



Preventing Athletic Anemia

What is Athletic Anemia?

Athletic anemia refers to *low iron stores* which may be caused by one or more of the following factors: inadequate iron intake, poor iron absorption, loss of iron through sweat, destruction of red blood cells and gastrointestinal blood loss (common in ultraendurance athletes).

A condition referred to as “sports anemia” has been reported in athletes. Sports anemia appears to be most associated with increased red blood cell destruction and decreased concentration of hemoglobin (the iron-rich part of red blood cells) at the beginning of a strenuous conditioning program. It has also been hypothesized that “sports anemia” may be caused by an inadequate protein intake particularly in the early stages of training. The demand to form additional muscle tissue may compete with the demand to form additional hemoglobin, thus causing the anemia.

There seems to be a higher prevalence of sports anemia in female athletes than male athletes, due to menstruation and inadequate iron intake. If you fall into one of the following categories, you should be particularly careful about getting adequate iron in your diet.

Female athletes: Regular menstrual losses increase the iron needs of females. An additional risk is added when women are dieting or restricting calories. Typically, low calorie intakes are also low in iron. The iron concentration of the typical American diet requires an intake of approximately 3000 cal/day to obtain the RDA amount! So active young women should evaluate their food choices carefully or consider iron supplementation.

Vegetarian athletes: Limiting or eliminating meat eliminates some of the best, most biologically available sources of iron. Iron from fruit, vegetable, and cereal sources is not as well absorbed as that from animal sources. The average rate of iron absorption from food is factored into the RDA.

Endurance athletes: Losses of iron from intestinal bleeding, sweat, urine, and feces have been observed in endurance athletes. Marathon runners who may break tiny blood vessels in the soles of their feet from the repetitive pounding will need additional dietary iron.

Growing athletes:

During growth, adolescent athletes are expanding their blood volume as well as growing rapidly. Because of this, there is an increased need for iron for the synthesis of hemoglobin.

Recommended Daily Allowance for Iron:	Children 1-10 yrs	10 mg
	Females 11-50 yrs	15 mg
	Females 51 + yrs	10 mg

Tips for enhancing iron absorption and reducing the risk of developing iron deficiency anemia:

- ◆ Choose lean cuts of red meats, and dark poultry meat 3-4 times per week.
- ◆ Eat enriched or fortified breads, cereals, and pastas regularly.
- ◆ Take vitamin C-containing foods with an iron rich meal to enhance the iron absorption ie. orange juice (vitamin C) with red meat (iron), tomatoes (vitamin C) with your bean chili or bean soup (iron).
- ◆ Avoid substances that inhibit iron absorption with your iron rich meal and use them in moderation: tannic acid (tea) and polyphenol (coffee).
- ◆ Remember that the iron in meats (called heme iron) is better absorbed than non-heme iron in vegetables, fruits, beans and whole grains.
- ◆ Cook foods in cast iron skillets or pots to significantly increase the iron content of the meal.
- ◆ If you think your dietary intake of iron is inadequate or are considering iron supplementation, first check with your physician or other appropriately licensed health professional.

What Foods Should I Eat to Prevent or Reduce the Risk of Athletic Anemia?

<u>Iron Rich Foods</u>	<u>Iron Content (mg/serving)</u>
Liver, chicken 3 1/2 oz.	8.5 mg
calf 3 1/2 oz.	14.2 mg
Kidney, beef 3 1/2 oz.	13.0 mg
Beef, 3 1/2 oz.	3.5 mg
Chicken, 3 1/2 oz.	1.5 mg
Pork, 3 1/2 oz.	3.5 mg
Clams, 5 large or 10 small	7.5 mg
Shrimp, 3 1/2 oz.	1.6 mg
Dried Beans/Peas, 1/2 cup	2.5 mg
Dried Apricots, 6 large halves	2.0 mg
Raisins, 2 Tbs.	1.0 mg
Dried Prunes/Dates, 5 large	2.0 mg
Cold cereal, iron fortified	*check individual labels
Total, 1 cup	
Raisin Bran, 3/4 cup	18 mg
Cream of Wheat, 1 cup	9.0 mg
Iron Enriched bread/rolls	check individual labels
Spinach, 3 1/2 oz. raw	3.1 mg
1/2 cup cooked	2.0 mg
Broccoli, 1/2 cup	1.0 mg
Pasta, 1 cup	2 mg
Blackstrap Molasses, 1 Tbs.	3.5 mg
Wheat germ, 1/4 cup	2 mg

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