**Vitamin B12 Deficiency – Patient Information Leaflet**

**What is Vitamin B12?**

Vitamin B12 is a water-soluble vitamin essential for healthy nerves, red blood cells, and DNA production. It’s found in animal products like meat, fish, dairy, and eggs.

**What is Vitamin B12 Deficiency?**

Vitamin B12 deficiency occurs when your body doesn’t have enough B12 to function properly. It can lead to anaemia and neurological problems if untreated.

**Symptoms of B12 Deficiency**

- Fatigue or weakness  
- Pale or yellow skin  
- Pins and needles (paraesthesia)  
- Difficulty walking or balance problems  
- Sore tongue or mouth ulcers  
- Memory issues or mood changes  
- Breathlessness and dizziness

**Common Causes**

- Pernicious anaemia (autoimmune condition)  
- Dietary deficiency (e.g., vegan diet without supplementation)  
- Malabsorption (e.g., after gastric surgery or in coeliac disease)  
- Certain medications (e.g., metformin, proton pump inhibitors)

**Diagnosis**

Diagnosis is made by blood tests measuring B12 levels, full blood count (FBC), and sometimes methylmalonic acid (MMA) or homocysteine. Ferritin and folate may also be tested.

**Treatment (based on NICE and All-Wales guidance)**

**1**. \*\*Hydroxocobalamin injections\*\* (first-line in the UK):  
- 1 mg intramuscularly every other day for 2 weeks for those with neurological symptoms  
- Then every 2–3 months long term if the cause is irreversible (e.g., pernicious anaemia)  
  
**2**. \*\*Oral B12 supplements\*\*:  
- Used for dietary deficiency with no absorption issues  
- Typically 50–150 micrograms daily, sometimes higher depending on brand  
  
**3**. \*\*Dietary advice\*\*:  
- Include B12-rich foods (meat, dairy, eggs, fortified cereals)  
- Vegans should take regular oral B12 or fortified foods

**Monitoring and Follow-up**

- Repeat blood tests after 8–12 weeks of treatment to check response  
- Monitor neurological symptoms closely if present  
- For lifelong conditions, continue injections every 3 months  
- Annual review and blood test if required by your GP

**When to Seek Medical Advice**

- If symptoms persist despite treatment  
- If you experience new symptoms such as numbness, confusion, or walking difficulty  
- If you are pregnant or planning pregnancy and have a history of B12 deficiency

**Key Messages**

- B12 is essential for blood and nerve health  
- Early treatment prevents complications  
- Long-term treatment may be needed in some cases  
- A balanced diet or supplementation can help prevent recurrence