SUPPLEMENTARY DIGITAL MATERIAL 6

Detailed forest-plot regarding new technologies effect on motor function after stroke

Supplementary Table XIII.—Forest-plot regarding the effect of new-technologies on motor function in patients with subacute stroke.

		eriment			Control			Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
I.7.1 Virtual reality									
Aprile et al., 2020	8.5	8.067	91	8.57	8.022	99	5.0%	-0.01 [-0.29, 0.28]	
Choi et al., 2014	7.8	7.6	10	8.7	10	10	2.3%	-0.10 [-0.97, 0.78]	
da Silva Cameirao et al., 2011	46.7	11.35	8	42.5	15.38	8	2.0%	0.29 [-0.69, 1.28]	
Kim et al., 2018	10.5	8.58	11	12	11.11	8	2.2%	-0.15 [-1.06, 0.76]	
Kiper et al., 2011	9.8	10.32	40	1.6	10.91	40	4.1%	0.76 [0.31, 1.22]	
Kiper et al., 2018	9.72	10.76	68	3.14	10.9	68	4.7%	0.60 [0.26, 0.95]	
Kong et al., 2016	18.2	11.09	33	13.5	10.79	34	4.0%	0.42 [-0.06, 0.91]	 • •
Kwon et al., 2012	2.61	3.36	13	5.47	7.7	13	2.6%	-0.47 [-1.25, 0.31]	
Laffont et al., 2020	24.1	14.8	25	17.8	14.6	26	3.6%	0.42 [-0.13, 0.98]	
Piron et al., 2007	7.7	5.9	25	3.4	7.4	13	3.0%	0.65 [-0.03, 1.34]	
Prange et al., 2015	7.9	8.3	35	10.2	9.6	33	4.0%	-0.25 [-0.73, 0.22]	
Shin et al., 2014	11.7	6.46	9	6.3	7.44	7	1.9%	0.74 [-0.29, 1.77]	
Yin et al., 2014	15.33	16.92		13.66	20.01	12	2.5%	0.09 [-0.73, 0.91]	
Subtotal (95% CI)	10.00	10.52	379	13.00	20.01	371	41.9%	0.26 [0.03, 0.48]	•
Heterogeneity: Tau² = 0.08; Chi	z = 24 21	df = 12 (P = N N	$2) \cdot z = 6$	50%			2,	
Test for overall effect: Z = 2.20 (ui – 12 (- 0.0	2/,1 - 3	,0 ,0				
1.7.2 Robot-assisted therapy									
Aisen et al., 1997	14.1	9.7	10	10.1	11.63	10	2.3%	0.36 [-0.53, 1.24]	
Burgar et al., 2011 (a)	14.4	3.6	17	14	3.6	18	3.1%	0.11 [-0.55, 0.77]	
Burgar et al., 2011 (b)	6.8	1.9	19	14	3.6	18		Not estimable	
Daunoraviciene et al., 2016	12.99	1.95	17	9.7	0.77	17	2.3%	2.17 [1.30, 3.03]	
Dehem et al., 2019	19.5	18.55	15	10.8	19.58	17	2.9%	0.44 [-0.26, 1.15]	+
Hesse et al., 2005	16.7	12.35	21	3.1	5.25	22	3.1%	1.42 [0.74, 2.09]	
Hesse et al., 2014	11.1	10.6	24	12	12.7	25	3.6%	-0.08 [-0.64, 0.48]	
Hsieh et al., 2016	11	8.22		10.53	12.25	15	2.9%	0.04 [-0.66, 0.75]	
Lum et al., 2006	5.3	1.2	10	2.5	0.6	6	2.070	Not estimable	
Masiero et al., 2007	12.8	5.5	17	7.5	9.5	18	3.0%	0.66 [-0.02, 1.35]	
Masiero et al., 2007 Masiero et al., 2011	7.33	4.7	11	7.37	7.3	10	2.4%	-0.01 [-0.86, 0.85]	
Masiero et al., 2014	11.66	5.35	14	7.37	10.3	16	2.9%	0.31 [-0.41, 1.03]	
	9.11	4.07	9	6.87	3.18	8	2.9%		
Orihuela-Espina et al., 2016								0.58 [-0.40, 1.56]	
Rabadi et al., 2008	11.05	2.539		12.94	2.802	10	2.2%	-0.68 [-1.58, 0.23]	<u> </u>
Sale et al., 2013	17.18	10.27	9	19.5	16.66	11	2.3%	-0.16 [-1.04, 0.73]	
Sale et al., 2014	8.65	7.52	26	3.63	10.7	27	3.6%	0.53 [-0.02, 1.08]	
Tomic et al., 2017	18	9.4	13	7.5	5.5	13	2.4%	1.32 [0.46, 2.18]	
Volpe et al., 2000	5	2.5	30	- 4	2	26	3.7%	0.43 [-0.10, 0.96]	 -
Wolf et al., 2015	9.3	11.203	47	9.567	11.073	45	4.4%	-0.02 [-0.43, 0.39]	—
Subtotal (95% CI)			306			308	49.1%	0.42 [0.14, 0.71]	
Heterogeneity: Tau² = 0.23; Chi Test for overall effect: Z = 2.89 (P < 0.0	001); l²	= 66%				
1.7.3 Telerehabilitation									
Choi et al., 2016	19.08	13.39	12	9.67	14.22	12	2.5%	0.66 [-0.17, 1.48]	
Duncan et al., 1998	84	1,097	10	22	1,121	10	2.3%	0.05 [-0.82, 0.93]	
Duncan et al., 2003	448	81	44	404	9	48 70	4.3%	0.77 [0.35, 1.20]	
Subtotal (95% CI) Heterogeneity: Tau² = 0.01; Chi	z= 2.10 4	f= 2 (P -	66 - 0.35\-	12 = 5.04		70	9.1%	0.63 [0.27, 1.00]	_
Test for overall effect: Z = 3.40 (- 0.00),	570					
Total (95% CI)			751			749	100.0%	0.36 [0.19, 0.53]	•
Heterogeneity: Tau ^z = 0.13; Chi	² = 76.97,		P < 0.0	001); l²	= 58%			_	-5 -1 1 1 5
		11)							

Supplementary Table XIV.—Forest-plot regarding the effect of new-technologies on motor function in patients with chronic stroke.

