as they are roughly 1/3 the height of a standard house step. A baseline assessment	**Results** *Changes in mobility (measured using velocity in m/sec) [mean (SD)]* At baseline: • Step exercise: 0.46 (0.28) • Control: 0.52 (0.33)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y -

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1185202 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of a home-exercise programme on the strength, postural control and mobility in older people with hip fracture. **Study dates** Not reported **Source of funding** Not reported	**Characteristics** Age in years [Mean (SD)]: • Step exercise = 80.0 (8.1) • Control = 77.1 (8.2) Gender (M/F)*: • Step exercise (N) = 8/13 • Control (N) = 1/20 • Significant difference reported between groups but no p value reported. Time since injury: not reported but inclusion criteria states maximum of 9 months prior. Injury cause: not reported but inclusion criteria states fall Location of fracture: proportions not reported but noted that there was no significance at baseline between groups (p=0.43). **Inclusion criteria** Participants had to: • Be aged 60 years old or above • Admitted with proximal femoral fracture resulting from fall • Fracture occurred	established the maximum number of repetitions participants could perform safely. Consultation with patients decided the number of repetitions to be performed and the height of the step (1 or 2 telephone books). Participants had to complete at least 1 session per day and were instructed to gradually increase the number of repetitions performed. Subjects were given a photograph of them performing the exercise and written instruction for reference. Number of repetitions and sessions performed per day were recorded in an exercise diary. During the intervention, patients received 1 visit from the investigator to confirm the exercises were still being performed correctly and to increase the number of repetitions or the height or the step if needed. • *Control group.* No details reported.	At intervention completion (time of measurement not clearly reported): • Step exercise (N=20): 0.51 (0.34) • Control (N=20): 0.50 (0.35) • Significantly better in the in the intervention group (p<0.05, ANOVA) *Changes in mobility (measured using cadence in step/min) [mean (SD)]* At baseline: • Step exercise: 83.0 (30.3) • Control: 90.2 (32.1) At intervention completion (time of measurement not clearly reported): • Step exercise (N=20): 86.5 (29.5) • Control (N=20): 88.3 (35.3) • No significant difference (p value not reported, ANOVA)	Random number method. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - No statistically significant differences between groups except for gender. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y – Participants not blinded to group allocation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from

Study details	Participants	Interventions	Outcomes and Results	Comments
	maximum 9 months ago • Residing in the community at the time of the accident • Have a discharge destination within South Western Sydney **Exclusion criteria** Not reported.			intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y- Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 20/21 participants in intervention and 20/21 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value?

Study details	Participants	Interventions	Outcomes and Results	Comments
				NA.
				3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA.
				Risk-of-bias judgement: Low risk
				Domain 4: Risk of bias in measurement of the outcome
				4.1 Was the method of measuring the outcome inappropriate? PN.
				4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN.
				4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Assessors not blind to group allocation.
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PN - Gait and mobility both objective measurements.
				4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Risk-of-bias judgement: Some concerns
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI.
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN.
				5.3 ... multiple analyses of the data? PN.
				Risk-of-bias judgement: Some concerns
				Overall risk of bias High risk
				Other information
				None
Full citation Sherrington, Catherine, Lord, Stephen R., Herbert, Robert D., A randomised trial of weight-bearing versus non-weight-bearing exercise for	**Sample size** N = 80 (randomised) • Weight-bearing exercise = 41 • Non weight-bearing exercise = 39	**Interventions** • *Both groups:* Exercise programmes started while participants were still on inpatient rehabilitation ward and advised to	**Results** *Changes in mobility (measured using step test repetitions in affected leg) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
improving physical ability in inpatients after hip fracture, The Australian journal of physiotherapy, 49, 15-22, 2003 **Ref Id** 1124610 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of weight-bearing exercises compared with non-weight-bearing exercises on strength, mobility and functional performance in elderly patients following hip fracture. **Study dates** Not reported. **Source of funding** This study received funding from the Health Research Foundation Sydney South West and the Arthritis	N = 77 (analysed) • Weight-bearing exercise = 40 • Non weight-bearing exercise = 37 **Characteristics** Age in years [Mean (SD)]: • Weight-bearing exercise = 81.0 (7.0) • Non weight-bearing exercise = 81.1 (8.3) Gender (M/F): • Weight-bearing exercise (N) = 14/27 • Non weight-bearing exercise (N) = 12/27 Time since injury [Mean (SD)]: • Weight-bearing exercise (days) = 19.2 (22.8) • Non weight-bearing exercise = 17.4 (8.5) Injury cause: not stated but inclusion criteria states fall-related hip fracture. Location of fracture (Intracapsular/other): • Weight-bearing exercise	continue at home if they were discharged before the study period ended. All participants received usual rehabilitation care (consisting of locomotion practice, progression of walking aids and assessment of ADL) as well as care from other health professionals (including occupational therapists, social worker and medical care). Participants were encouraged to take pain relief prior to sessions. • *Intervention group: Weight-bearing exercise + standard rehabilitation*. A series of exercises performed each weekday in a weight-bearing position, consisting of sit-to-stand, lateral step-up, forward step-up-and-over, forward foot taps and stepping grids. Exercises started off with either a walking frame or 1-2 portable height-adjustable tables. If this was too difficult to start with, participants performed exercises with the support of a tilt table. The supervising physiotherapist chose several initial	Baseline: • Weight-bearing: 0.0 (0.2) • Non weight-bearing: 0.1 (0.6) 2 weeks (intervention completion): • Weight-bearing: 1.3 (3.1) • Non weight-bearing: 0.5 (1.4) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using step test repetitions in non-affected leg) [mean (SD)]* Baseline: • Weight-bearing: 1.3 (3.0) • Non weight-bearing: 0.5 (1.3) 2 weeks (intervention completion): • Weight-bearing: 3.7 (4.3) • Non weight-bearing: 2.1 (2.8) • No significant different between groups (p value not reported, ANOVA)	arising from the randomization process 1.1 Was the allocation sequence random? Y - Used random number table. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY - No information given on method but article states concealed randomisation used. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No differences between groups at baseline. Risk-of-bias judgement: Some concerns. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that

Study details	Participants	Interventions	Outcomes and Results	Comments
Foundation.	(N) = 12/29 • Non weight-bearing exercise (N) = 16/23 Inclusion criteria Participants had to: • Be admitted to inpatient rehabilitation ward at participating hospital • Recently suffered a fall-related hip fracture Exclusion criteria • Age <60 years old • Unable to complete assessments or participate in the exercise programme because of cognitive impairment, major medical conditions or fracture complications	exercises, before adding exercises as determined by participant's capability. Number of repetitions were based on the initial assessment, ranging from 5-30 per exercise. Difficulty was increased by increasing number of repetitions, decreasing the hand support, increasing height of blocks used in forward step-and-over and forward foot-taps or decreasing the platform height used in the sit-to-stand exercise. • *Control group: Non-weight-bearing exercise + standard rehabilitation.* A series of exercises performed each weekday in a supine position, consisting of hip abduction, hip flexion, hip/knee flexion/extension (drawing heel toward buttock), end of range knee flexion (straightening a bent knee over a wedge) and ankle dorsiflexion/plantarflexion. The supervising physiotherapist chose several initial exercises, before adding exercises as determined by participant's capability. If a participant was unable to move a	*Changes in mobility (measured using velocity in m/sec) [mean (SD)]* Baseline: • Weight-bearing: 0.12 (0.10) • Non weight-bearing: 0.09 (0.09) 2 weeks (intervention completion): • Weight-bearing: 0.25 (0.22) • Non weight-bearing: 0.19 (0.20) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using cadence in steps/sec) [mean (SD)]* Baseline: • Weight-bearing (N=41): 0.60 (0.38) • Non weight-bearing (N=39): 0.47 (0.33) 2 weeks (intervention completion): • Weight-bearing (N=40): 0.91 (0.58) • Non weight-bearing	arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 40/41 participants in intervention group and 37/39 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result

