Supplementary material to article by J. Schröder et al. et al. "Feasibility and effectiveness of repetitive gait training early after stroke: a systematic review and meta-analysis"

Supplemental figures. Forrest plots of effectiveness. Summary effect sizes (SES) are calculated and illustrated based on immediate post-intervention and follow-up data on gait functions after (comparison 1) repetitive gait training compared with conventional physiotherapy (PT), (comparison 2) RAGT compared with conventional PT, including a sub-analysis between different devices (end-effector vs exoskeleton) and (comparison 3) BWSTT compared with conventional PT. RAGT: robot-assisted gait training; BWSTT: body weight supported treadmill training; FAC: Functional Ambulation Categories; IV: inverse variance; CI: confidence interval; df: degrees of freedom; HM: high motricity group; LM: low motricity group).

	Expe	erimer	ntal	C	ontrol			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% Cl
1.3.1 BWSTT									
Nilsson 2001	2.8	1.5	36	2.6	1.6	37	9.1%	0.20 [-0.51, 0.91]	
Franceschini 2009	3	1.5	52	2.2	1.9	45	9.2%	0.80 [0.11, 1.49]	
Subtotal (95% CI)			88			82	18.3%	0.51 [-0.08, 1.09]	-
Heterogeneity: Tau ²	= 0.05; 0	Chi² =	1.41, c	f = 1 (F	P = 0.2	23); I ² =	29%		
Test for overall effec	t: Z = 1.6	69 (P =	= 0.09)						
1.3.2 RAGT Exoskel	eton								
Han 2016	1.33	1.21	30	1.95	1.75	26	8.5%	-0.62 [-1.42, 0.18]	
Chang 2012	1.3	0.7	20	1.4	0.8	17		-0.10 [-0.59, 0.39]	
Ochi 2015	3	0.1	13	3.3	0.8	13	10.9%	-0.30 [-0.74, 0.14]	
Subtotal (95% CI)			63			56	30.0%	-0.27 [-0.57, 0.03]	•
Heterogeneity: Tau ²	= 0.00; 0	Chi² =	1.22, c	If = 2 (F	P = 0.5	54); I ² =	0%		
Test for overall effec	t: Z = 1.3	75 (P =	= 0.08)						
1.3.3 RAGT End-eff	ector								
Peurala 2009	2.9	3	16	2.3	1.6	19	4.2%	0.60 [-1.04, 2.24]	
Morone 2011 (LM)	4	-			1.2		8.1%	1.90 [1.05, 2.75]	
Morone 2011 (HM)	3.8	1.1	12	3.7	1	12	8.2%	0.10 [-0.74, 0.94]	
Ng 2008	3.2	0.8	17		1.2	21	9.6%	0.70 [0.06, 1.34]	
Chua 2016		1.15	53		1.3	53	10.8%	0.05 [-0.42, 0.52]	
Pohl 2007	3.2	1.4	77	2.1	1.5	78	10.8%	1.10 [0.64, 1.56]	
Subtotal (95% CI)			187			195	51.7%	0.73 [0.17, 1.30]	
Heterogeneity: Tau ²	= 0.34: 0	Chi ² =	20.01.	df = 5	(P = 0)	.001): F	$^{2} = 75\%$		-
Test for overall effec				-		-// ·			
T . L/05/ CD							100.00/	0.201.002.0701	
Total (95% CI)			338				100.0%	• • •	
Heterogeneity: Tau ²				df = 10) (P <	0.0000	1); $I^2 = 7$	8% -	-2 -1 0 1 2
Test for overall effec									Favours [control] Favours [experimental]
Test for subgroup di	fferences	s: Chi²	= 12.2	2, df =	2 (P =	= 0.002)	, I ² = 83.	6%	

Fig. S1. Walking independence (raw Functional Ambulation Categories (FAC) scores) post-intervention.

