

A different approach to optimise performance using load

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Introduction

Elite sporting performance is the result of a multitude of different factors including, but not limited to, physical conditioning as well as psychological, nutritional, immunological, sleep and fatigue status. In an attempt to model an athlete's performance a Two-Systems approach was first suggested by Banister et. al. (1975) and later refined by Busso et. al. (1994). In this model, an input of 'load' contribution to 2 unconstrained variables known as fitness and fatigue. Current work within the BMC Racing Team has moved away from this model incorporating additional variables into the model and by monitoring an athlete's fatigue rather than estimating it from load measurements. Information pertaining to sleep, nutrition, stress, muscle soreness, self-perception and mood state are recorded via a daily questionnaire. Load is calculated using a new methodology known as TLC (Total Load Cycling). Strategies allowing prescription of load and life-style management is now being optimised based on the relative contribution of each of these variables to each individual rider's performance.

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