

The human body does not produce vitamin  $B_{12}$  but is obtained from eating animal products, vitamin  $B_{12}$  fortified foods or taking supplements. We need vitamin  $B_{12}$  to make red bloods cells, for nerve function and for keeping your brain healthy, therefore, it is important to correct vitamin  $B_{12}$  deficiency as early as possible.

Absorption occurs at the end of the small intestine (terminal ileum). Vitamin B<sub>12</sub> is sometimes reduced in pouch patients, as a result of the terminal ileum being transected or reconfigured and sitting in faecal pouch content. However, our body usually stores enough vitamin B<sub>12</sub> for several years, so vitamin B<sub>12</sub> deficiency is not something to worry about immediately, but it is important to be aware of. Moreover, vegans or vegetarian patients with a pouch can have low Vitamin B<sub>12</sub> levels prior to pouch surgery.

It is usually sufficient to eat foods rich in vitamin B<sub>12</sub> such as poultry, meat, eggs, liver, kidney, fish, dairy products, seafood, and yeast extract (such as Marmite).

| SIGNS AND SYMPTOMS OF VITAMIN B <sub>12</sub> DEFICIENCY |   |
|--|---|
| Blurred vision   | <ul> <li>Nerve problems such as "pins and needles"</li> </ul> |
| Pale skin  | or numbness/tingling in hands, legs and feet                  |
| <ul> <li>Irregular heartbeat (palpitations)</li> </ul>   | <ul> <li>Mood changes such as depression,</li> </ul>          |
| Weak muscles   | irritability, and behaviour changes                           |
| Shortness of breath                                      | Memory loss   |
| Anaemia (low red cells count)                            | Difficulty concentrating                                      |
| Feeling faint, lethargic and tired                       | Loss of appetite  |

Vitamin B<sub>12</sub> supplements may be given as oral tablets or more commonly a monthly or 3 monthly vitamin B<sub>12</sub> injection. Nasal spray or sublingual supplements are also used but less commonly.

GP should check vitamin B<sub>12</sub> levels with a blood test:

- If signs or symptoms of low vitamin B<sub>12</sub> levels are present
- after initial vitamin B<sub>12</sub> deficiency treatment
- as part of **routine annual** blood tests following pouch surgery

However, there is some inconclusive data suggesting that in some cases vitamin B12 levels blood test may not necessarily be low in vitamin B12 deficiency in pouch patients.



Therefore, if there are symptoms suggestive of vitamin B12 deficiency, it may be beneficial to trial vitamin B12 injections for 3 months and monitor if symptoms improve, rather than relying only on blood tests.

So, if not contraindicated due to any other underlying conditions, it is advisable to try vitamin B12 injections treatment for 3 months and then review patient's symptoms.

If there are concerns that the cause for the patient's symptoms may be due to a different condition, these should be investigated locally or a referral to a specialist centre must be made.