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Analysis of cadence/heart rate (RPM/HR) versus power output (PO) during incremental test in cyclists

Luca Castelli[3], Cristian Zampella[3], Gabriella Cusella De Angelis[1-2], Lorenzo Spairani[1], Giuseppe Giovanetti[2-3], Massimiliano Botto[3], Giuseppe D'Antona[2-4] and Bruno Magnani[1-2]

[1] Dept. of Public Health, Human Anatomy, University of Pavia, Italy
[2] C.R.I.A.M.S, Voghera, University of Pavia, Italy
[3] Motor Sciences. University of Pavia, Italy
[4] Dept. of Molecular Medicine, University of Pavia, Italy

Studies on cycling cadence have been mainly focussed on the optimisation of cycling efficiency [1-3].

In order to obtain new insight into physiological indicators of performance, the present study aimed to evaluate the relationship between freely chosen cadence (FCC), heart rate (HR) and power output (PO) profiles in members of professional and non professional cycling teams during an incremental test (10W 30 sec). Heterogeneous group of 25 male cyclists performed a maximal incremental test on SRM powermeter (SRM Training Systems, Jülich, Germany) and FCC/HR vs PO was measured. In all subjects the FCC/HR vs PO obtained showed a linear phase followed by a curvilinear phase starting at comparable FCC/HR value in all subjects (0,62 ± 0,06 SD; ES: 0,01, IC95%: 0,60 - 0,65, IC99%: 0.59 - 0.65). Whether the observed deflection point corresponds to anaerobic threshold deserves future investigation.

References

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Key words
Pedalling cadence (RPM), Heart rate (HR), Power (W), Anaerobic Threshold (AT).