

Appendix 3. Individual subject characteristics and functional ability of ROB-ML and FNS-ML groups at pre- and posttreatment.

Group	Subject	Age	Gender	Years Poststroke	Pretreatment Functions	Posttreatment Functions
ROB-ML	1	59	Male	8	Able to move arm to release object Unable to grasp or release objects, or manipulate objects	Grasp knife, cut food Grasp fork, stab food, feed self Place arm into jacket sleeve without contralateral assist Grasp dice, release dice Use spoon to scoop up beans and bring to mouth
	2	33	Male	4	Able to move arm to object Weak grasp, unable to maintain when moving arm Unable to manipulate or use object	Pincer grip (e.g., pick up dice and place into shaker) Apply deodorant Grasp fork, stab food, feed self Pour water from pitcher into a glass Peel banana Comb hair Writing
	3	62	Male	3	Able to move arm to object on horizontal surface Unable to grasp, release, manipulate, or use object Unable to lift arm to operate light switch, feed self	Grasp/use scissors to cut (both hands) Grasp door knob, turn knob, open door Grasp/use fork to stab food and feed self Operate light switch on the wall Bear weight in stable fashion on involved arm
	4	37	Male	4	Able to move arm to object on horizontal plane Able to flex elbow and bring hand to mouth Unable to grasp, release, manipulate, or use objects	Hold adapted form to stab food and bring to mouth Grasp mug and drink (no spilling) Hold adapted knife and cut food
	5	49	Male	3	Able to move arm to object Unable to grasp, release, manipulate, or use objects	Use miter box and saw to cut through wood Grasp phone and bring to ear Use spoon to scoop beans and feed self Use knife to cut food
FNS-ML	6	55	Male	3	Able to move arm to object on a horizontal surface	Grasp mug handle and bring to mouth Grasp/control mug; bring to mouth and drink (both hands) Grasp pretzels and release to feed self Stab food with fork and feed self

1	43	Female	2	Able to move arm to object on horizontal plane Able to bring hand to mouth Unable to grasp, release, manipulate, or use object	Use refrigerator door* Use lateral pinch grasp to close zipper Grasp fork, stab food, bring to mouth
2	59	Male	4	Able to move arm to object on horizontal plane Able to bring hand to mouth Unable to grasp, release, manipulate, or use object	Grasp door knob, turn, open door Grasp mug, drink from mug Hold and stabilize fork while using Use fork to eat 75% of the time* Use two hands to remove objects from cupboards
3	26	Female	3	Able to move arm to object on horizontal plane Unable to grasp, release, manipulate, or use object	Able to move arm to object on horizontal plane Unable to grasp, release, manipulate, or use objects
4	55	Female	2	Able to move arm to object on horizontal plane Unable to grasp, release, manipulate, or use objects	Twist off bottle cap Use two hands to wring out dish cloth Place hand in pocket Reach top of head Snap and zip pants with two hands (able to wear jeans)* Operate light switch
5	55	Male	5	Able to move arm to object on horizontal plane or lift to shoulder height Unable to grasp, release, manipulate, or use object	Hold and stabilize fork while using knife to load the food; food to mouth Grasp/release fork, use fork to eat 50% of meals* Open doors and cupboards
6	46	Male	1	Able to partially flex elbow and abduct shoulder Unable to grasp, release, manipulate, or use objects	Grasp knife and cut food Grasp fork, stab food, feed self Eat finger food Place arm into jacket/shirt sleeve Eat "sandwich" with two hands

* Activities reported by subjects. All other activities that are listed were observed and documented in the clinical records by the therapist.

FNS-ML = functional neuromuscular stimulation and motor learning.

ROB-ML = robotics and motor learning.
