Preoperative haemoglobin assessment and optimisation template

Is the patient anaemic?
Hb <130 g/L (male) or
Hb <120 g/L (female)

YES

Is MCV >80

YES

Non Iron Deficient anaemia
• Consider overt bleeding
• Consider anaemia of chronic disease
• Consider haemolytic disorders and haemoglobinopathies.
• Review renal function, MCV/MCH and blood film
• Consider possible functional iron deficiency – Check CRP/transferrin saturation.
• Check B12/folate levels and reticulocyte count
• Check liver and thyroid function
• Seek haematology advice or, in the presence of chronic kidney disease, renal advice

Ferritin >30 mcg/L

Ferritin <30 mcg/L

Treatment pathway commenced in pre-op clinic
(see notes overleaf)

Iron deficiency anaemia
• Evaluate possible causes based on clinical picture. Consider coeliac screen.

• If no overt blood loss, refer to gastroenterologist for GI investigations in the following cases:

  Adult male
  Postmenopausal female
  Premenopausal female with GI symptoms.
Preoperative Anaemia Algorithm

**Advisory notes:**

1. Anaemia may be multifactorial, especially in the elderly or in those with chronic disease, renal impairment, nutritional deficiencies or malabsorption.

2. In an anaemic adult, a ferritin level <15 mcg/L is diagnostic of iron deficiency, and levels between 15–30 mcg/L are highly suggestive. However, ferritin is elevated in inflammation, infection, liver disease and malignancy. This can result in misleadingly elevated ferritin levels in iron-deficient patients with coexisting systemic illness. In the elderly or in patients with inflammation, iron deficiency may still be present with ferritin values up to 60–100 mcg/L.

3. Patients without a clear physiological explanation for iron deficiency (especially men and postmenopausal women) should be evaluated by gastroscopy/colonoscopy to exclude a source of GI bleeding, particularly a malignant lesion. Coeliac screening should also be done.

4. CRP may be normal in the presence of chronic disease and inflammation.

5. Consider thalassaemia if MCH or MCV is low and not explained by iron deficiency, or if long standing. Check B12/folate if macrocytic or if there are risk factors for deficiency (e.g. decreased intake or absorption), or if anaemia is unexplained. Consider blood loss or haemolysis if reticulocyte count is increased. Seek haematology advice or, in presence of chronic kidney disease, nephrology advice.

If you have any queries, please do not hesitate to contact the Stepping Hill Preoperative Assessment Team on: 0161 419 5684.