Anemia & Vitamin Deficiency

Anemia is a level of hemoglobin or hematocrit which is lower than normal. Hemoglobin is the substance in red blood cells that carries oxygen to all parts of your body. Hematocrit is a reading which is the percentage of your blood which is made up of red blood cells. Anemia can be temporary or it can be a caused by long term disease or illness. People with mild anemia may not have symptoms or may have only mild symptoms. People with severe anemia can:

- Feel tired.
- Get short of breath with activity.
- Have problems with daily activities.

Vitamin deficiencies are most common in older adults. Vitamin deficiencies are particularly common in those who have lost interest in eating and live on "tea and toast" or other restricted diets. One study showed that 13% of adults ages 65 to 100 have vitamin B12 deficiency. Another study found that 5% of healthy older adults have low folate. Vegetarians may also be prone to vitamin B12 deficiency due to the lack of meat in their diet.

Folate, vitamin B6, vitamin B12, and vitamin C are the vitamins needed for a body to produce healthy red blood cells. Not having enough of one or more of these vitamins may cause vitamin deficiency anemia.

CAUSES

Low vitamin B6 is usually due to not eating enough foods that contain B6. Good sources of vitamin B6 are:

- Meat.
- Liver.
- Cereal grains.
- Bananas.
- Nuts.

Certain medications can also cause vitamin B6 deficiency. Folate deficiency is often caused by an unbalanced diet that does not include enough:

- Fresh fruits.
- Green, leafy vegetables.

Other common causes of vitamin deficiency anemia are pregnancy, breastfeeding, alcohol abuse, and growth spurts.

Vitamin B12 deficiency develops when your body is not able to absorb this vitamin. This can be caused by medication, stomach or bowel surgery, and certain diseases. Sometimes vitamin B12 deficiency occurs in strict vegetarians and people who do not eat much meat, milk, or eggs. In older people, the most common cause of vitamin B12 deficiency is not having enough gastric juice to get the B12 out of the food you eat. This is known as achlorhydria. Vitamin deficiency also develops when a person's diet does not include enough citrus fruits and other sources of essential vitamins.

SYMPTOMS

Most people do not realize they are anemic until a blood test shows a low hemoglobin or hematocrit. Symptoms and signs usually develop when anemia is moderate to severe, and can include:

- Fatigue.
- Chest pain.
- Trouble breathing.
- Numbness or coldness in your hands and feet.
- Weakness.
- Dizziness.
- A fast heartbeat.
- Pale skin.
- Irritability.
- Headaches.

Long-lasting deficiency of vitamin B6, folate, or vitamin B12 can result in anemia. With folate and vitamin B12

deficiency, anemia often causes symptoms such as:

- Fatigue.
- Poor appetite.
- Weight loss.
- Diarrhea.

The earliest symptoms of vitamin B12 deficiency may be:

- Weakness.
- Poor coordination.
- Numbness.
- A "pins and needles" feeling in the arms and legs.
- Mild irritability and forgetfulness are other early signs.

A severe untreated deficiency can result in serious damage to the nerves, spinal cord, and brain. Vitamin C helps your body absorb iron, and low levels can result in anemia.

DIAGNOSIS

Your doctor will provide the treatment that is best for you based on what is causing the anemia.

TREATMENT

Several medications are approved to help correct anemia. In certain cases mild anemia due to vitamin deficiencies may be corrected with a change in diet. Folate deficiency in pregnant women can cause serious birth defects. Many processed foods are fortified with folic acid, the manufactured form of naturally occurring folate. Close communication with your doctor will ensure you will receive the best anemia treatment available.

Normal Lab Values:

Normal hemoglobin is greater than 12 g/dL for women, with a hematocrit which is greater than 36%.
Normal hemoglobin is greater than 14 g/dL for men, with a normal hematocrit which is greater than 42%.

GLOSSARY (DEFINITION OF TERMS)

- **Hemoglobin:** Substance carried by red blood cells; delivers oxygen throughout your body
- **Hematocrit:** Percentage of red blood cells in a blood sample
- **Folate:** Type of vitamin B.
- **Achlorhydria:** Low level of gastric juices needed to extract vitamin B from food.

This information is courtesy of the National Anemia Action Council. For more information see www.anemia.org.

Document Released: 08/29/2005 Document Re-Released: 03/16/2010
ExitCare® Patient Information ©2011 ExitCare, LLC.