	Expe	erimen	tal	C	ontrol			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
1.4.1 BWSTT									
Nilsson 2001	3.3	1.7	28	3.3	1.6	32	11.6%	0.00 [-0.84, 0.84]	
Franceschini 2009	4.3	0.8	52	4	1.5	45	16.1%	0.30 [-0.19, 0.79]	
Subtotal (95% CI)			80			77	27.7%	0.22 [-0.20, 0.65]	-
Heterogeneity: Tau ² =	= 0.00; 0	Chi² =	0.37, c	f = 1 (F)	9 = 0.5	54); I ² =	0%		-
Test for overall effect	: Z = 1.0	04 (P =	0.30)						
1.4.2 RAGT Exoskele	ton								
Subtotal (95% CI)			0			0		Not estimable	
Heterogeneity: Not a	plicable								
Test for overall effect	Not ap	plicabl	e						
1.4.3 RAGT End-effe	ctor								
Peurala 2009	3.3	3.3	16	3.7	0.8	19	5.2%	-0.40 [-2.06, 1.26]	
Morone 2012 (LM)	4.7	0.5	12	3.1	1.3	12	12.2%	1.60 [0.81, 2.39]	
Morone 2012 (HM)	4.3	0.9	12	4	1	12	12.5%	0.30 [-0.46, 1.06]	
Ng 2008	4	1	16	3	1.3	21	12.8%	1.00 [0.26, 1.74]	
Chua 2016	3.02	1.55	53	3	1.72	53	14.3%	0.02 [-0.60, 0.64]	
Pohl 2007	3.8	1.7	77	2.6	1.8	78	15.3%	1.20 [0.65, 1.75]	
Subtotal (95% CI)			186			195	72.3%	0.72 [0.16, 1.28]	
Heterogeneity: Tau ² =	= 0.31; 0	Chi ² =	15.91.	df = 5	(P = 0)	.007); I	$^{2} = 69\%$		-
Test for overall effect									
Total (95% CI)			266			272	100.0%	0.57 [0.14, 1.01]	
Heterogeneity: Tau ² =	= 0.25: 0	Chi ² =	20.58.	df = 7	(P = 0)	.004): 1	$^{2} = 66\%$		 _
Test for overall effect				/			50/0		-2 -1 0 1 2
Test for subgroup dif					(0)	0.100.10	2 40 40		Favours [control] Favours [experimental]

Fig. S2. Walking independence (raw Functional Ambulation Categories (FAC) scores) follow-up.

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	Experim	ental	Cont	rol		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
1.5.1 BWSTT							
Nilsson 2001	25	28	29	32	7.6%	0.86 [0.16, 4.66]	
Ada/Dean 2010	43	60	36	60	16.0%	1.69 [0.79, 3.62]	
Subtotal (95% CI)		88		92	23.6%	1.50 [0.75, 3.02]	•
Total events	68		65				
Heterogeneity: Tau ² =				(P = 0)	.48); I ² =	0%	
Test for overall effect	: Z = 1.15	(P = 0.	25)				
1.5.2 RAGT Exoskele	eton						
Schwartz 2009	20	37	8	28	12.8%	2.94 [1.04, 8.36]	
Subtotal (95% CI)		37		28	12.8%	2.94 [1.04, 8.36]	-
Total events	20		8				
Heterogeneity: Not ap	oplicable						
Test for overall effect	: Z = 2.02	(P= 0 .	04)				
1.5.3 RAGT End-effe	ector						
Peurala 2009	10	16	10	19	9.9%	1.50 [0.39, 5.81]	
Ng 2008	11	17	9	21	10.2%	2.44 [0.65, 9.13]	
Morone 2012	19	24	10	24	10.6%	5.32 [1.48, 19.06]	
Chua 2016	20	53	26	53	15.9%	0.63 [0.29, 1.36]	
Pohl 2007	54	77	28	78	17.1%	4.19 [2.14, 8.21]	
Subtotal (95% CI)		187		195	63.6%	2.15 [0.88, 5.28]	
Total events	114		83				
Heterogeneity: Tau ² =	= 0.75; Ch	i ² = 15.	71, df =	4 (P =	0.003); I ²	= 75%	
Test for overall effect	: Z = 1.67	(P=0.	10)				
Total (95% CI)		312		315	100.0%	1.99 [1.13, 3.53]	◆
Total events	202		156				
Heterogeneity: Tau ² =	= 0.38; Ch	$i^2 = 17.$	43, df =	7 (P =	0.01); I ² =	= 60%	0.01 0.1 1 10 1
Test for overall effect	: Z = 2.37	(P = 0.	02)				Favours [experimental] Favours [control]
Test for subgroup dif	ferences ($Chi^2 = 1$	17. df =	= 2 (P =	$0.56)$ 1^2	= 0%	ravours (experimental) Favours (control)

