

YOUR IRON AND COMMUNITY BLOOD DONATIONS

Significance of Iron When Donating Blood

Most of the iron in your body is found in the hemoglobin (Hgb) molecule of the red blood cell, responsible for carrying oxygen to the body. When you donate blood, you temporarily give up a part of this valuable resource until the body has time to replace it.

During the medical history interview, a drop of blood from your fingertip is collected to measure your hemoglobin. To be a community donor, your hemoglobin must be 12.5g/dL, or higher.

Dietary Factors

There are two kinds of dietary iron:

Heme Iron

Heme iron, the organic kind, is found in animal products, especially red meat, liver, and other organ meats, and also in poultry and fish. The body can readily absorb approximately 15% of the iron from these sources. Although the absorption of iron from this food group is not affected by other foods in the diet, eating these foods can greatly enhance iron absorption from other sources.

Non-heme Iron

Non-heme iron is found in vegetables, fruits, breads and cereals, eggs, nuts, and oral iron supplements. Only about 3% of the iron from these sources can be absorbed. How well your body does absorb the iron in these food groups depends on what else is on the menu. Some foods increase iron absorption, while others interfere.

What you can do to improve iron absorption:

Iron Enemies

Avoid combining the following foods with foods that are non-heme iron sources:

- Dairy products such as cheese, yogurt, ice cream, or milk.
- Eggs, which contain an anti-iron factor that binds iron up not only in eggs but also in foods eaten with eggs such as toast.
- Whole-grain breads and cereals, baked goods, and candy bars.
- Foods high in oxalates, such as spinach.
- Tea, coffee, wine, beer, and soft drinks.
- Canned and processed food containing EDTA.

Iron Friends

On the plus side are foods which enhance iron absorption when combined with foods that are non-heme iron sources:

- Beef, poultry, fish, lamb, veal, and game top the list, multiplying iron absorption fourfold.
- Foods high in vitamin C, such as citrus fruits, cantaloupe, strawberries, and vegetables such as cabbage, green peppers, tomatoes, and broccoli.
- Food containing folate, a B vitamin, such as vegetables, citrus fruits, liver, beans, and seafood.
- Food cooked in iron cookware, especially acidic foods such as tomato based sauces, soups and stews, are boosted in iron by three or four times.

Minimum Daily Dietary Iron Requirements:

Men (age 19-50+):	<i>10 mg per day</i>	Women (age 15-50)	<i>18 mg per day</i>
Adolescents (age 11-18):	<i>10 mg per day</i>	Women (age 50+)	<i>10 mg per day</i>

References:

- V. Herbert, M.D., G. Subak-Sharpe, M.S. (ed.): *Total Nutrition: The Only Guide You'll Ever Need*, Mt. Sinai School of Med, St. Martins Press, NY, 1995.
- Nursing96 Books, *Nursing 96 Drug Handbook*, Springhouse Corporation, Springhouse, PA, 1996.
- Understanding Vitamins and Minerals*, Rodale Press, Inc., Emmsus, PA 18049, 1984.
- Merck Manual of Diagnosis and Therapy*, Merck Sharp & Dohme Research Labs, Rahway, NJ, 1987.
- Autologous and Directed Blood Programs*, American Assoc. of Blood Banks, Arlington, VA 1987.

Iron Rich Foods*

Heme Iron Sources

Beef:		
	Chuck stew 4 oz.	3.1 mg
	Hamburger 4 oz.	3.5 mg
	Liver 3 1/2 oz.	6.6 mg
	Roast 8 oz.	4.6 mg
Chicken:		
	Fried 1/2 bird	1.8 mg
	Breast (fried)	1.1 mg
	Roasted 3 1/3 oz.	2.1 mg
	Livers 2 large	7.4 mg
Fish:		
	Tuna (in oil) 3 1/2 oz.	1.9 mg
	Tuna (in water)	1.6 mg
	Scallops 3 1/2 oz.	1.6 mg
	Shrimp 1.2 lb.	2.5 mg
	Clams (hard) 5 to 10	7.5 mg
	Clams (soft) 4 to 9	3.4 mg
	Oysters 5 to 8	5.5 mg
Ham:		
	Baked 2 1/2 oz.	2.1 mg
	Canned 4 oz.	3.0 mg
Lamb:		
	Leg 4 oz.	1.3 mg
	Loin chop 4 oz.	1.2 mg
Luncheon Meats:		
	Liverwurst 1 slice	1.6 mg
	Salami 1 slice	1.0 mg
Pork:		
	Loin 4 oz.	2.3 mg
	Spareribs 8 oz.	2.9 mg
Turkey:		
	Roasted 3 slices	5.1 mg
Veal:		
	Cutlet 4 oz.	3.3 mg
	Stew Meat 3 1/2 oz.	3.5 mg

