***Clinical judgement of Oral vs IM supplementation. Consider:**

- Adherence
- Effectiveness of absorption of oral preparations
- Length of time for symptom resolution (IM faster and more likely to achieve normal levels)

Confirmed Vitamin B12 deficiency (see NICE CKS and NICE guidelines for diagnostic criteria and testing guidance)

Identify the cause of vitamin B12 deficiency, for severe deficiency and if neurological symptoms are present IM replacement should be the treatment of choice.

NHS Surrey Heartlands

Malabsorption

Auto immune gastritis
Post total gastrectomy
Pot terminal ileal resection

3 monthly IM supplementation of vitamin B12 will be required for life.

Other causes of malabsorption e.g.
Partial gastrectomy
Malabsorptive bariatric surgery
Coeliac disease
Partial terminal ileal resection

Preferred treatment option – IM vitamin B12 supplementation

If malabsorption is managed (e.g. well controlled coeliac disease through following a gluten free diet) review ongoing need for vitamin B12 supplementation.

Medicine induced B12 deficiency as a side effect of treatment.

Medications known to cause vitamin B12 deficiency include: Metformin, trimethoprim, Neomycin,
Long term use of
Proton Pump Inhibitors or H2-antagonists
Colestyramine

If appropriate review the medicine causing the side effect to see if it still needed or can be changed

Offer B12 supplementation for the duration of the course of the medication causing the side effect.

If applicable set a reminder on clinical systems to review the ongoing need for vitamin b12 supplementation at the end of the treatment course

Offer Oral or IM replacement based on clinical judgement* and person's preference.

Consider any concerns about adherence to oral treatment.

Recreational Nitrous Oxide use

Advise to stop recreational Nitrous oxide use

Offer Oral or IM replacement based on clinical judgement* and person's preference.

Review need for vitamin B12 supplementation if recreational nitrous oxide use stops and the person is no longer symptomatic of vitamin B12 deficiency

Dietary deficiency

Ask about what the person eats and drinks – including sources of vitamin B12 (meat, fish, milk, cheese, eggs, fortified cereals, soya milk yeast extract)

Check if the person takes or is planning to take over the counter preparations taking vitamin B12.

Consider further investigations if information suggests deficiency may not be dietary related.

Signpost to information about improving intake of vitamin B12, including food sources

Explain that some supplements don't contain enough, or the right type of vitamin B12 to be effective and advise them to purchase an oral supplement that contains 50–150 micrograms vitamin B12 as either cyanocobalamin, methylcobalamin or adenosylcobalamin and take daily between meals.

Consider prescribing oral cyanocobalamin 50-150micrograms per day between meals) for patients unable to treat themselves, e.g. with learning disabilities, severe social vulnerability or mental health problems. In pregnancy or during breastfeeding prescribe at least 1 mg a day.

Consider IM supplementation* instead of oral replacement if:
The person has another condition that may deteriorate rapidly and have a major effect on their quality of life (e.g. ataxia or anaemia)
There are concerns about adherence to oral treatment, for example if the person has delirium or cognitive impairment, is affected by social issues that may prevent them accessing care, is older or has recently been in hospital or has frailty or multimorbidity.

For all treatment routes see ongoing care and follow up advice on pages 2 and 3 of this flowchart.

IM dosing regime

Note: IM cyanocobalamin is classified as less suitable for prescribing, so IM supplementation should be as hydroxocobalamin.