Study details	Participants	Interventions	Outcomes and Results	Comments
		limb, exercises were modified by using isometric muscle contractions. Number of repetitions were based on the initial assessment, ranging from 5-30 per exercise. Difficulty was increased by increasing the number of repetitions performed for each exercise.	(N=37): 0.71 (0.42) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using step length in affected leg in cm) [mean (SD)]* Baseline: • Weight-bearing (N=22): 20.0 (16.3) • Non weight-bearing (N=18): 16.3 (15.2) 2 weeks (intervention completion): • Weight-bearing (N=19): 25.8 (15.9) • Non weight-bearing (N=22): 23.1 (15.0) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using step length in non-affected leg in cm) [mean (SD)]* Baseline: • Weight-bearing (N=22): 8.3 (10.1) • Non weight-bearing	was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Measurement at baseline and 2 weeks. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Paper states assessor was not blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY - Assessment made by first author.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=18): 7.9 (9.3) 2 weeks (intervention completion): • Weight-bearing (N=19): 13.2 (11.4) • Non weight-bearing (N=22): 13.8 (12.8) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using time to stand in sec) [mean (SD)]* Baseline: • Weight-bearing (N=41): 0.14 (0.10) • Non weight-bearing (N=39): 0.09 (0.07) 2 weeks (intervention completion): • Weight-bearing (N=40): 0.21 (0.12) • Non weight-bearing (N=37): 0.16 (0.09) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using time to sit up in sec) [mean (SD)]*	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN - All measurements are objective measurements or validated measurement tools. Risk-of-bias judgement: Some concerns. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias High risk. Other information None.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Baseline: • Weight-bearing (N=41): 0.06 (0.06) • Non weight-bearing (N=39): 0.04 (0.07) 2 weeks (intervention completion): • Weight-bearing (N=40): 0.13 (0.13) • Non weight-bearing (N=37): 0.10 (0.09) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using PPME score) [mean (SD)]* Scale: 0 (worst) – 12 (best). Baseline: • Weight-bearing (N=41): 5.4 (3.0) • Non weight-bearing (N=39): 4.5 (2.5) 2 weeks (intervention completion): • Weight-bearing (N=40): 7.5 (2.7) • Non weight-bearing (N=37): 6.8 (2.8)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using lateral step up in affected leg) [N (%)]* 0 – No support 1 – Hand support Baseline: • Weight-bearing (N=41): 6 (15) • Non weight-bearing (N=39): 3 (8) 2 weeks (intervention completion): • Weight-bearing (N=40): 22 (55) • Non weight-bearing (N=37): 7 (19) • Significantly higher (better) in intervention group (p<005, Chi-squared test) *Changes in mobility (measured using participants who became able to do lateral step up with affected leg) [N (%)]* 0 – No support 1 – Hand support	

Study details	Participants	Interventions	Outcomes and Results	Comments
			2 weeks (intervention completion): • Weight-bearing (N=40): 16 (40) • Non weight-bearing (N=37): 6 (16) • Significantly higher (better) in intervention group (p<005, Chi-squared test) *Changes in mobility (measured using lateral step up in non-affected leg) [N (%)]* 0 – No support 1 – Hand support Baseline: • Weight-bearing (N=41): 16 (39) • Non weight-bearing (N=39): 10 (26) 2 weeks (intervention completion): • Weight-bearing (N=40): 26 (66) • Non weight-bearing (N=37): 21 (57) • No significant different between groups (p value not reported, Chi-squared test)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (measured using participants who became able to do lateral step up with non-affected leg) [N (%)]	
			0 – No support 1 – Hand support	
			2 weeks (intervention completion):	
			• Weight-bearing (N=40): 15 (41)	
			• Non weight-bearing (N=37): 13 (33)	
			• No significant different between groups (p value not reported, Chi-squared test)	
			Changes in mobility (measured using number of participants unable to walk 6 m) [N (%)]	
			Baseline:	
			• Weight-bearing (N=41): 9 (22)	
			• Non weight-bearing (N=39): 12 (31)	
			2 weeks (intervention completion):	
			• Weight-bearing (N=41): 7	

Study details	Participants	Interventions	Outcomes and Results	Comments
			(18)	
			• Non weight-bearing (N=39): 4 (10)	
			• No significant difference between groups (p value not reported, Mann-Whitney U test)	
			Changes in mobility (measured using number of participants able to walk 6 m with a frame) [N (%)]	
			Baseline:	
			• Weight-bearing (N=41): 31 (76)	
			• Non weight-bearing (N=39): 27 (69)	
			2 weeks (intervention completion):	
			• Weight-bearing (N=41): 20 (49)	
			• Non weight-bearing (N=39): 23 (59)	
			• No significant difference between groups (p value not reported, Mann-Whitney U test)	
			Changes in mobility (measured using number of participants able to walk 6 m with 2 sticks) [N (%)]	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Baseline: • Weight-bearing (N=41): 1 (2) • Non weight-bearing (N=39): 0 (0) 2 weeks (intervention completion): • Weight-bearing (N=41): 9 (22) • Non weight-bearing (N=39): 7 (18) • No significant difference between groups (p value not reported, Mann-Whitney U test) *Changes in mobility (measured using number of participants able to walk 6 m with 1 stick or no aid) [N (%)]* Baseline: • Weight-bearing (N=41): 0 (0) • Non weight-bearing (N=39): 0 (0) 2 weeks (intervention completion): • Weight-bearing (N=41): 8 (20) • Non weight-bearing (N=39): 2 (5) • Significantly higher (better)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in intervention group (p<005, Mann-Whitney U test) *Changes in mobility (measured using participants who became able to walk with 1 stick or no aid) [N(%)]* 2 weeks (intervention completion): • Weight-bearing (N=41): 8 (20) • Non weight-bearing (N=39): 2 (5) • No significant difference between groups (p=0.09, Chi-squared test)	
Full citation Singh, Nalin A., Quine, Susan, Clemson, Lindy M., Williams, Elodie J., Williamson, Dominique A., Stavrinos, Theodora M., Grady, Jodie N., Perry, Tania J., Lloyd, Bradley D., Smith, Emma U. R., Singh, Maria A. Fiatarone, Effects of high-intensity progressive resistance training and targeted multidisciplinary treatment of frailty on mortality and nursing home admissions after hip fracture: a randomized controlled trial, Journal of the American Medical Directors	**Sample size** N = 124 (randomised) • HIPFIT = 62 • Standard care = 62 N = 99 (analysed) • HIPFIT = 49 • Standard care = 50 **Characteristics** Age in years [Mean (SD)] • HIPFIT = 80.1 (10.1) • Standard care = 78.4 (9.0) Gender (M/F): • HIPFIT (N) = 19/42	**Interventions** • *Intervention group: HIPFIT.* Core treatment consisted of high-intensity progressive resistance training given 2 days per week for 12 months. Training was set at 80% of peak upper and lower body strength and supervised by research staff of the outpatient clinic. After standard physiotherapy ended (roughly 6-8 weeks after fracture), weight lifting began. All participants received a phone call and a home visit per month from their trainer. This	**Results** N=124 for all analyses. Any missing data (4-26% of scores across all scales and time points) were imputed via the maximum expectation algorithm in SPSS (version 17) using age, data at other time points and group assignment as predictors. *Changes in mobility (measured by use of assistive devices) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Computer-generated randomly permuted blocks. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Offsite investigator and sequentially