Non-Heme Iron Sources

Breads and Grains:		
	Bagel 3"	1.2 mg
	Bran flakes 40% 1 cup	12.3 mg
	Bran flakes w/ raisins 1 cup	17.7 mg
	Breadcrumbs dry 1 cup	3.6 mg
	Gingerbread 1 slice	1.0 mg
	Macaroni	1.4 mg
	Noodles (egg) 1 cup cooked	1.4 mg
	Oatmeal cooked 1 cup	1.7 mg
	Rolls: hot dog or hamburger	1.2 mg
	Rolls: hard 1 medium	1.3 mg
	Cream of Wheat 1 serving	25.0 mg
Eggs:		
	1 large whole	1.2 mg
Fruits:		
	Apple juice 1 cup	1.5 mg
	Apricots (dried) 1/2 cup	3.6 mg
	Apricots (dried) cooked 1/2 cup	2.3 mg
	Avocado 1/2	1.3 mg
	Banana mashed 1 cup	1.6 mg
	Cantaloupe 1/2 med.	1.6 mg
	Orange juice canned 1 cup	1.0 mg
	Prunes canned 1/2 cup	1.1 mg
	Prunes dried uncooked 10	3.3 mg
	Prune juice 1 cup	10.5 mg
	Raisins 1/2 cup	2.9 mg
	Strawberries 1.2 cup frozen	1.0 mg
	Watermelon 8" x 4" wedge	2.1 mg
Nuts:		
	Almonds 1/4 cup	1.7 mg
	Cashews 1/4 cup	1.2 mg
	Walnuts 1/4 cup	1.9 mg
Vegetables:		
	Artichoke 1 whole	1.4 mg
	Artichoke Jerusalem 1 med.	3.4 mg
	Asparagus 6 stalks	1.3 mg
	Beans Dry: Lima 1/2 cup	2.9 mg
	Beans Dry: Navy pea 1/3 cup	2.5 mg
	Beans Dry: Kidney 1/2 cup	2.2 mg
	Beans Fresh: Lima 1/3 cup	2.1 mg
	Beans Fresh: Sprouted mung 1 c	1.4 mg
	Brussels Sprouts 6 to 7	1.1 mg
	Chard 1/3 cup cooked	1.3 mg
	Chestnuts 10	1.2 mg
	Dandelion Greens 1/2 cup	1.8 mg
	Endive 1 cup	1.0 mg
	Lentils dry cooked 1/2 cup	2.1 mg
	Lettuce (Boston) 1 cup	1.1 mg
	Mustard Greens 1/2 cup	1.8 mg
	Peas black eye cooked 1/2 cup	1.7 mg
	Peas green	1.4 mg
	Potato 1 medium baked	1.1 mg
	Spinach raw 1 cup	1.7 mg
	Spinach cooked 1/2 cup	2.0 mg
	Sweet potato, baked 1 med.	1.0 mg
	Tomato 3 inch	0.9 mg
	Tomato juice 1 cup	2.2 mg

Vitamin C Rich Foods

Apples	Broccoli
Apricots	Cabbage
Cantaloupe	Carrots
Citrus fruits	Celery
Oranges	Green peppers
Pears	Lettuce
Pineapples	Onions
Plums	Potatoes
Peaches	Radishes
Strawberries	Rutabagas
	Tomatoes

*This is a general reference only. It should be used to help you choose iron rich foods, but is not intended for use as a scientific standard.