

Repeatability of a bending stiffness test for snowboarding wrist protectors

LESLIE, G., WINWOOD, K., WANG, W., HAMILTON, Nick
<<http://orcid.org/0000-0002-4807-3087>> and ALLEN, T.

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REPEATABILITY OF A BENDING STIFFNESS TEST FOR SNOWBOARDING WRIST PROTECTORS

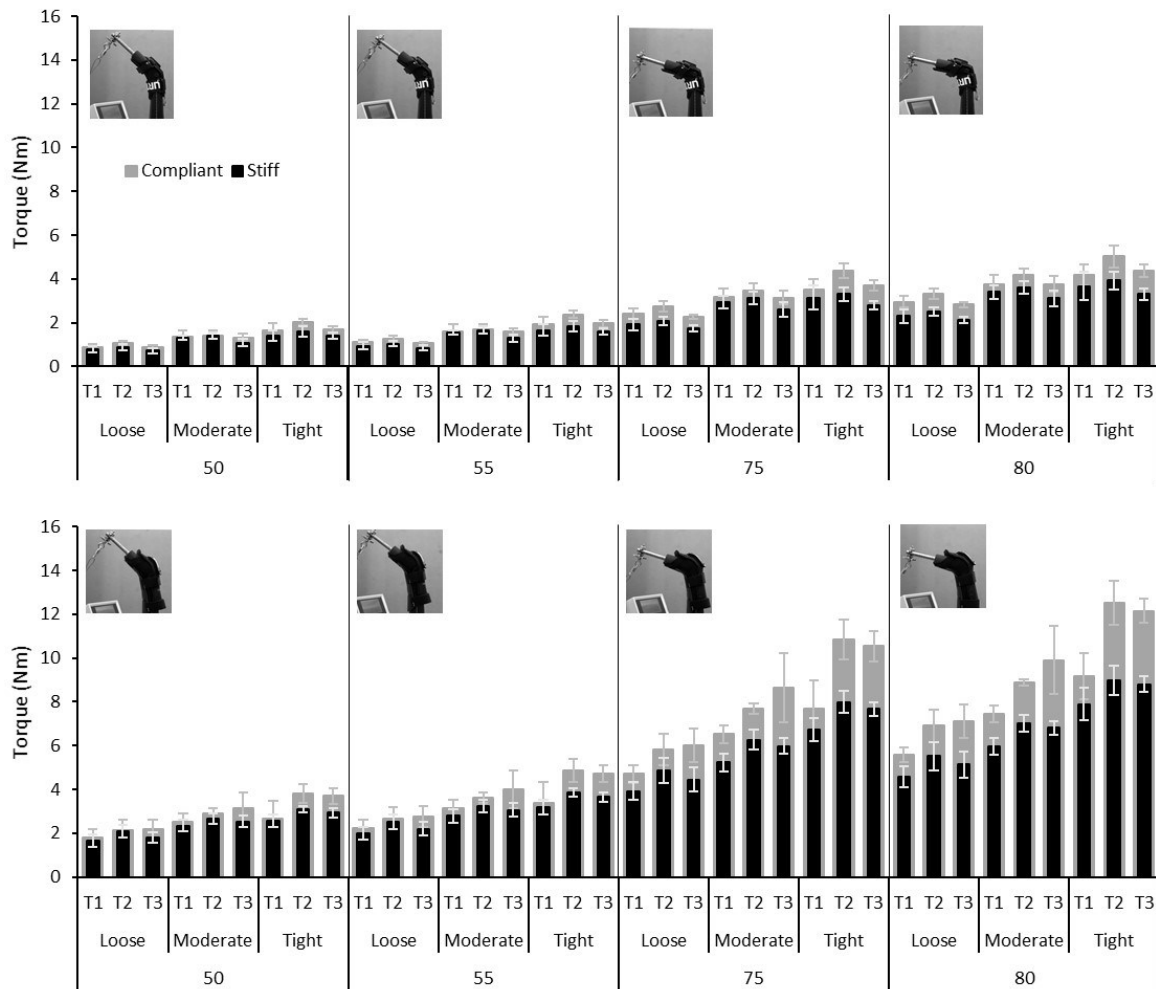


Figure S1 - Mean torque at 50°, 55°, 75° and 80° wrist extension at each test session (T1- session 1, T2- session 2, T3- session 3) and strapping condition (loose, moderate, tight) for the short protector (top) and the long protector (bottom) (error bars showing mean ± SD).

