

# CHOOSING WISELY

## Vitamin B<sub>12</sub> Requesting in Southern and Nelson/Marlborough DHBs

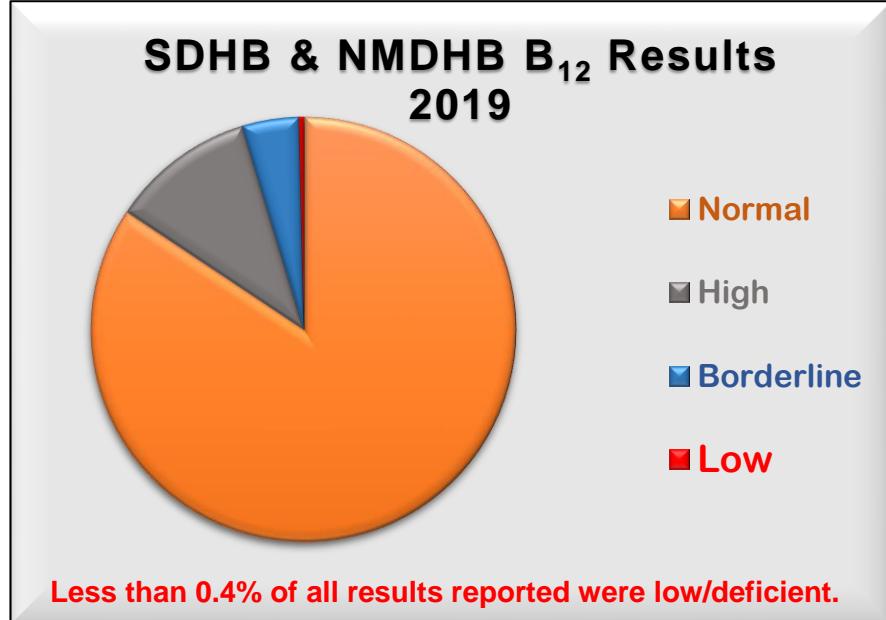
### KEY POINTS:

- B<sub>12</sub> is not recommended for the routine screening of asymptomatic patients.
- A low B<sub>12</sub> in an asymptomatic patient is not likely to indicate deficiency.
- From 1<sup>st</sup> October 2020, B<sub>12</sub> requests will require an appropriate clinical indication in order to be tested. However, a patient charge option will be available.

Vitamin B<sub>12</sub> (cobalamin) is required for normal DNA synthesis and the functioning of the nervous system. Deficiency can lead to a multitude of problems. However, the incidence of true Vitamin B<sub>12</sub> deficiency is very low. Serum vitamin B<sub>12</sub> concentration is the most commonly used biochemical test for vitamin B<sub>12</sub> deficiency.

However, only about 30% of measured total serum B<sub>12</sub> comprises the metabolically active portion, the remainder is metabolically inert. Changes in this inactive fraction occur in pregnancy, on oestrogen therapy and in liver disease. This means that measurement of serum B<sub>12</sub> lacks sensitivity and specificity for the diagnosis of deficiency and is not indicated for routine screening.

In 2019 there were almost 72,500 requests (from 60,000 people) in the Southern and Nelson & Marlborough DHBs combined. This is an increase of 37% from the same period 5 years ago. This means that 1 in 8 people had their B12 measured at least once that year. The incidence of true B12 deficiency is very low.



### Request Vitamin B<sub>12</sub> testing in those with:

- Unexplained anaemia, pancytopenia, macrocytosis, glossitis, peripheral neuropathy, unexplained neuropsychiatric symptoms

### Consider Vitamin B<sub>12</sub> testing in those with:

- Myeloproliferative disease, eosinophilia

### Vitamin B<sub>12</sub> testing may be helpful in:

- Those on drugs that may interfere with B<sub>12</sub> metabolism (metformin, PPIs, H<sub>2</sub> antagonists)
- Those on a vegan diet (long term)
- Those at risk of malnutrition (coeliac disease, gastric or small bowel resection etc.)
- In addition, have a low threshold for testing in the elderly (>75y) with anaemia or neurological symptoms

### References

NICE Clinical Guideline CG53 -  
<https://www.nice.org.uk/guidance/CG53>

Southern Health Pathways (Draft) B12 Deficiency -  
<https://southerndraft.communityhealthpathways.org/16981.htm>

Nelson and Marlborough Health Pathways -  
<https://nmhealthpathways.org.nz/index.htm>

National Minimum Re-testing Interval Project: A final report detailing consensus recommendations for minimum re-testing intervals for use in Clinical Biochemistry.  
[https://www.rcpath.org/uploads/assets/253e8950-3721-4aa2-8ddd4bd94f73040e/g147\\_minretestingintervalsinpathology\\_dec15.pdf](https://www.rcpath.org/uploads/assets/253e8950-3721-4aa2-8ddd4bd94f73040e/g147_minretestingintervalsinpathology_dec15.pdf)

Devalia D et al. Guidelines for the diagnosis and treatment of cobalamin and folate disorders. Brit J Haem, 2014;166:496–513

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