Iron Supplementation for Female College Athletes

Iron and Athletic Performance
Low iron is one of the most common nutrient deficiencies among female college athletes. Iron is required for optimal athletic performance and health because of iron’s essential roles in carrying oxygen and as cofactors in other enzymes related to metabolism and immunity. A low iron status with or without anemia can decrease endurance, muscle function, and work capacity. Iron status will likely worsen as the athlete’s competitive season progresses.

Who’s at Risk?
High levels of exercise can increase athletes’ requirements for micronutrients like iron because of high levels of cell turnover and tissue repair in the body. Iron requirements can be around 30% higher for college athletes. Athletes at greatest risk for low iron levels are those who:
- Are female and premenopausal
- Restrict their energy intake
- Have severe weight loss practices
- Eliminate food groups from their diet
- Are vegetarian or avoid animal products
- Are distance runners—needs can be increased by 70%
- Are regular blood donors
At-risk groups, including women with heavy menstruation, history if anemia, long-distance runners and endurance athletes, and vegetarians, should have their iron levels screened regularly including a complete blood count and serum ferritin levels.

Dosage
Female college athletes who are vegetarian or who donate blood regularly should eat more than the RDA of 18 mg/day. Athletes with or without anemia may benefit from iron supplementation. Supplementation with 125 mg/day ferrous sulfate may help prevent iron deficiency. However, iron supplements are usually recommended when iron levels cannot return to normal through increasing dietary intake alone and with clinical symptoms of anemia. Ferrous iron salts are most easily absorbed. The CDC recommends 50 to 60 mg of oral elemental iron (300 mg ferrous sulfate) twice daily for three months to treat iron deficiency anemia.

Safety
Therapeutic levels of iron can cause nausea, vomiting, constipation, diarrhea, dark colored stools, and abdominal pain. Taking supplements with food and divided into doses throughout the day can help decrease side-effects.

Sources Cited:

Eat food first!
Sources of heme iron:
- Red meat
- Poultry
- Fish
Sources of nonheme iron:
- Whole grains and fortified grains
- Lentils
- Dried beans and peas
- Leafy greens
- Nuts and seeds
Eat with vitamin C, avoid eating with calcium and dairy