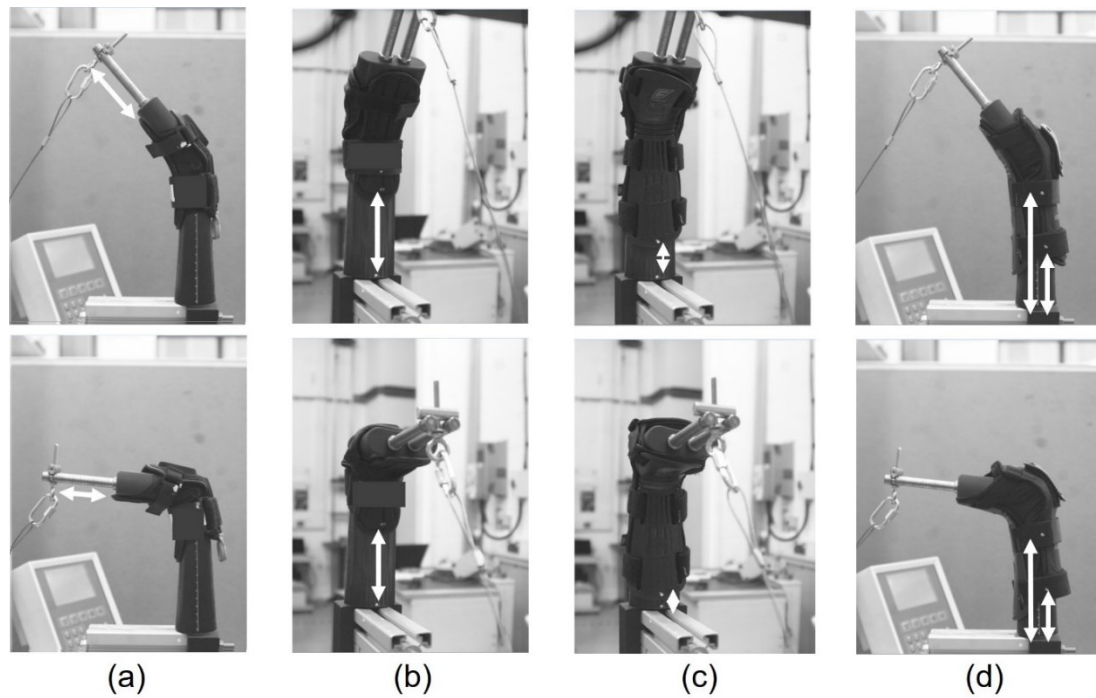


Figure S2 - Video stills at start (top) and end (bottom) of test, showing observed protector movement when on the stiff surrogate: (a) top of the dorsal side of the short protector, (b) and (c) bottom of the dorsal side of the short and long protector, (d) the two straps of the long protector.

Table S1 - Statistical test results (two-sample t-tests at a significance of $p < 0.05$) and effect sizes (Pearson's correlation) between surrogates for protector slippage.

Protector	Slippage location	<i>p</i> -value	Effect Size
Short	Dorsal top	0.091	0.008 (small)
	Dorsal bottom	0.174	-0.099 (small)
Long	Top strap	0.140	0.653 (medium)
	Bottom strap	0.152	0.728 (medium)
	Dorsal bottom	0.266	0.391 (small)

Table S2 – Variation of start angle and initial torque for each protector-surrogate-strapping combination from the raw data (CoV – coefficient of variation).

Combination		Angle (°)			Torque (Nm)		
		Mean ± SD	Range	CoV (%)	Mean ± SD	Range	CoV (%)
Rigid-Short	Loose	41.6 ± 1.1	4.1	2.5	0.30 ± 0.09	0.31	28.7
	Moderate	40.1 ± 0.7	2.7	1.8	0.42 ± 0.12	0.44	28.1
	Tight	40.0 ± 0.9	3.8	2.2	0.47 ± 0.14	0.47	29.3
Compliant-Short	Loose	41.6 ± 1.0	4.3	2.4	0.30 ± 0.07	0.28	24.2
	Moderate	40.2 ± 0.9	3.4	2.3	0.42 ± 0.11	0.36	25.0
	Tight	39.8 ± 0.5	2.3	1.3	0.50 ± 0.12	0.37	23.3
Rigid-Long	Loose	39.7 ± 0.8	3.3	2.0	0.51 ± 0.15	0.66	29.3
	Moderate	38.8 ± 0.6	2.1	1.6	0.75 ± 0.14	0.59	18.4
	Tight	38.8 ± 0.7	2.7	1.8	0.81 ± 0.16	0.57	19.5
Compliant-Long	Loose	39.6 ± 0.9	3.0	2.2	0.57 ± 0.16	0.69	27.9
	Moderate	38.7 ± 0.5	1.6	1.2	0.79 ± 0.19	0.70	23.7
	Tight	38.6 ± 0.7	2.3	1.7	0.96 ± 0.28	1.08	29.2
Mean		39.8	3.0	1.9	0.57	0.54	25.5