IRON

Why Iron is Important for Female Distance Runners

Adequate iron intake is particularly important for endurance athletes because poor iron status may impair the synthesis of hemoglobin and myoglobin, essential components in the transport and delivery of oxygen to the muscles.

Minimum Daily Iron Requirements

The Dietary Reference Intake (DRI) for iron is 8 mg (males; females 51 and above) and 18 mg (females, ages 19 to 50). Iron requirements may be even higher for female athletes, particularly vegetarians or those involved in intense and/or prolonged training.

Risks Associated with Consuming Too Much Iron (From Supplements)

Perhaps due to the prevalence of dietary iron inadequacy, iron is the most popular mineral supplement used by athletes. It is important for all athletes to understand that there are risks associated with excess iron intake especially in supplemental form. The Tolerable Upper Intake Level (UL) for iron is 45 mg.

Food Sources of Iron

Animal Sources	Plant Sources
Chicken liver	Ready-to-eat cereal, fortified
Oysters	Oatmeal
Beef liver	Soybeans
Beef	Lentils
Tuna	Beans (kidney, lima, navy, black, pinto)
Turkey	Tofu
Chicken	Spinach
Shrimp	Raisins

Signs and Symptoms of Iron Deficiency

Three groups of athletes may be at greatest risk of iron depletion and deficiency: female athletes, distance runners, and vegetarian athletes. A deficiency of iron limits oxygen delivery to cells, resulting in fatigue, poor work performance, and decreased immunity.

Signs and Symptoms
Feeling tired and weak
Difficulty maintain body temperature
Decreased immune function (recurring illness)
Loss of endurance
Frequent injury
Poor appetite
Decreased work and school performance

References

Heaney, S., O'Connor, H., Gifford, J., & Naughton, G. (2010). Comparison of Strategies for Assessing Nutritional Adequacy in Elite Female Athletes' Dietary Intake. *International Journal Of Sport Nutrition and Exercise Metabolism, 20*(3), 245-256.

Mettler, S. S., & Zimmermann, M. B. (2010). Iron excess in recreational marathon runners. *European Journal Of Clinical Nutrition, 64*(5), 490-494.

Venderley, A. M., & Campbell, W. W. (2006). Vegetarian Diets: Nutritional Considerations for Athletes. *Sports Medicine, 36*(4), 293-305.

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