Study details	Participants	Interventions	Outcomes and Results	Comments
Association, 13, 24-30, 2012 **Ref Id** 1126898 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of a 12 month high-intensity progressive resistance training targeting sarcopenia on long-term outcomes after hip fracture. **Study dates** February 2003- April 2007 **Source of funding** This study received funding from the Australian National Health and Medical Research Council (administered by the University of Sydney).	• Standard care (N) = 20/42 Time since injury in years: not reported Injury cause: not reported Location of fracture: not reported **Inclusion criteria** Participants had to: • Be aged 55 years old or above • Be admitted to hospital for surgical repair of minimal-trauma hip fracture • Adequate cognitive ability and fluency in English to understand informed consent process **Exclusion criteria** • Terminal illness • Pathological fractures • Not undergoing surgical repair • Residing too far away from study hospital	averaged 80 exercise sessions, 10 home visits and 10 phone calls over the year. No further details reported. • *Control group: Standard care.* As per medical guidelines for hip fracture in the geographical area, including orthogeriatric care, rehabilitation service, physiotherapy and other health services if needed. No further details reported.	Lower = better. 12 months follow-up: • HIPFIT: 4.3 (2.2) • Control: 5.5 (3.0) • Significantly lower in intervention group (p=0.02, unclear which statistical test was used) *Changes in ADL (measured using ALSAR skills score) [mean (SD)]* Scale 0 (best) – 22 (worst). At baseline: • HIPFIT: 15.1 (3.8) • Control: 14.1 (3.6) 12 months follow-up: • HIPFIT: 10.2 (5.6) • Control: 9.5 (5.5) • No significant difference between groups (p=0.78, unclear which statistical test was used) *Changes in ADL (measured using NHANES score) [mean (SD)]* Scale 0 (best) – 3 (worst).	numbered, opaque, sealed envelopes. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant differences between groups. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: • HIPFIT: 0.93 (0.81) • Control: 1.02 (0.65) 12 months follow-up: • HIPFIT: 1.55 (0.80) • Control: 1.58(0.80) • No significant difference between groups (p = 0.67, unclear which statistical test was used) *Changes in ADL (measured using FIM total score) [median (range)]* Scale 18 (worst) – 126 (best). At baseline: • HIPFIT: 101.2 (59-122) • Control: 95.4 (43-122) 12 months follow-up: • HIPFIT: 106.7 (56-126) • Control: 101.5 (34-126) • Adjusted mean difference (95% CI): 0.46 (-4.33-5.26) • Relative effect size (95% CI) -0.04 (-0.36-0.44) • No significant difference between groups (p=0.84, unclear which statistical test was used)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 49/62 participants in intervention and 50/62 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? N - Reason for withdrawal all noted as being unrelated to study. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in ADL (measured using Katz ADL score) [median (range)] Scale 0 (best) – 12 (worst). At baseline: • HIPFIT: 0.0 (0.0-8.0) • Control: 0.0 (0.0-9.0) 12 months follow-up: • HIPFIT: 0.5 (0.0-9.0) • Control: 1.0 (0.00-12.0) • Adjusted mean difference (95% CI): -0.9 (-1.9-0.2) • Relative effect size (95% CI) -0.33 (-0.74-0.07) • No significant difference between groups (p=0.06, unclear which statistical test was used)	Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Assessors blinded for FIM and ALSAR, unblinded for other outcomes. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
				analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation Suwanpasu, S., Aungsuroch, Y., Jitapanya, C., Post-surgical physical activity enhancing program for elderly patients after hip fracture: A randomized controlled trial, Asian Biomedicine, 8, 525-532, 2014	Sample size N = 46 (randomised) • Physical activity enhancing programme = 23 • Standard care = 23 N = 46 (analysed) • Physical activity enhancing programme = 23 • Standard care = 23	**Interventions** • *Intervention group: Physical activity enhancing programme (PEP) + standard care.* Physical training with self-efficacy intervention based on several psychological theories and rehabilitation guidelines and consisting of 4 phases. First and 2nd	**Results** *Changes in mobility (Overall physical activity measured using International Physical Activity Questionnaire) [mean (SD)]* Higher = better. 6 weeks post-discharge (at	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - block randomisation using coin

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1128984 **Country/ies where the study was carried out** Thailand **Study type** RCT **Aim of the study** To investigate the effectiveness of a physical activity enhancing programme on levels of physical activity in older patients after hip fracture surgery. **Study dates** January 2012 - February 2013 **Source of funding** This study received funding from the Thai Red Cross Society and King Chulalongkorn Memorial Hospital.	Characteristics Age in years [Mean (SD)]: • Physical activity enhancing programme = 77.61(7.88) • Standard care = 72.9(8.36) Gender (M/F): • Physical activity enhancing programme (N) = 5/18 • Standard care = 16/7 Time since injury in years: not reported Injury cause: not reported Location of fracture: not reported **Inclusion criteria** Not reported. **Exclusion criteria** Not reported.	phases covered assessment and preparation for strengthening self-efficacy and outcome expectations for exercise. The 3rd phase involved structural exercises and practising daily-life activity exercises every day of the week. This phase also included re-evaluating goal setting, self-monitoring and control of unpleasant sensations associated with exercise. The last phase involved the evaluation of physical activity behaviours and energy expenditure of exercise. • *Control group: Standard care.* Standard care plus participants received a physical activity for hip fracture booklet, flip book and poster when they came into the clinic after the end of the intervention. No further details reported.	intervention completion): • Physical activity enhancing programme (N = 23): 1738.24 (983.50) • Standard care (N = 23): 776.87 (727.52) • Significantly higher (better) in intervention group (p = <0.001, ANCOVA) after controlling for pre-fracture physical activity.	flips. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - no statistically significant difference between groups at baseline. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?

Study details	Participants	Interventions	Outcomes and Results	Comments
				NA.
				2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA.
				2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat.
				2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA.
				Risk-of-bias judgement: Some concerns
				Domain 3: Missing outcome data
				3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants.
				3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA.
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA.
				3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
				true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Physical activity was self-assessed. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y - Physical activity was measured subjectively. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN - information was gathered for 7 days and used various activity domains to come to total score.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Risk-of-bias judgement: Some concerns
				Domain 5: Risk of bias in selection of the reported result
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI.
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from...
				5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN.
				5.3 ... multiple analyses of the data? PN.
				Risk-of-bias judgement: Some concerns
				Overall risk of bias High risk
				Other information
				None
Full citation Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Progressive strength training in older patients after hip	**Sample size** N= 150 (randomised) • Exercise programme = 100 • No exercise programme = 50	**Interventions** • *Intervention group: Twice per week exercise programme.* The exercise program was undertaken over 3 months,	**Results** *Changes in mobility (measured using Sit-to-stand test in sec) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
fracture: a randomised controlled trial, Age and Ageing, 40, 221-7, 2011 **Ref Id** 1126984 **Country/ies where the study was carried out** Norway **Study type** RCT **Aim of the study** "to assess the effect upon balance, strength, mobility, instrumental activities of daily living (iADL), and self-rated health of a 3-month strength-training programme of progressive resistance exercise training, in older home-dwelling hip fracture patients." (p. 221-2) **Study dates** 2007-2008 **Source of funding** The Eastern Regional Health Authority	N= 150 (analysed) • Exercise programme =100 • No exercise programme = 50 **Characteristics** Age in years [Mean (SD)]: • Exercise programme = 82.1 (6.5) • No exercise programme = 82.9 (5.8) Gender (M/F): • Exercise programme (N) = 15/85 • No exercise programme (N) = 60/40 Time since injury: 3 months for all the patients (part of the inclusion criteria) Injury cause: Not explicitly reported, but probably all traumatic **Inclusion criteria** Participants had to: • Be aged ≥ 65 years old at 12 weeks after operation • Be admitted to hospital for a femoral neck fracture or a trochanteric fracture • Have a MMSE score ≥ 23/30 at 12 weeks after operation	commencing 3 months after the fracture and consisting of twice weekly 45-60 min sessions wherein the patients completed four exercises: standing knee flexion, lunge (pass forward), sitting knee extension and leg extension. These sessions were run by a physiotherapist as individual or group sessions. The load of the sessions was based on the patient's 1-repetition maximum and was adjusted during the program period. Patients also completed a home-based training program once weekly, which consisted of standing knee flexion and lunge (pass forward) exercises. These exercise were undertaken with weight belts ranging from 0.5-12 kg. Patients were also advised to walk about for 30 mins daily if they were able to. • *Control group: No exercise programme.* The participants were just asked to maintain their current lifestyle, with no restrictions were placed on their exercise activities.	Lower = better. At baseline (3 months after injury): • Exercise programme: 40.2 (12.2) • No exercise programme: 37.3 (12.1) • Between-group differences: 2.9 (-1.1 to 7.1); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 18.6 (8.4) • No exercise programme: 34.4 (7.7) • Between-group differences: -15.8 (-18.6 to -13.1); significantly faster in intervention group *Changes in mobility (measured using 6MWT in m) [mean (SD)]* Higher = better. At baseline (3 months after injury): • Exercise programme: 216.4 (88.7)	arising from the randomization process 1.1 Was the allocation sequence random? Y Computer-generated random list 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y "Research assistants not involved in the study performed the randomisation using lots in sealed opaque envelopes." (p. 222) 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Living at home • Be able to undergo physical therapy for the hip fracture **Exclusion criteria** • Permanently institutionalised before the hip fracture • Metastatic cancer as presumed underlying reason for the fracture • Life expectancy <6 months • Hip fracture was part of a multi-trauma • Participants who were institutionalised during the first 3 months post-operation or did not return for the 3-month follow-up.		• No exercise programme: 223.1 (83.6) • Between-group differences: -6.7 (-36.1 to 22.6) ; non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 297.2 (120.8) • No exercise programme: 240.7 (80.7) • Between-group differences: 56.5 (19.9-93.1); significantly longer in intervention group *Changes in mobility (measured using maximum gait speed over 10 m in m/sec) [mean(SD)]* At baseline (3 months after injury): • Exercise programme: 0.42 (0.2) • No exercise programme: 0.43 (0.2) • Between-group differences: 0.01 (-4.2 to 5.5); non-significant 3 months from baseline (intervention completion, 6	the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y Intention-to-treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
			months post-injury) • Exercise programme: 0.58 (0.3) • No exercise programme: 0.51 (0.3) • Between-group differences: -0.07 (-1.5 to 1.5); non-significant *Changes in mobility (measured TUG test in sec) [mean(SD)]* At baseline (3 months after injury): • Exercise programme: 21.4 (9.2) • No exercise programme: 20.6 (8) • Between-group differences: 0.8 (-2.2 to 3.8); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 13.3 (4.8) • No exercise programme: 19.8 (10.3) • Between-group differences: -6.5 (-9 to -4.1); significantly faster in intervention group	missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N "All assessments were made by an examiner who was blinded to the group allocation and who was not involved in any part of the treatment or rehabilitation." (p. 222) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (measured using step height in cm) [mean (SD)] At baseline (3 months after injury): • Exercise programme: 8.7 (12.4) • No exercise programme: 8 (13) • Between-group differences: 0.7 (-9 to 4.1); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 19.6 (13.4) • No exercise programme: 10.6 (10.6) • Between-group differences: 9 (4.8 to 13.2); significantly higher in intervention group *Quality of life (measured using the SF-12 Physical component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (3 months after injury):	likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Exercise programme: 49.7 (6.2) • No exercise programme: 49.4 (6.7) • Between-group differences: 0.2 (-1.9 to 2.4); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 45.6 (5.9) • No exercise programme: 45.5 (5.4) • Between-group differences: 0.1 (-1.8 to 2.1); non-significant *Quality of life (measured using the SF-12 Mental component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (3 months after injury): • Exercise programme: 49.8 (7.3) • No exercise programme: 52.3 (7.9) • Between-group differences: -1.1 (-3.5 to 1.4); non-significant	

