

SUPPLEMENTARY TABLES

Supplementary Table 1. Risk of bias analysis for each Cochrane bias category, the overall risk of bias at study level and at outcome level, and the % completers in the intervention group. + Indicates high risk of bias, - indicates low risk of bias and ? indicates unclear risk of bias.

Author (Ref)	Year	Selection bias		Performance bias		Detection bias	Attrition bias	Reporting bias	Other bias		Overall risk of bias (study level/outcome level)		Completers in intervention group
		Random sequence generation	Allocation concealment	Blinding of participants	Blinding of personnel	Blinding of outcome assessment	Completeness of outcome data	Selective reporting improbable	Comparable groups	Sufficiently powered	Study level	Outcome level	%
Adunsky [45]	2011	-	?	-	-	-	+	-	-	?	-	?	62.9
Baek [48]	2018	?	?	-	-	-	-	-	-	+	+	+	91.7
Binder [36]	2004	-	-	+	-	-	-	-	-	Prob. not	-	-	69.6
Chammout [51]	2012	+	?	+	+	+	-	-	-	-	+	+	93.0
Han [43]	2021	-	-	+	-	-	-	-	+	+	-	+	79.1
Hedstrøm [46]	2002	-	?	?	?	?	-	-	?	Prob. not	?	-	78.1
Hofbauer [47]	2021	-	-	-	-	-	+	-	-	-	-	?	88.2
Lamb [49]	2002	-	-	-	-	-	?	-	-	Probably	-	?	?
Langford [52]	2015	-	-	+	-	-	-	-	-	Prob. not	-	-	73.3
Li [50]	2018	-	?	?	?	?	?	-	-	?	?	?	?
Mangione [39]	2010	-	-	+	+	-	-	-	-	Prob. not	-	-	85.7
Mangione [37]	2005	-	-		?	-	-	-	-	+	?	+	76.7
Mitchell [23]	2001	-	-	+	+	+	+	-	-	Prob. not	+	+	50.0
Moseley [32]	2009	-	-	+	+	-	-	-	-	-	-	-	97.5
Mård [41]	2008	-	-	+	?	-	-	-	-	Prob. not	-	?	95.8
O'Halloran [53]	2016	-	-	+	-	-	-	-	-	-	-	-	81.3
Overgaard [24]	2022	-	-	+	-	-	+	-	-	-	-	+	70.0
Portegijs [40]	2014	-	?	?	?	?	?	-	-	Prob. not	+	+	95.7
Portegijs [42]	2008	-	-	?	?	?	-	-	-	+	?	?	95.8

Said [31]	2021	-	-	+	Both	-	+	+	?	+	-	+	73.1
Senserick [35]	2021	-	-	+	-	-	+	-	-	+	-	+	92.1
Sherrington [38]	2004	-	-	+	+	+	-	-	-	?	+	+	87.5
Sherrington [33]	2003	-	-	+	+	+	-	-	-	?	+	-	97.6
Shi [30]	2018	?	?	?	?	?	?	-	?	?	+	+	?
Sylliaas [26]	2011	-	Believed to be	+	?	-	?	-	-	?	-	?	96.0
Sylliaas [25]	2012	-	Believed to be	+	?	-	?	-	-	?	-	?	?
Taraldsen, Thingstad [9]	2019	-	-	+	-	-	+	-	-	-	-	-	78.6
Taraldsen [27]	2014	-	-	+	-	-	-	-	-	-	-	-	87.9
Taraldsen [28]	2015	-	-	+	+	-	-	-	-	-	-	-	67.8
Thingstad [29]	2015	-	-	+	+	-	+	-	-	-	-	-	62.6
Tsauo [44]	2005	?	?	?	?	?	+	-	-	Prob. not	+	+	46.4
Van Ooijen [34]	2016	-	-	+	+	-	-	-	-	Prob. not	-	+	76.6

Supplementary Table 2. Intervention effects on gait parameters, including digital mobility outcomes (DMOs), for the nine studies with overall low risk of bias.

Author, year (Ref)	Intervention	Control	N=	Primary/ secondary outcomes:	Assessment time:	Gait speed I (m/s):	Gait speed C (m/s):	DMOs	Effects of intervention
Binder, 2004 [36]	Extended outpatient rehabilitation, Physical therapy, 3x week, 36 sessions per phase 1 and 2 (within 16 weeks post-surgery)	usual care	I=45 C=44	Primary: PPT, FSQ, IADL, BADL* Secondary: Fast gait speed	Baseline within 16 weeks post-surgery 3 months follow-up 6 months follow-up	0.90±0.27 1.16±0.37 1.22±0.41	0.86±0.28 0.99±0.38 0.99±0.38	N/A	Physical Therapy significant greater improvement in primary and most of the secondary outcomes, including fast gait speed as compared to controls.
Langford, 2015 [52]	Usual care including in-hospital education and videos + early after discharge guidance by physiotherapist 5 phone calls)	Usual care including in-hospital education and videos	I=11 C=15	Primary: Feasibility Secondary: Normal gait speed	Within 7 days post hip fracture 4 months post discharge	0.22±0.12 0.84±0.24	0.26±0.13 0.83±0.29	N/A	In this small feasibility trial, no differences between groups were found for health measures.
Mangione, 2010 [39]	Home-based high intensity leg strengthening exercises twice a week for 10 weeks	Transcutaneous electrical nerve stimulation and mental imagery twice a week for 10 weeks	I=14 C=12	Primary: Isometric force of hip, knee, and ankle extensors Secondary: Normal gait speed	Baseline: 5.5-6.5 months post hip fracture 10 weeks follow-up 12 months post hip fracture	0.70±0.19 0.81±0.17 0.81±0.17	0.66±0.17 0.70±0.22 0.67±0.21	N/A	In this small pilot trial homebased high intensity leg strengthening exercise was more effective than transcutaneous electrical nerve stimulation in improving force production, gait speed and endurance, and physical performance one year after hip fracture. More participants in the intervention group made

