Guidelines for the investigation of B12 Deficiency

**Serum B12 > 180**
- **No**
  - Neurological symptoms **No**
    - Serum B12 > 150 **No**
      - Macrocytosis +/- anaemia? (If pancytopenia then discuss with haematologist).
      - **Yes**
        - Anti-Intrinsic Factor antibodies positive? **No**
        - **Yes**
          - Consider referral to Haematologist.
      - **No**
        - Recheck serum B12 after 2 months
          - If still low, repeat levels every 6 months for 1 year then annually for 2-5 years.
    - **No**
      - Recheck serum B12 after 2 months
        - If still low, repeat levels every 6 months for 1 year then annually for 2-5 years.
  - **Yes**
    - Hydroxocobalamin 1000µg IM 3x/week for 2 weeks and then every 3 months, lifelong. Investigate for underlying cause.
- **Yes**
  - No further investigation required.

**Serum B12 > 150**
- **No**
  - Recheck serum B12 after 2 months
    - If still low, repeat levels every 6 months for 1 year then annually for 2-5 years.
  - **Yes**
    - Hydroxocobalamin 1000µg IM 3x/week for 2 weeks and then every 3 months, lifelong.

**Look for evidence of other causes of macrocytosis +/- anaemia unrelated to B12 deficiency.**
- Exclude liver dysfunction, folate deficiency, hypothyroidism, haemolysis, myelodysplasia etc.

**Consider Vitamin B12**
- 50-100µg PO daily
- Recheck serum B12 and FBC after 2 months

**If pregnant**
- Discuss with Haematology via Kinesis

**Hydroxocobalamin**
- 1000µg IM 3x/week for 2 weeks and then every 3 months, lifelong.

**Diagnosis of pernicious anaemia is inferred.**

**Consider other causes of B12 deficiency**
- e.g. malabsorption, drugs, dietary.

**Malabsorption**
- Hydroxocobalamin 3x/week for 2 weeks and then every 3 months lifelong.

**Dietary Vitamin B12**
- 50-100µg PO daily and recheck serum B12 and FBC after 2 months.

**Metformin**
- Trial of calcium supplements.

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MTW NHS Trust