Supplementary file S3. Intervention group and participant characteristics of included articles.

Supplementary table S3. Intervention group and participant characteristics of included articles.

Author	Robotic intervention participants				Conventional intervention participants			
	Sample size	Mean time since stroke (SD)	Mean age (SD)	Intervention description	Sample size	Mean time since stroke (SD)	Mean age (SD)	Intervention description
Aprile et al. (2020)[26]	n = 111	6.9w (5.9)	69.5y (10.9)	Motore, Amadeo Tyromotion, Diego Tyromotion	n = 113	6.5w (5.8)	68.5y (11.5)	Soft tissue and joint mobilisation, repetitive practice, movement facilitation, mental imagery, splinting, strengthening, functional tasks.
Bhattacharjee et al. (2024)[34]	n = 22	18w (5.3)	53.52y (9.9)	ArmeoSpring	n = 22	17.8w (6.8)	53.23 (10.5)	ROM exercises, strengthening exercises, reach and grasp, moving objects, ADLs training
Budhota et al. (2021)[35]	n = 22	65.4w (64.5)	56.3y (10.4)	H-man	n = 22	55.7w (46.8)	54.6y (10.9)	Passive mobilisation, active-assisted approaches, neurodevelopmental techniques, repetitive tasks, functional reach training, upper limb inclined board, motorised arm bike
Calabrò et al. (2019)[36]	n = 25	1.4w (0.3)	65y (3.0)	Amadeo Tyromotion	n = 25	1.4w (0.3)	64y (3.0)	Hand therapy, finger movements, upper limb positioning and constraint, movement execution, video-acoustic cueing

Carpinella et al. (2020)[37]	n = 19	28w (12.0)	67y (3.0)	Braccio di Ferro	n = 19	21.2w (87.7)	59y (5.8)	Passive and active mobilisation, task-oriented exercises, reach and grasp, moving objects
Chang et al. (2024)[38]	n = 15	809.5w (410.6)	65.2y (5.4)	Rebless	n = 15	834.7w (212.9)	67.2 (5.4)	ROM exercise with ergometer
Chen et al. (2023)[39]	n = 10	10.7w (7.8)	47.1y (11.1)	EAMT Exoskeleton	n = 10	7.2w (5.5)	54.9y (14.5)	Passive stretching, active-assisted movement training, functional task training, reaching, grasping, transporting objects
Choi et al. (2024)[40]	n = 23	36.2w (9.4)	55.7y (9.7)	VR-based NEOFECT Glove	n = 23	39.7w (10.7)	59.3y (10.3)	Therapist-adjusted task-oriented therapy
Crema et al. (2022i)[27]	n = 15	NR	49y (16.7)	Gloreha Sinfonia	n = 15	NR	61y (10.0)	Passive motion, arm ergometer, exercises using VR, active movement, reaching, grasping, elevation, spatial orientation, repetitive task training
Crema et al. (2022ii)[27]	n = 15	NR	61y (9)	Gloreha Sinfonia and Helping Hand NMES	n = 15	NR	49y (11.3)	Helping Hand NMES
Hsu et al. (2019)[41]	n = 22	54.8w (34.4)	53.1y (13.9)	Bi-Manu-Track	n = 21	58.8w (52.8)	52.6y (12.5)	Sensorimotor stimulation programme, task-specific training, targeted motor performance components of hand grips/grasps, elbow flexion/extension and forearm pronation/supination during functional tasks