Study or Subgroup	Expe Mean	erimenta SD	al Total		Control SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Std. Mean Difference IV, Random, 95% CI
1.8.1 Virtual reality								,,,	, , , , , , , , , , , , , , , , , , , ,
Askin et al., 2018	4.33	6.67	18	0.67	1.49	20	2.3%	0.76 [0.10, 1.42]	
Chen et al., 2015 (a)		12.18	8	10.9	4.26		1.5%	0.42 [-0.57, 1.42]	
Chen et al., 2015 (b)		12.45	8	10.9	4.26	8	1.5%	-0.34 [-1.32, 0.65]	
da Silva Ribeiro et al., 2015		12.71	15		11.99	15	2.1%	-0.24 [-0.95, 0.48]	
Duffetal., 2010	-0.25	4.14	11	6.8	4.51	10	2.170	Not estimable	
Fluet et al., 2015	2.3	4.8	10	0.9	1.1	11	1.7%	0.40 [-0.47, 1.26]	
Givon et al., 2015	32.2	20.5	24	26.5	19.6	23	2.6%	0.28 [-0.30, 0.85]	_
•	14.69	0.67	16	9.07	1.34	15	2.0%	Not estimable	
Henrique et al., 2019						14	2.00		<u></u>
Housman et al., 2009	3.3	2.4	14	2.2	2.6		2.0%	0.43 [-0.32, 1.18]	<u></u>
Hung et al., 2019	3.5	8.65	17	3.38	10.89	16	2.2%	0.01 [-0.67, 0.69]	<u> </u>
n et al., 2012	10.4	5.82	11	3	2.52	8	1.3%	1.49 [0.43, 2.54]	
lang et al., 2005	7	1.93	5	2.4	1.2	5	0.5%	2.59 [0.67, 4.50]	
Kiper et al., 2014	6.8	8.85	24	3.2	10.73	21	2.5%	0.36 [-0.23, 0.95]	
Kottink et al., 2014	1.5	2.3	8	2.3	2.8	10	1.6%	-0.29 [-1.23, 0.64]	
_ee et al., 2014	4	2.66	12	2	1.6	12	1.8%	0.88 [0.03, 1.72]	
_evin et al., 2012	7.2	8.22	6	2.6	8.2	6	1.2%	0.52 [-0.64, 1.68]	
Norouzi et al., 2019	2.1	11.42	9	-0.2	7.54	9	1.6%	0.23 [-0.70, 1.15]	
Ogun et al., 2019	6.91	5.37	33	1.5	5.44	32	2.8%	0.99 [0.47, 1.51]	
Oh et al., 2019	1.9	3	17	2.1	2	14	2.1%	-0.07 [-0.78, 0.63]	+
Park et al., 2016	5.2	0.9	15	4.2	1.4	15	2.0%	0.83 [0.08, 1.58]	
Park et al., 2017	9.8	4.85	10	6.2	5.22	10	1.6%	0.68 [-0.22, 1.59]	
Park et al., 2019	1.9	2.8	12	2.1	2.7	13	1.9%	-0.07 [-0.86, 0.71]	+
Piron et al., 2009	5.3	4.74	18	2.1	2.95	18	2.2%	0.77 [0.09, 1.45]	<u></u>
'	7.3	6.86	27	2.6	6.13	20	2.5%		<u></u>
Piron et al., 2010								0.70 [0.11, 1.30]	
Reikensmeyer et al., 2012	3.3	6.85	13	0.9	4.9	13	1.9%	0.39 [-0.39, 1.17]	<u>_</u>
3hin et al., 2015	4.66	6.48	16	5.57	10.24	16	2.2%	-0.10 [-0.80, 0.59]	T
Sin et al., 2013	10.89	6.31	18	6.53	2.6	17	2.2%	0.87 [0.18, 1.57]	
Bucar et al., 2009	18.5	7.82	11	8.3	1.47	11	1.4%	1.74 [0.73, 2.75]	
Thielbar et al., 2014	1.7	6.37	7	1.7	6.68	7	1.4%	0.00 [-1.05, 1.05]	-
Furolla et al., 2013	6.5	9.93	263	3	11.04	113	3.8%	0.34 [0.12, 0.56]	<u>+</u>
/iana et al., 2014	9.3	5.7	10	7.5	7.1	10	1.7%	0.27 [-0.61, 1.15]	
Subtotal (95% CI) Heterogeneity: Tau² = 0.07; Chi² = -			659 = 0.03)	; I z = 38	6%	495	56.0%	0.45 [0.28, 0.62]	'
Test for overall effect: Z = 5.16 (P ≺	0.00001)							
1.8.2 Robot-assisted therapy			_			_	, ,	0.001.001	
Ang et al., 2014	7.2	2.3	8	4.9	4.1	7	1.4%	0.66 [-0.39, 1.72]	
Brokaw et al., 2014	1.86	5.3	7	1.6	2.69	5	1.2%	0.05 [-1.09, 1.20]	
Burgar et al., 2000	5	4	11	2.5	2.5	10	1.7%	0.71 [-0.18, 1.60]	
Byl et al., 2013 (a)	3.8	0.62	5	6	4.12	3	0.8%	-0.79 [-2.32, 0.74]	
3yl et al., 2013 (b)	4	0.19	5	6	4.12	2	0.6%	-0.91 [-2.70, 0.88]	
Conroy et al., 2011 (a)	2.29	0.72	14	0.43	0.72	14		Not estimable	
Conroy et al., 2011 (b)	1.15	0.75	13	0.43	0.72	14	1.9%	0.95 [0.15, 1.75]	
Daly et al., 2005	11	6.32	6	9.5	4.43	6	1.2%	0.25 [-0.88, 1.39]	
Hsieh et al., 2011 (a)	5.33	5.22	6	2.83	7.44	6	1.2%	0.36 [-0.79, 1.50]	
Hsieh et al., 2011 (b)	2.33	6.49	6	2.83	7.44	6	1.2%	-0.07 [-1.20, 1.07]	
Hsieh et al., 2012	5.22	5.43	18	2.95	6.24	18	2.3%	0.38 [-0.28, 1.04]	
Hsieh et al., 2014	6.12	6.02	16	3.81	5.02	16	2.2%	0.41 [-0.29, 1.11]	
Hsieh et al., 2018		0.839		4.25					<u></u>
-			13			12	1.8%	0.82 [-0.00, 1.64]	<u> </u>
(lamroth-Marganska et al., 2014	3.4	8 5 6 4	38	2.6	5.7	35	3.0%	0.11 [-0.35, 0.57]	I_
Liao et al., 2012	6.3	5.64	10	1.3	7.92	10	1.6%	0.70 [-0.21, 1.61]	T
in et al., 2015	11.06	5.63	16	1.71	3.58	17	1.8%	1.95 [1.10, 2.79]	
_o et al., 2010	1.11	1.01	25	-1.06	1	27	2.2%	2.13 [1.44, 2.82]	—
_um et al., 2002	3.3	0.7	13	1.6	0.3	14		Not estimable	
v1cCabe et al., 2015	7.7	3.84	12	9.9	5.05	11	1.8%	-0.48 [-1.31, 0.36]	
Bimkins et al., 2013 (a)	3.8	6.87	5	6.5	9.15	4	1.0%	-0.30 [-1.63, 1.03]	
Simkins et al., 2013 (b)	3.4	7.3	5	6.5	9.15	4	1.0%	-0.34 [-1.67, 0.99]	
Stein et al., 2004	5.2	4.8	9	4.8	4.2	9	1.6%	0.08 [-0.84, 1.01]	+
Busanto et al., 2015	5.11	6.55	9	5.7	4.35	10	1.6%	-0.10 [-1.00, 0.80]	-
/olpe et al., 2008	3.18	1.2	11	3.5	1.08	10	1.7%	-0.27 [-1.13, 0.59]	
Vu et al., 2012	3.85	6.71	14	3.14	7.55	14	2.0%	0.10 [-0.64, 0.84]	+
rang et al., 2012	6.1	5.05	7		7.628	7	1.3%	0.49 [-0.58, 1.56]	
Subtotal (95% CI)	3.1	5.55	275	2.1		263	38.0%	0.37 [0.08, 0.67]	•
Heterogeneity: Tau² = 0.31; Chi² = :		= 23 (P		01); I²=	61%			[2.30] 0.01]	ľ
Test for overall effect: Z = 2.47 (P =	0.01)								
	7.86	6.68	62	8.36	7.04	62	3.3%	-0.07 [-0.42, 0.28]	†
		19.02	9	2	16.63	10	1.6%	-0.09 [-0.99, 0.81]	+
Cramer et al., 2019	0.3		5	6.6	5.5	5	1.1%	-0.19 [-1.44, 1.05]	
1.8.3 Telerehabilitation Cramer et al., 2019 Nijenhuis et al., 2016 Piron et al., 2008	0.3 5.4	5.62				77	6.1%	-0.08 [-0.40, 0.23]	A
Cramer et al., 2019 Nijenhuis et al., 2016 Piron et al., 2008		5.62	76						*
Cramer et al., 2019 Nijenhuis et al., 2016 Piron et al., 2008 Subtotal (95% CI) Heterogeneity: Tau² = 0.00; Chi² = 1	5.4 0.03, df=			= 0%					Ĭ
Cramer et al., 2019 Nijenhuis et al., 2016 Piron et al., 2008 Subtotal (95% CI) Heterogeneity: Tau² = 0.00; Chi² = 1 Test for overall effect: Z = 0.51 (P =	5.4 0.03, df=).98); l²	= 0%					[
Cramer et al., 2019 Nijenhuis et al., 2016	5.4 0.03, df=			= 0%			100.0%	0.40 [0.25, 0.55]	•
Cramer et al., 2019 Nijenhuis et al., 2016 Piron et al., 2008 Subtotal (95% CI) Heterogeneity: Tau² = 0.00; Chi² = 1 Fest for overall effect: Z = 0.51 (P =	5.4 0.03, df= 0.61)	: 2 (P = 0).98); l² 1010		= 51%				-10 -5 0 5

