



## FEEDING YOU THE FACTS

# VITAMIN B12

Everyone needs a regular source of vitamin B12 and for vegans this means a supplement or a good supply of B12-fortified foods.



## WHY DO WE NEED IT?

Vitamin B12 helps make red blood cells and keeps our nervous system healthy. If you lack vitamin B12 you could suffer from **vitamin B12 anaemia** - your red blood cells aren't able to carry oxygen around your body properly. Also a lack of B12 damages the myelin sheath which wraps around our nerves - so deficiency is frequently associated with neurological problems.

## HOW MUCH DO WE NEED?

The UK recommended intake is **1.5 micrograms per day**. In the US it is slightly higher at **2.4 micrograms** and The European Food Safety Authority says an 'adequate intake' is **4.0 micrograms per day**. A microgram is a millionth of a gram so we need only a tiny amount - but getting that small amount is vital.

# DEFICIENCY

Deficiency can cause serious problems - especially in the young. Symptoms include: extreme tiredness, lack of energy, pins and needles, muscle weakness, depression and problems with memory, understanding and judgement. It can lead to raised levels of a substance called homocysteine, which can increase the risk of heart disease and stroke. B12 levels can easily be checked by your doctor and any deficiency can be treated with supplements or a course of injections.

# WHAT'S THE BEEF WITH B12?

B12 is naturally made by bacteria in soil and water or is grown in vats for supplements.

Traditionally, farmed animals got B12 from eating food from the ground but with so many now confined in factory farms, animals are fed B12 supplements. The notion that you need meat or dairy foods for B12 is a myth - cut out the middleman and take the supplements yourself!

## ABSORPTION, A TRICKY ISSUE

B12 absorption is a complicated process that declines with age and B12 in meat and dairy is bound to animal protein, making it even harder to absorb. Up to **40 percent** of older people (regardless of diet) in the UK suffer from low B12 and in the US, everyone over 50 is advised to take a supplement.

Absorption can be inhibited by poorly functioning kidneys, cigarette smoke, nitrous oxide used for anaesthesia, heating food in a microwave or cooker and some medications, including Metformin (for diabetes), anticonvulsants and proton pump inhibitors (PPI's).

## TOO MUCH OF A GOOD THING?

Vitamin B12 is water-soluble so if you take too much, it simply comes out in your urine. Guidelines say that up to **2,000 micrograms a day** is unlikely to cause problems, but you shouldn't take more than that.

## TWO MAIN FORMS OF B12

- **Cyanocobalamin**

Cyanocobalamin is a cheap and stable form of B12 used in most fortified foods and supplements - suitable for most people.

- **Methylcobalamin**

Methylcobalamin is an 'active' form of vitamin B12. It costs more as it is not so stable - recommended for smokers and people with kidney problems.

The best sources include yeast extract (Marmite/Vegemite), nutritional yeast flakes with B12, B12-fortified vegan milks, B12-fortified vegan yoghurt's and desserts, B12-fortified breakfast cereals and B12-fortified margarine. Fermented soya foods and seaweeds don't provide a reliable source of B12.

## TOP UP A FEW TIMES A WEEK

Top up a few times a week with a supplement to ensure you're getting enough. A well-planned, varied vegan diet, including B12 fortified foods and supplements, not only meets your requirements but provides a healthier source than meat or dairy, setting you up for a healthy old age.

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