

Supplement 2. Main reported results of the included studies

Study	Outcome	Change from baseline in cases, Mean (SD)		Change from baseline in controls, Mean (SD)	
		Baseline	Follow-up	Baseline	Follow-up
Allen 2010	Knee extensor strength (weaker leg) (kg)	29.5 (9.8)	32.9 (10.4)	29.1 (15.7)	28.8 (12.2)
	Knee extensor strength (stronger leg) (kg)	32.0 (10.7)	36.1 (12.9)	34.5 (16.7)	31.9 (11.3)
	Knee extensor strength (average) (kg)	30.8 (10.2)	34.5 (11.3)	31.8 (16.1)	30.3 (11.4)
	Coordinated Stability (errors)	14.5 (10.9)	12.9 (12.4)	15.1 (12.1)	14.8 (10.9)
	Sway on floor (mm)	106.9 (86.7)	121.7 (93.4)	119.1 (93.2)	127.5 (51.0)
	Sway on foam (mm)	175.1 (109.3)	202.1 (166.3)	187.3 (110.7)	239.7 (123.8)
	Maximum balance range in standing (mm)	164.9 (58.0)	121.7 (93.4)	180.7 (48.2)	174.3 (51.4)
	Alternate step test (s)	9.5 (2.8)	8.5 (2.0)	10.6 (3.9)	10.3 (3.9)
	Freezing of Gait Questionnaire (Yes/No)	Y=13	Y=7	Y=14	Y=12
	Freezing of Gait Questionnaire (0 to 24)	6.8 (5.1)	5.5 (5.9)	8.3 (5.8)	9.4 (6.2)
	Sit to stand time (5 reps) (s)	13.43 (6.11)	10.70 (3.14)	12.75 (4.86)	12.54 (4.52)
	Fast walking speed (m/s)	1.47 (0.38)	1.61 (0.35)	1.54 (0.35)	1.48 (0.43)
	Comfortable walking speed (m/s)	1.07 (0.27)	1.09 (0.26)	1.04 (0.25)	1.06 (0.32)
	Short Physical Performance Battery (continuous score)	2.10 (0.34)	2.23 (0.27)	2.09 (0.43)	2.13 (0.35)
	Bloomer 2008	Falls efficacy scale-international FES-I (16 to 64)	28.1 (12.1)	25.8 (7.9)	29.1 (10.3)
Parkinson's Disease Questionnaire PDQ-39 (%)		19.9 (14.7)	18.9 (13.9)	32.8 (15.9)	37.7 (30.8)
Leg press one repetition maximum (kg)		165 (30)	195 (n/r)	160 (32)	n/d ^a
Plasma malondialdehyde (umol/L)		1.02 (0.07) ^b	0.85 (0.1) ^b	0.98 (0.1) ^b	1.15 (0.07) ^b
Plasma hydrogen peroxide (umol/L)		5.0 (0.5) ^b	5.3 (0.8) ^b	4.2 (0.6) ^b	6.2 (0.6) ^b
Trolox-equivalent antioxidant capacity (mmol*L ⁻¹)		0.551 (0.018)	0.583 (0.003)	0.567 (0.027)	0.590 (0.005)
Catalase (U*mL ⁻¹)		116.2 (2.7)	117.0 (2.5)	116.6 (3.4)	113.6 (2.5)
Bridgewater 1997	Superoxide dismutase (U*mL ⁻¹)	0.131 (0.006)	0.138 (0.004)	0.144 (0.008)	0.141 (0.005)
	Glutathione peroxidase (nmol*min ⁻¹ *mL ⁻¹)	109.1 (10.4)	110.9 (13.6)	129.0 (6.3)	113.1 (12.5)
	Maximal isometric torque production / flexion (Nm)	100.1 (4.44)	118.9 (4.44)	107.2 (4.44)	114.6 (4.44)
	Maximal isometric torque production / extension (Nm)	11 5.3 (5.04)	139.2 (5.04)	112.1 (5.04)	124.3 (5.04)
	Maximal isometric torque production / right (Nm)	35.20 (2.12)	46.05 (2.12)	36.25 (2.12)	37.68 (2.12)
	Maximal isometric torque production / left (Nm)	31.1 (2.45)	46.4 (2.45)	39.5 (2.45)	48.4 (2.45)
	Maximal velocity production / flexion (degree/sec)	70.4 (4.16)	97.7 (4.16)	80.4 (4.42)	91.4 (4.16)