									meaningful changes in walking speed.
Moseley, 2009 [32]	60 min per day exercise programme conducted whilst standing during inpatient rehabilitation for 16 weeks	30 min per day exercise programme conducted whilst seated/ supine during inpatient rehabilitation for 4 weeks	I=80 C=80	Primary: Knee extensor muscle strength in fractured leg and gait speed	Baseline at admission to inpatient rehabilitation (time after surgery undisclosed) Only between-group differences in gait speed reported at follow-ups	0.30±0.22	0.28±0.16	N/A	No benefit (or harm) due to the intervention with respect to the primary outcome measures at 4- and 16-weeks follow-up. However, people with cognitive impairment gained greater benefit in gait speed.
O'Halloran, 2016 [53]	Motivational interviewing by telephone 8 x 30 min weekly for 8 weeks in the community within 6 months after discharge from rehabilitation	Usual care	I=16 C=14	Primary: DMOs measured by ActivPAL: no of steps, time (min) spent walking and time (min) spent sitting/ lying per day	Baseline at 6 months post discharge from rehabilitation mean 167/201 days post-hip fracture) and 9 weeks follow-up	N/A	N/A	The intervention group took significantly more steps per day (mean = 1237 steps 95% (CI) 12-2463), walked for longer time per day (mean =14.4 minutes, 95% CI 0.6-28.8)	Motivational interviewing can result in clinically meaningful improvements in physical activity and psychosocial outcomes for people recovering from hip fracture.
Taraldsen, Thingstad, 2019 [9]	Extended exercise one-to-one with physiotherapy at home, 2x week, 10 weeks, structured, progressive, task-specific gait and balance program 4 months post-surgery	Usual care in the community	I=70 C=73	Primary: Normal gait speed. Secondary: DMOs measured by ActivPAL: Upright time (min/day), Upright events (no./day), and other gait characteristics from gait analysis	Baseline (T1): 4 months post-surgery. Only between-group differences in gait speed reported at follow-ups 6- and 12-	0.53±0.25	0.57±0.27	Significant between group differences in favour of intervention from baseline to 6 months post-surgery for number of upright events (4.95 events (95% CI: 0.21-9), but not for upright time	A relatively short home-based, supervised exercise program targeting balance and gait had an immediate and lasting small effect on gait speed and an effect on lower limb function.

					months post-surgery				
Taraldsen 2014 [27]	Comprehensive geriatric care including a beam-based, structured and individualized approach to mobilization.	Treatment as usual in an ortopaedic ward	I=198 C=199	Primary: SPPB* Secondary: Upright time and upright events from activPALS	4 th day post-surgery	N/A	N/A	Analysis showed significant more upright time and upright events on day 4 post surgery in the intervention group as compared to controls.	Treatment with CGC compared to OC resulted in more time in upright and more upright events during hospital stay despite no difference in their need for assistance during ambulation.
Taraldsen 2015 [28]	Comprehensive geriatric care including a beam-based, structured and individualized approach to mobilization.	Treatment as usual in an ortopaedic ward	I=198 C=199	Primary: SPPB* Secondary: Upright time and six other outcomes from ActivPALS	4 months post-surgery 12 months post-surgery	N/A	N/A	Analysis showed more time upright both 4 and 12 months after surgery for the intervention group compared to the control group, for all activity variables except number of upright events.	Comprehensive geriatric care resulted in beneficial long-term impact on participants' free-living physical behavior.
Thingstad, 2015 [29]	Comprehensive geriatric care including a beam-based, structured and individualized approach to mobilization	Treatment as usual in an ortopaedic ward	I=198 C=199	Primary: SPPB* Secondary: Normal gait speed and other gait characteristics from GAITRite	4 months post-surgery 12 months post-surgery	0.65±0.38 0.72±0.36	0.57±0.38 0.59±0.32	Analysis showed better gait characteristics at both 4 and 12 months in the intervention group compared to the control group, for all gait variables except variability	Comprehensive geriatric care resulted in better gait control, gait efficiency and self-reported mobility as long as 1 year following the fracture.

* PPT= Physical Performance Test; FSQ= Functional Status Questionnaire; IADL= Instrumental activities of daily living; BADL= Basic Activities of Daily Living; SPPB= Short Physical Performance Battery.