Fig. S3. Walking independence (dichotomized scores) post-intervention/follow-up.

	Experimental Control							Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
1.6.1 BWSTT									
Franceschini 2009	0.57	0.46	52	0.6	0.46	45	9.2%	-0.03 [-0.21, 0.15]	
Nilsson 2001	0.7	0.3	32	0.8	0.4	34	10.7%	-0.10 [-0.27, 0.07]	
Ada/Dean 2010	0.57	0.36	38	0.47	0.28	32	13.7%		+
Subtotal (95% CI)			122			111	33.6%	0.00 [-0.10, 0.10]	+
Heterogeneity: Chi ² =									
Test for overall effect	z = 0.0	02 (P =	0.99)						
1.6.2 RAGT Exoskele									
Schwartz 2009		0.37		0.37		30		-0.06 [-0.36, 0.24]	
Ochi 2015	0.38	0.43	12 49	0.19	0.07	13	5.1%		
Subtotal (95% CI)						43	8.5%	0.09 [-0.10, 0.28]	
Heterogeneity: Chi ² =				21); 1* =	: 37%				
Test for overall effect	z = 0.1	92 (P =	0.36)						
1.6.3 RAGT End-eff	ector								
Morone 2011 (HM)	0.49	0.21	12	0.52	0.3	12	7.2%	-0.03 [-0.24, 0.18]	
Chua 2016	0.56	0.45	53	0.63	0.6	53	7.6%	-0.07 [-0.27, 0.13]	
Morone 2011 (LM)	0.36	0.11	12	0.37	0.27	12	11.4%	-0.01 [-0.17, 0.15]	
Ng 2008	0.43	0.21	17	0.19	0.26	21	13.9%	0.24 [0.09, 0.39]	
Pohl 2007	0.44	0.47	77	0.32	0.36	78	17.8%		
Subtotal (95% CI)			171			176	57.8%	0.08 [0.01, 0.15]	◆
Heterogeneity: Chi ² =				06); I ² =	56%				
Test for overall effect	z = 2.	13 (P =	0.03)						
Total (95% CI)			342			330	100.0%	0.05 [-0.00, 0.11]	•
Heterogeneity: Chi ² =	= 15.62	df = 9	(P = 0)	08)· 12	= 42%				· _ · _ · _ · _ · _ · _ · _ · _ ·
Test for overall effect					12/1				-0.5 -0.25 0 0.25 0.5
Test for subgroup dif					2 (P =	0.41). I ⁱ	$^{2} = 0\%$		Favours [control] Favours [experimental]
							274		

Fig. S4. Walking speed (5/10-m walk test, m/s) post-intervention.

