Commentary on Viewpoint: Using $\dot{V}O_{2max}$ as a marker of training status in athletes - can we do better?

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To the editor:

Podlogar and colleagues (1) have presented a compelling argument for using the critical intensity as an alternative method of classifying athletes. It was concluded that the critical intensity best represents the culmination of several physiological capabilities whilst being a strong predictor of performance. We agree that laboratory-based determination of critical intensity can be costly and time-consuming (2). However, field-based testing and can be used to determine the critical intensity, which broadens the potential application of monitoring athletes in the field. Furthermore, we would like to posit that reasonable estimates of critical power (CP) and critical speed (CS) can also be derived from habitual training data. Karsten et al. (3) demonstrated that CP estimates derived from training data in cyclists showed high levels of agreement with estimates derived from laboratory testing. Smyth and Muniz-Pumares (4) showed that CS can be determined using training data in a large group of marathon runners. Importantly, these estimations were strong predictors of marathon performance. Further to training data, the use of historical best performances of elite runners demonstrates another promising avenue in which athletes may be stratified (5). Although this approach may be useful in applied conditions or athlete classification, caution should be exercised when using it for research where more accurate estimations are desirable. To summarise, the use of training data to estimate CS or CP could permit the classification of athletes. Additionally, such an approach permits remote alteration of training interventions in response to changes in training status over time.

Disclosures:
None

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