

## Iron-deficiency Anemia

*Anemia is not a disease; it is a symptom of fewer red blood cells in your blood or not enough hemoglobin in each red blood cell. Hemoglobin carries oxygen to all cells throughout the body and collects carbon dioxide to transport to the lungs. Any condition that reduces the number of red blood cells in the body (i.e. thalassemia) or decreases the hemoglobin concentration in the body (i.e. iron deficiency) also lowers the amount of oxygen getting to the body.*

### How might anemia affect me?

- Tiredness
- Paleness
- Dizziness
- Heart palpitations
- Shortness of breath
- Nausea
- Loss of appetite
- Hair loss
- Constipation
- Slow healing
- General weakness
- Susceptibility to infection
- Desire to eat non-foods
- Ice, clay, paint, dirt, etc.

Being anemic does not cause a pregnant person to bleed after the birth (postpartum hemorrhage), but it can make the impact of the blood loss worse. Anemic parents take longer to recover after the baby, and experience more difficulties coping due to excessive tiredness and weakness. The goal is to have optimal hemoglobin levels in pregnancy so your transition after the baby is as easy as possible.

### How can anemia affect my baby?

During the last six weeks of pregnancy, the baby stores iron in its liver to support its iron needs for the first six months of life. The pregnant person's body prioritizes the baby's need for nutrients over their own. Thus, it is rare that the baby will develop iron-deficiency anemia unless their parent is severely iron deficient.

### What causes anemia?

For the majority of people, anemia is due to a nutritional deficiency of iron. Anemia may also be caused by genetic factors or the result of an illness or blood loss, such as at birth.

Iron depletion is common among women, and it is estimated that one-third to one-half of women begin their pregnancies with low iron, many of whom are already anemic.

Growing a healthy baby increases a person's iron requirements. Also, in mid-pregnancy the amount of blood in the body increases rapidly, peaking at 28-32 weeks gestation. Because it takes time for the blood hemoglobin to catch up to the extra blood plasma, the concentration of hemoglobin can drop temporarily. This is normal and is called hemodilution.

## **How is anemia diagnosed?**

Iron-deficiency anemia is the most common problem of pregnancy. It is recommended that all pregnant people have their hemoglobin concentration tested early in pregnancy and again at 28-32 weeks, or when symptoms arise. A blood test will check the hemoglobin concentration in the blood, as well as the amount of iron stored in the liver as ferritin (think of this as “backup iron”). If diagnosed with nutritional anemia, it is recommended to have follow-up testing after 3-4 weeks of treatment.

## **What are my options for treatment?**

### *Prevention*

If you are not anemic, a nutritious diet high in iron-rich foods will maintain your good health. Regular exercise can also help prevent or treat anemia because it increases the body’s ability to carry oxygen.

If you are taking multi-vitamins, they are considered a supplement, not a replacement to a healthy diet. Although most prenatal vitamins contain iron, this iron can cause side effects including nausea, diarrhea or constipation. As well, the iron in many multi-vitamins is usually not absorbed because of its interaction with calcium and zinc.

Iron overload can be toxic, causing liver damage. People who do not have low iron or have thalassemia should not take iron supplements.

### *Mild anemia*

Treatment depends on how severe your anemia is, what approaches you have tried and what your body tolerates. For mild anemia, therapies with herbs and nutrition may work.

- i.e. Floradix (take double the recommended dose)

### *Moderate or symptomatic anemia*

For more moderate anemia it is recommended that people take iron supplements.

- i.e. Hemoplex

## **Iron-rich foods**

Heme iron is found only in animal sources and is absorbed more easily than non-heme iron, which is found in vegetable sources. Regardless, both types of iron are valuable and may be absorbed effectively to boost hemoglobin levels.

