Prep School Performance Nutrition News

with

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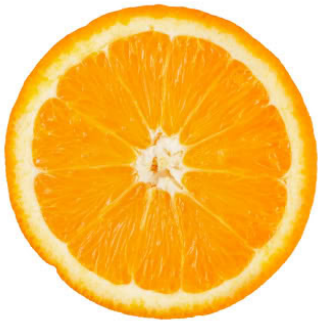
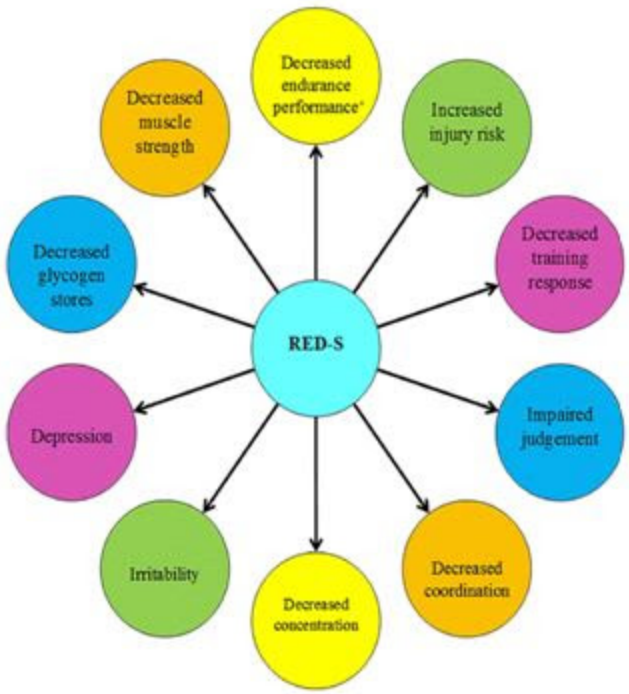


Nutritionist. Speaker. Consultant.

The school year is in full swing now with fall sports winding up and athletes looking ahead to winter sports. For busy prep school athletes it is important that they eat enough to support both their activity and their normal growth and development. This month's newsletter reviews some newly published information from the International Olympic Committee that addresses the health and performance consequences of low energy availability in athletes.

– Kathleen Searles, MS, RD, CSSD, LDN

What is Relative Energy Deficiency in Sport?



The International Olympic Committee has recently broadened and redefined its previous consensus statement on the Female Athlete Triad. They define a syndrome of inadequate energy (calorie) intake in athletes referred to as Relative Energy Deficiency in Sport (RED-S). RED-S is defined as a syndrome of "impaired physiological functioning including, but not limited to, metabolic rate, menstrual function, bone health, immunity, protein synthesis, cardiovascular health caused by relative energy deficiency." The committee outlines that the current concept of Female Athlete Triad may not address consequences of low energy availability for male athletes, non-Caucasian athletes, and disabled athletes.

A key concept in RED-S is energy availability. Energy availability (EA) is energy intake (EI) minus the energy cost of exercise. Low EA can result from caloric restriction (decreased EI) or from an increased exercise load. In a low EA situation the body makes adjustments to conserve energy, resulting in hormonal and metabolic changes that can affect health and performance. Health and nutrition professionals and athletic trainers can address low energy availability by helping athletes increase EI (increase calorie intake) and/or by restricting or decreasing activity.

The consensus statement goes on to propose a framework for making decisions about when an athlete should be cleared to play. Athletes at high risk ("no start red light") are those with anorexia nervosa or other serious eating disorders, serious medical (psychological or physiological) conditions that result from low EA, and those engaging in extreme weight loss measures that compromise hydration and blood volume. Athletes at moderate risk ("caution yellow light") are those with weight loss, low body fat, impaired growth and development, menstrual irregularities, decreased bone mineral density, and/or stress fractures. Athletes with low risk (green light) have healthy eating habits with adequate calorie intake, normal hormonal and metabolic function, and healthy bone mineral density. For complete details

please see the source document, referenced at the end of this newsletter.

The IOC makes recommendations for addressing RED-S which include:

- Education about RED-S, the importance of adequate calories, and the risks of dieting
- Emphasizing nutrition and health to improve performance and de-emphasizing weight
- Identifying a multi-disciplinary athlete support team (including a sports nutritionist)
- Developing policies for coaches on healthy practices around athlete eating behavior, weight, and body composition

There has been some pushback re: the new consensus statement within the scientific community, with a group of researchers publishing a refutation. They feel that the new statement does not place enough emphasis on the Female Athlete Triad which has been thoroughly researched and is well-established as a useful framework that has led to improved health and outcomes for women athletes. These authors do not feel that RED-S has been adequately researched or properly documented, and are concerned that the proposed return to play model is ambiguous and not supported by sufficient evidence. They feel that it is critically important that physicians, athletic trainers, sports nutritionists, coaches and parents continue to use the Female Athlete Triad model to help female athletes.

Busy teen athletes sometimes don't find time to eat enough to support their activities. I work with teens to help them understand the importance of adequate energy intake and to find foods that they like and that are easy to incorporate into their lifestyle. Call today to set up some team talks or larger group presentations for your athletes.

Health Consequences of RED-S

- Altered menstrual function (part of Female Athlete Triad)
- Impaired bone health (part of Female Athlete Triad)
- Endocrine changes
- Metabolic changes
- Hematological changes
- Impaired growth and development
- Psychological impact
- Cardiovascular changes
- Gastrointestinal changes
- Immunological changes

Performance Consequences of RED-S

- Decreased endurance performance
- Increased injury risk
- Decreased training response
- Impaired judgment
- Decreased coordination
- Decreased concentration
- Irritability
- Depression
- Decreased glycogen stores
- Decreased muscle strength

References:

Mountjoy M, Sundgot-Borgen J, Burke L, et al. The IOC consensus statement: beyond the Female Athlete Triad – Relative En Deficiency in Sport (RED-S). British Journal of Sports Medicine 2014 48:491-497.

DeSouza MJ, Williams N, Nattiv A, et al. Misunderstanding the Female Athlete Triad: Refuting the IOC Consensus Statemen Relative Energy Deficiency in Sport (RED-S). British Journal of Sports Medicine 2014 48:1461-1465

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