Study details	Participants	Interventions	Outcomes and Results	Comments
			3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 51.5 (8.4) • No exercise programme: 52.5 (9.1) • Between-group differences: 1.1 (-1.7 to 2.6); non-significant *Changes in ADL (measured using Nottingham Extended ADL score) [mean (SD)]* Scale 0 (worst) – 66 (best). At baseline (3 months after injury): • Exercise programme: 43.4 (10.8) • No exercise programme: 45.2 (9.1) • Between-group differences: -1.8 (-5.3 to 1.6); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 48.1 (13.1) • No exercise programme: 43.2 (13)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Between-group differences: 4.9 (0.6 to 9.4); significantly higher in intervention group	
Full citation Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Prolonged strength training in older patients after hip fracture: a randomised controlled trial, Age and Ageing, 41, 206-12, 2012 **Ref Id** 1126985 **Country/ies where the study was carried out** Norway **Study type** RCT **Aim of the study** "to assess the effect of a 12-week once-a-week prolonged strength-training programme in a group of home-dwelling older hip fracture patients." (p. 206) **Study dates** 2007-2008	**Sample size** N = 95 (randomised) • Exercise programme = 48 • No exercise programme = 47 N = 95 (analysed) • Exercise programme =48 • No exercise programme = 47 Characteristics Age in years [Mean (SD)]: • Exercise programme = 82.4 (6.5) • No exercise programme = 82.2 (5.1) Gender (M/F): Exercise programme (N) = 9/39 No exercise programme (N) = 9/38 Time since injury: not reported. Injury cause: Not explicitly reported, but probably all traumatic	**Interventions** • *Intervention group: Once per week exercise programme.* The exercise program was undertaken over 3 months, commencing 6 months after the fracture and consisting of once weekly 45-60 min sessions wherein the patients completed four exercises: standing knee flexion, lunge (pass forward), sitting knee extension and leg press exercise. These sessions were run by a physiotherapist as individual or group sessions. The load of the sessions was based on the patient's 1-repetition maximum and was adjusted during the program period. Patients also completed a home-based training program once weekly, which consisted standing knee flexion and lunge (pass forward) exercises. These exercise were undertaken with weight belts ranging from 0.5-12 kg. Patients	**Results** *Changes in mobility (measured using Sit-to-stand test in sec) [mean (SD)]* Lower = better. At baseline (24 weeks post-injury): • Exercise programme: 20.7 (5.3) • No exercise programme: 20.3 (10.2) • Between-group differences: 0.4 (-0.5 to 1.5); non-significant 3 months from baseline (intervention completion, 9 months post-injury) • Exercise programme: 16.8 (3.6) • No exercise programme: 26.8 (3.8) • Between-group differences: -10 (Not correctly reported); unclear whether it is significantly faster in intervention group, although it probably	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? PY Not reported but it as computer-generated random list in Sylliaas 2011 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y "Research assistants not involved in the study performed the randomisation using lots in sealed opaque envelopes" (p. 207) 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding The Eastern Regional Health Authority	**Inclusion criteria** Participants had to: • Be aged ≥ 65 years old at 12 weeks after operation • Be admitted to hospital for a femoral neck fracture or a trochanteric fracture • Have a MMSE score ≥ 23/30 at 12 weeks after operation • Living at home • Be able to undergo physical therapy for the hip fracture • Previously participated in the intervention arm in Sylliaas 2011 **Exclusion criteria** • Permanently institutionalised before the hip fracture • Metastatic cancer as presumed underlying reason for the fracture • Life expectancy <6 months • Hip fracture was part of a multi-trauma • Participants who were institutionalised during the first 3 months post-operation or did not return for the 3-month follow-up.	were also advised to walk about for 30 mins daily if they were able to. • *Control group: No exercise programme.* The participants were just asked to maintain their current lifestyle, with no restrictions were placed on their exercise activities.	is. The data reported in Table 2 are those from Sylliaas 2011 (−15.8 (−18.6, −13.1)) *Changes in mobility (measured using 6MWT in m) [mean (SD)]* Higher = better. At baseline (24 weeks post-injury): • Exercise programme: 308.1 (114.6) • No exercise programme: 287.1 (126.6) • Between-group differences: 21.7 (-6.1 to 22.6); non-significant 3 months from baseline (intervention completion, 9 months post-injury: • Exercise programme: 453.7 (72.1 • No exercise programme: 345.7 (35.3) • Between-group differences: 108 (77.1-129.9); significantly longer in intervention group *Changes in mobility (measured using maximum velocity in m/sec) [mean*	intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y Intention-to-treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk

Study details	Participants	Interventions	Outcomes and Results	Comments
			(SD)] At baseline (24 weeks post-injury): • Exercise programme: 0.6 (0.8) • No exercise programme: 0.6 (0.7) • Between-group differences: 0.1 (-0.3 to 3.8); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 1.3 (0.3) • No exercise programme: 0.8 (3.9) • Between-group differences: 0.5 (0.3 to 0.7); significantly faster in intervention group *Changes in mobility (measured using Time Up-and-Go test in sec) [mean (SD)]* At baseline (24 weeks post-injury): • Exercise programme: 14.1 (5.7) • No exercise programme: 12.5 (3.4)	Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N "All assessments, during the entire study, were carried out

