NATA RESEARCH & EDUCATION FOUNDATION

RESEARCH TO CLINICAL PRACTICE

April 2024

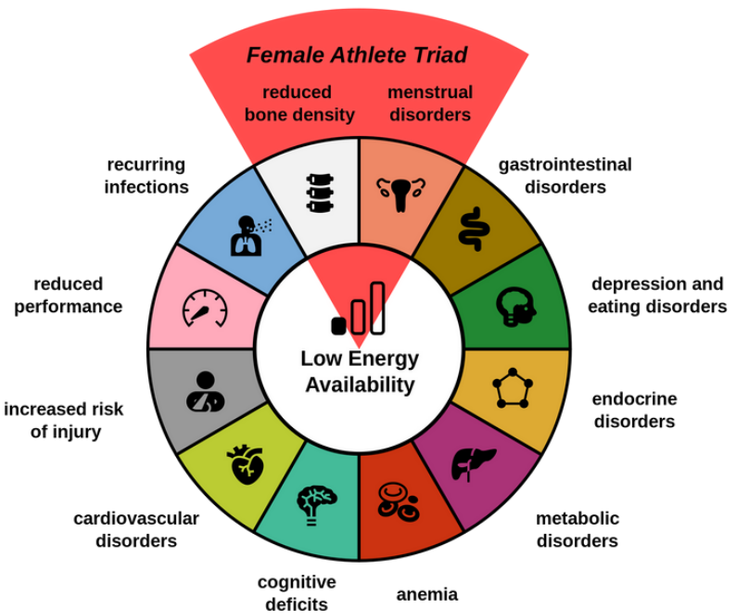
RELATIVE ENERGY DEFICIENCY IN SPORT

Relative Energy Deficiency in Sport (REDs) is a result of low energy availability (LEA) which can occur with or without disordered eating. REDs was introduced just a decade ago, but since then there has been an increasing awareness and research into both physical and psychological health and performance outcomes[1]. Though commonly associated with female runners, recent research has also investigated the impacts of LEA on male athletes. The correlation between REDs and mental health further expands the complexities of REDs and may influence how best to implement body composition testing with athletes (Figure 4)[1,2]. AT's knowledge of REDs has been improving over the last decade but could continue to improve through the development of continuing education programs, the use of updated research findings such as the Physiological Model and REDs Clinical Assessment Tool-V2 (IOC REDs CAT2)[1,3,4] .

RESOURCES

- **IOC REDs CAT2**:
  - Clinical Assessment Tool Version 2
  - Severity/Risk Stratification Calculator
- **Stakeholder Resources**:
  - Boston Children's Hospital
  - Bwell Health Promotion (Brown University)
  - National Eating Disorders Association
- **Podcasts**:
  - BJSM: Updates in Relative Energy Deficiency in Sport (REDs) and how they can improve the care you provide to your patients – an overview with Professor Margo Mountjoy
  - Female Athlete Podcast: Relative Energy Deficiency in Sport (RED-S) explained with Dr Kate Ackerman

Relative Energy Deficiency in Sport (RED-S)



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highlights NATA FOUNDATION FREE COMMUNICATIONS PROGRAM

Characterization of Risk Classification Using the Relative Energy Deficiency in Sport Clinical Assessment Tool *(Uriegas et al, 2022) S-218.*

The effects of poor energy deficiency are complex and can impact athlete's overall health. By understanding and utilizing risk classification tools, like the RED-S CAT, clinicians can treat and implement appropriate RTP strategies.

The Female Athlete Triad Coalition and RED-S Risk Assessment Tools in Collegiate Ballet Dancers *(Moore et al, 2022) S-223.*

Consequences of imbalances from high energy expending and low intake lifestyles of ballet dancers suggest the need for clinicians to include Triad/RED-S assessment tools for prevention, treatment, and RTP decisions from Triad associated components.

from RECENT ARTICLES

"Best practice recommendations for body composition considerations in sport to reduce health and performance risks: a critical review, original survey and expert opinion by a subgroup of the IOC consensus on Relative Energy Deficiency in Sport (REDs)" *Fostervold Mathisen et al, 2023.* The use of body composition (BC) measures should be conducted with caution because the focus on decreasing body fat percentage could lead to REDs and disordered eating. BC should be treated as confidential medical information and is best addressed by a multidisciplinary healthcare team that can create a health focus around BC and lead to a paradigm shift (Figure 1) when considering BC.

"Review of the scientific rationale, development and validation of the International Olympic Committee Relative Energy Deficiency in Sport Clinical Assessment Tool: V.2 (IOC REDs CAT2)-by a subgroup of the IOC consensus on REDs" *Stellingwerff et al, 2023.* While there is no single diagnostic tool available for REDs, ATs can make use of the IOC REDs CAT2 to follow a three-step process of an initial screening, stratification of risk, and physician-led final diagnosis and treatment plan.

1. Mountjoy M, Ackerman KE, Bailey DM, et al. 2023 International Olympic Committee's (IOC) consensus statement on Relative Energy Deficiency in Sport (REDs). *British Journal of Sports Medicine*. 2023;57(17):1073-1097. doi:https://doi.org/10.1136/bjsports-2023-106994
2. Stenqvist TB, Melin AK, Torstveit MK. Relative Energy Deficiency in Sport (REDs) Indicators in Male Adolescent Endurance Athletes: A 3-Year Longitudinal Study. *Nutrients.* 2023;15(24):5086. doi:https://doi.org/10.3390/nu15245086
3. Kroshus E, DeFreese JD, Kerr ZY. Collegiate Athletic Trainers' Knowledge of the Female Athlete Triad and Relative Energy Deficiency in Sport. *Journal of Athletic Training*. 2018;53(1):51-59. doi:https://doi.org/10.4085/1062-6050-52.11.29
4. Lodge MT, Ackerman KE, Garay J. Knowledge of Triad and RED-S in Female Cross-Country Athletes and Support Staff. *Journal of Athletic Training*. 2022;57(4). doi:https://doi.org/10.4085/1062-6050-0175.21