

Table S1 - Database Search Strategies

Database	Search Strategy	Results
Scopus	#1 TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY(rehabilitation) AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand))	91
	#2 TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY(robotic) AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand))	27
	#3 TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND (TITLE-ABS-KEY("brain-computer interface") OR TITLE-ABS-KEY("brain-machine interface")) AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand))	10
	#4 TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND (TITLE-ABS-KEY("functional electrical stimulation") OR TITLE-ABS-KEY("neuromuscular electrical stimulation")) AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand))	12
	#5 TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY("brain stimulation") AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand))	6
	#6 TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY("virtual reality") AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand))	4
	#7 (TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY("sensor-based training") AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand)))	0
	#8 (TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY(tablet) AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand)))	0
	#9 TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY("PC training") AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-	0

	ABS-KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand)))	
#10	(TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY(exoskeleton) AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE- ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS- KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand)))	3
#11	(TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY(technology) AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE- ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS- KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand)))	5
#12	(TITLE-ABS-KEY(stroke) AND TITLE-ABS-KEY(severe) AND TITLE-ABS-KEY("serious game") AND (TITLE-ABS-KEY("Action Research Arm Test") OR TITLE-ABS-KEY(ARAT) OR TITLE-ABS-KEY("Fugl-Meyer Assessment") OR TITLE-ABS-KEY(FMA)) AND (TITLE-ABS- KEY("randomized controlled trial") OR TITLE-ABS-KEY("randomized clinical trial")) AND (TITLE-ABS-KEY("upper limb") OR TITLE-ABS-KEY(hand)))	1
PubMed	#1 stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND (rehabilitation[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl- Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	18
	#2 stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND (robotic[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	6
	#3 stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND (("brain-computer interface"[Title/Abstract]) OR ("brain-machine interface"[Title/Abstract])) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	1
	#4 stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND (("functional electrical stimulation"[Title/Abstract]) OR ("neuromuscular electrical stimulation"[Title/Abstract])) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl- Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	2
	#5 stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND ("brain stimulation"[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	1
	#6 stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND ("virtual reality"[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl- Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	1

#7	stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND ("sensor-based training"[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	0
#8	stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND (tablet[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	0
#9	stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND ("PC training"[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	0
#10	stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND (exoskeleton[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	0
#11	stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND (technology[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	1
#12	stroke[Title/Abstract]) AND (severe[Title/Abstract]) AND ("serious game"[Title/Abstract]) AND (("Action Research Arm Test"[Title/Abstract]) OR (ARAT[Title/Abstract]) OR ("Fugl-Meyer Assessment"[Title/Abstract]) OR (FMA[Title/Abstract])) AND (("randomized controlled trial"[Title/Abstract]) OR ("randomized clinical trial"[Title/Abstract])) AND (("upper limb"[Title/Abstract]) OR (hand[Title/Abstract]))	0