	Maximal velocity production / extension (degree/sec)	79.2 (4.76)	100.7 (4.76)	88.3 (5.05)	102.2 (4.76)
	Maximal velocity production / right(degree/sec)	46.7 (3.97)	78.9 (3.97)	59.4 (4.21)	69.1 (3.97)
	Maximal velocity production / left (degree/sec)	46.3 (4.10)	71.4 (4.10)	57.3 (4.35)	62.8 (4.10)
	Webster Rating Scale	7.7 (0.61)	6.9 (0.61)	8.1 (0.57)	8.2 (0.57)
Combs 2013	Northwestern University Disability Scale	45.5 (0.29)	45.9 (0.29)	45.2 (0.27)	43.6 (0.27)
	Human Activity Profile	75.8 (1.04)	80.3 (1.04)	80.5 (0.98)	77.8 (0.98)
	Berg Balance Scale	49.0 (49.0)	53.0 (45.0)	49.0 (17.0)	54.0 (12.0)
	Activities Specific Balance Confidence Scale (%)	83.1 (60.6)	85.3 (60.6)	85.0 (56.9)	93.3 (33.8)
	Timed Up and Go Test (sec)	8.05 (15.12)	7.12 (14.62)	7.64 (7.39)	7.12 (5.47)
	Dual Timed Up and Go Test (sec)	11.32 (26.23)	8.16 (18.24)	10.33 (16.09)	8.89 (7.64)
	Gait Velocity (m/s)	1.06 (1.08)	1.10 (1.10)	1.15 (0.72)	1.22 (0.64)
Corcos 2013	6-Minute Walk (m)	405.0 (549.1)	457.0 (669.7)	484.4 (301.2)	478.7 (183.9)
	Parkinson's disease Quality of Life Scale	128.0 (61.0)	128.0 (61.0)	125.5 (84.0)	149.5 (79.0)
Corcos 2013	Unified Parkinson's Disease Rating Scale, part 3 ^d	-	-7.3 (-11.3 to -3.6) ^c	-	-
	Medication (levodopa equivalent dose)	-	-75.0 (-200.0 to 62.0) ^c	-	-

	Elbow flexion torque (Nm) ^d	-	14.3 (9.3 to 19.3) ^c	-	-
	Movement speed (degrees/sec) ^d	-	43.5 (9.2 to 64.7) ^c	-	-
	Modified Physical Performance Test ^d	-	0.5 (0.0 to 4.0) ^c	-	-
	Parkinson's Disease Questionnaire	-	-2.8 (-9.3 to 6.1) ^c	-	-
Cruise 2011	Spatial working memory between errors	33.8 (24.06)	25.40 (21.58)	43.54 (17.54)	42.38 (13.39)
	Pattern recognition memory	21.00 (2.42)	21.40 (1.76)	20.54 (3.23)	20.46 (3.02)
	Spatial recognition memory	15.80 (2.11)	16.53 (1.77)	15.85 (1.86)	15.85 (1.28)
	Stockings of Cambridge	7.67 (2.22)	8.13 (2.20)	7.62 (1.56)	7.77 (1.83)
	Verbal fluency for letters F, A and S	40.27 (8.54)	46.40 (10.20)	43.15 (17.04)	42.46 (15.73)
	Category fluency for animals	17.93 (5.08)	20.00 (4.56)	19.85 (3.95)	20.62 (5.55)
	Geriatric depression scale	2.07 (1.73)	1.71 (1.68)	3.89 (3.33)	2.89 (3.41)
	Parkinson's disease questionnaire, summary index	16.42 (7.68)	17.87 (7.38)	27.94 (18.03)	24.71 (18.13)
DiFrancisco- Donoghue 2012	Exercise vs. controls				
	Glutathione (µM)	444.0 (69.8)	508.7 (59.4)	490.8 (15.9)	483.8 (49.1)
	Glutathione disulfide (µM)	130.7 (22.3)	157.5 (12.0)	143.0 (4.4)	144.5 (12.0)
	Homocysteine (µM)	11.9 (2.8)	12.0 (2.1)	12.3 (5.8)	13.3 (4.5)
	Vitamin B6 (µg/L)	14.0 (14.7)	11.6 (9.3)	9.2 (6.3)	9.4 (8.1)
	Vitamin B12 (pg/L)	761.0 (139.8)	604.2 (15.8)	560.6 (225.7)	578.7 (214.3)
