

# Health Information Sheet

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## Anemia, Pernicious (B-12 Deficiency Anemia)

### BASIC INFORMATION

#### ***Description***

Anemia caused by inadequate absorption of vitamin B-12 (cobalamin). Vitamin B-12 is found only in food of animal origin, such as meat, fish and dairy products. This anemia more often affects adults between ages 50 and 60. The symptoms of pernicious anemia develop slowly and subtly and may not be recognized right away.

#### ***Frequent signs and symptoms***

- Weakness, especially in the arms and legs.
- Sore tongue.
- Nausea, appetite loss and weight loss.
- Bleeding gums.
- Numbness and tingling in the hands and feet.
- Difficulty maintaining proper balance.
- Pale lips, tongue and gums.
- Yellow eyes and skin.
- Shortness of breath.
- Depression.
- Confusion and dementia.
- Headache.
- Poor memory.
- Ringing in the ears (tinnitus).

#### ***Causes***

- Absence of intrinsic factor, a chemical secreted by the stomach's membrane lining that makes absorption of vitamin B-12 possible. The reason for the absence of intrinsic factor is unknown, but it may be a genetic deficiency or autoimmune disorder.
- Decreased production of hydrochloric acid, especially following stomach surgery or in combination with the absence of intrinsic factor. Hydrochloric acid is also necessary for absorption of vitamin B-12.

#### ***Risk increase with***

- Improper diet, especially a vegetarian diet lacking vitamin B-12 and without supplements.

- Thyroid disease.
- Previous stomach surgery, stomach cancer or gastritis.
- Bulimia or anorexia nervosa.
- Diabetes mellitus.
- Myxedema (a thyroid disorder).
- Family history of pernicious anemia.
- Age.
- Genetic factors. The disorder is most common in people of Northern European ancestry. It is rare in Blacks and Asians.

## ***Preventive measures***

If you have had stomach surgery or gastritis, have regular vitamin B-12 injections. See Medications.

## ***Expected outcomes***

This condition is currently considered incurable. However, regular vitamin B-12 replacement will control symptoms indefinitely and reverse complications. Some symptoms should start to disappear within a few days after treatment begins, while others may take several months.

## ***Possible complications***

- Congestive heart failure.
- Double vision.
- Greater susceptibility to infections.
- Impotence in males.

## **TREATMENT**

### ***General measures***

- Diagnostic tests include blood tests, Schilling's test (check vitamin B-12 absorption), and occasionally, bone marrow biopsy, are used to confirm the disease.
- Follow recommended treatment guidelines that involve vitamin B-12 replacement.
- Additional information available from the National Heart, Lung & Blood Institute, Communications & Public Information Branch, National Institutes of Health, Building 31, Room 41-21, 9000 Rockville Pike, Bethesda, MD 20892.

### ***Medications***

- Vitamin B-12 injections are usually prescribed. The amount depends on the extents of your illness. The usual dosage is 1 injection a day for 7 days, then 1 injection a week for 1 month, then once a month for the rest of your life.
- Learn to give yourself vitamin B-12 injections, because oral supplements are inadequate. Lifetime treatment

is essential. Even with treatment, your ability to absorb vitamin B-12 will not be normal.

## **Activity**

Physical activity may need to be restricted until symptoms of weakness and balance problems disappear.

## **Diet**

- No special diet. Raw meat and raw liver are no longer prescribed.
- Iron supplements may be necessary.

## NOTIFY OUR OFFICE IF

- You or a family member has symptoms of pernicious anemia.
- Symptoms don't start to improve in 2 weeks after treatment is started.