Hsu et al. (2022)[42]	n = 17	102.5w (25.6)	55.5 (13.4)	TIGER	n = 15	157.7w (41.3)	56.3y (16.5)	Proprioceptive neuromuscular facilitation, passive ROM exercises, repetitive skill building for ADLs
Kim et al. (2021)[43]	n = 23	48.9w (90.7)	57.2y (15.1)	Camillo	n = 24	116.2w (175.1)	62.1y (12.4)	Stretching, joint ROM exercises, strengthening exercises, goal-directed functional exercise
Kim et al. (2023)[44]	n = 15	930.8w (302.1)	65.5y (8.4)	HEXO-UR30A	n = 15	915.1w (351.0)	64.5y (7.7)	ROM exercise with ergometer
Lee et al. (2018)[45]	n = 15	73.1w (23.9)	52.1y (14.1)	REJOYCE	n = 15	75.5w (22.0)	50.3y (11.2)	Stretching exercises, neurodevelopmental therapy, resistance exercises, fine motor trainings
Li et al. (2024)[46]	n = 20	9.6w (6.8)	63.6y (11.4)	SEM Glove	n = 20	10.1w (7.1)	63.7y (9.4)	Therapist-assisted task-oriented training, reach to grasp, active-assisted finger flexion and extension
Lin et al. (2022)[47]	n = 82	20.3w (23.3)	59.4y (11.0)	FLEXO-Arm1	n = 86	22.6w (25.5)	58.7y (12.9)	Gentle stretching, ROM exercises, strengthening exercises, facilitation, active-assisted movements, activities of daily living, functional tasks
Ranzani, et al. (2022)[48]	n = 17	3.1w (1.5)	70y (12.8)	ReHapticKnob	n = 16	3.1w (1.3)	67.5y (11.4)	Neurocognitive therapy approach, haptic and postural perception, object discrimination, grasping, reaching, pinch, texture identification, thumb/finger flexion/extension, forearm pronation/supination, passive and active training
Rodgers et al. (2019i)[28]	n = 257	32.5w (13.6)	59.9y (13.5)	InMotion ARM (InMotion 2.0, or MIT-MANUS),	n = 259	33.5w (12.9)	59.4y (14.3)	Repetitive functional task practice, patient directed goals, gentle stretching, whole-task and part-task practice

				InMotion HAND, InMotion WRIST (InMotion 3.0)				
Rodgers et al. (2019ii)[28]	As above	As above	As above	As above	n = 254	34.6w (31.6)	62.5y (12.5)	Usual NHS care
Şenocak et al. (2023)[49]	n = 19	17.4w (6.9)	60.2y (10.5)	ExoRehab X	n = 22	23.7w (4.6)	63.7y (9.1)	Functional activity practice: dressing, object manipulation, reaching, cup holding, ROM, strengthening, weight-bearing
Takahashi et al. (2016)[50]	n = 30	6.8w (1.0)	65.2y (10.9)	ReoGo	n = 26	6.7w (1.2)	64.6y (11.5)	Upper limb exercises for stretching, ROM, reaching, grasping/releasing, pinching, ADL training
Takebayashi et al. (2022i)[32]	n = 44	37.6w (55.8)	59y (12.0)	ReoGo-J	n = 42	34.3w (37.8)	58y (10.0)	Self-training of: sanding, placing, stretching, repetitive reaching/grasping/releasing practice, stretching, joint ROM exercises, correct-movement exercises, ADLs
Takebayashi et al. (2022ii)[32]	n = 43	37.8w (57.6)	60y (11.0)	ReoGo-J and constraint-induced movement therapy	As above	As above	As above	As above
Térémetz et al. (2023)[51]	n = 21	99.9w (113)	58y (12.0)	Dextrain Manipulandum	n = 21	108.6w (117.3)	70y (16)	Hand and dexterity training, soft tissue mobilization, strengthening exercises, movement facilitation, sensory exercises, fine motor skills training, grasp and release, reach and grasp, push and pull, bilateral exercises, functional tasks

Villafañe et al. (2018)[52]	n = 16	NR	67y (11.0)	Gloreha Professional	n = 16	NR	70y (12.0)	Assisted stretching, shoulder and arm exercises, functional reaching tasks
Wolf et al. (2015)[53]	n = 51	16.5w (7.6)	59.1y (14.1)	Hand Mentor Pro	n = 48	18.2w (6.6)	54.7y (12.2)	Self-ROM, weight-bearing activities, active assisted exercises with a cane, shoulder exercises, elbow/forearm exercises, wrist/hand exercises, task-based activities
Yuan et al. (2023i)[33]	n = 23	4.7w (4.3)	56.7y (8.9)	Nanjing ETSUN (Unilateral)	n = 23	5.0w (3.6)	58.9y (10.3)	Functional electrical stimulation, Bobath training, joint ROM exercises, functional task practice, self-care activities
Yuan et al. (2023ii)[33]	n = 24	5.5w (5.5)	59.0y (8.3)	Nanjing ETSUN (Bilateral)	As above	As above	As above	As above

Abbreviations: ADLs, activities of daily living; NHS, National Health Service; NMES, neuromuscular electrical stimulation; NR, not reported; ROM, range of motion; VR, virtual reality; w, weeks; y, years.