IRON RICH DIET FOR ENDURANCE ATHLETES

When we think about endurance athletes and food, it can be a daily challenge to meet the most basic nutritional needs. Not only must you work on adequate calorie and fluid intake, the endurance athlete needs to focus on consuming a variety of foods containing essential vitamins and minerals significant to health and performance.

What is Iron?

Iron is an essential mineral in the body that ***absolutely*** needs to be in balance for peak athletic performance. Iron is a vital component of the protein hemoglobin which is found in red blood cells. Hemoglobin supplies oxygen to the muscles enabling the utilization of carbohydrates and fat for energy.

It is estimated that 30 to 50% of endurance athletes, both male and female, have depleted iron levels. Pre-menopausal females are particularly susceptible to iron depletion because they lose significant amounts of hemoglobin through menstruation. Iron stores can also be depleted through heavy sweating, repetitive pounding of the feet during running, and potential gastrointestinal bleeding which can accompany competition and heavy training loads. These stores need to be replaced on a continual basis. Recommended iron intake can range from 15 – 18 mg per day for women to 10 mg per day for men. Endurance athletes may require up to 30% more iron than the average adult. The truth is…many athletes just don't get enough.

What is the Effect of Low Iron Levels on Performance?

When iron stores become low or depleted, less oxygen is delivered to the muscles. This can cause fatigue during training, low motivation, and a higher than normal resting heart rate. Performance levels may plateau and eventually decline. None of these symptoms fit well in the life of an endurance athlete.

If you think you may be iron deficient, ask your doctor to test your blood to check the levels of iron within your body, especially if you are in heavy training. If your levels are low, your doctor may advise you to take iron supplements until your iron levels return to the normal range. Iron supplements should only be taken under the advice of a physician as too much iron can be as detrimental to health and performance as too little. Once your iron levels have been restored, it is essential that you continue to fill your diet with iron rich foods.

How Can You Help Your Body Maintain Essential Iron Levels?

1) Be conscious to consume iron-rich foods as part of your daily diet.

Iron comes from a wide variety of foods of both animal and plant origin. Heme iron is the most easily absorbed in the body. This source of iron can be found in animal products such as beef, lamb, pork, chicken and fish. Non-heme iron is found in dark green leafy vegetables, nuts, seeds, legumes, whole grains, fortified cereals such as Raisin Bran and Cream of Wheat, dried fruits, eggs, dairy products, and molasses. Non-heme iron is less well absorbed than the heme iron found in animal products.

2) Increase non-heme iron absorption by combining foods:

The absorption rate of your non-heme iron can be increased by consuming Vitamin C rich fruits and vegetables. Vitamin C rich foods include broccoli, cabbage, citrus fruits, melon, tomatoes, and all berries. Simply drinking six ounces or orange juice with iron-enriched cereal can increase the amount of iron your body absorbs from plant foods up to 50%. Also, when meat and vegetables are eaten together at the same meal, more non-heme iron is absorbed from the

vegetables than if they had been eaten alone. .Vitamin C supplements do not appear to have any significant effect on iron stores.

3) Be aware that some foods reduce iron absorption.

Certain compounds in foods have been shown to decrease iron availability. These compounds include phytates, oxalates, and polyphenols (eg, tannins). Because these compounds combine with iron to form an insoluble compound, they prevent iron absorption in the intestines.

Foods that include these compounds include coffee, tee, spinach, legumes, whole grains, milk, cheese, rhubarb, swiss chard, and chocolate. It is recommended that when you eat these foods, you combine them with heme sources or iron for better absorption availability.

Sample Day's Menu

Here is a full day menu that will assure adequate iron intake as well as fuel you for your training:

Breakfast	**Serving**	**Iron(mg)**
Cooked Enriched Cream of Wheat	1 cup	8.2
Orange Juice (with Vitamin C)	6 ounces	0.5
Whole Grain Bread	1 slice	0.9
Cottage Cheese	¼ cup	trace
Mid Morning Snack		
Dried Apricots	5 halves	0.8
Almonds	1/4 cup	1.0
Lunch		
Grilled Chicken	3 oz	2.0
Refried Black Beans	½ cup	3.5
Dark green salad with (½ cup peas, 2 tbsp sunflower seeds, tomato, carrots, and beets)	1 cup	6
Brown Rice	1 cup	1.0
Snack		
Cantaloupe and Berries	1 cup	1.3

Dinner		
Pasta (whole wheat)	1 cup	2.0
Red Clam Sauce (3 oz clams)	½ cup	3.5
Grilled Asparagus and Onion	1 cup	1.2
Snack		
Skim Milk	8 oz	1
Whole Wheat Bread	1 slice	1
Peanut Butter	1 tbsp	0.3

As an athlete, you invest an incredible amount of time and effort in your training. Eating a diet filled with iron-rich foods will not only keep you healthy, but also ensure you are able to sustain a high level of training. What you put inside matters! Consume enough iron rich foods and be prepared to perform your best on race day!

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