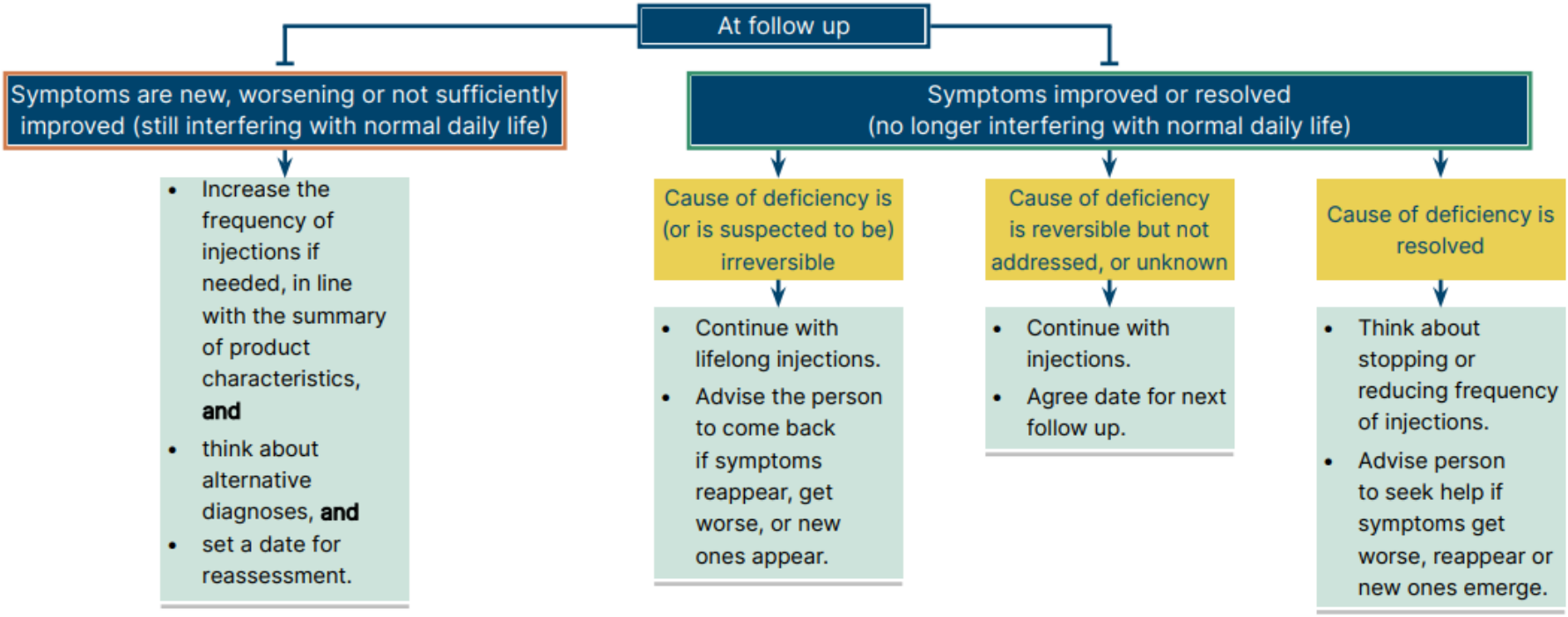
Without neurological involvement

Intramuscular hydroxocobalamin: 1 mg three times a week for 2 weeks initially, then 1 mg every 2 to 3 months thereafter (if the deficiency is not diet related).

With neurological involvement

Intramuscular hydroxocobalamin: 1mg daily on alternate days until no further improvement, then 1mg every 2 months.

Intramuscular vitamin B12 replacement: ongoing care and follow up



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For more information and other care advice, see the guideline at:
http://www.nice.org.uk/NG239

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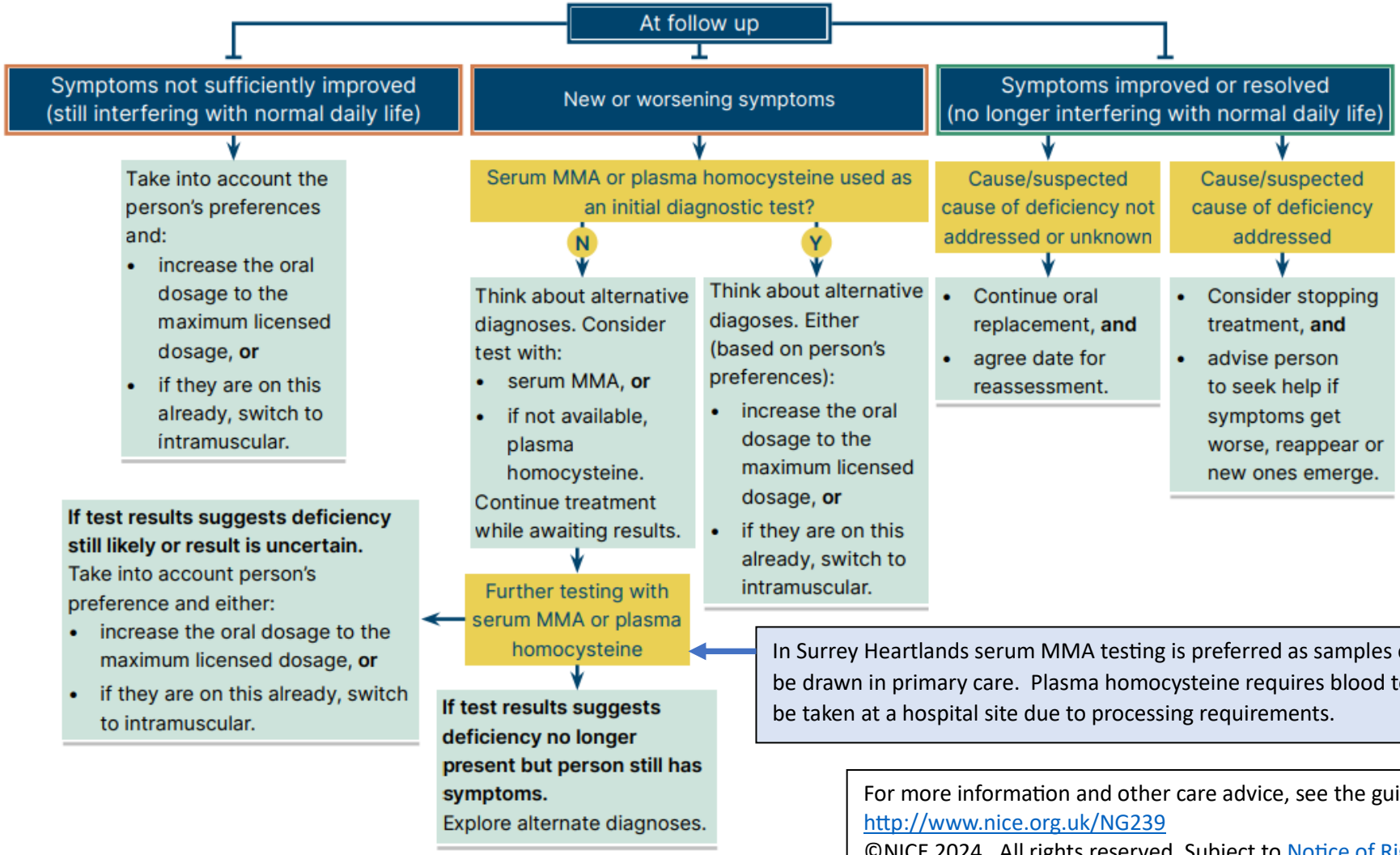
Oral vitamin B12 replacement: ongoing care and follow up



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