

### Supplemental digital content 3

**Title:** Modeling the recovery of  $W'$  in the moderate to heavy exercise intensity domain.

**Authors:** Vijay Sarthy M Sreedhara<sup>1</sup>, Faraz Ashtiani<sup>1</sup>, Gregory M. Mocko<sup>1</sup>, Ardalan Vahidi<sup>1</sup>, Randolph E Hutchison<sup>2</sup>

<sup>1</sup> Department of Mechanical Engineering, Clemson University, Clemson, SC 29634, USA

<sup>2</sup> Department of Health Sciences, Furman University, Greenville, SC 29613, USA

**This document contains summary of the repeatability analysis**

#### Abbreviations used in the document

3MT – 3-minute all-out test.

CI – Confidence Interval.

CP – Critical Power.

$W'$  – Work capacity or curvature constant of the power-duration relationship.

Pp – Peak power observed during the 3-minute all-out interval.

TWD – Total work done during the 3-minute all-out interval.

ICC – Intraclass correlation coefficient.

TE – Typical Error.

CV – Coefficient of Variation

#### Summary of repeatability analysis

**Table SDC-3.1 Summary of the repeatability metrics with their 95% CI for the 3MT and the intermittent test**

Parameter	Reliability metric	3MT	Intermittent test
<b>CP<sup>#</sup></b>	ICC	0.996 (0.977, 0.999)	0.996 (0.965, 1)
	TE	8 W (5 W, 13 W)	5 W (3 W, 13 W)
	CV	3.04% (2.18%, 5.02%)	2.1% (1.31%, 5.15%)
<b><math>W'</math></b>	ICC	0.988 (0.945, 0.999)	
	TE	0.956 kJ (0.686 kJ, 1.578 kJ)	NA
	CV	10.14% (7.27%, 16.74%)	

**Table SDC-3.1 (continued) Summary of the repeatability metrics with their 95% CI for the 3MT and the intermittent test**

<b>Parameter</b>	<b>Reliability metric</b>	<b>3MT</b>	<b>Intermittent test</b>
<b>Pp</b>	ICC	0.997 (0.988, 1)	0.999 (0.996, 1)
	TE	30 W (22 W, 50 W)	8 W (5 W, 19 W)
	CV	4.92% (3.53%, 8.13%)	1.24% (0.78%, 3.05%)
<b>TWD</b>	ICC	0.999 (0.995, 1)	0.999 (0.991, 1)
	TE	1.029 kJ (0.738 kJ, 1.698 kJ)	0.579 kJ (0.361 kJ, 1.419 kJ)
	CV	1.90% (1.37%, 3.14%)	1.08% (0.67%, 2.65%)

<sup>#</sup>CP for the intermittent test refers to the end power observed in the 3-min all-out interval.