

Table S1. Individual values for power output, speed, time-to-completion, and recalculation of time-to-completion.

ID	Condition	Rider Weight (kg)	Press-on-force (lbs)	Mean Power (W)	Mean speed (km/h)	Time to completion (min)	Mean Speed/Watt (km/h/W)	Recalculated Mean Speed (km/h)	Recalculated time to completion (min)
08	HD	57.2	3.20	173.84	31.56	57.03	0.183	31.87	56.48
	HC	94.8	3.12	188.26	30.53	58.96	0.165	34.51	52.16
	KD	54.0	3.15	148.87	29.54	60.94	0.200	27.29	65.96
12	HD	83.0	4.67	328.31	37.38	48.15	0.115	37.81	47.60
	HC	83.9	4.67	355.31	39.45	45.63	0.112	40.92	43.99
	KD	83.9	4.43	331.63	38.54	46.70	0.117	38.20	47.13
14	HD	57.6	3.38	162.66	30.33	59.35	0.188	30.55	58.92
	HC	54.9	3.17	191.67	33.04	54.48	0.173	36.00	50.01
	KD	54.9	3.24	159.31	30.19	59.62	0.192	29.92	60.16
17	HD	68.9	3.01	151.95	29.37	61.29	0.196	29.71	60.59
	HC	68.0	3.07	144.29	28.38	63.41	0.199	28.21	63.81
	KD	68.0	3.06	131.31	27.35	65.82	0.208	25.67	70.12
28	HD	68.9	2.87	123.60	25.55	70.46	0.210	25.98	69.30
	HC	67.9	2.71	118.88	25.58	70.36	0.217	24.98	72.05
	KD	68.0	2.75	88.87	21.60	83.33	0.2443	18.68	96.38

Table S2. Speed-per-watt comparisons.

	Power (W)	Formula	Speed/Watt (km/h/W)	Calculated time to completion (min)
High Carbohydrate	150	$y = 4.1121x^{-0.61}$	0.193485	62.02
Ketogenic	150	$y = 5.6561x^{-0.676}$	0.1912	62.76
Road model	150	$y = 4.0696x^{-0.601}$	0.200318	59.90

Table S3. Inferential statistics for different analysis options.

Outcome and model	<i>Numerator</i> <i>DF</i>	<i>Denominator</i> <i>DF</i>	<i>F</i>	<i>p</i>
Time to completion				
Linear mixed-effects model	2	34	6.06	0.006
RM-ANOVA	2	34	6.06	0.006
ANCOVA (Baseline)	1	33	533.29	<0.001
ANCOVA (Condition)	1	33	8.12	0.007
Carbohydrate oxidation				
Linear mixed-effects model				
Condition	2	69	118.18	<0.001
Time	4	69	6.86	<0.001
Condition x Time	8	69	1.18	0.326
RM-ANOVA				
Condition	2	8	100.76	<0.001
Time	4	16	4.02	0.019
Condition x Time	8	32	1.54	0.184

DF = degrees of freedom; RM-ANOVA = repeated measures analysis of variance; ANCOVA = analysis of covariance; Baseline = Time from time trial in habitual condition

Table S4. Estimated mean differences (EMD) for time to completion between conditions

Comparison and model	<i>DF</i>	<i>t</i>	<i>EMD</i>	<i>95%CI</i>	<i>p</i>
Habitual – High Carbohydrate					
Linear mixed-effects model	34	1.99	1.28	-0.34, 2.90	0.109
RM-ANOVA	17	3.07	1.28	0.18, 2.39	0.021
ANCOVA	-	-	-	-	-
Habitual – Ketogenic					
Linear mixed-effects model	34	-1.48	-0.95	-2.57, 0.67	0.149
RM-ANOVA	17	-1.37	-0.95	-2.79, 0.89	0.187
ANCOVA	-	-	-	-	-
High Carbohydrate - Ketogenic					
Linear mixed-effects model	34	-3.47	-2.23	-3.86, -0.61	0.004
RM-ANOVA	17	-2.90	-2.23	-4.28, -0.19	0.021
ANCOVA	33	2.85	-2.23	-3.83, -0.64	0.007

DF = degrees of freedom;

RM-ANOVA = repeated measures analysis of variance; ANCOVA = analysis of covariance;