What is RED-S?
RED-S, or Relative Energy Deficit for Sport, happens when an individual has low energy availability. The low energy is a result of eating too little to support the level of activity. RED-S causes physical and emotional issues, such as:

- Decreased muscle strength and training response, poor performance
- Higher risk of injury, such as stress fractures
- Change in hormone levels; including mood swings, decreased concentration, decreased sex drive, and, for some, loss of a menstrual period
- Higher risk for developing depression, anxiety, sleep disruption

How does this affect your health?
Prolonged periods of low energy availability can cause serious health concerns. The stress put on the cardiovascular system can affect cardiovascular health and lead to heart failure. Periods of starvation can also cause irreversible changes in bone growth and development.

RED-S includes the condition known as the “Female Athlete Triad.” A sign of this triad is amenorrhea—the loss of a menstrual period for 6 months or longer—and an increased risk of osteoporosis.

Who is affected by RED-S?
Anyone can develop RED-S, regardless of age, gender, race, economic status, or sexuality. It is most common when energy in is less than energy out ...

How to know if you have a problem

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When energy in is less than energy out ...

How to know if you have a problem

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Who is affected by RED-S?
Anyone can develop RED-S, regardless of age, gender, race, economic status, or sexuality. It is most common
among athletes in organized sports. Sports with the highest risk are gymnastics, figure skating, ballet, diving, swimming, and long distance running, as they include a low weight body ideal. Sports with strict weight requirements, such as wrestling, rowing, or horse racing, also pose a risk for RED-S.

**What are the signs of risk for RED-S?**
- History of dissatisfaction with body image
- Significant change in weight
- Disordered eating: skipping meals, eating alone, leaving after meals to purge
- Increased training schedule
- Use of supplements
- Increased resting heart rate
- Constant fatigue
- Poor athletic performance
- Decreased coordination
- Irritability
- Thinning hair
- Irregular or missed menstrual periods

If you notice one or more of these signs in a friend or in yourself, please reach out for help.

**If you think you have RED-S ...**

Once identified, RED-S can be treated. Having the support of a multidisciplinary team is helpful. People with RED-S can seek the support of their coach or athletic trainer. A physician can help to address the physical symptoms that accompany RED-S. A nutritionist can help create a diet plan to provide the proper amount of fuel. A mental health provider can identify the underlying causes of RED-S and work to foster a healthier body image.

- **Cornell Health** can help you get the treatment that you need. You can seek help from your Primary Care Provider (PCP), a nutritionist, or a Counseling and Psychological Services (CAPS) provider. Appointments can be made online at myCornellHealth, or by calling 607-255-5155.
- **Cornell Athletics Sports Nutrition** offers individual nutritional counseling. You can be referred through your athletic trainer.

health.cornell.edu