Additional file 1 - Overview of upper extremity rehabilitation robotics for stroke patients that have been tested through one or more clinical trials

(FB= feedback, DF= Degrees of freedom, PA= Physiotherapy Approach, A= Analytical, T= Task-oriented, TDL= therapist dependency level: 0=no, 1=minimal 2=fully dependent, OCM= outcome measure, CT= clinical trial, CCT= controlled clinical trial, RCT= randomized controlled clinical trial, AS=Ashworth Scale, FM=Fugl Meyer Assessment, FIM= Functional Independence Measure, MRC=Medical Research Council motor power score, MSS=Motor Status Scale, MP=Motor Power Scale, AMAT=Arm Motor Ability Test, WMFT=Wolf Motor Function Test, SIS=Stroke Impact Scale, RMA= Rivermead Motor Assessment, TCT= Trunk Control Test, RFT= Rancho Functional Test, CMM= Chedoke-McMaster test, EMG= electromyography, BBT = Box and Blocks test, mBBT= modified Box and Blocks test, JT= Jebson Test, UMAQS= University of Maryland Arm Questionnaire, KM= kinematic information).

Name (total amount of patients tested)	Body area trained	Modalities	DF	P-A	FB	TDL	CT CCT RCT (n patients)	OCM	Acute subacute chronic patients
MIT-Manus (372)	shoulder elbow wrist (hand)	passive active interactive: movement- or emg-triggered	2	A	Concurrent: visual tactile auditory	2	CT (30) [135]	FM,FIM, MP,MSS	chronic
							CT (30) [136]	MSS,FM, WMFT	chronic
							CT (15) [137]	FM,MP, WMFT, SIS,KM	chronic
							CT(3) [131]	EMG	subacute
							CT(117) [138]	FM, KM	chronic
							RCT(20) [139]	FM,FIM	acute
							RCT (56)[140]	FM,FIM MSS, MPS	acute
							RCT(12)[141]	AMAT FM, KM	chronic
							RCT(42)[142]	AS,MRC FM,MSS	chronic
							RCT(47) [143]	FM,KM	chronic
MIME (76)	shoulder elbow forearm	passive active-assisted active-constrained bimanual	6	A	none	2	CT (13) [147]	KM	chronic
							RCT (21)[146]	FM	chronic
							RCT (27)[145]	FM FIM	chronic
							RCT (15)[148]	FM FIM	subacute
BI-MANU-TRACK (66)	forearm wrist	bimanual: passive or active	1	A	none	1	CT (10) [149]	FM	subacute
							CT(12) [126]	MAS, RMA	chronic
							RCT(44)[127]	FM, AS MRC	subacute
BATRAC (37)	shoulder elbow	active active assisted	1	A	none	1	CT (16) [65]	FM, WMFT UMAQS	chronic

							RCT (21) [67]	FM, WMFT UMAQS fMRI EMG	chronic
ARM-in (3)	shoulder elbow forearm wrist	active passive interactive	6	T A	position force	2	CT (3) [154]	FM KM	chronic
NeReBot (35)	shoulder elbow	active active assisted passive	3	A	visual auditory KP	2	RCT (35)[156]	FM MRC FIM TCT MAS	acute
AJB (6)	Elbow	active active assisted	1	A	-	1	CT (6) [157]	FM MAS	chronic
T-Wrex (9)	shoulder elbow forearm wrist	passive interactive: active, active-assisted, resisted	2	T A	position grip force coordination speed	1-2	CT (9) [19]	FM, BBT, MBBT, RFT	chronic
UniTherapy (23)	shoulder elbow forearm	passive interactive: active, active-assisted, resisted	2	A	terminal FB: visual auditory		CCT (16) [14]	FM, KM, EMG	chronic
							CT (7) [161]	FM, KM	chronic
Haptic Master (46)	shoulder elbow forearm	passive interactive: active; active-assisted, resisted	3 +3	T A	_	2	CT (31) [164]	FM, MAS	chronic
							CT (15)[162]	MRC, KM	subacute
ArmGuide (41)	shoulder	passive active, active-assisted ,resisted	4	A	concurrent: visual	2	CT (1) [167]	KM	?
							CT (19) [168]	RFT, CMM, KM	chronic
							RCT (21)[169]	FM, WMFT, RLA	chronic
RM II (7)	hand	interactive: active active-resisted		A T	terminal KR & KP concurrent: force,auditory visual	0	CT (4) [171]	KM, JT	chronic
							CT (3) [15]	KM, JT	chronic