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Between-group differences: 1.6 (-0.2 to 3.5); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 6.4 (0.7) • No exercise programme: 9.9 (1.2) • Between-group differences: 3.5 (0.5 to 6.1); significantly faster in intervention group *Changes in mobility (measured using step height in cm) [mean (SD)]* At baseline (24 weeks post-injury): • Exercise programme: 17.6 (12) • No exercise programme: 21.6 (14.5) • Between-group differences: 4 (-8 to 4.1); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 26.8 (10.3)	by the same examiner blinded to group allocation and the type of intervention the subject had received." (p. 208) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No exercise programme: 24 (6.2) • Between-group differences: 2.8 (Not correctly reported); unclear whether it is significantly faster in intervention group, although it probably is not. The data reported in Table 2 are those from Sylliaas 2011 (9.0 (4.8, 13.2) *Quality of life (measured using the SF-12 Physical component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (24 weeks post-injury): • Exercise programme: 47.4 (1.6) • No exercise programme: 47.9 (3) • Between-group differences: -0.5 (-1.7 to 2.3); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 52.2 (2.1) • No exercise programme:	5.3 ... multiple analyses of the data? PN Risk-of-bias judgement Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			48.8 (3.1) • Between-group differences: 3.4 (0.4 to 6.1); significantly higher in intervention group *Quality of life (measured using the SF-12 Mental component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (24 weeks post-injury): • Exercise programme: 48.6 (7.3) • No exercise programme: 47.1 (3.8) • Between-group differences: -1.5 (-3.5 to 1.4); non-significant 3 months from baseline (intervention completion, 9 months post-injury: • Exercise programme: 51.6 (8.4) • No exercise programme: 47.2 (3.9) • Between-group differences: 4.4 (1.5 to 6.3); significantly higher in intervention group	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in ADL (measured using Nottingham Extended ADL score) [mean (SD)] Scale 0 (worst) – 66 (best). At baseline (24 weeks post-injury): • Exercise programme: 50.3 (10.6) • No exercise programme: 46.1 (14.8) • Between-group differences: 4.2 (-5 to 1.4); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 59.2 (3.5) • No exercise programme: 54.8 (6.7) • Between-group differences: 4.4 (0.1 to 8.6); significantly higher in intervention group	
Full citation Taraldsen, Kristin, Sletvold, Olav, Thingstad, Pernille, Saltvedt, Ingvild, Granat, Malcolm H., Lydersen, Stian, Helbostad, Jorunn L., Physical behavior and function early after hip fracture surgery in patients	Sample size N = 397 (randomised) • Comprehensive geriatric care = 198 • Orthopaedic care = 199 N = 317 (analysed) • Comprehensive geriatric	**Interventions** • *Intervention group: Comprehensive geriatric care.* Consisted of an integrative, multi-disciplinary treatment plan for hip fracture patients, with particular focus applied to co-morbidity	**Results** For the purposes of this study upright events = standing or walking. *Changes in mobility (measured using upright*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process

Study details	Participants	Interventions	Outcomes and Results	Comments
receiving comprehensive geriatric care or orthopedic care--a randomized controlled trial, The journals of gerontology. Series A, Biological sciences and medical sciences, 69, 338-45, 2014 **Ref Id** 1116733 **Country/ies where the study was carried out** Norway **Study type** RCT **Aim of the study** To investigate the effect of comprehensive geriatric care with general orthopaedic care on mobility during the initial post-operative days after surgery for hip fracture. **Study dates** Not reported. **Source of funding** This study received funding from the Norwegian Research Council, the Central Norway Health Authority, The Department	care = 175 • Orthopaedic care = 142 **Characteristics** Age in years [Mean (SD)]: • Comprehensive geriatric care = 83.1 (5.8) • Orthopaedic care = 83.0 (6.3) Gender (M/F): • Comprehensive geriatric care (%) = 28.6/71.4 • Orthopaedic care (%) = 21.8/78.2 Time since injury: not reported. Injury cause: not reported. Location of fracture (Intracapsular fracture/other): • Comprehensive geriatric care (%) = 58/42 • Orthopaedic care (%) = 63/37 **Inclusion criteria** Participants had to: • Be part of the Trondheim Hip Fracture Trial • Admitted to hospital with a	management, pain relief, hydration, oxygenation, nutrition and early mobilisation. Regular team meetings enhanced communication, as did checklists and treatment protocols. The plan used the following principles. 1. Participants were assisted with mobilisation as early day 1 post-operation as long as there were no contra-indications. 2. Participants progressed through the mobilisation plan depending on individual ability. 3. Weight-bearing was emphasised. 4 Short term goals were set for all participants, based on their own pre-fracture function. Early mobilisation and mobilisation planning was designed between physiotherapists and the nursing staff, using observation during initial mobilisation, pre-fracture functional status and surgery performed. It included expected progress for each participant, which was then integrated into their care plans. This was used to allow the physiotherapists to particularly focus on	*time in min) [mean (SD)]* At baseline: not reported. Day 4 (post-operation): • Comprehensive geriatric care (N=175): 57.6 (67.9) • Orthopaedic care (N=142): 45.1 (57.7) • Mean difference: 12.5 (p=0.016, linear regression adjusted for gender and fracture type) *Changes in mobility (measured using number of upright events) [mean (SD)]* At baseline: not reported. Day 4 post-operation: • Comprehensive geriatric care (N=175): 24.1 (22.1) • Orthopaedic care (N=142): 19.0 (16.5) • Mean difference: 5.1 (p=0.005, linear regression adjusted for gender and fracture type) *Changes in mobility (measured using CAS) [mean (SD)]* NB. CAS was only	1.1 Was the allocation sequence random? Y - Using web-based computer randomisation programme. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No differences between groups at baseline. Risk-of-bias judgement: Some concerns. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - Paper states that participants were unblinded. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - Paper states that staff who provided intervention were unblinded. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that

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for Neuroscience at Norwegian University of Science and Technology, The St Olav Hospital Trust, the SINTEF and St Olav Hospital Fund for Research and Innovation, the Municipality of Trondheim, The Norwegian Women's Health Association and the Norwegian Extra Foundation for Health and Rehabilitation.	hip fracture • Be 70 years old or above • Living in the community prior to accident • Be able to walk at least 10 metres • Give informed consent **Exclusion criteria** • Pathological fractures • Multi-trauma • Short life expectancy	participants who did not progress as expected. • *Control group: Orthopaedic care.* Standard care delivered on the orthopaedic ward, including conventional in-patient physiotherapy. No further details reported.	performed by 299 of the 317 participants but numbers not reported per group. Have used 317 and proportions reported in article, which may cause under-estimate of effects. Scale 0 (worst) – 18 (best). At baseline: not reported. Day 1-3 post-operation: • Comprehensive geriatric care (N=175): 9.9 (3.9) • Orthopaedic care (N=142): 9.4 (3.8) • Adjusted mean difference: 0.5 (p=0.234, linear regression adjusted for gender and fracture type) *Changes in mobility (measured using SPPB score) [mean (SD)]* NB. SPPB was only performed by 295 of the 317 participants but numbers not reported per group. Have used 317 and proportions reported in article, which may cause under-estimate of effects. Scale 0 (worst) – 12 (best).	arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intent to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 175/198 in intervention group and 142/199 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: not reported. Day 5 post-operation: • Comprehensive geriatric care: 1.6 (2.0) • Orthopaedic care: 1.0 (1.6) • Adjusted mean difference (Comprehensive geriatric care – Orthopaedic care): 0.6 (p=0.002, linear regression adjusted for gender and fracture type) *Changes in mobility (using upright time during a 24 hour period in min) [mean (SD)]* At baseline: not reported. Day 4 post-operation (during night, 00:00-06:00): • Comprehensive geriatric care (N=175): 3.1 (6.4) • Orthopaedic care (N=142): 3.6 (8.1) • Adjusted mean difference: 0.5 (p=0.704, linear regression adjusted for gender and fracture type) Day 4 post-operation (during day, 06:00-12:00): • Comprehensive geriatric care (N=175): 20.0 (24.5)	outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y - A number of those lost to follow-up were due to technical issues with the gait sensor but some were due to undocumented reasons, refusal to wear sensor or medical issues. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PY - 23 drop outs in the intervention group compared to 57 in the control group. Additionally, reasons for drop out were different between the 2 groups (pressed for time and not admitted in the control group, with a great proportion of participants in the control removing sensor themselves. Risk-of-bias judgement: High risk. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN - Although conflict of interest states that an author is a co-inventor of the measurement device and director of the manufacturing

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Orthopaedic care (N=142): 15.4 (22.9) • Adjusted mean difference: 4.6 (p=0.007, linear regression adjusted for gender and fracture type) Day 4 post-operation (during afternoon, 12:00-18:00): • Comprehensive geriatric care (N=175): 19.3 (25.8) • Orthopaedic care (N=142): 14.4 (20.4) • Adjusted mean difference: 4.9 (p=0.007, linear regression adjusted for gender and fracture type) Day 4 post-operation (during evening, 18:00-00:00): • Comprehensive geriatric care (N=175): 15.0 (19.6) • Orthopaedic care (N=142): 11.8 (14.8) • Adjusted mean difference: 3.2 (p=0.053, linear regression adjusted for gender and fracture type)	company. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Day 1 to 5 post-operation with specific time points noted. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Paper states that assessors were unblinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - Objective measurement device. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data

