

Signs And Symptoms of Vitamin12 Deficiency

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Vitamin B12 plays a major role in **producing DNA and red blood cells, metabolizing protein, and protecting the nervous system**. If you don't get enough vitamin B12—or if your body doesn't absorb it properly—you may develop a vitamin B12 deficiency. Common symptoms include **weakness, fatigue, difficulty concentrating, and shortness of breath**. Over time, you may also develop changes in mood, memory, and/or personality.

Adults should have around **2.4 micrograms (mcg) of vitamin B12 per day** (or more if they're pregnant or breastfeeding).

Because vitamin B12 plays such a vital role in the production of healthy red blood cells, B12 deficiency often **leads to anemia** (a low red blood cell count). This type of anemia is known as **megaloblastic anemia**. However, you can start experiencing symptoms of vitamin B12 deficiency **before you get to the point of developing anemia**.

Physical Symptoms

B12 deficiency symptoms often start off mild and gradually worsen over time. Physical symptoms of a vitamin B12 deficiency may include:

- Bowel changes such as diarrhea or constipation
- Loss of appetite
- Unwanted weight loss
- Lightheadedness, especially upon standing
- Pale skin
- Difficulty breathing, especially after exercising
- Swollen tongue, bleeding gums, and mouth ulcers
- Nausea and vomiting
- Heart palpitations

Neurological Symptoms

If left untreated, a prolonged vitamin B12 deficiency can lead to nerve damage and problems with the central nervous system.³ This is partly because vitamin B12 usually breaks down an amino acid called homocysteine. High levels of homocysteine put you at risk for a number of medical problems, including dementia.

Neurological symptoms associated with vitamin B12 deficiency may include:

- Dementia
- Auditory and/or visual hallucinations
- Psychosis (mental state characterized as a "break from reality")
- Problems with balance
- Tingling or numbness in the hands or feet (peripheral neuropathy)
- Confusion, difficulty concentrating, and problems with thinking and/or memory
- Personality changes
- Loss of sense of taste or smell
- Vision loss

Psychological Symptoms

Vitamin B12 deficiency can also affect your mood, emotions, and mental state. Psychological symptoms include:

- Apathy
- Agitation
- Depression

- Irritability
- Anger
- Anxiety
- Insomnia
- Disorganized thoughts

In addition to increasing your risk of developing depression, vitamin B12 deficiency can exacerbate existing symptoms among people with major depressive disorder (MDD).

Symptoms in Children

Like adults, children who aren't absorbing enough vitamin B12 may have either mild symptoms that resolve quickly or severe, ongoing complications. However, vitamin B12 deficiency sometimes presents differently in infants and children.

Signs of a B12 deficiency during infancy or childhood may include:

- Syncope (fainting)
- Headache
- Seizures
- Dizziness
- Developmental delays
- Hypotonia (low muscle tone)
- Tremors
- Memory problems
- Paresthesia (a "pins and needles" feeling)
- Fatigue
- Myoclonus (involuntary muscle twitching)

When to Contact a Healthcare Provider

If you notice any symptoms of vitamin B12 deficiency, contact a healthcare provider. They can recommend dietary changes, supplements, and/or vitamin B12 injections to resolve your symptoms.

It's particularly important to reach out to a healthcare provider if you have any risk factors for B12 deficiency. People who follow vegetarian and/or vegan diets are more likely to develop a B12 deficiency because the vitamin is found naturally in many animal-based foods like meat, fish, eggs, and milk.

Other risk factors for vitamin B12 deficiency include:

- Crohn's disease
- Celiac disease
- Pernicious anemia
- Alcohol use disorder (AUD)
- Certain medications
- Weight loss surgery

Finally, seek emergency medical help if you notice any sudden changes in your:

- Vision
- Gait
- Balance
- Ability to control your muscles
- Personality or mood
- Ability to speak clearly and understand others
- Memory
- Sensation
- Alertness