

SUPPLEMENTARY DATA

General linear model (GLM) model concerning interactions between the baseline score and the group effect

Since the EMGB group already had a greater score than the cyclic NMES group on some variables at baseline, prior to performing the ANCOVA analysis, as reported in Table II, a more complex model of the interactions between the baseline score and the group effect was performed (between-subjects design: baseline+group+group*baseline+intercept). The tests of between-subjects effects of outcome measurements are shown in Table SI. However, no significance for those interactions was found for any of the 5 measurements, thus a simplified GLM model (between-subjects design: baseline+group +intercept) was adopted.

Table SI. Tests of between-subjects effects

Measurements	Source	Type III sum of squares	df	Mean square	F	Significance
Brunnstrom stage (hand)	group * baseline	0.461	1	0.461	0.962	0.334
UE-FMA	group * baseline	76.269	1	76.269	0.813	0.374
MSS	group * baseline	42.973	1	42.973	0.235	0.631
wEMG ratio	group * baseline	60.689	1	60.689	1.317	0.260
fEMG ratio	group * baseline	5.213	1	5.213	0.142	0.709

wEMG: wrist electromyography; fEMG: finger electromyography; MSS: motor status scale; UE-FMA: Upper Extremity - Fugl-Meyer Assessment [9].

Raw Brunnstrom stage, UE-FMA, MSS and EMG ratio results

Table SII. Outcome measurements (unadjusted means±standard errors)

	Assessment time	EMGB (n=18)	Cyclic NMES (n=18)
Brunnstrom stage (hand)	Baseline	2.39±0.17	2.17±0.16
	2 weeks	3.00±0.17	2.33±0.18
	4 weeks (EOT)	3.44±0.20	2.94±0.18
UE-FMA (maximum score: 66)	Baseline	20.78±1.88	15.17±2.03
	2 weeks	31.83±2.62	20.44±2.75
	4 weeks (EOT)	42.22±2.70	27.28±3.15
MSS (maximum score: 82)	Baseline	18.06±2.37	13.78±2.79
	2 weeks	33.61±3.44	20.50±3.55
	4 weeks (EOT)	48.61±3.87	30.00±4.05
wEMG ratio	Baseline	4.45±1.06	1.66±0.41
	2 weeks	8.08±1.57	2.45±0.65
	4 weeks (EOT)	11.84±2.23	3.97±1.07
fEMG ratio	Baseline	2.51±0.51	1.00±0.00
	2 weeks	5.27±1.20	1.12±1.12
	4 weeks (EOT)	8.11±1.96	1.41±1.41

EMGB: electromyographic bridge; NMES: neuromuscular electrical stimulation; UE: upper extremity; EOT: end of treatment; wEMG: wrist electromyography; fEMG: finger electromyography; MSS: motor status scale; EOT: end of treatment; UE-FMA: Upper Extremity - Fugl-Meyer Assessment.