Study details	Participants	Interventions	Outcomes and Results	Comments
				were available for analysis? Y – Paper states that all analysis was done blinded to group intervention. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Low risk. Overall risk of bias High risk. Other information None.
Full citation Xiao, X., Huang, J., Chen, Z., Xia, X., Wang, S., Yang, Z., Effects of computer-assisted wrist/hand training on the improvement of hand function in traumatic hand injuries, International Journal of Clinical and Experimental Medicine, 11, 1208-1216, 2018 **Ref Id** 1130629	**Sample size** N= 56 (randomised) • Computer-assisted rehabilitation therapy = 28 • Standard rehabilitation =28 N= 51 (analysed) • Computer-assisted rehabilitation therapy = 26 • Standard rehabilitation = 25 **Characteristics** Age in years [Mean (SD)]:	**Interventions** • *Intervention group: Computer-assisted rehabilitation therapy.* Consisted of 40 60-min sessions given twice daily on weekdays over 4 weeks. Each session included 40 mins of physical modalities exercises (including thermal modalities and ultrasound) and range of motion exercises (joint mobilization and tendon gliding) and 20 mins of	**Results** *Upper limb function (measured using total active (hand) motion in degrees) [mean (SD)]* At baseline: • Computer-assisted rehabilitation therapy: 729.17 (238.92) • Standard rehabilitation: 745.00 (228.11) • No significant difference (ANOVA)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y "A staff member not involved in the study was responsible for the allocation by using a computer generated random number table." (p. 1209)

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out China **Study type** RCT **Aim of the study** "To investigate the effects of computer-assisted wrist/hand intervention on the improvement of hand function for patients with traumatic hand injuries" (p. 1208) **Study dates** 2012-2014 **Source of funding** Innovation fund of interdisciplinary projects from Huazhong University of Science and Technology (Grant number: 2011JC072), China.	• Computer-assisted rehabilitation therapy = 33.44 (13.23) • Standard rehabilitation = 33.50 (12.07) Gender (M/F): • Computer-assisted rehabilitation therapy (N) = 14/12 • Standard rehabilitation (N) = 17/8 Time since injury in days [Mean (SD)]: • Computer-assisted rehabilitation therapy = 51.25 (15.21) • Standard rehabilitation = 46.50 (13.71) Injury cause: • Computer-assisted rehabilitation therapy = all traumatic • Standard rehabilitation = all traumatic Type of injury (Fracture/flexor/both): • Computer-assisted rehabilitation therapy (N) = 9/12/5 • Standard rehabilitation (N) = 10/11/4	computer-assisted wrist/hand strengthening rehabilitation exercises undertaken on a desk-top computer with a handmade ellipsoid-shaped joystick handle with seven force sensing resistors on its surface and a data processing module. The patient played a virtual shooting video game to train both wrist and hand in an integrated manner. • *Control group: Standard rehabilitation.* Consisted of 40 60-min sessions given twice daily on weekdays over 4 weeks. Each session included 40 mins of physical modalities exercises (including thermal modalities and ultrasound) and range of motion exercises (joint mobilization and tendon gliding) and 20 mins of conventional strengthening exercises (Theraband for wrist exercises and therapy putty for hand grip/pinch strengthening).	4 weeks from baseline (intervention completion): • Computer-assisted rehabilitation therapy: 789.16 (191.35) • Standard rehabilitation: 802.50 (210.57) • No significant difference (ANOVA) Difference before-after training: • Computer-assisted rehabilitation therapy: 60.00 (54.68) • Standard rehabilitation: 57.50 (78.58) • No significant difference (ANOVA) *Upper limb function (measured as hand grip strength in kg) [mean (SD)]* At baseline: • Computer-assisted rehabilitation therapy: 5.54 (3.47) • Standard rehabilitation: 5.88 (2.38) 4 weeks from baseline (intervention completion): • Computer-assisted	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	Inclusion criteria Participants had to: • Be aged 16-65 years old • Have traumatic injury to the hand or/and wrist which involves bone or/and flexor tendon • Be 4-6 weeks post bone fracture surgery and 8 weeks post flexor tendon • No communication or cognitive deficits • Happy to participate in progressive resistance movement. • Be recruited from inpatient rehabilitation centre **Exclusion criteria** • Bilateral hand injuries in conjunction with other injuries (e.g., peripheral nerve injuries, shoulder or elbow injury) • Unhealed wounds		rehabilitation therapy: 9.05 (3.74) • Standard rehabilitation: 7.42 (2.69) Difference before-after training: • Computer-assisted rehabilitation therapy: 3.51 (0.35) • Standard rehabilitation: 1.54 (0.37) • Significant higher (better) in intervention group (ANOVA) *Upper limb function (measured using 2-point pinch strength in kg) [mean (SD)]* At baseline: • Computer-assisted rehabilitation therapy: 1.26 (0.33) • Standard rehabilitation: 1.13 (0.49) • No significant difference (ANOVA) 4 weeks from baseline (intervention completion): • Computer-assisted rehabilitation therapy: 1.86 (0.50)	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI, but PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? PN Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N (51/56 randomised participants) 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Standard rehabilitation: 1.38 (0.51) • No significant difference (ANOVA) Difference before-after training: • Computer-assisted rehabilitation therapy: 0.60 (0.53) • Standard rehabilitation: 0.25 (0.13) • No significant difference (ANOVA) *Upper limb function (measured using upper extremity function index score) [mean (SD)]* Higher = better. At baseline: • Computer-assisted rehabilitation therapy: 45.00 (16.22) • Standard rehabilitation: 48.85 (12.69) 4 weeks from baseline (intervention completion): • Computer-assisted rehabilitation therapy: 60.92 (12.04) • Standard rehabilitation:	4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN "All the participants were assessed at baseline and post four weeks of intervention by a trained and experienced rehabilitation physician, who was blinded to group allocation" (p. 1210) 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N (see 4.2) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that

Study details	Participants	Interventions	Outcomes and Results	Comments
			56.15 (13.03) Difference before-after training: • Computer-assisted rehabilitation therapy: 15.92 (2.50) • Standard rehabilitation: 7.31 (2.50) • Significant better in intervention group (ANOVA)	produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Yigiter, K., Sener, G., Erbahceci, F., Bayar, K., Ulger, O. G., Akdogan, S., A comparison of traditional prosthetic training versus proprioceptive neuromuscular facilitation resistive gait training with trans-femoral amputees, Prosthetics and Orthotics International, 26, 213-7, 2002	**Sample size** N= 50 (randomised) • Proprioceptive neuromuscular facilitation = 25 • Traditional prosthetic training = 25 N (analysed) = not explicitly reported but probably the same as randomised	**Interventions** • *Both groups:* "Modular prostheses including modified total contact quadrilateral socket, single axis knee joint with constant friction and Solid Ankle Cushion Heel (SACH) foot were utilised in the prosthetic fittings. To achieve the adequate functions of thigh muscles; the anteroposterior	**Results** *Changes in mobility (measured using % weight bearing) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 39.10 (6.22) • Traditional prosthetic training: 36.45 (5.24)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI 1.2 Was the allocation sequence concealed until

