

CORRECTION

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Correction to: A suite of automated tools to quantify hand and wrist motor function after cervical spinal cord injury

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Correction to: J NeuroEng Rehabil (2019) 16:48
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The original article [1] contains several errors which the authors would like to rectify:

- 1) Figs 3B & 3C contain duplicate data from Fig. 5. The correct version of Fig. 3 can be viewed ahead.
- 2) The **Authors' contributions** section contains a minor typo and should instead read as the following:
"KMG, SAH, JW, MPK and RLR contributed to experimental design. KMG and SAH wrote the manuscript. KMG and RLR provided engineering. KMG, KR, VW and EG conducted data collection. SAH, MPK, and RLR provided funding. All authors read and approved the final manuscript."
- 3) Tables 2 & 3 contain minor formatting errors. The correct presentation of both tables can be viewed ahead.

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Reference

1. Grasse KM, Hays SA, Rahebi KC, Warren VS, Garcia EA, Wigginton JG, et al. A suite of automated tools to quantify hand and wrist motor function after cervical spinal cord injury. *J NeuroEng Rehabil.* 2019;16:48. <https://doi.org/10.1186/s12984-019-0518-8>.

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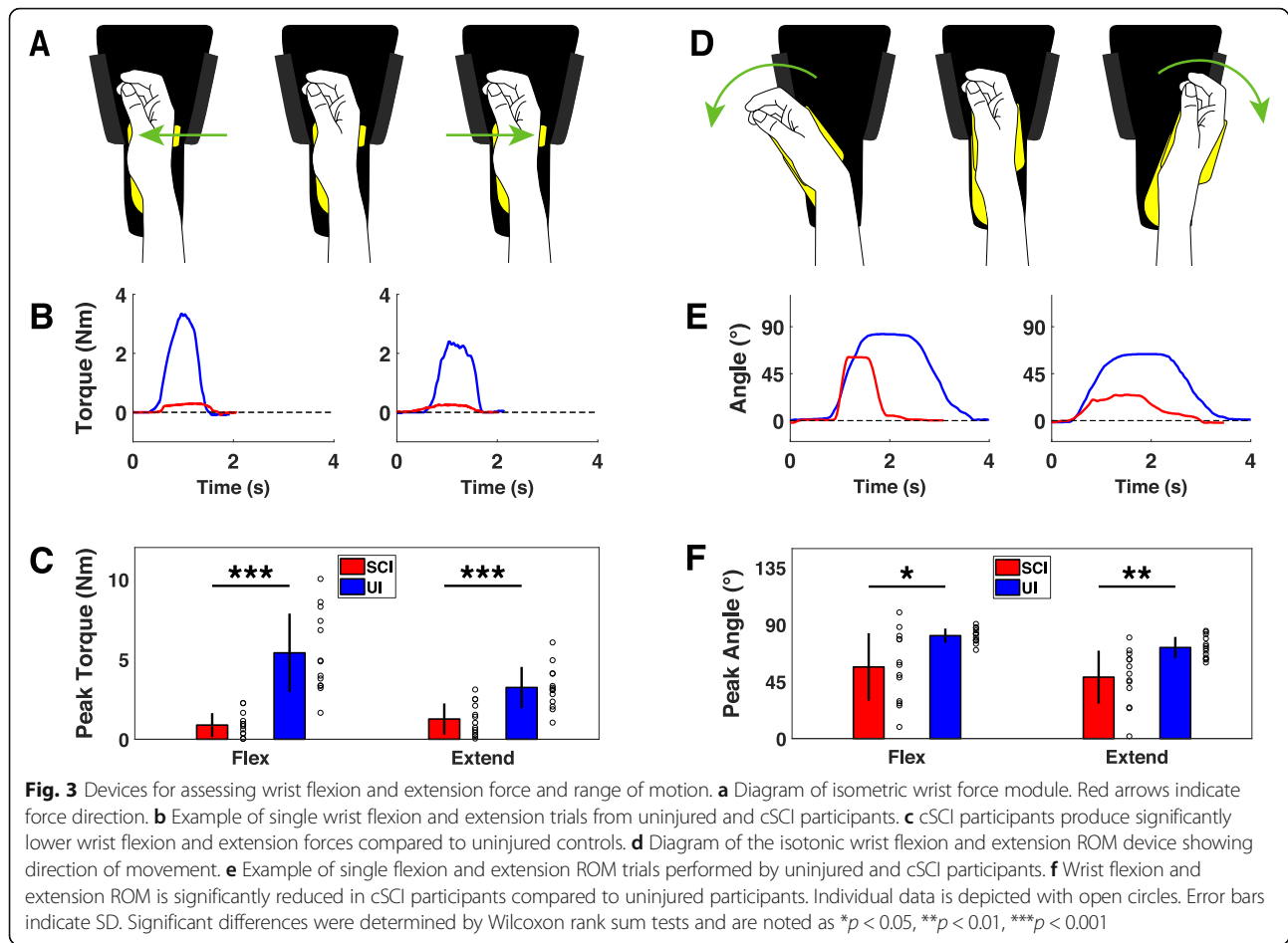


