

Overtraining Syndrome (OTS) and Relative Energy Deficiency in Sport (REDs): Shared pathways, symptoms and complexities

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Abstract

In most sports, maximizing elite performance requires an extreme amount of training, resulting in large exercise energy expenditures (EEE), in which poor energy intakes can occur (either purposefully or inadvertently). This combination of pursuits (large EEE and/or poor EI) creates a perfect storm for the potential of Over-Reaching (OR) leading eventually leading to Over-Training Syndrome (OTS) and/or under-fueling (Relative Energy Deficiency in Sport (RED-S)), of which low energy availability (LEA) may be an important unifying and underlying etiology. This presentation will have 3 aims:

- 1) To demonstrate the hypothesis that in some instances the cause of OR or OTS may be due to under-recovery, and specifically under-fueling, and thus actually a situation of RED-S.
- 2) Due to the similar etiology of LEA, we will also show that the symptoms of RED-S and OTS have considerable overlap adding to diagnostic complexity, but also demonstrate the differences between RED-S and OTS/OR diagnoses.
- 3) To create increased awareness regarding the commonalities between OTS and RED-S amongst the athlete, coaching, medical, physiology, psychology and nutrition communities, who tend to work independently, thus emphasizing the fact that a multi-practitioner integrated approach is required when diagnosing and treating both RED-S and OTS.