

# Fast Track Your Nutrition

## Popeye's Favourite...Iron

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**Popeye's favourite food was spinach, and maybe he'd have been right if he'd said:**

“Be smart and eat spinach...  
you'll run hard - to the finish!”

Are you a sprinter? A middle-distance specialist? Or are you happiest on the *long* run? It doesn't matter what distance, or how fast you go – *all* runners will benefit from topping up their iron stores!

### What is Iron?

**Iron is a mineral that is needed in the body for several crucial functions.** It is:

- In the blood and is part of hemoglobin (Hbg), which transports oxygen from the lungs to all body cells
- involved in red blood cell production
- stored in the liver, spleen and bone marrow

### Why do we need Iron?

**If there is not enough iron from the diet, less Hbg is produced.** This reduces the amount of oxygen that can get to the cells, and decreases athletic performance. You may also feel very tired and irritable, and look pale. You may get the flu or colds more often than usual.

**If low iron intake continues, it can result in Iron Deficiency Anemia (IDA).** This is a medical problem requiring treatments with iron supplements. You may recall hearing about marathoner Alberto Salazar's suddenly poor race times after his Boston victory in 1983 and his “three-peat” in New York City 1981-3. He was diagnosed with Iron Deficiency Anemia and had to be treated for it.

***You don't have to be an elite runner logging***



**50+ km weeks to be at risk.** Who is, then? If your iron intake is low, and your iron losses and/or your needs are high, **you** are!

**For instance if you:**

- eat little animal protein, especially red meat and eggs
- have heavy menstrual blood losses
- are pregnant now or have been recently
- lose a lot of Iron in sweat
- are a marathoner (the pounding can destroy red blood cells)

**- and you have been feeling much more tired than usual lately, or training seems much harder than normal, check with your doctor.**

IDA can be diagnosed with a simple blood test - serum ferritin - and you can be treated with supplements. The next step would be to get a Nutrition check-up with a Dietitian to see how to get proper amounts of well-absorbed iron into your diet.

### Where do we get Dietary Iron?

**There are 2 kinds of dietary iron:**

- heme iron
- non-heme iron

**Heme iron** is found mainly in the flesh of animal foods: meat, fish, poultry (chicken, turkey). The body can absorb the iron from these foods better than from any other. About 23% of the iron in heme sources is absorbed, and other nutrients do not affect the rate of absorption. Very good sources of heme iron are:

- red meat: lean beef, veal, lamb, pork
- organ meat: liver
- fish: sardines, oysters, clams

**Nonheme Iron** is found in whole grains, fruits, vegetables, and eggs. The body usually absorbs only 3-8% of this kind of Iron. The absorption can be affected by other nutrients,

either as enhancers, (such as Vitamin C and Meat) which increase the % of Iron absorbed from non-heme sources, or as blockers, (caffeine; excess insoluble fibre, such as bran; fibre; soy, and oxalic acid - in spinach and rhubarb) which decrease the amount of non-heme iron that is available for absorption.

### How much Iron is Enough?

**The Recommended Daily Intake (RDI) is:**

- Teens: 18 mg
- For women: 25-49 years 18 mg
- 50 + years 15mg
- For men: 25 + years 8 mg

**Many women have low iron stores.** Pregnancy uses a very large amount of iron, and it can take up to 2 years to replete. Stores of iron can be very depleted after having 2 or 3 pregnancies, especially if there has been less than 2 years between the pregnancies.

**While it is difficult to “OD” on dietary iron, supplements can cause iron overload if they are used when not needed.** Only use such supplements when they are required, based on blood work, and have regular lab monitoring (every 3-6 months) while on therapeutic iron, so you will know when it is no longer needed.

### Which foods are good choices?

**The most easily absorbed dietary iron comes from lean beef.** Small portions (75-125g) 2-3 times a week is a very easy way to be sure you get enough iron. (125g of cooked beef is the same size as a deck of cards)

**Other heme sources (pork, lamb, fish, chicken, etc) as well as non-heme sources, such as** dried fruit (raisins, apricots, prunes), whole grain breads and pastas; cereals that are “enriched” or “fortified”; eggs; green leafy vegetables (spinach, swiss chard); peas, and legumes will help you get enough iron daily.

By combining non-heme sources with Vitamin C (or meat) you can increase the amount of Iron that is absorbed. Foods high in Vitamin C include oranges, grapefruit, and tomatoes.

### Hints to increase Iron absorption

- cook in cast iron pans
- Don't drink tea or coffee with meals - wait 2 hours afterward.
- combine heme and non-heme iron in meals, or add foods high in Vitamin C.

Here are some suggestion for iron-rich meals:

- beans in tomato sauce*
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- spaghetti and meatballs with tomato sauce*
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- chili with meat*
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- a spinach salad with orange sections*
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- peanut butter sandwich on wholewheat bread with a glass of orange or grapefruit juice*
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- minestrone soup with kidney beans and chick peas*

### Food Sources of Iron

You can use the chart below to fill your meals with iron -rich foods.

<u>Food</u>	<u>Serving Size</u>	<u>mg</u>
beef liver	85-115 g	7.5-10.0
fortified cereal	125 ml	6.2
beans, lentils	125 ml	3.0+
seeds	125 ml	3.0+
tofu	125 ml	3.0+
fish (shell)	85-115 g	3.0-4.0
pork, ham	85-115 g	2.7-3.6
beef, lamb, veal	85 -115g	2.5-3.3
prunes	10	2.5
dried legumes	125 ml	2.2
spinach, greens, peas	125 ml	1.5
strawberries	250 ml	1.5
raisins	125 ml	1.5
apricots, dates (dried)	10	1.5
chicken	85-115 g	1.2-1.6
fish (fin)	85-115 g	0.9-1.2
bread	1 slice	0.7
pasta	125 ml	0.7
oatmeal, cooked	125 ml	0.7

**Eat a variety of the foods listed above.** Use some of the hints to increase iron absorption, and be sure you are getting lots of iron. Remember... you can...

### **Fast Track Your Nutrition!**