



A GUIDE FOR FEMALE RUNNERS

PATIENT PERFORMANCE DEVELOPMENT

During puberty, females undergo numerous physiological changes that may affect how athletes feel and perform. Practice patience and prioritize long-term health over short-term performance goals.

WHAT IS REDS?

RELATIVE ENERGY DEFICIENCY IN SPORT

REDS...

Is an expansion of the female athlete triad
Highlights the **systemic impacts of problematic low energy availability (LEA) on both health and performance**

↳ Menstrual cycle dysfunction, impaired bone health, decreased endurance performance, etc.

CAUSES OF LEA

Increased training load without increased fueling

Disordered eating or eating disorder

Other unintentional underfueling

Track your period
Irregular or absent periods are a warning bell for female athletes

PRIORITIZE CARBOHYDRATES



Low carb availability may lead to REDs symptoms, even if the athlete is meeting their overall energy needs

Low carb availability can also impair the muscle's ability to use and restore glycogen, limiting performance during higher intensity endurance exercise



Menstrual abnormalities affect as many as 51% of all female endurance runners

PRIORITIZE ADEQUATE FUELING

- 1 Carb needs are high for endurance athletes, about **7-10 grams of carbs per kg of bodyweight**
- 2 Throughout the day, athletes need around **1.2-2.0 grams of protein per kg of bodyweight**
- 3 Female athletes should get **20-30% of their daily energy intake from fat**
- 4 Aim to begin refueling with a **3:1 ratio of carbs to protein** 30-60 min after exercise (60g carb + 20 g protein)

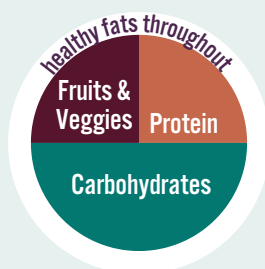
IRON

Ferritin is an indirect marker for the amount of iron stored in your body and athletes should aim to for a **ferritin >35 µg/L**

Healthy iron stores can be supported with adequate energy and carb availability

Focus on a well balanced "performance plate" rather than counting calories

Each section may shift based on training volume



Work with a **registered dietician and physician(s)** if you're concerned about LEA or REDs

