



# Patient Information

## Overcoming Anemia

All of the body's muscles and organs need oxygen to function normally. With the help of an iron-rich protein called *hemoglobin* (**hee**-muh-glow-bin), the red blood cells carry oxygen from the lungs to tissues throughout the body. If you don't have enough red blood cells, or if your red blood cells don't contain enough hemoglobin, you have a condition called *anemia* (**ah-nee**-mee-ah), which means your body is unable to deliver oxygen when and where it's needed.

Anemia can make your heart work harder to meet your body's oxygen needs. It also can make you very tired and unable to think clearly. If anemia isn't treated, symptoms get worse.

### How do I know if I'm at risk?

There are many possible causes of anemia, including blood loss, disease, poor diet, vitamin or iron deficiency, and certain medical treatments. Very young children are at risk for iron deficiency because they are growing quickly, have a great need for iron, and tend to prefer foods that are low in iron. Women in their childbearing years may become anemic due to pregnancy or breastfeeding, which increase the body's need for iron and vitamin B<sub>12</sub>, or because of heavy menstrual flow. A surgical procedure or a bleeding ulcer can cause anemia, and in older adults, the condition is often associated with cancer treatment, kidney failure, or chronic infection.

Sometimes certain medications (particularly certain antibiotics and drugs for Parkinson disease, high blood pressure, and muscular aches and pains) interact in

an unusual way with the immune system, causing it to attack red blood cells. This can produce a type of anemia known as drug-induced immune *hemolytic* (**hee**-muh-**lit**-ick) anemia.

### What are the warning signs?

In its early stages, anemia often produces no signs or symptoms, but your doctor may suspect the condition if you are very pale, frequently feel tired or weak, become short of breath during exercise, experience episodes of fast heartbeat, or have cold hands and feet. Anemia commonly decreases the appetite, and in some cases, it produces unusual cravings for nonfood items (such as clay or cardboard) or for raw starchy foods (such as raw potatoes). Some types of anemia cause the mouth and tongue to become red and swollen. If left untreated for long periods, anemia can cause nerve damage and severe mental confusion.

### What tests do I need?

To test for anemia, your doctor will ask about your medical history, perform a physical exam, and order blood tests. These tests indicate how many red cells, white cells, and platelets your blood contains; the size and shape of your blood cells; and other characteristics of the cells. Based on these test results, your doctor can determine how much hemoglobin your red blood cells contain, as well as the percentage of red blood cells in your bloodstream—called your *hematocrit* (**hee**-**mat**-uh-krit) level. If hemoglobin or hematocrit levels are low, you have anemia.

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Depending on the results, you may need other tests as well, such as a bone marrow biopsy. In this procedure, a needle is inserted directly into the pelvic bone to withdraw marrow that is then examined by microscope. The procedure may be uncomfortable, but it doesn't take long and it can help your doctor determine the cause of your anemia.

### How can I avoid the problem?

Unfortunately, it's impossible to prevent many types of anemia. But eating a healthy, varied diet that includes iron, folate, and vitamin B<sub>12</sub>—all of which the body needs to make hemoglobin—can help you avoid some of the more common types. Eat plenty of beans, lentils, dark green leafy vegetables, dried fruit, nuts, seeds, and lean meats. Foods containing vitamin C, such as citrus fruits, are also important because they help your body absorb iron from the foods you eat. Avoid drinking coffee or tea with meals because these drinks make it more difficult for your body to absorb iron.

### How is it treated?

Anemia treatment varies, depending on the cause.

If your anemia is caused by abnormal blood loss, it will be necessary to locate the source of the bleeding and stop it. This may require surgery.

Anemia that results from a chronic disease may resolve when the underlying disease is cured. If symptoms are severe, however, it may be necessary for you to receive a blood transfusion or to take an injected medicine called *erythropoietin* (eh-rith-roe-poy-uh-tin). Erythropoietin is a hormone normally produced by the kidneys that stimulates red blood cell pro-

duction. It's most commonly prescribed for anemic patients with kidney disease (who can't produce enough erythropoietin on their own) and for those undergoing chemotherapy (which kills healthy blood cells as well as cancerous cells).

For anemia caused by dietary deficiency, your doctor may prescribe iron pills or multivitamins containing iron. Such supplements are appropriate only for people who need more iron or more vitamins than a balanced diet can provide, however, and they should be taken only under a doctor's supervision. It can be dangerous to overload your body with iron or vitamins.

Anemia caused by bone marrow disease usually requires treatment by a blood specialist, called a *hematologist* (hee-muh-tahl-uh-juhst). Some cases respond to a simple medication; others require chemotherapy or bone marrow transplantation.

When a medication has brought on an overactive response from the immune system, causing it to attack red blood cells, the suspected medication will be stopped. The doctor also may prescribe a steroid treatment for a short period to curb the actions of the immune system.

For more information about anemia, call the U.S. Department of Health and Human Services Office on Women's Health at (800) 994-9662 or visit the anemia page of The National Women's Health Information Center's web site ([www.4woman.gov/faq/anemia.htm](http://www.4woman.gov/faq/anemia.htm)). ●

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Parsippany, NJ 07054-4609