	Exp	eriment	al	c	ontrol			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
1.7.1 BWSTT									
Franceschini 2009 Subtotal (95% CI)	169.7	86.2	52 52	170.2	122.1	45 45	23.7% 23.7%	-0.50 [-43.18, 42.18] -0.50 [-43.18, 42.18]	
Heterogeneity: Not a	oplicable								
Test for overall effect	: Z = 0.0)2 (P = 0	0.98)						
1.7.2 RAGT Exoskele	ton								
Subtotal (95% CI)			0			0		Not estimable	
Heterogeneity: Not a	pplicable								
Test for overall effect	Not ap	plicable							
1.7.3 RAGT End-effe	ector								
Morone 2011 (HM)	161	89	12	151	89	12	8.5%	10.00 [-61.21, 81.21]	
Chua 2016	145.1	121	53	156.9	144	53	16.8%	-11.80 [-62.44, 38.84]	
Morone 2011 (LM)	156	78	12	91	35	12	18.4%	65.00 [16.63, 113.37]	· · · · · · · · · · · · · · · · · · ·
Pohl 2007	134.4	125.5	77	92.5	104.9	78	32.5%	41.90 [5.46, 78.34]	
Subtotal (95% CI)			154			155	76.3%	32.08 [8.30, 55.86]	
Heterogeneity: Chi ² =	5.31, d	f = 3 (P)	= 0.15	i); $I^2 = 4$	4%				
Test for overall effect	: Z = 2.6	64 (P = 0	0.008)						
Total (95% CI)			206			200	100.0%	24.36 [3.58, 45.14]	-
Heterogeneity: Chi ² =	7.02, d	f = 4 (P)	= 0.13	(); $ ^2 = 4$	3%				-100 -50 0 50 100
Test for overall effect									-100 -50 0 50 100 Favours [control] Favours [experimental]
Test for subgroup dif	ferences	: Chi ² =	1.71,	df = 1 (P = 0.1	9), $ ^2 =$	41.5%		ravours (control) Favours (experimental)

Fig. S5. Walking endurance (6-min walk test, m) post-intervention.

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	Experimental		C	ontrol			Mean Difference	Mean Difference	
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
1.1.1 BWSTT									
Nilsson 2001 Subtotal (95% CI)	25.4	5.9	28 28	25.3	7.6	32 32		0.10 [-3.32, 3.52] 0.10 [-3.32, 3.52]	
Heterogeneity: Not a	oplicable								
Test for overall effect			0.95)						
1.1.2 RAGT Exoskele	eton								
Ochi 2015	10.3	9.97	13	9	8.3	13	8.6%	1.30 [-5.75, 8.35]	
Han 2016	13.43	8.34	30	16.14	8.13	26	22.9%	-2.71 [-7.03, 1.61]	
Chang 2012 Subtotal (95% CI)	22.7	5.7	20 63			17 56		3.10 [-0.55, 6.75] 0.76 [-1.83, 3.36]	
Heterogeneity: Chi ² = Test for overall effect				.3); I ² =	51%				-
		56 (F -	0.30)						
1.1.3 RAGT End-effector Subtotal (95% CI) 0					0		Not estimable		
Heterogeneity: Not a	pplicable								
Test for overall effect	t: Not ap	plicabl	e						
Total (95% CI)			91			88	100.0%	0.52 [-1.54, 2.59]	-
Heterogeneity: Chi ² =				4); I ² =	28%				-10 -5 0 5 10
Test for overall effect Test for subgroup dif				JE 1	(0 (76) 12	0%		Favours [experimental] Favours [control]
rescior subgroup an	rerences	. uni-	= 0.09	, ui = 1	(r = 0	.70), F	= 0%		

Fig. S6. Motor control (Fugl-Meyer Assessment motor subscale for the lower extremity) post-intervention.

Experimental Control Mean Difference Mean Difference Study or Subgroup Mean SD Total Mean SD Total Weight IV, Random, 95% CI IV, Random, 95% CI Franceschini 2009 Subtotal (95% CI) 61 31.26 52 70.53 23.36 52 45 45 16.6% -9.53 [-20.43, 1.37] 16.6% -9.53 [-20.43, 1.37] Heterogeneity: Not applicable Test for overall effect: Z = 1.71 (P = 0.09)1.2.2 RAGT Exoskeleton 56.2 11 20 53.5 12 20
 17
 21.9%
 2.70 [-4.77, 10.17]

 17
 21.9%
 2.70 [-4.77, 10.17]
Chang 2012 Subtotal (95% CI) Heterogeneity: Not applicable Test for overall effect: Z = 0.71 (P = 0.48) -20 -10 0 10 Favours [experimental] Favours [control] 20

Fig. S7. Muscle strength (Motricity Index subscale for the lower extremity) post-intervention.