	Folate (nM)	24.1 (10.2)	22.9 (7.7)	21.4 (9.0)	21.8 (11.0)
	Maximal oxygen consumption (ml/kg/min)	13.3 (2.7)	11.6 (2.4)	13.0 (2.8)	12.8 (2.9)
	One-repetition maximum, leg extension (lb)	82.2 (15.6)	117.2 (32.8)	76.7 (27.4)	77.2 (28.5)
	One-repetition maximum, leg curl (lb)	77.8 (20.3)	99.4 (28.7)	69.4 (19.1)	68.3 (19.4)
	One-repetition maximum, leg press (lb)	129.4 (53.1)	157.8 (58.9)	97.8 (27.4)	101.1 (27.1)
	Exercise + vitamins vs. vitamins				
	Glutathione (µM)	493.3 (16.6)	557.7 (20.2)	501.1 (20.8)	493.3 (48.1)
	Glutathione disulfide (µM)	142.4 (4.3)	174.0 (7.5)	147.2 (7.2)	147.9 (16.9)
	Homocysteine (µM)	11.3 (3.0)	8.8 (3.2)	11.6 (3.4)	9.1 (2.6)
	Vitamin B6 (µg/L)	10.6 (5.6)	64.1 (23.3)	8.8 (9.1)	42.4 (30.2)
	Vitamin B12 (pg/L)	728.3 (349.1)	1,184.0 (446.8)	724.9 (217.6)	1,377.9 (401.9)
	Folate (nM)	19.7 (6.4)	95.1 (136.8)	28.6 (18.0)	71.9 (64.0)
	Maximal oxygen consumption (ml/kg/min)	11.5 (2.1)	10.0 (2.0)	13.9 (2.8)	14.6 (2.6)
	One-repetition maximum, leg extension (lb)	97.8 (32.2)	123.9 (37.0)	90.6 (30.2)	91.1 (30.6)
One-repetition maximum, leg curl (lb)	81.7 (30.5)	101.7 (26.7)	82.2 (28.8)	85.0 (31.4)	
One-repetition maximum, leg press (lb)	124.4 (53.2)	161.1 (40.4)	108.9 (26.1)	108.9 (25.7)	
Hass 2012	Anticipatory postural adjustments posterior (cm)	-	0.90 (0.28) ^e	-	0.07 (0.22) ^e
	Anticipatory postural adjustments posterior (cm)	-	0.57 (0.67) ^e	-	-0.09 (0.41) ^e
	Transitional phase posterior (cm)	-	0.42 (0.62) ^e	-	-0.22 (0.68) ^e
	Transitional phase lateral (cm)	-	2.32 (2.06) ^e	-	-0.42 (0.83) ^e
	Locomotor phase anterior (cm)	-	1.85 (2.05) ^e	-	-0.08 (0.93) ^e
	Locomotor phase lateral (cm)	-	0.93 (1.63) ^e	-	0.66 (0.46) ^e
Hirsch 2003	Latency to Fall (sec)	16.5 (1.8)	19.1 (0.6)	15.5 (1.5)	17.1 (0.9)
	Percentage of trials (%)	28.2 (12.0)	7.4 (5.4)	36.0 (11.1)	29.6 (8.6)
	Strength knee extension (kg)	39.7 (2.1)	54.1 (4.5)	35.0 (4.9)	37.3 (4.4)
	Strength knee flexion (kg)	31.8 (3.5)	39.4 (4.7)	23.8 (1.9)	27.6 (2.0)
	Strength ankle extension (kg)	29.9 (5.9)	45.4 (5.6)	26.9 (2.3)	29.5 (3.4)

Paul 2014	Peak muscle power				
	Leg extensors (W)	–	55.5 (63.8) ^e	–	–2.4 (38.5) ^e
	Knee flexors (W)	–	29.1 (39.6) ^e	–	–1.7 (23.2) ^e
	Hip flexors (W)	–	75.4 (94.9) ^e	–	8.6 (28.4) ^e
	Hip abductors (W)	–	33.4 (32.1) ^e	–	–3.2 (16.5) ^e
	Maximal muscle strength	–	–	–	–
	Leg extensors (N)	–	89.2 (85.5) ^e	–	36.8 (71.7) ^e
	Knee flexors (Nm)	–	26.4 (26.9) ^e	–	10.7 (24.7) ^e
	Hip flexors (Nm)	–	18.3 (17.5) ^e	–	4.2 (12.7) ^e
	Hip abductors (Nm)	–	12.1 (8.5) ^e	–	0 (8.6) ^e
	Instantaneous speed at peak power	–	–	–	–
	Leg extensors (m/s)	–	0.04 (0.15) ^e	–	–0.01 (0.13) ^e
