BOOK OF ABSTRACTS

The use of Heart Rate Variability to optimise acute and chronic training loads and recovery in recreational and elite cyclists

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Purpose:
Heart rate variability analysis (HRV) has been established in clinical settings for several decades as an indication of acute and chronic physiological and mental stress.

Since 2009, HRV measurement technology has been available to smartphone owning athletes and their coaches using apps together with affordable ECG & pulse sensors. When measured regularly in athletes, HRV can be a useful early indicator of viral and bacterial illness, Non-Functional Overreaching (NFOR), and adaptations in response to a series of training loads.

Adoption of HRV is quite widespread and study outcomes generally supportive, yet controversy still exists as to the reliability of HRV for identifying NFOR and overtraining. The reasons for this include uncertainty about the physiological origin of the different types of heart rate variation, issues around the relationship between HRV and training loads, and ambiguities in regard to the interpretation of HRV data. Despite a standardisation Task Force being established in 1996, there remain uncertainties about what constitutes best practice with respect to measurement conditions and signal processing. This presentation will look at possible reasons for this controversy and consider case studies in both elite and recreational cyclists that may be instructive in identifying where and when HRV analysis is most effective and useful. Recommendations for best practice will also be provided.

Key words:

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