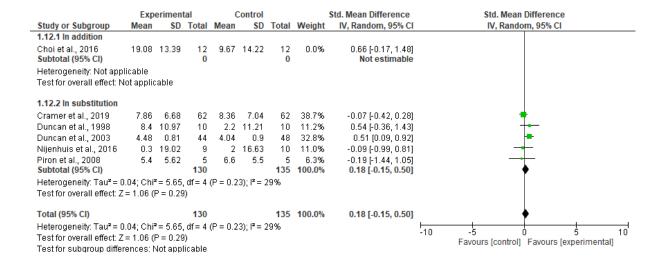
Supplementary Table XV.—Forest-plot regarding the effect of new-technologies on motor function in patients with stroke when provided in addition vs in substitution of conventional therapy.

Study or Subgroup		eriment			ontrol			Std. Mean Difference	Std. Mean Difference
otady or odbgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
1.10.1 In addition									
Aprile et al., 2020	8.5	8.067	91	8.57	8.022	99	5.0%	-0.01 [-0.29, 0.28]	†
Askin et al., 2018	4.33	6.67	18	0.67	1.49	20	2.7%	0.76 [0.10, 1.42]	-
Chen et al., 2015 (a)	15	12.18	8	10.9	4.26	8	1.5%	0.42 [-0.57, 1.42]	+-
Chen et al., 2015 (b)	7.6	12.45	8	10.9	4.26	8	1.6%	-0.34 [-1.32, 0.65]	
Choi et al., 2014	7.8	7.6	10	8.7	10	10	1.9%	-0.10 [-0.97, 0.78]	
da Silva Cameirao et al., 2011		11.35	8		15.38	8	1.6%	0.29 [-0.69, 1.28]	
Hung et al., 2019	3.5	8.65	17		10.89	16	2.6%	0.01 [-0.67, 0.69]	+
Kim et al., 2018	10.5	8.58	11		11.11	8	1.8%	-0.15 [-1.06, 0.76]	
Kiper et al., 2011		10.32	40		10.91	40	3.8%	0.76 [0.31, 1.22]	-
Kiper et al., 2018		10.76	68	3.14	10.9	68	4.6%	0.60 [0.26, 0.95]	+
Kong et al., 2016		11.09	33		10.79	34	3.6%	0.42 [-0.06, 0.91]	 -
Kwon et al., 2012	2.61	3.36	13	5.47	7.7	13	2.2%	-0.47 [-1.25, 0.31]	
Laffont et al., 2020	24.1	14.8	25	17.8	14.6	26	3.2%	0.42 [-0.13, 0.98]	<u></u>
Lee et al., 2014	4	2.66	12	17.0	1.6	12	1.9%		
			9	-0.2		9		0.88 [0.03, 1.72]	
Norouzi et al., 2019	2.1	11.42			7.54		1.7%	0.23 [-0.70, 1.15]	
Park et al., 2016	5.2	0.9	15	4.2	1.4	15	2.3%	0.83 [0.08, 1.58]	
Park et al., 2017	9.8	4.85	10	6.2	5.22	10	1.8%	0.68 [-0.22, 1.59]	T
Park et al., 2019	1.9	2.8	12	2.1	2.7	13	2.2%	-0.07 [-0.86, 0.71]	T
Prange et al., 2015	7.9	8.3	35	10.2	9.6	33	3.7%	-0.25 [-0.73, 0.22]	7
Shin et al., 2014	11.7	6.46	9	6.3	7.44	7	1.5%	0.74 [-0.29, 1.77]	
Shin et al., 2015	4.66	6.48	16		10.24	16	2.5%	-0.10 [-0.80, 0.59]	
Sin et al., 2013	10.89	6.31	18	6.53	2.6	17	2.5%	0.87 [0.18, 1.57]	
Thielbar et al., 2014	1.7	6.37	7	1.7	6.68	7	1.4%	0.00 [-1.05, 1.05]	
Turolla et al., 2013	6.5	9.93	263	3	11.04	113	5.4%	0.34 [0.12, 0.56]	-
Viana et al., 2014	9.3	5.7	10	7.5	7.1	10	1.8%	0.27 [-0.61, 1.15]	
Subtotal (95% CI)			766			620	64.4%	0.30 [0.14, 0.45]	•
Test for overall effect: Z = 3.80 (1.10.2 in substitution	(1 - 0.000	11)							
		12.71	15	10.6	11.99	15	2.4%	-0.24 [-0.95, 0.48]	_
1.10.2 In substitution			15 11	10.6 6.8	11.99 4.51	15 10	2.4%	-0.24 [-0.95, 0.48] Not estimable	_
1.10.2 in substitution da Silva Ribeiro et al., 2015	7.6	12.71					2.4% 1.9%		
1.10.2 in substitution da Silva Ribeiro et al., 2015 Duff et al., 2012	7.6 -0.25	12.71 4.14	11	6.8	4.51	10		Not estimable 0.40 [-0.47, 1.26]	
1.10.2 in substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015	7.6 -0.25 2.3	12.71 4.14 4.8	11 10	6.8 0.9	4.51 1.1	10 11	1.9%	Not estimable	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019	7.6 -0.25 2.3 32.2 14.69	12.71 4.14 4.8 20.5 0.67	11 10 24 16	6.8 0.9 26.5 9.07	4.51 1.1 19.6 1.34	10 11 23 15	1.9% 3.1%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009	7.6 -0.25 2.3 32.2 14.69 3.3	12.71 4.14 4.8 20.5 0.67 2.4	11 10 24 16 14	6.8 0.9 26.5 9.07 2.2	4.51 1.1 19.6 1.34 2.6	10 11 23 15 16	1.9% 3.1% 2.4%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Gwon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012	7.6 -0.25 2.3 32.2 14.69 3.3 10.4	12.71 4.14 4.8 20.5 0.67 2.4 5.82	11 10 24 16 14 11	6.8 0.9 26.5 9.07 2.2 3	4.51 1.1 19.6 1.34 2.6 2.52	10 11 23 15 16 17	1.9% 3.1% 2.4% 1.8%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012	7.6 -0.25 2.3 32.2 14.69 3.3 10.4	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93	11 10 24 16 14 11	6.8 0.9 26.5 9.07 2.2 3 2.4	4.51 1.1 19.6 1.34 2.6 2.52 1.2	10 11 23 15 16 17	1.9% 3.1% 2.4% 1.8% 0.5%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85	11 10 24 16 14 11 5	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73	10 11 23 15 16 17 5	1.9% 3.1% 2.4% 1.8% 0.5% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2015 Kiper et al., 2014 Kottink et al., 2014	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8 1.5	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3	11 10 24 16 14 11 5 24 8	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8	10 11 23 15 16 17 5 21	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Gwon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Kottlink et al., 2014 Levin et al., 2012	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8 1.5	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22	11 10 24 16 14 11 5 24 8	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2	10 11 23 15 16 17 5 21 10 6	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Levin et al., 2014 Levin et al., 2012 Ogun et al., 2019	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8 1.5 7.2 6.91	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37	11 10 24 16 14 11 5 24 8 6 33	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44	10 11 23 15 16 17 5 21 10 6 32	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Kottink et al., 2012 Ogun et al., 2019 On et al., 2019	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8 1.5 7.2 6.91	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3	11 10 24 16 14 11 5 24 8 6 33	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44 2	10 11 23 15 16 17 5 21 10 6 32	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Levin et al., 2014 Cevin et al., 2019 Ogun et al., 2019 Oh et al., 2019	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8 1.5 7.2 6.91 1.9 7.7	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.9	11 10 24 16 14 11 5 24 8 6 33 17 25	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44 2 7.4	10 11 23 15 16 17 5 21 10 6 32 14	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.5%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.65 [-0.03, 1.34]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Gwon et al., 2015 Henrique et al., 2009 n et al., 2012 Jang et al., 2005 Kiper et al., 2014 Cottink et al., 2014 Levin et al., 2019 Piron et al., 2019 Piron et al., 2007	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8 1.5 7.2 6.91 1.9 7.7 5.3	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.9 4.74	11 10 24 16 14 11 5 24 8 6 33 17 25	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44 2 7.4 2.95	10 11 23 15 16 17 5 21 10 6 32 14 13	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.5% 2.6%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.66 [-0.03, 1.34] 0.77 [0.09, 1.45]	
