

## Patient education: Pernicious anemia (The Basics)

Written by the doctors and editors at UpToDate

### What is pernicious anemia?

Pernicious anemia is a condition that happens when a person cannot absorb vitamin B12 from food. Vitamin B12 is in foods that come from animals, including eggs, meat, poultry, and fish. Vegetarians and people who have had weight loss surgery need to take extra vitamin B12, but they do not have pernicious anemia.

In pernicious anemia, your stomach does not make an important protein that your body needs to absorb vitamin B12. The protein is called "intrinsic factor." This happens when your infection-fighting system (immune system) attacks the intrinsic factor protein or the cells in the stomach that make it. As a result, even if you eat foods containing vitamin B12, your body does not absorb the vitamin.

Vitamin B12 is an important vitamin for making blood cells. People with pernicious anemia might have too few red blood cells (called "anemia"), too few white blood cells (which fight infection), or too few platelets (which help the blood to clot).

Vitamin B12 is also important for your brain and nerves. People with pernicious anemia can have depression, problems thinking, numbness and tingling in the hands and feet, trouble with balance, or weakness.

### What are the symptoms of pernicious anemia?

People with mild pernicious anemia might not have any symptoms. But people can get symptoms if the vitamin B12 level is low enough.

Symptoms can be due to anemia, such as:

- Pale skin or a pale color in the tissue that lines the inside of the eyelids – You can see this tissue (called "conjunctiva") by gently pulling down your lower eyelid. The tissue will appear pale instead of its normal, pinkish-red color.
- Feeling very tired
- A fast heartbeat
- Trouble breathing
- Headache and muscle pains

Symptoms related to a low white blood count might include getting infections more often than usual.

Symptoms related to a low platelet count might include bruising or bleeding.

People with pernicious anemia might also have changes in how their brain and nerves work. That's because vitamin B12 is important in helping the brain and nerves work normally. These changes might include:

- Problems with memory and confusion, which can become severe
- Mood problems, such as being cranky or grouchy
- Tingling or burning feelings on the skin
- Numbness
- Weakness in the arms or legs
- Trouble with balance

### Is there a test for pernicious anemia?

Yes. Doctors use different blood tests to check for vitamin B12 levels and the immune problem that causes pernicious anemia.

### How is pernicious anemia treated?

Pernicious anemia is treated with vitamin B12 supplements. These can be given as an injection (shot) of vitamin B12 every day for 1 week. After that, a typical way to get the shot is once per week for 4 weeks, followed by monthly shots of vitamin B12 for the rest of your life. They can also be given as a pill that contains a high dose of vitamin B12.

These treatments must also be taken for life.

No matter what form of treatment you use, it is very important to keep taking vitamin B12. If you stop, your vitamin B12 level can become low again, and you can develop serious symptoms.

All topics are updated as new evidence becomes available and our [peer review process](#) is complete.

**This topic retrieved from UpToDate on:** May 13, 2020.

The content on the UpToDate website is not intended nor recommended as a substitute for medical advice, diagnosis, or treatment. Always seek the advice of your own physician or other qualified health care professional regarding any medical questions or conditions. The use of UpToDate content is governed by the [UpToDate Terms of Use](#). ©2020 UpToDate, Inc. All rights reserved.