

## **MANAGING YOUR PERNICIOUS ANEMIA**

### **What Is Pernicious Anemia?**

Pernicious anemia is a lack of sufficient red blood cells and hemoglobin because the body doesn't have enough cobalamin (vitamin B<sub>12</sub>). This vitamin is essential for normal growth and development of red blood cells, other blood cells, and cells in the nervous system. Absorption of vitamin B<sub>12</sub> occurs in the part of the small intestine called the ileum. Absorption needs a specific protein (intrinsic factor) made in the stomach.

Pernicious anemia is uncommon. Both sexes are affected equally, most often after age 30. It's more common among people of northern European descent.

### **What Causes Pernicious Anemia?**

Most often, absence of intrinsic factor is the cause, not poor intake of the vitamin. The immune system attacks cells lining the stomach and prevents them from making intrinsic factor. Other ways that people may not have intrinsic factor include absence of part of the stomach after surgery for ulcers or cancer, and certain stomach diseases that interfere with how vitamin B<sub>12</sub> is made. Diseases of the small intestine (where vitamin B<sub>12</sub> is absorbed), such as tapeworm infestation, Crohn disease, or tropical sprue, can also cause lack of vitamin B<sub>12</sub>.

### **What Are the Symptoms of Pernicious Anemia?**

Symptoms of anemia include fatigue and neurological problems. In severe cases, memory impairment, sensory impairment, shortness of breath, and rapid heartbeat occur. Lack of vitamin B<sub>12</sub> can also cause problems with feeling and numbness in feet and hands. Severe deficiency can result in severe neurological problems, such as confusion and being disoriented.

### **How Is Pernicious Anemia Diagnosed?**

The health care provider makes a diagnosis with blood tests. Special tests (such as the Schilling test) may be done in rare cases to check for abnormal absorption of the vitamin and the presence of specific antibodies.

### **How Is Pernicious Anemia Treated?**

Therapy is injection of vitamin B<sub>12</sub> under the skin or into a muscle. Treatment of severe deficiency first involves daily injections followed by weekly and then monthly injections. It takes 4 to 8 weeks to see increased hemoglobin concentration. Treatment is lifelong.

People with low vitamin B<sub>12</sub> levels due to poor intake due to special diets can take oral vitamin B<sub>12</sub> supplements. These oral supplements are inexpensive and well tolerated.

A gel solution of vitamin B<sub>12</sub> can also be given by the nose via a metered dose nasal inhaler, once weekly instead of monthly injections. This method is much more expensive and should be used only after first giving vitamin B<sub>12</sub> injections until levels are normal.

Vitamin B<sub>12</sub> replacement leads to full correction of anemia. People who cannot absorb the vitamin need long-term treatment with injection.

### **DOs and DON'Ts in Managing Pernicious Anemia**

- ✓ **DO** continue monthly injections, even if anemia is corrected.
- ✓ **DO** talk with your health care provider if you're pregnant.
- ✓ **DO** eat a well-balanced diet, rich in folic acid (another vitamin important for the blood cells) and other essential nutrients.
- ✓ **DO** supplement your diet with oral vitamins if you eat a special diet, such as a vegetarian (especially vegan) diet.

✓ **DO** call your health care provider if you have signs of severe anemia, such as chest pain, palpitations, or shortness of breath.

⊗ **DON'T** stop treatment. This lets anemia and all symptoms return.

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FOR MORE INFORMATION

Contact the following source:

- National Heart, Lung, and Blood Institute: Tel: (301) 592-8573; Website:  
<http://www.nhlbi.nih.gov>

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