1.10.2 in substitution Ida Silva Ribeiro et al., 2015 Duff et al., 2015 Fluet et al., 2015 Fluet et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Levin et al., 2014 Levin et al., 2019 Din et al., 2019 Piron et al., 2009 Piron et al., 2009	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7.8 6.8 1.5 7.2 6.91 1.9 7.7 5.3 7.3	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.9 4.74 6.86	11 10 24 16 14 11 5 24 8 6 33 17 25 18 27	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2 2.6	4,51 1,1 19,6 1,34 2,6 2,52 1,2 10,73 2,8 8,2 5,44 2 7,4 2,95 6,13	10 11 23 15 16 17 5 21 10 6 32 14 13 18 20	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 2.5% 2.5% 2.6% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.65 [-0.03, 1.34] 0.77 [0.09, 1.45]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Kottink et al., 2014 Levin et al., 2019 Oh et al., 2019 Piron et al., 2007 Piron et al., 2009 Reikensmeyer et al., 2012	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7 6.8 1.5 7.2 6.91 1.9 7.7 5.3 7.3 3.3	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.9 4.74 6.86 6.85	11 10 24 16 14 11 5 24 8 6 33 17 25 18 27	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2 2.6 0.9	4,51 1,1 19,6 1,34 2,6 2,52 1,2 10,73 2,8 8,2 5,44 2,7,4 2,95 6,13 4,9	10 11 23 15 16 17 5 21 10 6 32 14 13 18 20	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.5% 2.6% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.77 [0.09, 1.45] 0.77 [0.09, 1.45] 0.70 [0.11, 1.30] 0.39 [-0.39, 1.17]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 n et al., 2012 Jang et al., 2014 Kottink et al., 2014 Levin et al., 2019 Don et al., 2019 Piron et al., 2009 Piron et al., 2009 Piron et al., 2009 Piron et al., 2000 Reikensmeyer et al., 2012 Sucar et al., 2009	7.6 -0.25 2.3 32.2 14.69 3.3 10.4 7.8 6.8 1.5 7.2 6.91 1.9 7.7 5.3 7.3	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.9 4.74 6.86	11 10 24 16 14 11 5 24 8 6 33 17 25 18 27 13	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2 2.6	4,51 1,1 19,6 1,34 2,6 2,52 1,2 10,73 2,8 8,2 5,44 2 7,4 2,95 6,13	10 11 23 15 16 17 5 21 10 6 32 14 13 18 20 13	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.5% 2.6% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.65 [-0.03, 1.34] 0.77 [0.09, 1.45] 0.70 [0.11, 1.30] 0.39 [-0.39, 1.17] 1.74 [0.73, 2.75]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Glwon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Levin et al., 2014 Levin et al., 2019 Oh et al., 2019 Piron et al., 2009 Piron et al., 2000 Reikensmeyer et al., 2012 Subtotal (95% CI) Heterogeneity: Tau² = 0.16; Chi	7.6 -0.25 -2.3 -32.2 -14.69 -3.3 -10.4 -7 -6.8 -1.5 -7.2 -6.91 -1.9 -7.7 -5.3 -7.3 -3.3 -3.8 -1.5 -1.5 -1.5 -1.5 -1.5 -1.5 -1.5 -1.5	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.9 4.74 6.86 6.85 7.82 df = 15	11 10 24 16 14 11 5 24 8 6 33 17 25 18 27 13 11	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2 2.6 0.9 8.3	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44 2.95 6.13 4.9 1.47	10 11 23 15 16 17 5 21 10 6 32 14 13 18 20	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.5% 2.6% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.77 [0.09, 1.45] 0.77 [0.09, 1.45] 0.70 [0.11, 1.30] 0.39 [-0.39, 1.17]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Kottink et al., 2014 Levin et al., 2019 On et al., 2019 Piron et al., 2019 Piron et al., 2009 Piron et al., 2000 Reikensmeyer et al., 2012 Sucar et al., 2009 Subtotal (95% CI) Heterogeneity: Tau* = 0.16; Chi Test for overall effect: Z = 4.05 (7.6 -0.25 -2.3 -32.2 -14.69 -3.3 -10.4 -7 -6.8 -1.5 -7.2 -6.91 -1.9 -7.7 -5.3 -7.3 -3.3 -3.8 -1.5 -1.5 -1.5 -1.5 -1.5 -1.5 -1.5 -1.5	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.9 4.74 6.86 6.85 7.82 df = 15	11 10 24 16 14 11 5 24 8 6 33 17 25 18 27 13 11 261	6.8 0.9 26.5 9.07 2.2 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2 2.6 0.9 8.3	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44 2.95 6.13 4.9 1.47	10 11 23 15 16 17 5 21 10 6 32 14 13 18 20 13 11 245	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.6% 3.0% 2.5% 3.0% 2.5% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.77 [0.09, 1.45] 0.70 [0.11, 1.30] 0.39 [-0.39, 1.17] 1.74 [0.73, 2.75] 0.58 [0.30, 0.85]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Gwon et al., 2015 Henrique et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Kottink et al., 2014 Levin et al., 2012 Ogun et al., 2019 Piron et al., 2019 Piron et al., 2009 Piron et al., 2009 Piron et al., 2010 Subtotal (95% CI) Heterogeneity: Tau² = 0.16; Chi Test for overall effect: Z = 4.05 (7.6 -0.25 -2.3 -32.2 -14.69 -3.3 -10.4 -7 -6.8 -1.5 -7.2 -6.91 -1.9 -7.7 -5.3 -7.3 -3.3 -18.5 -7.2 -7.9 -7.9 -7.9 -7.9 -7.9 -7.9 -7.9 -7.9	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.22 5.37 3.8.22 5.37 3.5.9 4.74 6.86 6.85 7.82 df = 15	11 10 24 16 14 11 5 24 8 6 33 17 25 18 27 13 11 261 (P = 0.1	6.8 0.9 26.5 9.07 2.2 3 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2 2.6 0.9 8.3	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44 2.9 6.13 4.9 1.47 = 54%	10 11 23 15 16 17 5 21 10 6 32 14 13 18 20 13 11 245	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.5% 2.6% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.65 [-0.03, 1.34] 0.77 [0.09, 1.45] 0.70 [0.11, 1.30] 0.39 [-0.39, 1.17] 1.74 [0.73, 2.75]	
1.10.2 In substitution da Silva Ribeiro et al., 2015 Duff et al., 2012 Fluet et al., 2015 Givon et al., 2015 Henrique et al., 2019 Housman et al., 2009 In et al., 2012 Jang et al., 2005 Kiper et al., 2014 Kottink et al., 2014 Levin et al., 2019 On et al., 2019 Piron et al., 2019 Piron et al., 2009 Piron et al., 2000 Reikensmeyer et al., 2012 Sucar et al., 2009 Subtotal (95% CI) Heterogeneity: Tau* = 0.16; Chi Test for overall effect: Z = 4.05 (7.6 -0.25 -2.3 -32.2 -14.69 -3.3 -10.4 -7 -6.8 -1.5 -7.2 -6.91 -1.9 -7.7 -5.3 -7.3 -3.3 -18.5 -7.2 -7.2 -7.2 -7.3 -7.3 -7.3 -7.3 -7.3 -7.3 -7.3 -7.3	12.71 4.14 4.8 20.5 0.67 2.4 5.82 1.93 8.85 2.3 8.22 5.37 3 5.99 4.74 6.86 6.85 7.82 df = 15	11 10 24 16 14 11 5 24 8 6 33 17 25 18 27 13 11 261 (P = 0.1	6.8 0.9 26.5 9.07 2.2 3 3 2.4 3.2 2.3 2.6 1.5 2.1 3.4 2.2 2.6 0.9 8.3	4.51 1.1 19.6 1.34 2.6 2.52 1.2 10.73 2.8 8.2 5.44 2.9 6.13 4.9 1.47 = 54%	10 11 23 15 16 17 5 21 10 6 32 14 13 18 20 13 11 245	1.9% 3.1% 2.4% 1.8% 0.5% 3.0% 1.7% 1.2% 3.4% 2.5% 2.6% 3.0% 2.5% 3.0% 2.5% 3.0%	Not estimable 0.40 [-0.47, 1.26] 0.28 [-0.30, 0.85] Not estimable 0.43 [-0.30, 1.15] 1.75 [0.84, 2.65] 2.59 [0.67, 4.50] 0.36 [-0.23, 0.95] -0.29 [-1.23, 0.64] 0.52 [-0.64, 1.68] 0.99 [0.47, 1.51] -0.07 [-0.78, 0.63] 0.77 [0.09, 1.45] 0.70 [0.11, 1.30] 0.39 [-0.39, 1.17] 1.74 [0.73, 2.75] 0.58 [0.30, 0.85]	-10 -5 0 5

