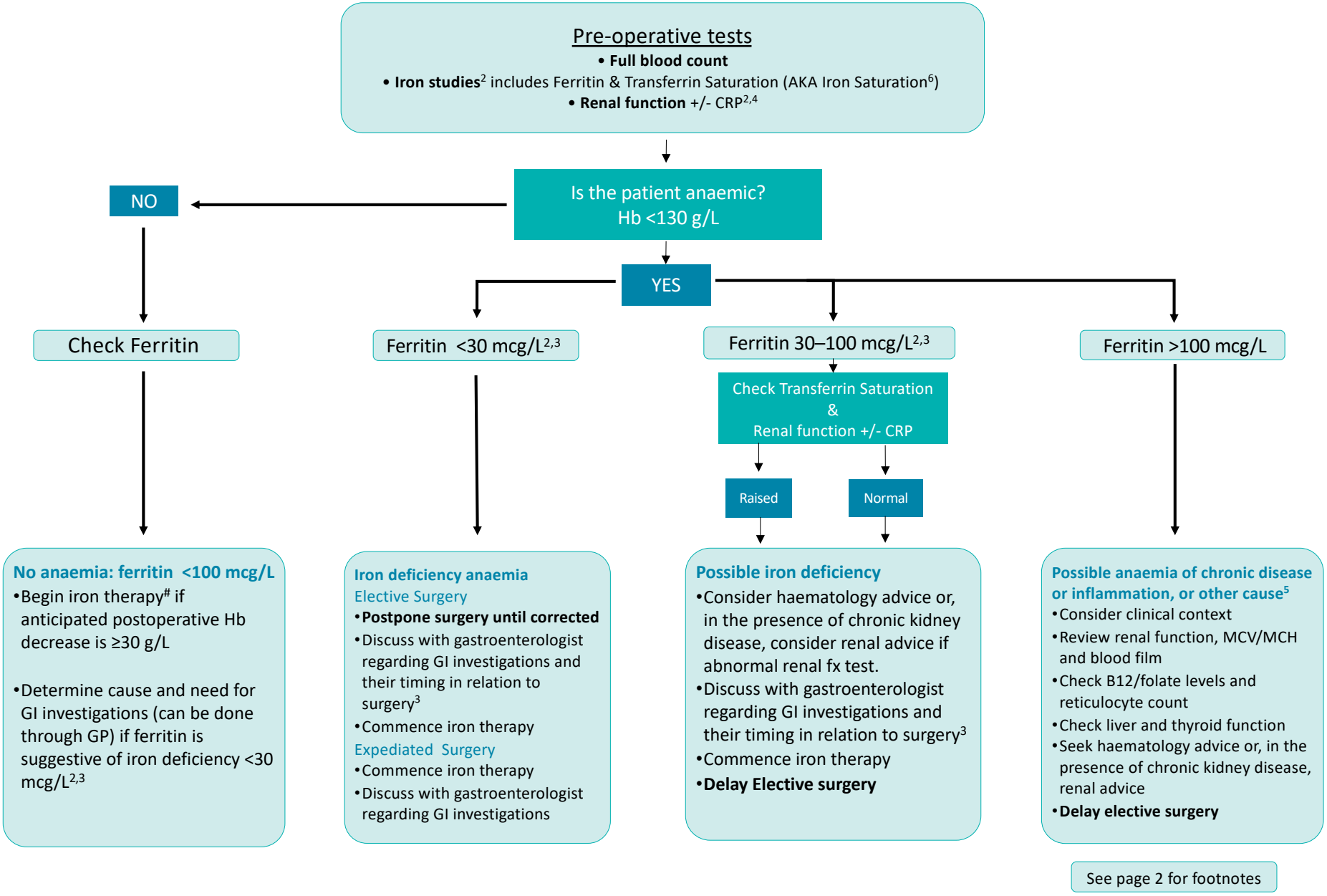
Preoperative Haemoglobin Assessment and Optimisation Template

Eastern Health Department of Anaesthesia and Pain Management



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Preoperative Haemoglobin Assessment and Optimisation Footnotes

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 # Iron therapy

Oral iron in divided daily doses. Evaluate response after 1 month. Provide patient information material.

IV iron if oral iron contraindicated, is not tolerated or effective; and consider if rapid iron repletion is clinically important (e.g. <2 months to non deferrable surgery).

NOTE: 1 mcg/L of ferritin is equivalent to 8–10 mg of storage iron. It will take approximately 165 mg of storage iron to reconstitute 10 g/L of Hb in a 70 kg adult. If preoperative ferritin is <100 mcg/L, blood loss resulting in a postoperative Hb drop of ≥30 g/L would deplete iron stores.

In patients not receiving preoperative iron therapy, if unanticipated blood loss is encountered, 150 mg IV iron per 10g/L Hb drop may be given to compensate for bleeding related iron loss (1 ml blood contains ~0.5 mg elemental iron)

Abbreviations

CRP = C-reactive protein
GI = gastrointestinal
Hb = haemoglobin
IV = intravenous
MCV = mean cell/corpuscular volume (fL)
MCH = mean cell/corpuscular haemoglobin)

Footnotes:

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. If the CRP>5 mg/L and/ or Transferrin Saturation <20% 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**. There is 10% chance of malignancy in this group!** This compared to a <1% chance in premenopausal women. Determine possible causes based on history and examination; initiate iron therapy; screen for coeliac disease; discuss timing of scopes with a gastroenterologist.
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.
6. EMR at Eastern Health denotes Transferrin Saturation as Iron Saturation.

For more information on the diagnosis, investigation and management of iron deficiency anaemia refer to

1. *Munoz M et al. International consensus statement on the peri-operative management of anaemia and iron deficiency Anaesthesia 2017, 72, 233-247*
2. Pasricha SR, Flecknoe-Brown SC, Allen KJ et al. Diagnosis and management of iron deficiency anaemia: a clinical update. *Med J Aust,* 2010, 193(9):525–532.