



**GLUTEN
INTOLERANCE
GROUP**



Celiac Disease and Anemia

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What is Anemia?

Anemia is a condition that results from either a decrease in the size or number of red blood cells, or in the amount of hemoglobin, which is the red pigment in red blood cells.

What effects does anemia have on our bodies?

Think of red blood cells as ships that deliver oxygen to all our organs, and hemoglobin as the crates on the ship that hold the oxygen. If there is a shortage of red blood cells (ships) or hemoglobin (crates), oxygen cannot be adequately delivered to our organs. Every part of our body needs oxygen to convert the food we eat to energy and heat. This function is vital to life and is why anemia can leave you feeling tired and weak.

Common Causes of Anemia

The most common causes of anemia are a lack of either iron, folate, or vitamin B12 in the body. Each of these nutrients is involved in the creation and healthy development of red blood cells.

- **Iron Deficiency Anemia**

A shortage of iron can cause anemia because iron is an essential component of hemoglobin and is necessary for transporting oxygen throughout the body. Symptoms you may experience: Fatigue, weakness, irritability, pale skin, headaches, brittle nails, decreased appetite, increased susceptibility to infections, and a decreased attention span in kids.

- **Folate Deficiency Anemia**

A shortage of folate can cause anemia because folate plays an essential role in the formation of red blood cells, and therefore in the transport of oxygen throughout the body. Symptoms you may feel: Ringing in the ears, cracked lips, sore tongue, irregular heartbeat and symptoms similar to those of iron-deficiency anemia.

- **Vitamin B12 Deficiency**

A lack of vitamin B12 can cause anemia because this vitamin is also essential for the formation and growth of red blood cells. In people with celiac disease, vitamin B12 deficiency is usually due to damage to the lower part of the small intestine, which is one of the places vitamin B12 is absorbed. Vitamin B12 deficiency can also occur when there is a lack of intrinsic factor, a protein that helps absorb vitamin B12 in our stomachs. This can lead to a condition called pernicious anemia. Vitamin B12 deficiency is common in people with celiac disease; pernicious anemia is uncommon.

Questions to ask your doctor:

What supplements do I need to take for my anemia, and are there side effects to these?

Are the supplements I need to take gluten-free?

How will I know when to stop taking supplements for anemia?

Is the anemia I have related to CD, the result of my GF diet, or both?

Are there any other concerns I should have?

How often should I follow up with the doctor?

How are Celiac Disease and Anemia Connected?

- Celiac disease can cause damage to the small intestine where iron, folate, and vitamin B12 are absorbed.
- The most common sign of celiac disease in adults is iron-deficiency anemia that is unresponsive to iron therapy.
- Iron and folate anemias are seen more often in people with celiac disease because these nutrients are absorbed in the upper two parts of the intestine where damage can occur in earlier stages of celiac disease. When celiac disease progresses, the lower part of the small intestine can be damaged and cause vitamin B12 deficiency.
- If you have had ongoing anemia and underlying medical conditions are ruled out, it is recommended that you ask a physician about testing for celiac disease. It is also recommended to test for celiac disease if you have been taking iron supplements and experience no improvement in blood iron levels.

The Good News

Once a person diagnosed with celiac disease has begun a gluten-free diet, the small intestine will begin to heal and allow nutrients to be absorbed. It is important to give the gluten-free diet time to have its effect: it may take between 2-18 months until nutritional deficiencies are corrected. Discuss with your physician or dietitian the proper supplementation and diet for your anemia.

Foods High in Iron

Liver, seafood, lean meat, poultry, legumes, dark green vegetables.

Foods High in Folate

Green leafy vegetables, organ meats, lean beef, orange juice, eggs, fish, dry beans, lentils, asparagus, broccoli.

Foods High in Vitamin B12

All animal products: meat, eggs, milk, dairy products. Vegans require supplementation.

Other Things to Know about Treating Anemia

- Foods contain two different forms of iron: heme and non-heme iron. Heme iron is found in animal products and is absorbed at a higher rate than non-heme iron, the iron found in grains, vegetables, and fruit. Eat more meats for better iron absorption.
- Vitamin C also increases iron absorption. Try eating citrus fruits or bell pepper when you consume your iron.
- What do I do if iron supplements upset my stomach?
Consume iron supplements with vitamin C-rich foods. Also take supplements with meals. Consult your physician about the anticipated amount of time you will need to be taking your supplement. Iron taken with meals often requires longer treatment.
- Folic acid and Vitamin B12 can be taken as supplements. Consult your physician.

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Other helpful information is available at www.GLUTEN.org.

Advances in celiac disease are fast-paced. If this document is more than 2 years old, please visit our website for updated documents.

This information should not be used to diagnose or treat gluten-related disorders or other medical conditions. For questions about these conditions consult your healthcare team when considering this information.

Please consider your local GIG support group as another resource.

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The Mission of the Gluten Intolerance Group is to empower the gluten-free community through consumer support, advocacy, and education.

To make a donation or become a volunteer to GIG, visit our website or call the office at 253-833-6655.