Supplementary Table XVI.—Robot-assisted therapy.

	Expe	eriment	al	C	ontrol			Std. Mean Difference	Std. Mean Difference
Study or Subgroup I.11.1 In addition	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
	444	0.7	4.0	404	44.00	40	2.50	0.001.050.4.041	
Nisen et al., 1997	14.1	9.7	10		11.63	10	2.5%	0.36 [-0.53, 1.24]	<u> </u>
Dehem et al., 2019		18.55	15		19.58	17	3.0%	0.44 [-0.26, 1.15]	
Hsieh et al., 2018	4.92	0.839	13		0.735	12	2.7%	0.82 [-0.00, 1.64]	
ee et al., 2018	8.2	6.35	15	2.33	5.08	15	2.8%	0.99 [0.23, 1.76]	
iao et al., 2012	6.3	5.64	10	1.3	7.92	10	2.5%	0.70 [-0.21, 1.61]	T
flasiero et al., 2007	12.8	5.5	17	7.5	9.5	18	3.0%	0.66 [-0.02, 1.35]	
flasiero et al., 2011	7.33	4.7	11	7.37	7.3	10	2.6%	-0.01 [-0.86, 0.85]	
/lasiero et al., 2014	11.66	5.35	14	9	10.3	16	2.9%	0.31 [-0.41, 1.03]	†-
McCabe et al., 2015	7.7	3.84	12	9.9	5.05	11	2.6%	-0.48 [-1.31, 0.36]	
Orihuela-Espina et al., 2016	9.11	4.07	9	6.87	3.18	8	2.3%	0.58 [-0.40, 1.56]	+
Rabadi et al., 2008	11.05	2.539	10	12.94	2.802	10	2.5%	-0.68 [-1.58, 0.23]	
Bale et al., 2013	17.18	10.27	9	19.5	16.66	11	2.5%	-0.16 [-1.04, 0.73]	
Fomic et al., 2017	18	9.4	13	7.5	5.5	13	2.6%	1.32 [0.46, 2.18]	
/ang et al., 2012	6.1	5.05	7	2.7	7.628	7	2.1%	0.49 [-0.58, 1.56]	
Subtotal (95% CI)			165			168	36.5%	0.39 [0.11, 0.68]	◆
Heterogeneity: Tau ^z = 0.11; Chi ^z = 0	20.97, df	= 13 (P	= 0.07); I ² = 38	1%				
est for overall effect: Z = 2.72 (P =	0.006)								
1.11.2 In substitution									
Burgar et al., 2000	5	4	11	2.5	2.5	10	2.5%	0.71 [-0.18, 1.60]	+
Burgar et al., 2011 (a)	14.4	3.6	17	14	3.6	18	3.1%	0.11 [-0.55, 0.77]	+
Burgar et al., 2011 (b)	6.8	1.9	19	14	3.6	18		Not estimable	
Byl et al., 2013 (a)	3.8	0.62	5	6	4.12	3	1.4%	-0.79 [-2.32, 0.74]	
Byl et al., 2013 (b)	4	0.19	5	6	4.12	2	1.1%	-0.91 [-2.70, 0.88]	
Conroy et al., 2011 (a)	2.29	0.72	14	0.43	0.72	14	1.170	Not estimable	
Conroy et al., 2011 (b)	1.15	0.75	13	0.43	0.72	14	2.7%	0.95 [0.15, 1.75]	
	1.15	6.32	6	9.5	4.43	6	2.0%		
Daly et al., 2005			_			_		0.25 [-0.88, 1.39]	<u> </u>
Daunoraviciene et al., 2016	12.99	1.95	17	9.7	0.77	17	2.6%	2.17 [1.30, 3.03]	
De Araujo et al., 2011	9.67	4.69	6	10.83	8.73	6	2.0%	-0.15 [-1.29, 0.98]	
Hesse et al., 2005		12.35	21	3.1	5.25	22	3.0%	1.42 [0.74, 2.09]	
Hesse et al., 2014	11.1	10.6	24	12	12.7	25	3.4%	-0.08 [-0.64, 0.48]	
Hsieh et al., 2011 (a)	5.33	5.22	6	2.83	7.44	6	2.0%	0.36 [-0.79, 1.50]	
Hsieh et al., 2011 (b)	2.33	6.49	6	2.83	7.44	6	2.0%	-0.07 [-1.20, 1.07]	
Hsieh et al., 2012	5.22	5.43	18	2.95	6.24	18	3.1%	0.38 [-0.28, 1.04]	+
Hsieh et al., 2014	6.12	6.02	16	3.81	5.02	16	3.0%	0.41 [-0.29, 1.11]	+
lsieh et al., 2016	11	8.22	16	10.53	12.25	15	3.0%	0.04 [-0.66, 0.75]	
(lamroth-Marganska et al., 2014	3.4	8	38	2.6	5.7	35	3.6%	0.11 [-0.35, 0.57]	-
in et al., 2015	11.06	5.63	16	1.71	3.58	17	2.6%	1.95 [1.10, 2.79]	
.o et al., 2010	1.11	1.01	25	-1.06	1	27	3.0%	2.13 [1.44, 2.82]	
um et al., 2002	3.3	0.7	13	1.6	0.3	14	0.070	Not estimable	
um et al., 2006	5.3	1.2	10	2.5	0.6	6		Not estimable	
Sale et al., 2004	8.65	7.52	26	3.63	10.7	27	3.4%	0.53 [-0.02, 1.08]	<u> </u>
•		6.87	26 5						
Simkins et al., 2013 (a)	3.8			6.5	9.15	4	1.6%	-0.30 [-1.63, 1.03]	
Simkins et al., 2013 (b)	3.4	7.3	5	6.5	9.15	4	1.6%	-0.34 [-1.67, 0.99]	
Stein et al., 2004	5.2	4.8	9	4.8	4.2	9	2.4%	0.08 [-0.84, 1.01]	
Busanto et al., 2015	5.11	6.55	9	5.7	4.35	10	2.5%	-0.10 [-1.00, 0.80]	
'olpe et al., 2000	5	2.5	30	4	2	26	3.4%	0.43 [-0.10, 0.96]	
olpe et al., 2008	3.18	1.2	11	3.5	1.08	10	2.6%	-0.27 [-1.13, 0.59]	
Subtotal (95% CI)	04 DE 46	- 24 /0	361	0043-12-	- 700V	353	63.5%	0.45 [0.15, 0.74]	◆
Heterogeneity: Tau² = 0.38; Chi² = 8 Fest for overall effect: Z = 2.92 (P =		= 24 (P	< 0.00	001); I*:	= / U%				
Total (95% CI)			526			521	100.0%	0.43 [0.22, 0.65]	•
Heterogeneity: Tau ² = 0.28; Chi ² = 1	102.51 6	if = 38 (F	2 < N N	00011-8	= 63%				- + +
Fest for overall effect: Z = 3.92 (P <		55 (1	. 0.0	55017,1	. 55 76				-4 -2 0 2 4
									Favours [experimental] Favours [control]