	Knee flexors (rad/s)	–	0.07 (0.18) ^e	–	–0.04 (0.12) ^e
	Hip flexors (rad/s)	–	0.18 (1.03) ^e	–	0.04 (0.72) ^e
	Hip abductors (rad/s)	–	0.33 (0.63) ^e	–	0.12 (0.34) ^e
	Time to peak power	–	–	–	–
	Leg extensors (ms)	–	19.0 (86.4) ^e	–	–11.3 (83.8) ^e
	Knee flexors (ms)	–	–9.1 (45.6) ^e	–	–4.0 (40.6) ^e
	Hip flexors (ms)	–	–8.6 (91.7) ^e	–	–23.0 (57.1) ^e
	Hip abductors (ms)	–	–39.8 (73.9) ^e	–	–4.4 (54.5) ^e
	Shoulder flexors and elbow extensors	–	–	–	–
	Peak muscle power (W)	–	3.4 (21.0) ^e	–	5.2 (12.7) ^e
	Maximal strength (N)	–	3.3 (15.6) ^e	–	–7.1 (17.1) ^e
	Mobility	–	–	–	–
	Preferred walking speed (m/s)	–	0.06 (0.16) ^e	–	0.05 (0.12) ^e
	Fast walking speed (m/s)	–	0.02 (0.16) ^e	–	0.01 (0.19) ^e
	Timed Up and Go (s)	–	–1.3 (2.7) ^e	–	–0.1 (2.0) ^e
Balance	–	–	–	–	
Choice stepping reaction time (s)	–	–1.0 (7.2) ^e	–	4.5 (9.9) ^e	
Maximal balance range (cm)	–	1.4 (2.6) ^e	–	0.9 (7.4) ^e	
Single leg stand time (s)	–	2.8 (7.2) ^e	–	–0.4 (7.3) ^e	
Freezing	–	–	–	–	
New Freezing of Gait Questionnaire (0–25)	–	0.4 (3.7) ^e	–	0.1 (2.5) ^e	
Schilling 2010	Leg press one repetition maximum, adjusted for body mass (kg/kg)	4.7 (1.4)	5.9 (1.6)	4.4 (1.5)	4.4 (1.4)
	Timed Up and Go (sec)	5.8 (0.50)	5.7 (0.80)	7.5 (1.18)	6.75 (1.21)
	6-min walk (m)	537.7 (88.1)	586.9 (51.0)	468.8 (83.3)	493.9 (64.3)
	Activities-specific balance confidence scale (%)	86.2 (7.5)	89.5 (9.0)	83.9 (13.4)	82.8 (17.5)
Shulman 2013	Progressive resistance training vs. higher-Intensity treadmill training				
	6-minute walk (feet)	–	107 (47.8) ^e	–	77 (31.1) ^e
	10-m Comfortable pace (sec)	–	0.04 (0.5) ^e	–	–0.45 (0.2) ^e
	10-m Fast pace (sec)	–	–0.1 (0.2) ^e	–	–0.4 (0.2) ^e
	50-ft Fast pace (sec)	–	–0.03 (0.3) ^e	–	–0.57 (0.4) ^e
	Maximal oxygen consumption (mL/kg/min)	–	–0.052 (0.4) ^e	–	1.54 (0.4) ^e
Leg press (lb)	–	143.1 (26.5) ^e	–	23.39 (14.5) ^e	

	Leg extension (lb)	–	32 (5.7) ^e	–	6.61 (5.2) ^e
	Progressive resistance training vs. lower-Intensity treadmill training				
	6-minute walk (feet)	–	107 (47.8) ^e	–	161 (51) ^e
	10-m Comfortable pace (sec)	–	0.04 (0.5) ^e	–	–0.62 (0.2) ^e
	10-m Fast pace (sec)	–	–0.1 (0.2) ^e	–	–0.48 (0.3) ^e
	50-ft Fast pace (sec)	–	–0.03 (0.3) ^e	–	–0.93 (0.3) ^e
	Maximal oxygen consumption (mL/kg/min)	–	–0.052 (0.4) ^e	–	1.53 (0.7) ^e
	Leg press (lb)	–	143.1 (26.5) ^e	–	9.0 (26.2) ^e
	Leg extension (lb)	–	32 (5.7) ^e	–	5.77 (11.4) ^e

^a Not defined other way than "...no change noted in the control group...", ^b Approximation from diagram, ^c Difference in change from baseline (95% CI) in 24-month follow-up between groups, ^d Off medication, ^e Difference in change from baseline (SD) in each group