

# Nutritional considerations for dietitians

## Vitamin B12

A more sustainable diet does not necessarily have to exclude red meat or dairy altogether – therefore meat and dairy nutrient intakes need not be compromised.

This information sheet provides some additional information on nutritional considerations which dietitians may take into account. References and information sources are available as a separate download from [www.bda.uk.com/onebluedot](http://www.bda.uk.com/onebluedot).

Vitamin B12 is needed to prevent megaloblastic anaemia.<sup>1</sup> It is only found naturally in meat, eggs and dairy products, although some plant foods are now fortified with the vitamin.<sup>2-4</sup>

### How much do we need?

DRV for Vitamin B12 mcg male and female <sup>5</sup>	
2-3 year olds	0.5
4-6 year olds	0.8
7-10 year olds	1.0
11 – 14 year olds	1.2
15 – 18 year olds	1.5
19 – 64 year olds	1.5
65 – 74 year olds	1.5
75 years and over	1.5

### Intakes

Adopting the BDA's environmentally sustainable diet will not compromise vitamin B12 status as the key food sources (meat and dairy products) are included, be it in smaller quantities.

Individuals at risk of vitamin B12 deficiency are those wishing to follow a vegan diet (<1% of the UK population) or individuals who *avoid eggs, dairy and meat over a long period* (five years or more) will need to *rely on fortified plant foods and supplements* to ensure adequate status.<sup>6,7</sup>

Lacto-ovo-vegetarians despite consuming vitamin B12 sources still display lower status. Of paramount importance is adequate vitamin B12 status during pregnancy and breast feeding when demands are greater and in the elderly where absorption is significantly reduced.



## One Blue Dot Nutritional considerations: Iodine

Assessment of vitamin B12 status amongst vegetarians and vegans demonstrates low status to be common in the absence of supplement use.<sup>6,7</sup> Additionally, care should be taken with regard to the choice of supplement and dose used to ensure optimum vitamin B12 absorption.

Multivitamin/mineral supplements may not be appropriate as vitamin B12 is degraded in the presence of vitamin C and copper.<sup>6</sup>

Absorption of vitamin B12 is limiting, therefore small frequent doses may be more beneficial than single large less frequent doses.<sup>6,7</sup> The higher the dose of vitamin B12 the lower the absorption rate.

If a vitamin B12 supplement is needed, the BDA recommends a 10mcg daily supplement or at least 2mg per week.<sup>4</sup>

Long-term vegetarians and vegans should have their vitamin B12 status checked, especially as high folate levels can mask vitamin B12 deficiency, encouraged to consume B12 fortified foods and if required, recommended supplements of around 10mcg per day to ensure adequate status.

**The One Blue Dot 'Practical guide for dietitians: other source of vitamin B12' sheet gives information on key plant sources [bda.uk.com/onebluedot](http://bda.uk.com/onebluedot)**

## References

1. EFSA. EU Register on Nutrition and Health Claims [Internet]. 2016 [cited 9/14/2018]. Available from: [http://ec.europa.eu/food/safety/labelling\\_nutrition/claims/register/public/?event=search](http://ec.europa.eu/food/safety/labelling_nutrition/claims/register/public/?event=search)
2. Forestfield Software Ltd.. Diet Plan7. McCance & Widdowson 7th summary edition of the composition of foods plus the revised composition of food integrated data set (CoFids). Patent Diet Plan7. 2018.
3. NHS. Vitamins and minerals - B vitamins and folic acid [Internet]. 2017 [cited 9/25/2018]. Available from: <https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-b/>
4. Garton L. Food facts: Plant-based diet [Internet]. 2017 [cited 9/25/2018]. Available from: [https://www.bda.uk.com/foodfacts/plant-based\\_diet](https://www.bda.uk.com/foodfacts/plant-based_diet)



5. PHE. Government recommendations for energy and nutrients for males and females aged 1 – 18 years and 19+ years [Internet]. 2016 [cited Aug 2018]. Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/618167/government\\_dietary\\_recommendations.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/618167/government_dietary_recommendations.pdf)
  
6. Rizzo G, Laganà A, Rapisarda A *et al.* Vitamin B12 among Vegetarians: Status, Assessment and Supplementation. *Nutrients*.. 2016;
  
7. Zeuschner C, Hokin B, Marsh K *et al.* Vitamin B12 and vegetarian diets. *Med J Aust.* 2013;199(4 Supp):S27-32.