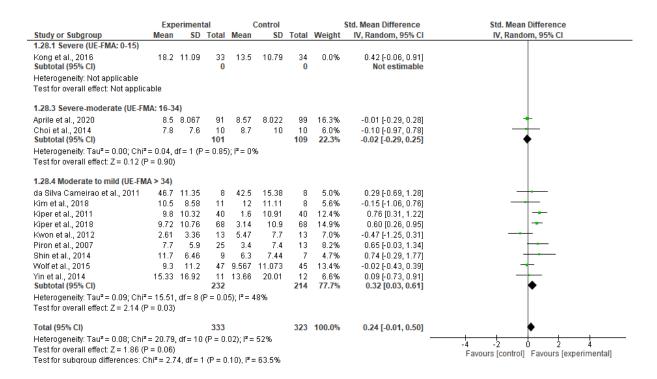
Supplementary Table XVII.—Telerehabilitation.



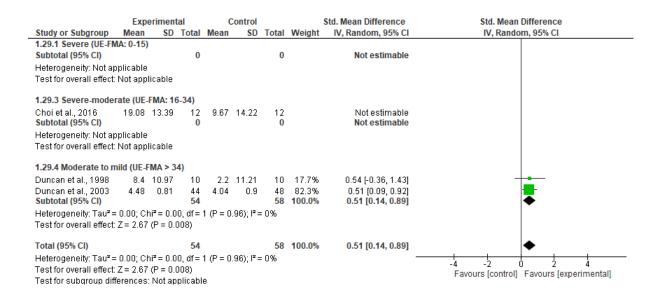
Supplementary Table XVIII.—Forest-plot regarding the effect of new-technologies on motor function in patients with subacute stroke according to the impairment severity - robot-assisted therapy.

	Exp	erimen	tal		Control			Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
1.27.1 Severe (UE-FMA:0-15))								
Burgar et al., 2011 (a)	14.4	3.6	17	14	3.6	18	5.9%	0.11 [-0.55, 0.77]	
Burgar et al., 2011 (b)	6.8	1.9	19	14	3.6	18		Not estimable	
Hesse et al., 2005	16.7	12.35	21	3.1	5.25	22	5.8%	1.42 [0.74, 2.09]	_
Hesse et al., 2014	11.1	10.6	24	12	12.7	25	6.5%	-0.08 [-0.64, 0.48]	-
Rabadi et al., 2008	11.05	2.539	10	12.94	2.802	10	4.5%	-0.68 [-1.58, 0.23]	
Volpe et al., 2000 Subtotal (95% CI)	5	2.5	30 102	4	2	26 101	6.7% 29.5 %	0.43 [-0.10, 0.96] 0.27 [-0.33, 0.87]	<u>-</u>
Heterogeneity: Tau ² = 0.36; C	hi² = 17.	27, df=	4 (P =	0.002);	P= 77%				
Test for overall effect: Z = 0.88	8 (P = 0.3	38)	•						
1.27.3 Severe-Moderare (UE	-FMA:16	-34)							
Aisen et al., 1997	14.1	9.7	10	10.1	11.63	10	4.6%	0.36 [-0.53, 1.24]	+-
Daunoraviciene et al., 2016	12.99	1.95	17	9.7	0.77	17	4.7%	2.17 [1.30, 3.03]	_
Dehem et al., 2019	19.5	18.55	15	10.8	19.58	17	5.6%	0.44 [-0.26, 1.15]	+
Hsieh et al., 2016	11	8.22	16	10.53	12.25	15	5.6%	0.04 [-0.66, 0.75]	
Lum et al., 2006	5.3	1.2	10	2.5	0.6	6		Not estimable	
Masiero et al., 2007	12.8	5.5	17	7.5	9.5	18	5.8%	0.66 [-0.02, 1.35]	-
Masiero et al., 2011	7.33	4.7	11	7.37	7.3	10	4.8%	-0.01 [-0.86, 0.85]	-
Masiero et al., 2014	11.66	5.35	14	9	10.3	16	5.5%	0.31 [-0.41, 1.03]	
Sale et al., 2014	8.65	7.52	26	3.63	10.7	27	6.6%	0.53 [-0.02, 1.08]	 •
Tomic et al., 2017	18	9.4	13	7.5	5.5	13	4.8%	1.32 [0.46, 2.18]	
Wolf et al., 2015	9.3	11.2		9.567	11.073	45	7.5%	-0.02 [-0.43, 0.39]	+.
Subtotal (95% CI)			186			188	55.6%	0.54 [0.16, 0.92]	◆
Heterogeneity: $Tau^2 = 0.24$; C Test for overall effect: $Z = 2.78$			9 (P =	0.001);	l²= 67%				
	•	,							
1.27.4 Moderate to Mild (UE-			4.0	0.7	4.0	4.0	4.70/	0.40.10.07.0.701	
Choi et al., 2014	7.8	7.6	10	8.7	10	10	4.7%	-0.10 [-0.97, 0.78]	
Masiero et al., 2014	11.66	5.35	14	9	10.3	16	5.5%	0.31 [-0.41, 1.03]	
Sale et al., 2013 Subtotal (95% CI)		10.27	9 33	19.5	16.66	11 37	4.6% 14.9%	-0.16 [-1.04, 0.73] 0.06 [-0.41, 0.53]	→
Heterogeneity: $Tau^2 = 0.00$; C Test for overall effect: $Z = 0.2$? (P = 0	.67); I²=	: 0%				
Total (95% CI)			321			326	100.0%	0.39 [0.11, 0.66]	◆
Heterogeneity: Tau ² = 0.21; C	hi² = 47.	27, df=	17 (P =	= 0.0001); $I^2 = 64^\circ$	%		_	
Test for overall effect: $Z = 2.7$									-4 -2 U 2 4 Favours [control] Favours [experimental]
Test for subgroup differences			= 2 (P	= 0.29).	$I^2 = 19.0^{\circ}$	%			ravours (control) - ravours (experimental)

Supplementary Table XIX.—Virtual reality.



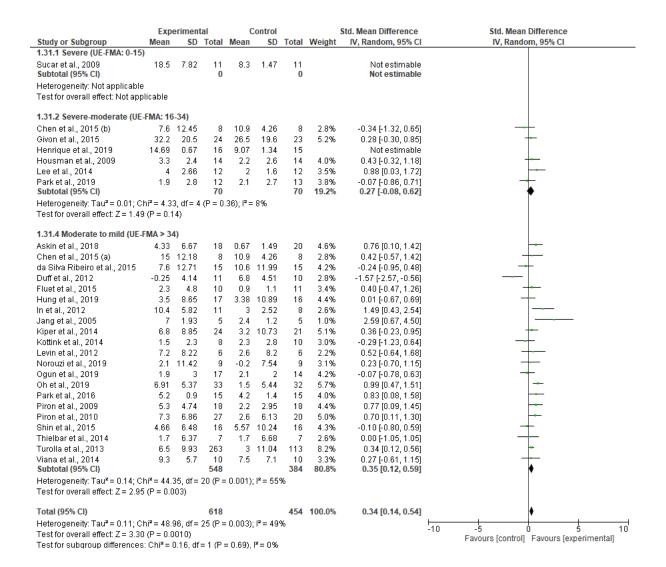
Supplementary Table XX.—Telerehabilitation.



