

**Blood Biomarker Monitoring in United States National Team Rowers:  
A Novel Approach to Optimizing Performance Adaptations and Injury Prevention**

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**Abstract:**

Practitioners working with elite athletes are concerned that poorly managed training loads combined with highly congested competition calendars negatively affect athlete performance, health, and well-being. An emerging approach to appraise the effect of physical training, competition, and other life stressors on athlete health and performance is blood biomarkers. A comprehensive panel of blood biomarkers represent a promising tool whereby practitioners gain insight into several key biological systems (biochemical, hematological, immunological, hormonal, and fluid-electrolyte balance) affected by these stressors. Longitudinal blood biomarker data is greatly needed in elite level athletes to establish how much change, and in which biomarkers, would correlate with and be predictive of health and wellness improvement, recovery, and performance enhancement. To address these knowledge gaps, this projects aims to examine blood-based physiological responses and traditional measures of training load in US national team rowers throughout the 2018 competitive season.