Table 2 Novel system measurement results by participant group (N = 13). CV, coefficient of variation; †Values based on $n = 12$

Measure	Task (units)	Peak			CV		
		UI	cSCI	p -val	UI	cSCI	p -val
Force	Finger Flexion (N) [†]	78.3 (22.7)	2.94 (2.49)	< 0.001	6.8 (2.3)	40.1 (25.3)	< 0.001
	Finger Extension (N) [†]	17.3 (5.42)	1.23 (1.99)	< 0.001	12.7 (5.2)	71.1 (34.6)	< 0.001
	Wrist Flexion (Nm)	5.41 (2.46)	0.89 (0.75)	< 0.001	14.7 (4.0)	27.4 (18.2)	0.009
	Wrist Extension (Nm)	3.24 (1.29)	1.27 (0.98)	< 0.001	12.4 (4.6)	25.7 (12.8)	0.002
	Handle Pronation (Nm)	6.36 (2.37)	1.76 (1.36)	< 0.001	8.3 (2.9)	31.4 (33.2)	0.015
	Handle Supination (Nm)	4.58 (1.71)	1.10 (0.67)	< 0.001	8.0 (3.5)	21.0 (16.5)	0.013
	Doorknob Pronation (Nm)	3.63 (1.14)	0.30 (0.28)	< 0.001	10.3 (3.6)	60.7 (44.9)	< 0.001
	Doorknob Supination (Nm)	3.51 (1.40)	0.38 (0.32)	< 0.001	11.6 (5.9)	28.6 (13.3)	< 0.001
Range of Motion	Wrist Flexion (°)	81.3 (5.56)	56.5 (26.7)	0.027	4.0 (2.7)	8.4 (7.8)	0.11
	Wrist Extension (°)	71.9 (8.36)	48.5 (20.9)	0.002	2.7 (1.3)	7.6 (7.1)	0.026
	Handle Pronation (°)	104.1 (12.6)	95.9 (36.9)	0.92	4.5 (2.4)	6.5 (4.4)	0.87
	Handle Supination (°)	74.0 (14.5)	56.8 (24.2)	0.051	5.3 (1.6)	4.3 (2.4)	0.31
	Doorknob Pronation (°)	107.1 (20.9)	94.7 (41.5)	0.72	4.4 (2.4)	21.7 (36.7)	0.12
	Doorknob Supination (°)	72.1 (19.8)	56.7 (35.1)	0.25	5.4 (2.4)	36.8 (69.7)	0.13

Table 3 Test-retest reproducibility results of the novel metrics for cSCI participants ($N = 10$). MDD, minimally detectable difference; SD_{20} , standard deviation of 20 trials; ICC, intraclass correlation coefficient; [†]Values based on $n = 9$

Measure	Task (units)	Change (SD)	p -val	MDD	$1.96 * SD_{20}$	ICC
Force	Composite Score	0.03 (0.06)	0.72	0.107	–	0.95
	Finger Flexion (N) [†]	0.21 (3.42)	0.88	5.99	2.52	0.40
	Finger Extension (N) [†]	–0.08 (1.99)	0.94	3.48	1.29	0.63
	Wrist Flexion (Nm)	0.65 (1.99)	0.45	3.70	0.96	0.45
	Wrist Extension (Nm)	0.34 (0.63)	0.55	1.17	0.68	0.85
	Handle Pronation (Nm)	0.13 (1.37)	0.88	2.55	1.10	0.75
	Handle Supination (Nm)	0.16 (0.16)	0.75	1.79	0.76	0.62
	Doorknob Pronation (Nm)	0.005 (0.16)	0.97	0.30	0.28	0.90
	Doorknob Supination (Nm)	–0.05 (0.22)	0.65	0.41	0.24	0.67
Range of Motion	Wrist Flexion (°)	1.52 (10.8)	0.90	20.1	10.8	0.93
	Wrist Extension (°)	4.46 (6.4)	0.67	11.9	8.3	0.95
	Handle Pronation (°)	3.49 (18.7)	0.84	34.7	15.5	0.88
	Handle Supination (°)	0.07 (7.6)	0.99	14.0	7.4	0.96
	Doorknob Pronation (°)	5.29 (20.8)	0.76	38.7	22.1	0.86
	Doorknob Supination (°)	0.03 (9.4)	0.99	17.5	14.9	0.93