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1124973 **Country/ies where the study was carried out** Turkey **Study type** RCT **Aim of the study** "to compare the outcome of traditional and proprioceptive neuromuscular facilitation (PNF) techniques on weight bearing and gait biomechanics." (p. 213) **Study dates** Not reported **Source of funding** Not reported	**Characteristics** Age in years [Mean (SD)]: • Proprioceptive neuromuscular facilitation = 28.16 (7.24) • Traditional prosthetic training = 28.18 (6.48) Gender (M/F): • Proprioceptive neuromuscular facilitation (N) = 25/0 • Traditional prosthetic training (N) = 25/0 Time since injury in years [Mean (SD)]: Not reported, but time since amputation for the participants as a whole = 7.20 (0.76) months Injury cause: • Proprioceptive neuromuscular facilitation = all traumatic • Traditional prosthetic training = all traumatic Inclusion criteria Not reported, but: • "Fifty unilateral trans-femoral amputees who were attending for their first prosthesis, participated in this study."	dimension of the socket was increased, and the mediolateral dimension was decreased when compared with a standard quadrilateral socket.... After single axis knee joint and SACH foot were attached to the socket and biomechanical alignments were performed, the subjects were asked to walk freely in parallel bars for one day under supervision. Free walking was permitted to provide adaptation to prostheses before training." (p. 214) The training was initiated using parallel bars with double arm support, progressing to single arm support, and to an open area when the participant could perform the training without support. • *Intervention group: Proprioceptive neuromuscular facilitation.* Prosthetic training consisting of proprioceptive neuromuscular facilitation (PNF) which included 10 daily sessions lasting 30 minutes each of weight-shifting (forward-backward and side-to-side), dynamic	• No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 55.68 (6.98) • Traditional prosthetic training: 44.81 (4.42) • Significantly higher in intervention group (p < 0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 16.59 (8.87) • Traditional prosthetic training: 8.35 (3.57) • Significantly higher in intervention group (p < 0.05) *Changes in mobility (measured using stride length in cm) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 106.22 (7.6) • Traditional prosthetic training: 106.88 (7.17) • No significant difference	participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? NI (Very few baseline characteristics reported) Risk-of-bias judgement: High risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	(p. 213) • "There was no muscle weakness other than the weakness related to the level of amputation. No muscle shortening, joint motion limitations or other problems preventing weight bearing and walking were the other selection criteria. All the subjects received postoperative and preprosthetic physiotherapy procedures including stump positioning, bandaging, stretching and dynamic exercises, balancing activities in parallel bars and finally three-point ambulation. " (p. 214) **Exclusion criteria** Not reported.	balancing activities (free, unrestricted), static balancing exercises with physiotherapist giving resistance in antagonistic direction, stool stepping, braiding, gait exercises and climbing/descending the stairs given by PNF. Moreover, "approximation was applied to restore the relationship between the prosthetic foot and the ground. During balancing, weight shifting, stool-stepping, single limb standing, gait and climbing and descending the stairs, approximation was used" (p. 215) to the weight-bearing side together with resistance given to promote the advancement of the other limb • *Control group: Traditional prosthetic training.* This included 10 daily sessions lasting 30 minutes each of weight-shifting (forward-backward and side-to-side), dynamic balancing activities (free, unrestricted), stool stepping, braiding, gait exercises and climbing/descending the stairs.	At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 114.08 (13.69) • Traditional prosthetic training: 108.2 (7.82) • Significantly longer in intervention group (p < 0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 7.86 (3.89) • Traditional prosthetic training: 1.32 (0.56) • Significantly longer in intervention group (p < 0.05) *Changes in mobility (measured using amputated side step length in cm) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 59.82 (4.95) • Traditional prosthetic training: 59.84 (4.51) • No significant difference	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NI Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? NI 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NI Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of

Study details	Participants	Interventions	Outcomes and Results	Comments
			At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 55.94 (4.55) • Traditional prosthetic training: 54.42 (4.71) • Significantly longer in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 3.88 (1.86) • Traditional prosthetic training: 5.42 (2.27) • Significantly shorter in intervention group (p<0.05) *Changes in mobility (measured using sound side step length in cm) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 46.4 (4.35) • Traditional prosthetic training: 47.04 (5.59) • No significant difference At intervention completion	measuring the outcome inappropriate? PY 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NI Risk-of-bias judgement: High risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the

Study details	Participants	Interventions	Outcomes and Results	Comments
			(time point not reported): • Proprioceptive neuromuscular facilitation: 58.14 (3.83) • Traditional prosthetic training: 53.78 (5.59) • Significantly longer in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 11.74 (3.62) • Traditional prosthetic training: 6.74 (2.65) • Significantly longer in intervention group (p<0.05) *Changes in mobility (measured using cadence with self-selected comfortable gait in steps/min) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 58.12 (8.79) • Traditional prosthetic training: 58.4 (8.15) • No significant difference At intervention completion (time point not reported):	basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement: High risk Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Proprioceptive neuromuscular facilitation: 74.32 (8.11) • Traditional prosthetic training: 68.36 (7.48) • Significantly more in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 16.44 (4.58) • Traditional prosthetic training: 9.96 (2.26) • Significantly more in intervention group (p<0.05) *Changes in mobility (measured using cadence of fast gait in steps/min) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 63.12 (8.79) • Traditional prosthetic training: 63.48 (8.17) • No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation:	

Study details	Participants	Interventions	Outcomes and Results	Comments
			84.32 (8.11) • Traditional prosthetic training: 78.36 (7.48) • Significantly more in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 21.6 (4.36) • Traditional prosthetic training: 14.72 (2.46) • Significantly more in intervention group (p<0.05) *Changes in mobility (measured using velocity in cm/sec) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 51.43 (8.73) • Traditional prosthetic training: 52.07 (8.79) • No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 66.14 (7.64) • Traditional prosthetic training: 61.63 (9.4)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Significantly higher in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 14.72 (3.81) • Traditional prosthetic training: 9.6 (3.6) • Significantly higher in intervention group (p<0.05) *Changes in mobility (measured using stride length/lower limb length) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 1.2 (0.11) • Traditional prosthetic training: 1.21 (0.16) • No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 1.28 (0.1) • Traditional prosthetic training: 1.23 (0.12) • Significantly higher in intervention group (p<0.05)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Difference before-after training: • Proprioceptive neuromuscular facilitation: 0.08 (0.01) • Traditional prosthetic training: 0.02 (0.03) • Significantly higher in intervention group (p<0.05)	

Full citation
Yildirim, A., Sürücü, G. D., Karamercan, A., Gedik, D. E., Atci, N., Dülgeroğlu, D., Özgirgin, N., Short-term effects of upper extremity circuit resistance training on muscle strength and functional independence in patients with paraplegia, Journal of back and musculoskeletal rehabilitation, 29, 817-823, 2016
 	
Ref Id
1013726
 	
Country/ies where the study was carried out
Turkey
 	
Study type
RCT
	Sample size
	N = 26 (randomised)
	• Circuit resistance training + standard rehabilitation = 13
	• Standard rehabilitation only = 13
	
	N = 26 (analysed)
	• Circuit resistance training + standard rehabilitation = 13
	• Standard rehabilitation only = 13
	
	Characteristics
	Age in years [Mean (SD)]:
	• Circuit resistance training + standard rehabilitation = 29.6 (8.5)
	• Standard rehabilitation only = 31.9 (12.0)
	
	Gender (M/F):
		Interventions
		• *Intervention group: Circuit resistance training + standard rehabilitation.* Standard care as per control group. Circuit resistance training consisted of 60 minutes/day sessions, 5 per week for 6 weeks. Sessions used repetitive exercises of the upper extremities, aimed at strengthening elbow and shoulder flexor–extensor, abductor–adductor, pectoral, and latissimus dorsi muscles. Maximum weight that could be lifted 10 times was determined on day 1. Participants performed 3 sets of exercises (1 each at 50%, 75% and 100% of this maximum weight) x 5 days/week. Maximum weight that could be lifed
			Results
			
			Upper body functioning (measured using isokinetic measurement of concentric strength) [mean (SD)]
			
			At 6 weeks from baseline (intervention completion):
			• Total work/Body weight (J/kg), left side, 180/sec, extension
			  ○ Circuit resistance training + standard rehabilitation = 65.2 (34.5)
			  ○ Standard rehabilitation only = 75.3 (28.9)
			• Total work/Body weight (J/kg), left side, 180/sec, flexion
			  ○ Circuit resistance training + standard rehabilitation = 61.3 (17.7)
			  ○ Standard rehabilitation
				Limitations
				Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2)
				Domain 1: Risk of bias arising from the randomization process
				1.1 Was the allocation sequence random? NI - Simply says block randomisation technique
				1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI
				1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – Baseline demographics not significantly different.
				Risk-of-bias judgement: Some concerns
				Domain 2: Risk of bias due

Study details	Participants	Interventions	Outcomes and Results	Comments

Aim of the study
To compare the effectiveness of upper extremity circuit resistance training plus standard rehabilitation with standard rehabilitation alone on muscle strength, functional independence and quality of life in patients with paraplegia.
 	
Study dates
Not reported.
 	
Source of funding
Not reported.
	• Circuit resistance training + standard rehabilitation (N) = 11/2
	• Standard rehabilitation only (N) = 11/2
	
	Time since injury: Not reported.
	
	Injury cause:
	• Circuit resistance training + standard rehabilitation = all traumatic
	• Standard rehabilitation only = all traumatic
	
	Level of injury (T5-T10/T10-L4):
	• Circuit resistance training + standard rehabilitation (N) = 7/6
	• Standard rehabilitation only (N) =7/6
	
	Inclusion criteria
	Not reported.
	