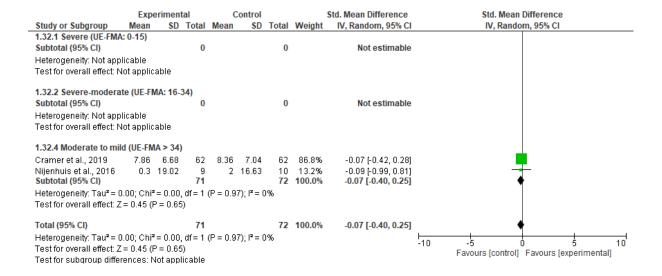
Supplementary Table XXI.—Forest-plot regarding the effect of new-technologies on motor function in patients with chronic stroke according to the impairment severity - robot-assisted therapy.

	Exp	eriment	al	C	ontrol			Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
1.30.1 Severe (UE-FMA: 0-15)									
Daly et al., 2005 Subtotal (95% CI)	11	6.32	6 0	9.5	4.43	6 0		Not estimable Not estimable	
Heterogeneity: Not applicable Fest for overall effect: Not applicab	lo.								
restror overall effect. (Not applicab	ie								
1.30.2 Severe-moderate (UE-FMA:	16-34)								
Ang et al., 2014	7.2	2.3	8	4.9	4.1	7	3.9%	0.66 [-0.39, 1.72]	
Brokaw et al., 2014	1.86	5.3	7	1.6	2.69	5	3.5%	0.05 [-1.09, 1.20]	
Burgar et al., 2000	5	4	11	2.5	2.5	10	4.7%	0.71 [-0.18, 1.60]	
Byl et al., 2013 (b)	3.8	0.62	5	6	4.12	3	2.4%	-0.79 [-2.32, 0.74]	
Conroy et al., 2011 (a)	2.29	0.72	14	0.43	0.72	14		Not estimable	
Conroy et al., 2011 (b)	1.15	0.75	13	0.43	0.72	14	5.1%	0.95 [0.15, 1.75]	
De Araujo et al., 2011	9.67	4.69	6	10.83	8.73	6	3.6%	-0.15 [-1.29, 0.98]	
Hsieh et al., 2014	6.12	6.02	16	3.81	5.02	16	5.7%	0.41 [-0.29, 1.11]	+-
(lamroth-Marganska et al., 2014	3.4	8	38	2.6	5.7	35	7.3%	0.11 [-0.35, 0.57]	+
_o et al., 2010	1.11	1.01	25	-1.06	1	27	5.8%	2.13 [1.44, 2.82]	-
um et al., 2002	3.3	0.7	13	1.6	0.3	14		Not estimable	
McCabe et al., 2015	7.7	3.84	12	9.9	5.05	11	5.0%	-0.48 [-1.31, 0.36]	
Simkins et al., 2013 (a)	3.8	6.87	5	6.5	9.15	4	2.9%	-0.30 [-1.63, 1.03]	
Simkins et al., 2013 (b)	3.4	7.3	5	6.5	9.15	4	2.9%	-0.34 [-1.67, 0.99]	
Busanto et al., 2015	5.11	6.55	9	5.7	4.35	10	4.6%	-0.10 [-1.00, 0.80]	+
Subtotal (95% CI)	0	0.00	160			152	57.6%	0.30 [-0.15, 0.75]	♦
Heterogeneity: Tau² = 0.44; Chi² = 3		= 12 (P	< 0.00	01); l² =	69%				
Test for overall effect: Z = 1.32 (P =	0.19)								
1.30.4 Moderate to mild (UE-FMA	> 34)								
Hsieh et al., 2011 (a)	5.33	5.22	6	2.83	7.44	6	3.6%	0.36 [-0.79, 1.50]	
Hsieh et al., 2011 (b)	2.33	6.49	6	2.83	7.44	6	3.6%	-0.07 [-1.20, 1.07]	-
Isieh et al., 2012	5.22	5.43	18	2.95	6.24	18	6.0%	0.38 [-0.28, 1.04]	 -
Hsieh et al., 2018		0.839	13	4.25		12	5.0%	0.82 [-0.00, 1.64]	
ee et al., 2018	8.2	6.35	15	2.33	5.08	15	5.4%	0.99 [0.23, 1.76]	
iao et al., 2012	6.3	5.64	10	1.3	7.92	10	4.6%	0.70 [-0.21, 1.61]	
in et al., 2015	4	2.66	12	2	1.6	12	4.9%	0.88 [0.03, 1.72]	
Vu et al., 2012	3.85	6.71	14	3.14	7.55	14	5.5%	0.10 [-0.64, 0.84]	+
/ang et al., 2012	6.1	5.05	7		7.628	7	3.9%	0.49 [-0.58, 1.56]	
Subtotal (95% CI)	0.1	0.00	101			100	42.4%	0.54 [0.26, 0.83]	♦
Heterogeneity: Tau² = 0.00; Chi² =	5.33, df=	8 (P = 1	0.72): I	= 0%				2,	ľ
Test for overall effect: Z = 3.73 (P =		,	,,,						
Total (95% CI)			261			252	100.0%	0.42 [0.14, 0.70]	•
Heterogeneity: Tau² = 0.22; Chi² = -	45.29. df	= 21 (P		2): 2 = 6	4%				<u> </u>
Test for overall effect: Z = 2.98 (P =		21 (1	0.00	-/, 1 - 0	. , ,0				'-10 -5 <u>0</u> 5
est for overall ellect. Z = 2.30 (i = est for subgroup differences: Chi		df = 1 /5) = n 20	2) IZ = 0	x.				Favours [control] Favours [experimental]

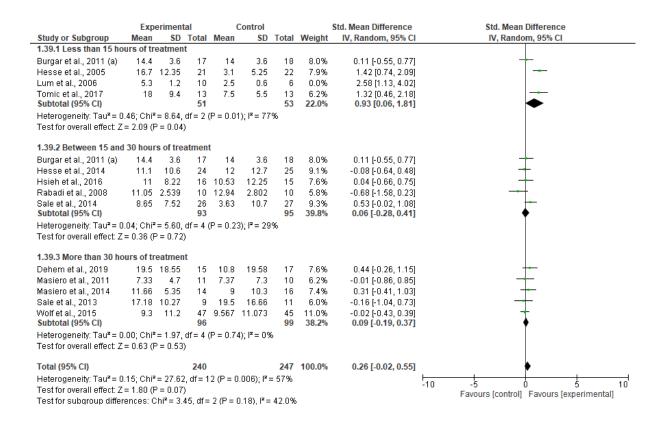
Supplementary Table XXII.—Virtual reality.



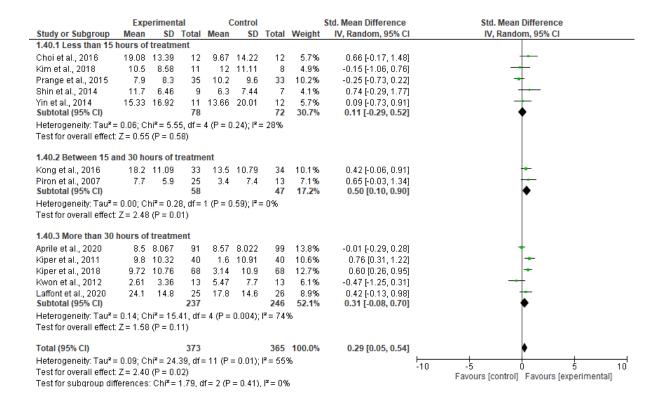
Supplementary Table XXIII.—Telerehabilitation.



