

Evaluating the physiological effects of training – from science to coaching practice Tero Myllymäki, Head of Physiological Research, Firstbeat

Abstract: For optimizing the training programming it is crucial to evaluate the magnitude of training load and the physiological qualities that have effectively been developed. Methods that are capable of recognizing metabolic effects and induced training adaptations from varying training regimens are needed due to specificity of training adaptations and individuality of training responses. In this presentation the scientific basis and results for training effect quantification and the specificity of training effects related to aerobic and anaerobic performance based on heartbeat data will be discussed. Moreover, as high-intensity interval training has been found effective not only in athletic performance but also in health enhancing purposes and fitness training, it is essential to be able to estimate not only aerobic (cardiorespiratory) but also anaerobic training effects related to activation of different energy pathways. In many anaerobic type sports, e.g. ice-hockey, anaerobic training adaptations may be even more important than aerobic training effects considering development of physical capacities. From this perspective, also practical use cases from top-level sports arenas will be presented.