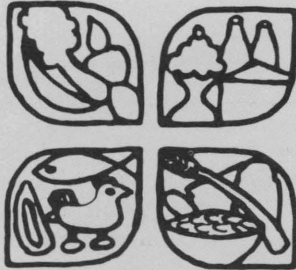


FACT SHEET

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IRON

Sally Springer*

Iron is a mineral essential to good health. Although iron is found in small amounts in many foods, it is difficult for some Americans to get enough in their diets. Iron-deficiency anemia is one of the most prevalent nutritional problems today.

Iron in the Body

Iron is concentrated in the blood, but some is present in every living cell in the body. The majority of iron is found in hemoglobin, the red pigment of the blood. Some iron is found in myoglobin, a substance similar to hemoglobin but found only in muscle tissue. Additionally, iron forms part of enzymes necessary for cellular respiration. From 10–30 percent of iron in the body is stored in the living bone marrow and spleen.

Hemoglobin performs the basic function of carrying oxygen from the lungs to the tissues where it is released for use. On return to the lungs, hemoglobin carries part of the carbon dioxide for release in the lungs. The ability of hemoglobin to take up and release oxygen is a unique function which depends on the presence of iron. Thus iron provides an essential link in supplying oxygen to body tissues.

The body conserves the iron from old red blood cells as they are normally destroyed. Iron is salvaged and used to make new red blood cells. A very small amount of iron is lost daily in body waste material. Iron is also lost through menstruation, hemorrhaging or any blood loss.

Need for Iron

The need for iron increases during periods of growth, menstruation and childbearing. These needs are reflected in the Recommended Dietary Allowances (RDA) for iron—the amount recom-

mended to be consumed by average healthy Americans.

The RDA for iron is based upon the fact that normally only 10 percent of iron in the diet is absorbed. Absorption of iron from food is difficult and is dependent upon many things, including body needs, the food source itself and other dietary factors.

RECOMMENDED DAILY DIETARY ALLOWANCES** IRON

| | Age | milligrams/day |
|----------|-----------------------|----------------|
| Infants | up to 5 mos. | 10 |
| | 5 mos. - 1 yr. | 15 |
| Children | 1 - 3 | 15 |
| | 4 - 10 | 10 |
| Males | 11 - 18 | 18 |
| | 19+ | 10 |
| Females | 11 - 50 | 18 |
| | 51+ | 10 |
| | pregnant lactation | 18+* 18 |

*This increased requirement cannot be met by ordinary diets; therefore, the use of supplemental iron is recommended.

**Foods and Nutrition Board, National Academy of Sciences—National Research Council. Revised, 1973.

The RDA for iron is greatest during periods of growth and childbearing. When blood donations are made and following hemorrhaging, the need for iron also increases. The loss of one pint of blood represents 250 milligrams of iron that must be replaced before hemoglobin levels will return to normal.

Food Sources of Iron

Iron is found in small amounts in many foods. About one-third of the iron available to consumers in the U.S. comes from meat, poultry and fish; almost as much from enriched bread and cereal products; and one-fifth from vegetables. Milk group foods do not contain significant amounts of iron. Listed below are selected foods and their iron content:

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| FOOD | AMOUNT | IRON (milligrams) |
|------------------------------|---------|-------------------|
| Meat Group | | |
| Beef liver | 4 oz. | 10.0 |
| Dried beans | 3/4 cup | 3.5 |
| Hamburger pattie | 3 oz. | 3.0 |
| Pork chop | 3 oz. | 2.5 |
| Peanuts | 1/4 c. | .8 |
| Peanut butter | 4 Tbsp. | 1.2 |
| Pecans | 1/4 c. | .6 |
| Chicken | 3 oz. | 1.4 |
| Eggs | 1 | 1.1 |
| Fruit/Vegetable Group | | |
| Spinach | 1/2 c. | 2.0 |
| Prunes | 4 | 1.1 |
| Raisins | 1/4 c. | 1.4 |
| Beets | 1/2 c. | .4 |
| Broccoli | 1/2 c. | .6 |
| Peas, green | 1/2 c. | 1.5 |
| Potatoes | 1 | .7 |
| Sweet potatoes | 1 | 1.0 |
| Tomatoes | 1 | .9 |
| Apricots, canned | 1/2 c. | .4 |
| Bread/Cereal Group | | |
| Bread, white enriched | 1 sl. | .6 |
| whole wheat | 1 sl. | .8 |
| Corn muffin, enriched | 1 | .7 |
| Macaroni, enriched | 1 c. | 1.4 |
| Rice, enriched | 1 c. | 1.8 |
| Milk Group | | |
| Milk | 1 c. | .1 |
| Cheddar cheese | 1 oz. | .3 |

Getting Enough Iron

The average American diet supplies about 6 milligrams iron per 1,000 calories. When at least 2,000 calories are consumed daily from a variety of foods, the average requirement for adult males can be met. However, it is difficult for growing teenagers and women of childbearing age to meet the desired iron intake of 18 milligrams unless specific food choices are made each day.

When trying to meet the iron requirement daily, consider including the following foods more frequently:

- dry legumes
- green, leafy vegetables
- enriched or whole-grain breads and cereals
- dried fruits
- organ meats

Listed below is a selection of foods which, if included in a day's pattern of meals and snacks, would provide 18 milligrams of iron.

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| Food | Amount | Milligrams/Iron |
|--|---------|-----------------|
| Egg | 1 | 1.1 |
| Whole wheat bread | 1 sl. | .8 |
| Prune juice | 1/2 c. | 5.3 |
| Hamburger (including 1 bun, 1 sl. tomato, 3 oz. meat) | 1 | 4.4 |
| Raisins | 3 Tbsp. | 1.0 |
| Pork chop | 3 oz. | 2.5 |
| Spinach | 1/2 c. | 2.0 |
| Corn muffin | 1 | .7 |
| Milk | 2 c. | .2 |
| TOTAL | | 18.0 |

Iron-Deficiency Anemia

This nutritional deficiency disease is prevalent in America today. Recent nutrition studies indicate that about one-fourth of all infants and 5 million American women have iron-deficiency anemia.

Simple iron deficiency causes a run-down, tired feeling. If unchecked, more serious symptoms may appear. Severe iron deficiency causes many changes, including changes in the skin and mucous membranes, shortness of breath, nail deformities and general weakness.

There are several reasons for iron deficiency. Some include:

1. During certain periods of life, iron needs are especially high.
2. Iron is found in small amounts in many foods and it is difficult to obtain sufficient iron during periods of high iron needs.
3. Iron stores of a baby depend upon the mother's diet during pregnancy.
4. Iron absorption is difficult and some forms of iron in food cannot be absorbed by the body.

At present, there is widespread concern over the difficulty of getting sufficient iron in the diet. Further enrichment of foods with iron is one alternative being considered. However, persons with certain diseases cannot tolerate higher levels of iron. The solution to providing iron that can easily be absorbed by those who need it most is yet to be resolved.

REFERENCES

Nutritive Value of Foods, G-72, USDA Focus II, Extension Service, USDA