

Haematology

Dietary advice for vitamin B12 & folate deficiency



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Vitamin B12

Vitamin B12 is a nutrient which is necessary for making red blood cells and DNA. It also keeps nerve cells healthy and helps to release energy from food. This vitamin is naturally found in animal foods. Foods can be specially fortified with vitamin B12, or it can be derived from supplements.



Patient Information

A deficiency of vitamin B12 can lead to symptoms such as:

- anaemia
- fatigue
- sore/red tongue
- muscle weakness
- nerve damage
- depression
- memory loss



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Pernicious anaemia is the most common cause of vitamin B12 deficiency in the UK. This can happen when your body's immune system prevents the absorption of vitamin B12 from food by destroying stomach cells. People with this condition require lifelong vitamin B12 injections.

Inadequate stomach acid can reduce vitamin B12 absorption. Stomach acid helps to release vitamin B12 from foods. Older people have reduced stomach acid.

Patient Information

People that take medication that suppresses stomach acid for conditions like peptic ulcer disease or gastroesophageal reflux disease (GORD) can have difficulty absorbing vitamin B12 from food. These people may choose to use fortified foods or supplements with vitamin B12.

Intestinal surgeries or digestive disorders that cause malabsorption (Crohn's disease, coeliac disease) increases the risk of deficiency.

Sources of vitamin B12

Vitamin B12 rich foods include:

- red meat - beef, lamb, pork
- fish - tuna, salmon, cod, mackerel
- shellfish - clams, crabs
- eggs
- poultry
- dairy products such as milk, cheese, yoghurt
- yeast extract (marmite)
- fortified breakfast cereals
- fortified tofu
- fortified oat, rice, soya milks



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Patient Information

Additional tips

Eat a varied and balanced diet.

Vegans should aim to eat foods fortified with Vitamin B12 at least 3 times a day. If these foods are not consumed in adequate amounts, the Vegan Society recommends a vitamin B12 supplement of 10 micrograms per day.

Folate

Folic acid, or folate, is a B class vitamin which is responsible for formation of healthy red blood cells, together with vitamin B12. It also helps in the development of a healthy baby's spinal cord and brain.

A lack of folate is one of the causes of anaemia. Folic acid deficiency can occur if you are not getting enough folate in your diet. Folate can be lost in untreated coeliac disease, Crohn's disease, or alcoholism.

Folate deficiency can also occur when the demand for folate increases, as it does in pregnancy for lactation.

Pregnant women should take folic acid supplements in the first 12 weeks of pregnancy to reduce the risk of birth defects called neural tube defects, such as spina bifida in unborn babies.

Folic acid can also be taken 2 to 3 months before conception. This allows it to build up in the body to a level that protects your future baby against neural tube defects.

Sources of folate

Good sources of folic acid include:

- brussels sprout, broccoli
- leafy green vegetables - kale, coriander, spring greens, spinach, cabbage
- cooked black-eyed/kidney beans and chickpeas
- breakfast cereals fortified with folic acid
- liver - avoid in pregnancy
- fruits - oranges, banana, grapefruit, kiwi fruit
- yeast, kidney and beef extracts

Patient Information

Additional tips

- Avoid over cooking vegetables as the folate nutrient is easily lost this way. Steam or microwave vegetables instead.
- Do not keep foods hot for long periods.

Other sources of information

The Association of UK Dieticians: www.bda.uk.com

NHS website: <https://www.nhs.uk/conditions/vitamin-b12-or-folate-deficiency-anaemia/>

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Document History	
Department:	Haematology
Contact:	24000
Updated:	June 2024
Review:	June 2027
Version:	1
Reference:	HIC/LFT/2741/24