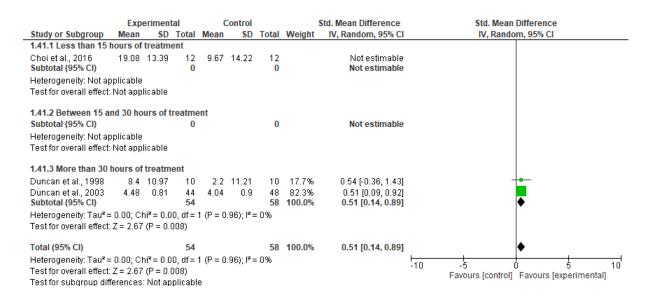
Supplementary Table XXIV.—Forest-plot regarding the effect of new-technologies on motor function in patients with subacute stroke according to the treatment intensity - robot-assisted therapy.



Supplementary Table XXV.—Virtual reality.



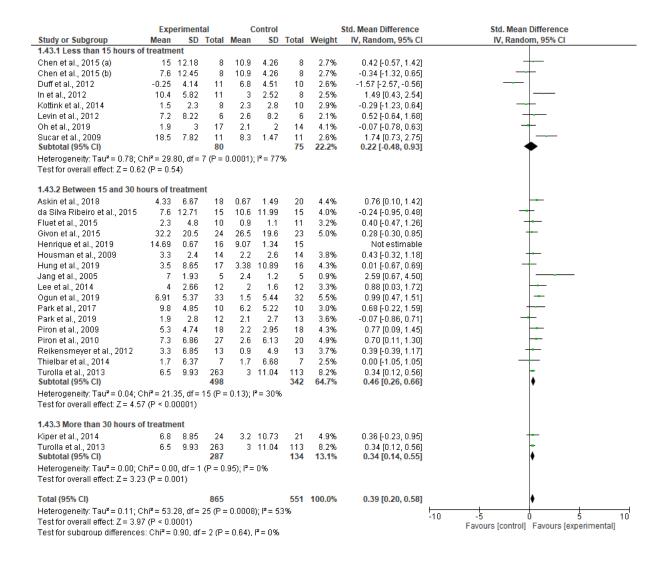
Supplementary Table XXVI.—Telerehabilitation.



Supplementary Table XXVII.—Forest-plot regarding the effect of new-technologies on motor function in patients with chronic stroke according to the treatment intensity - robot-assisted therapy.

	-	eriment			ontrol			Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
1.42.1 Less than 15 hours of trea									
Brokaw et al., 2014	1.86	5.3	7	1.6	2.69	5	3.2%	0.05 [-1.09, 1.20]	
Lin et al., 2015 Subtotal (95% CI)	11.06	5.63	16 23	1.71	3.58	17 22	4.2% 7.5 %	1.95 [1.10, 2.79] 1.04 [-0.81, 2.90]	
Heterogeneity: Tau² = 1.53; Chi² =	8 77 df-	1 /D =		IZ - 050	4		1.5%	1.04 [-0.01, 2.00]	
Test for overall effect: Z = 1.10 (P =		(, -	0.003),	1 - 03	•				
1.42.2 Between 15 and 30 hours	of treatm	ent							
Ang et al., 2014	7.2	2.3	8	4.9	4.1	7	3.5%	0.66 [-0.39, 1.72]	+
Burgar et al., 2000	5	4	11	2.5	2.5	10	4.1%	0.71 [-0.18, 1.60]	 • -
Byl et al., 2013 (a)	3.8	0.62	5	6	4.12	3	2.3%	-0.79 [-2.32, 0.74]	
Byl et al., 2013 (b)	4	0.19	5	6	4.12	2	1.8%	-0.91 [-2.70, 0.88]	
Conroy et al., 2011 (a)	2.29	0.72	14	0.43	0.72	14		Not estimable	
Conroy et al., 2011 (b)	1.15	0.75	13	0.43	0.72	14	4.4%	0.95 [0.15, 1.75]	
De Araujo et al., 2011	9.67	4.69	6	10.83	8.73	6	3.2%	-0.15 [-1.29, 0.98]	
Hsieh et al., 2011 (a)	5.33	5.22	6	2.83	7.44	6	3.2%	0.36 [-0.79, 1.50]	-
Hsieh et al., 2011 (b)	2.33	6.49	6	2.83	7.44	6	3.3%	-0.07 [-1.20, 1.07]	-
Hsieh et al., 2012	5.22	5.43	18	2.95	6.24	18	5.0%	0.38 [-0.28, 1.04]	+-
Hsieh et al., 2014	6.12	6.02	16	3.81	5.02	16	4.8%	0.41 [-0.29, 1.11]	 -
Hsieh et al., 2018	4.92	0.839	13	4.25	0.735	12	4.3%	0.82 [-0.00, 1.64]	 •
Klamroth-Marganska et al., 2014	3.4	8	38	2.6	5.7	35	5.8%	0.11 [-0.35, 0.57]	+
Liao et al., 2012	6.3	5.64	10	1.3	7.92	10	4.0%	0.70 [-0.21, 1.61]	 • -
Lum et al., 2002	3.3	0.7	13	1.6	0.3	14		Not estimable	
Simkins et al., 2013 (a)	3.8	6.87	5	6.5	9.15	4	2.7%	-0.30 [-1.63, 1.03]	
Simkins et al., 2013 (b)	3.4	7.3	5	6.5	9.15	4	2.7%	-0.34 [-1.67, 0.99]	-+
Stein et al., 2004	5.2	4.8	9	4.8	4.2	9	4.0%	0.08 [-0.84, 1.01]	+
Susanto et al., 2015	5.11	6.55	9	5.7	4.35	10	4.0%	-0.10 [-1.00, 0.80]	+
Volpe et al., 2008	3.18	1.2	11	3.5	1.08	10	4.2%	-0.27 [-1.13, 0.59]	
Wu et al., 2012	3.85	6.71	14	3.14	7.55	14	4.7%	0.10 [-0.64, 0.84]	+
Yang et al., 2012	6.1	5.05	7	2.7	7.628	7	3.5%	0.49 [-0.58, 1.56]	
Subtotal (95% CI)			215			203	75.6%	0.25 [0.06, 0.45]	*
Heterogeneity: Tau² = 0.00; Chi² = Test for overall effect: Z = 2.53 (P =		= 19 (P	= 0.65); I² = 09	6				
1.42.3 More than 30 hours of trea	atment								
Daly et al., 2005	11	6.32	6	9.5	4.43	6	3.2%	0.25 [-0.88, 1.39]	+
Lee et al., 2018	8.2	6.35	15	2.33	5.08	15	4.6%	0.99 [0.23, 1.76]	
Lo et al., 2010	1.11	1.01	25	-1.06	1	27	4.9%	2.13 [1.44, 2.82]	
McCabe et al., 2015	7.7	3.84	12	9.9	5.05	11	4.3%	-0.48 [-1.31, 0.36]	-+ _
Subtotal (95% CI)			58			59	17.0%	0.75 [-0.42, 1.93]	◆
Heterogeneity: Tau² = 1.25; Chi² = Test for overall effect: Z = 1.25 (P =		= 3 (P <	< 0.000	1); I² = 8	7%				
Total (95% CI)			296			284	100.0%	0.39 [0.11, 0.67]	•
Heterogeneity: Tau² = 0.30; Chi² =	61.89, df	= 25 (P	< 0.00	01); l² =	60%				-10 -5 0 5
Test for overall effect: Z = 2.70 (P =									-10 -5 0 5 Favours [control] Favours [experimental]
Test for subgroup differences: Chi	i² = 1 34	df = 2/F	P = 0.51	Y = 0	χ.				i avours (control) - ravours (experimental)

Supplementary Table XXVIII.—Virtual reality.



Supplementary Table XXIX.—Telerehabilitation.

