

Vitamin B12 Deficiency

Patient Information Leaflet

Why do we need vitamin B12 and what does it do?

Vitamin B12 is a nutrient that helps keep the body's nerve and blood cells healthy and helps prevent a type of anaemia that makes people feel tired and weak.

What is vitamin B12 deficiency?

Vitamin B12 deficiency is when the level of vitamin B12 in the blood is too low

What are the symptoms of vitamin B12 deficiency?

Symptoms related to anaemia include:

Extreme tiredness (fatigue), lack of energy (lethargy), breathlessness, feeling faint, headaches, pale skin, noticeable heartbeats (palpitations), hearing sounds coming from inside the body rather than an outside source (tinnitus), loss of appetite, and weight loss.

It is possible to have vitamin B12 deficiency without having anaemia.

Symptoms of vitamin B12 deficiency without anaemia include:

Pins and needles, disturbed vision, a sore and red tongue, mouth ulcers, muscle weakness, psychological problems such as depression and confusion, and problems with memory, understanding and judgement.

Causes of vitamin B12 deficiency

- Some people eat a diet which does not include enough vitamin B12, especially if they do not eat meat.
- Other people are unable to absorb vitamin B12 from their food. These people may have a condition called pernicious anaemia, which is the most common cause of vitamin B12 deficiency in the UK.
- People who have had gastrointestinal surgery or have digestive disorders such as coeliac disease or Crohn's disease may not be able to absorb enough vitamin B12 from their food.
- Some medications can reduce absorption of vitamin B12 from the stomach, e.g. metformin (used to treat diabetes) and omeprazole or lansoprazole (used to treat stomach problems).

How is vitamin B12 deficiency diagnosed?

A blood test is used to measure the level of vitamin B12. Further tests (including additional blood tests) are then used to determine the cause of the vitamin B12 deficiency.

Sources of vitamin B12

Vitamin B12 is found naturally in a wide variety of animal foods and is added to some fortified foods. Plant foods have no vitamin B12 unless they are fortified.

Sources of vitamin B12 include:

- Eggs, meat, poultry, milk and other dairy products.
- Fish, including salmon and cod.
- Fortified foods including some breakfast cereals and bread, some soy products, and nutritional yeasts.

Vegan sources of vitamin B12

- Breakfast cereals fortified with B12
- Unsweetened soya drinks fortified with vitamin B12
- Yeast extract, such as Marmite

The vegan society website www.vegansociety.com offers good advice on getting enough vitamin B12 in your diet. It also offers inexpensive supplements that are suitable for vegans and vegetarians.

Treatment of vitamin B12 deficiency

- To check if your deficiency is diet-related, you may be asked to purchase vitamin B12 tablets (cyanocobalamin) to take for a few weeks, before having a repeat blood test to check your vitamin B12 level. If your vitamin B12 level is very low you may require a course of vitamin B12 injections (hydroxocobalamin) before starting the tablets.
- If your vitamin B12 level has improved, then changing your diet can help to increase your vitamin B12 level and prevent you becoming deficient in the future. You may be asked to continue taking cyanocobalamin tablets. You can purchase these from pharmacies, health food stores and some supermarkets.
- If it is found that you cannot absorb vitamin B12 from your food, you will be given a course of vitamin B12 injections (hydroxocobalamin). These build up the body's store of vitamin B12 quickly. Once a store of vitamin B12 has built up in the liver, this can supply the body's needs for several months. You will usually need lifelong treatment, which involves an injection of vitamin B12 every 3 months and a blood test approximately once a year. You should not experience any side-effects from the treatment.

You should always seek medical advice before taking dietary supplements and please remember that they are not a substitute for a balanced diet.