SydPath
ST VINCENT'S PATHOLOGY

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VITAMIN B12 AND ACTIVE B12 INFORMATION SHEET

TESTING FOR ACTIVE B12 (Holotranscobalamin)

The active form of vitamin B12, Holotranscobalamin (Holo TC, also known as Active B12) testing is performed routinely on patients with equivocal total B12 results to improve assessment of the B12 status of patients. This additional testing is approved by Medicare with no cost to patients.

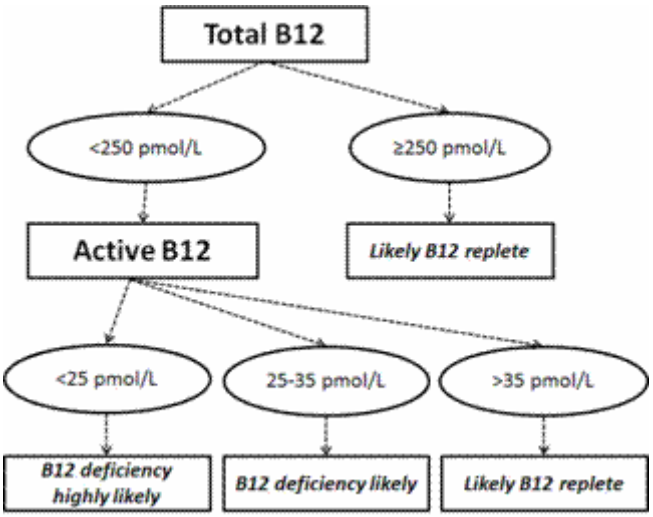
RATIONALE

Vitamin B12 is present in the circulation bound to two proteins, transcobalamin and haptocorrin. When B12 is bound to haptocorrin, it is not available for uptake into cells and is therefore considered inactive. When vitamin B12 is bound to transcobalamin (and then known as holotranscobalamin or HoloTC) it is available for use and is also referred to as Active B12. The routine assay for serum B12 measures total B12, ie both the inactive and active forms of the vitamin. SydPath adds the measurement of active B12 when the total B12 is in an equivocal range.

RESULTS

If the total B12 is above 250 nmol/L, this patient is likely to be replete with B12 and Active B12 will not be measured.

If the total B12 is less than 250 nmol/L, active B12 will be added. The interpretation is then based on the Active B12 as shown below.



TESTING DETAILS

- No specific request is required for the Active B12 testing.
- There is no patient cost for the Active B12 testing (this test is covered by Medicare).
- The test requires a gold top (serum) tube.
- Results for Total and Active B12 will generally be available within 1 working day.
- Add-on tests are not possible more than 3 days after collection.

INDICATIONS FOR MEASUREMENT OF VITAMIN B12

The clinical indications for B12 measurements include patients with neuropsychiatric symptoms, haematological disorders (e.g. a macrocytic anaemia), malabsorption or on treatment with proton pump inhibitors. Testing may also be valuable in people who are malnourished or undernourished.

Unless there is a specific indication (see above) B12 testing is not recommended in patients with non-specific symptoms such as weakness or tiredness.

FOLLOW UP TESTING

Results should be correlated with clinical findings and red cell parameters. If there is doubt about the B12 status, a plasma Homocysteine may be of benefit (normal Homocysteine makes vitamin B12 deficiency highly unlikely). If pernicious anaemia is suspected Intrinsic Factor and gastric parietal cell antibodies should be requested.