## **Increasing iron absorption**

- Do not take calcium or zinc supplements at the same time since they can block absorption. Consume calcium sources at different times than iron sources.
- Eating foods high in Vitamin C with your iron will increase absorption.
- Cook in cast-iron.
- Minimize caffeinated tea and coffee, or drink between meals only (the polyphenols decrease iron absorption).
- Combine heme and non-heme sources of iron in the same meal

Heme IRON sources	Serving	Iron (mg)
Mussels*	75 g (2 ½ oz)	5.0
Beef	75 g (2 ½ oz)	2.4
Shrimp*	75 g (2 ½ oz)	2.3
Sardines*	75 g (2 ½ oz)	2.0
Turkey/Lamb	75 g (2 ½ oz)	1.5
Tuna/herring/mackerel*	75 g (2 ½ oz)	1.0
Chicken	75 g (2 ½ oz)	0.9
Pork	75 g (2 ½ oz)	0.8
Salmon (canned*/wild)	75 g (2 ½ oz)	0.6
Flatfish (flounder/sole/plaice)*	75 g (2 ½ oz)	0.3

\*Due to mercury content, limit certain fish/shellfish to no more than 12 ounces total per week.

Pregnant women should not eat liver, as the high vitamin A content can be harmful to the baby.

Non-heme IRON sources	Serving	Iron (mg)
Pumpkin seeds, kernels, roasted	60 mL (1/4 cup)	8.6
Tofu, medium firm or firm	150 g (3/4 cup)	2.4 - 8.0*
Infant cereal, dry	28 g (10 Tbsp)	6 - 7*
Soybeans, dried, boiled	175 mL (3/4 cup)	6.5
Instant enriched oatmeal	1 package	4.2 - 6.0*
Lentils, cooked	175 mL (3/4 cup)	4.9
Enriched cold cereal	30 g	4.0*
Dark red kidney beans, boiled	175 mL (3/4 cup)	3.9
Blackstrap molasses	15 mL (1 Tbsp)	3.6
Refried beans	175 mL (3/4 cup)	3.1
Cream of wheat, instant, prepared	175 mL (3/4 cup)	3.1
Soy beverage	250 mL (1 cup)	2.9
Wheat germ, ready to eat, toasted, plain	30 g (2 Tbsp)	2.7
Chickpeas, canned	175 mL (3/4 cup)	2.4
Soybeans, green, boiled	125 mL (1/2 cup)	2.4
Tahini, sesame seed butter	30 g (2 Tbsp)	2.3
Lima beans, boiled	125 mL (1/2 cup)	2.2
Swiss chard, boiled	125 mL (1/2 cup)	2.1
Asparagus, canned	6 spears	2.0
Potato, baked, with skin	1 medium	1.9
Bagel	1/2	1.8
Cherries, sour	125 mL (1/2 cup)	1.8
Shredded Wheat	30 g	1.8*
Quinoa, cooked	125 mL (1/2 cup)	1.7
Seaweed, agar, dried	8 g (1/2 cup)	1.7
Beets, canned	125 mL (1/2 cup)	1.6
Prune juice, canned	125 mL (1/2 cup)	1.6
Cream of wheat, regular, prepared	175 mL (3/4 cup)	1.5
Green peas, boiled	125 mL (1/2 cup)	1.3
Sunflower seeds, kernels, roasted	60 mL (1/4 cup)	1.2
Whole wheat bread	35 g (1 slice)	1.2
Eggs	2	1.1
Oats, quick or large flakes, prepared	175 mL (3/4 cup)	1.1
Pearled barley, cooked	125 mL (1/2 cup)	1.1
Sauerkraut	125 mL (1/2 cup)	1.1
Pasta, enriched, cooked	125 mL (1/2 cup)	1.0
Molasses, fancy	15 mL (1 Tbsp)	1.0
Raisins	60 mL (1/4 cup)	0.7
Broccoli, cooked	125 mL (1/2 cup)	0.6
Peanut butter	30 mL (2 Tbsp)	0.6

\* Iron amounts in enriched foods vary; check the label for accurate information. If the iron amount is given as a percentage of the daily value (DV), the standard used is 14 mg (or 7 mg for infant cereals). For example, if a serving of cereal has 25% of the daily value, it has 3.5 mg of iron (0.25 x 14 mg).