

DIETARY RECOMMENDATIONS FOR IRON DEFICIENCY ANEMIA

Dietary iron exists in two forms: heme iron and non-heme iron

- Animal products contain iron, 40% of which is heme iron. Excellent sources of this type of iron are red meat and liver.
- In plant products, iron is only in the non-heme form. Rich sources of this kind of iron are: green leafy vegetables (e.g. spinach), lentils, kidney beans, whole grains and iron fortified cereals, soy beans, figs, dried fruits (i.e. raisins).

Heme –iron is well absorbed (15-35%). However, only 5-10% of non-heme iron is absorbed, since there are some factors that inhibit its uptake by the organism.

There are substances in certain foods and beverages that inhibit the absorption of iron, and thus they should not be consumed along with iron rich foods. These foods and beverages are:

- **Coffee, caffeinated beverages** (cola drinks) and **tea**: Caffeine, tannins and phenolic compounds interfere with iron absorption. Thus, care needs to be taken when consuming coffee other caffeinated beverages and tea together with meals or together with administration of iron supplements.
- **Cocoa**: It contains polyphenols and oxalic acid, substances that capture iron.
- **Phytic acid**: (a naturally occurring component of plant fiber) in wheat bran (ex. Whole wheat bread) and beans. The presence of Vitamin C in sufficient doses may in part counteract this mechanism of inhibition.
- **Milk and Dairy Products**: Foods with high Calcium content can decrease iron absorption. (ex. Do not consume red meat and cheese in combination)
- **Spinach**: Contains oxalic acid which decreases iron absorption.

Absorption of non-heme iron is significantly increased by the simultaneous consumption of 60 grams protein (ex. chicken, fish, meat) and vitamin C (ex. orange, peppers, tomatoes, boroccoli, cbbage, potatoes, strawberries)

Sources rich in iron:

- Oysters
- Liver
- Red Meat (mainly beef)
- Poultry (mainly dark meat)

- Tuna
- Salmon

Sources rich in non-heme iron include:

- Raw cereal (ex. Wheat, oats, millet, wild rice)
- Iron fortified cereal
- Legumes
- Nuts (almonds, Brazilian peanuts)
- Dried fruits (plums, raisins, apricots)
- Green leafy vegetables (broccoli, spinach, asparagus)

Source: Krause's Food & Nutrition Therapy, Ed. L. Kathleen Mahan, Sylvia Escott-Stump, 12th Edition 2008