	Exclusion criteria
	• Patients with non-traumatic SCI
	• Patients unable to recover balance while sitting
	• Severely disabled patients (no further details reported on how this was
		10 times was re-measured during week 3 and week 5.
		• *Control group: Standard rehabilitation only.* 60 minutes/day sessions, 5 per week for 6 weeks. Sessions included balance exercises, training for wheelchair use and transfers, ADL practice, mobilisation exercises, training in use of assistive devices.
			only = 49.2 (15.4)
			• Total work/Body weight (J/kg), left side, 60/sec, extension
			  ○ Circuit resistance training + standard rehabilitation = 121.8 (28.6)
			  ○ Standard rehabilitation only = 107.1 (32.8)
			• Total work/Body weight (J/kg), left side, 60/sec, flexion
			  ○ Circuit resistance training + standard rehabilitation = 107.7 (32.7)
			  ○ Standard rehabilitation only = 68.2 (17.9)
			• Total work/Body weight (J/kg), right side, 180/sec, extension
			  ○ Circuit resistance training + standard rehabilitation = 74.3 (26.9)
			  ○ Standard rehabilitation only = 69.2 (32.8)
			• Total work/Body weight (J/kg), right side, 180/sec, flexion
			  ○ Circuit resistance training + standard rehabilitation = 54.17 (12.1)
			  ○ Standard rehabilitation
				to deviations from the intended interventions (effect of assignment to intervention)
				2.1. Were participants aware of their assigned intervention during the trial? PY – Not possible due to type of intervention.
				2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI
				2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI
				2.4. If Y/PY to 2.3: Were these deviations likely to have affected the outcome? NA
				2.5 If No/PN/NI to 2.4: Were these deviations from intended intervention balanced between groups? NA
				2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - ITT
				2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the

Study details	Participants	Interventions	Outcomes and Results	Comments

	determined)
	 • Patients with pressure sores that stopped them performing rehabilitation
	 • Patients with brain damage
	 • Patients with non-vertebral fractures
	 • Patients who could not to cooperate
	 • Patients with deep vein thrombosis, cardiopulmonary disease, cerebral aneurysm
	 • Patients with non-cardiac diseases
	 • Patients with severe psychiatric disorders
			only = 43.5 (7.2)
			 • Total work/Body weight (J/kg), right side, 60/sec, extension
			   ○ Circuit resistance training + standard rehabilitation = 115.7 (29.1)
			   ○ Standard rehabilitation only = 107.1 (28.3)
			 • Total work/Body weight (J/kg), right side, 60/sec, flexion
			   ○ Circuit resistance training + standard rehabilitation = 108.1 (42.5)
			   ○ Standard rehabilitation only = 77.3 (16.6)
			 • Peak torque/Body weight (Nm/kg), left side, 180/sec, extension
			   ○ Circuit resistance training + standard rehabilitation = 45.4 (14.2)
			   ○ Standard rehabilitation only = 46.5 (13.5)
			 • Peak torque/Body weight (Nm/kg), left side, 180/sec, flexion
			   ○ Circuit resistance training + standard rehabilitation = 40.4 (8.4)
			   ○ Standard rehabilitation only = 34.8 (7.1)
				group to which they were randomized? NA
				 Risk-of-bias judgement: Some concerns
				 Domain 3: Missing outcome data
				 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y – All participants
				 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA
				 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA
				 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA
				 Risk-of-bias judgement: Low risk
				 Domain 4: Risk of bias in measurement of the outcome
				 4.1 Was the method of measuring the outcome inappropriate? Y
				 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N – Same assessor, same technique and same time points

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Peak torque/Body weight (Nm/kg), left side, 60/sec, extension ○ Circuit resistance training + standard rehabilitation = 73.4 (14.3) ○ Standard rehabilitation only = 68.6 (18.4) • Peak torque/Body weight (Nm/kg), left side, 60/sec, flexion ○ Circuit resistance training + standard rehabilitation = 61.6 (13.4) ○ Standard rehabilitation only = 48.1 (8.9) • Peak torque/Body weight (Nm/kg), right side, 180/sec, extension ○ Circuit resistance training + standard rehabilitation = 47.3 (14.1) ○ Standard rehabilitation only = 46.3 (21.1) • Peak torque/Body weight (Nm/kg), right side, 180/sec, flexion ○ Circuit resistance training + standard rehabilitation = 42.8 (3.8) ○ Standard rehabilitation only = 32.9 (4.8) • Peak torque/Body weight	4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? ADL and QoL – PY; Upper body function – N. Used isokinetic parameters which are objective measures. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? ADL and QoL – PN. Used structured and validated instruments, performed by healthcare professionals; Upper body function – NA Risk-of-bias judgement: ADL and QoL – Some concerns; Upper body function – Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?

Study details	Participants	Interventions	Outcomes and Results	Comments
			(Nm/kg), right side, 60/sec, extension ○ Circuit resistance training + standard rehabilitation = 73.9 (15.3) ○ Standard rehabilitation only = 70.6 (22.8) • Peak torque/Body weight (Nm/kg), right side, 60/sec, flexion ○ Circuit resistance training + standard rehabilitation = 58.4 (9.2) ○ Standard rehabilitation only = 50.5 (12.5) *Overall QoL (measured using QoL scale) [mean (SD)]* Scale -234 - +234, higher = better At 6 weeks from baseline (intervention completion): • Circuit resistance training + standard rehabilitation = 105.1 (89.2) • Standard rehabilitation only = 133.6 (99.4) • No significant difference between groups (p=0.238, • Mann-Whitney U test)	NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Risk-of-bias judgement: Some concerns **Other information** None.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in ADL (measured using total FIM score) [mean (SD)] Scale 18-126, higher = better At 6 weeks from baseline (intervention completion): • Circuit resistance training + standard rehabilitation = 103.6 (12.8) • Standard rehabilitation only = 96.6 (8.7) • Significantly higher (better) in intervention group (p=0.048, student t-test)	

2MWT: 2 minute walk test; 6MWT: 6 minute walk test; 10MWT: 10 minute walk test; ADL: Activities of daily living; ALSAR: Assessment of Living Skills and Resources; ANCOVA: Analysis of covariance statistical test; ANOVA: Analysis of variance statistical test; AOFAS: American Orthopedic Foot and Ankle score; ASIA: American Spinal Injury Association; BI: Barthel Index; BMI: Body mass index; BSHQ: Burn specific health questionnaire; C: Cervical spinal level; CAS: Cumulative ambulation score; CHART: Craig Handicap Assessment and Reporting Technique; COPM: Canadian Occupational Performance measure; CI: confidence interval; cm: centimetres; DASH: Disabilities of the Arm, Shoulder and Hand; EQ-5D(-3L): EuroQol, 5 domains, 3 levels; F: Female; FES-I: Falls Efficacy Scale International; FIM: Functional independence measure; FIM+FAM: Functional independence measure and functional assessment measure; FIM-L: Functional independence measure locomotion sub-score; FIM-M: Functional independence measure motor sub-score; g: grams; GRADE: Grading of Recommendations Assessment, Development and Evaluation; IQR: Interquartile range; ITT: intention to treat; IU: International units; kcal: kilocalories; kg: kilograms; L: Lumbar spinal level; LEMS: Lower Extremity Motor score; LMN: Lower motor neurone; M: Male; m: metre; mDLQI: Modified Dermatology Life Quality Index; min: minutes; ml: millilitres; MHOQ: Michigan Hand Qutcomes questionnaire; N: Number [of No if part of quality assessment]; NA: Not applicable; NHANES: National Health and Nutrition Examination Survey; NI: No information; nm: Newton-metre; OR: Odds ratio; PN: Probably not; POMA: Performance Orientated Mobility assessment; PPME: Physcial performance and mobility examination; PY: Probably yes; QoL: Quality of life; RCT: Randomised controlled trial; RoB2: revised Cochrane risk of bias tool; RR: Risk ratio; SCI: Spinal cord injury; SD: Standard deviation; secs: seconds; SEM: Standard error of the mean; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SPPB; Short Physical Performance Battery; SWLS: Satisfaction with Life Scale; T: Thoracic spinal level; TBSA: Total burn surface area: TUG: Timed Up and Go test; UMN: Upper motor neurone; VAS: Visual analogue scale; WHOQOL: World Health Organization quality of life questionnaire; WHOQOL-Bref-Tr: Abbreviated WHO Quality of life tool [Turkish language] WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index; Y: Yes