

IRON

is a mineral that is needed to help carry oxygen to your muscles and brain. It is essential for growth, development and metabolism, and low levels of iron can negatively impact both your mental and physical performance.

When your iron levels are low you may...

- feel excessively tired and irritable
- not feel like eating (“no appetite”)
- find it hard to focus, concentrate or study
- find exercise more difficult because you feel “out-of-breath” easily, have chest pain or irregular heartbeats
- notice more hair loss or thinning hair
- feel dizzy or lightheaded
- contract more colds or infections as your immune system weakens
- feel an urge to eat unusual substances like ice, cardboard, clay or soap



Left untreated, iron deficiency can be serious. If you are iron-deficient, it is very difficult to get your iron stores back to normal with food/diet alone. Take your iron supplements as directed by your doctor and return to the clinic if you have any concerns or side effects. You should also book a follow-up appointment for another blood test to measure your levels within 3-6 months.

How much iron do you need?

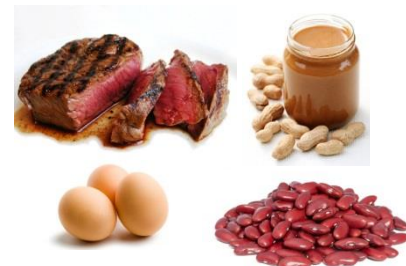
	Adult Men	Adult Women	Pregnant Women	Athletes
Recommended Daily Intake Vegetarians need about 1.8x more iron than meat-eaters because the iron found in meat absorbs better.	8 mg 14 mg if vegetarian	18 mg 32 mg if vegetarian	27 mg	May have increased needs. Speak to a dietitian.

The dose of iron supplement your doctor suggests may be higher than above because not all the iron in the supplement gets absorbed; also a higher dose of iron will help build up your depleted stores more quickly.

Which foods are good sources of iron?

Heme Iron (absorbed best)

- Red meat: beef, veal, mutton, lamb, goat, pork, venison
- Shellfish: oysters, clams, mussels
- Poultry: chicken, turkey, duck (especially the dark meat)
- Fish and other seafood



Non-Heme Iron (absorbed less)

- Eggs
- Tofu & fortified soy products
- Seeds, especially pumpkin seeds
- Legumes: chickpeas, lentils, beans and peas
- Nuts or nut butter (e.g. peanut butter or almond butter)
- Cereals (nutritional info should show 30% or more of Daily Value, “DV”)
- Pasta and products made with flour (note: imported products may not have added iron)

Most vegetables (even spinach) are **not** good sources of iron

Maximizing the Absorption of Iron

Heme iron (from animal-based foods) is easily absorbed. The absorption of non-heme iron (from dairy, eggs, and plant-based foods) can be modified by several factors.

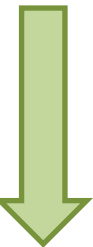
Some Factors that Enhance Non-Heme Iron Absorption

Factor	Source
Vitamin C	Bell peppers (all colors), Berries, Broccoli, Oranges, Grapefruits (and citrus juice), Melon, Papaya, Pineapple, Potatoes, Tomatoes
Citric, malic, and tartaric acids	Fruits & Vegetables, Vinegar, Citrus zest, Citrus juice
Lactic acid	Fermented foods (sauerkraut, kimchi, kombucha), Yogurt, Kefir, Sourdough bread
Tissue protein factor	Eating animal protein with non-heme iron from plant foods promotes absorption of non-heme iron



Some Factors that Decrease Non-Heme Iron Absorption

Factor	Source
Polyphenols, tannins	Black tea, green tea, beer and wine, apple/grape/berry juices, coffee, pop
Calcium	Milk, other dairy products, calcium supplements
Phytates (phytic acids)	Whole grains, legumes, nuts & seeds
Oxalates (oxalic acid)	Spinach, kale, beets, nuts, chocolate, tea, wheat bran, rhubarb, strawberries and herbs such as oregano, basil, and parsley



Practical Tips to Maximize Iron Intake & Absorption

- If you are vegan or vegetarian, it can be very difficult to maintain your iron stores without supplements
- If you eat meat, try to eat lean red meat at least twice in a week (e.g., lean pieces of steak in a stir-fry; goat or lamb in a stew; lean ground beef or pork for tacos, meat patties, chili, or pasta sauce; even an occasional burger)
- Choose thighs or drumsticks (i.e., the “dark meat”) not just the breast when eating poultry; eat “real” pieces of chicken or other poultry rather than processed “fast food” chicken such as that often served in fast food sandwiches or nuggets
- If you like shellfish (oysters, clams, mussels), include these in your diet often
- In Canada, pasta noodles, cereals and flour are fortified with iron, so don’t avoid healthy “carbs” like pasta, whole grain cereal or bread
- Include a source of vitamin C or other organic acid with most meals. For example:
 - Add a glass of orange, grapefruit, or tomato juice to breakfast
 - Top salads, wraps and sandwiches with tomatoes and peppers
 - Add a splash of vinegar or lemon juice to salads or cooked greens
 - Try condiments like kimchi, sauerkraut, or other fermented foods with your meals
- Drink water or herbal tea with meals. Many other beverages block iron absorption, so should be consumed apart from meals (about an hour later) if possible
- Cooking your food in a cast-iron pan; or drinking water treated with the [Lucky Iron Fish](http://LuckyIronFish.com) (luckyironfish.com) can significantly increase your iron intake