

Blood Management Service

Information for Health Care Professionals



Patient Blood Management Program:

A blood management program utilizes a multidisciplinary team approach and evidence-based practices to assess patients and develop a plan of care that utilizes medical and surgical techniques to reduce blood loss and enhance red blood cell production. The goal is to maintain hemoglobin concentration, optimize hemostasis, and minimize blood loss in hopes of reducing or eliminating the need for a blood transfusion.

Blood Management Service:

We are a group of specialized nurses who collaborate with a transfusion medicine specialist to treat iron deficiency anemia in surgical and obstetrical patients by optimizing iron stores prior to their procedure.



Why is Patient Blood Management Important?

- Reduces care costs for both hospital and patient.
- Improves patient safety.
- Minimizes risk for blood transfusions.
- Improved recovery periods



When to Consult Blood Management Service:

If it has been determined, or suspected, that a patient has iron deficiency anemia, a consult should be sent as soon as surgery is considered. Consults will not delay surgery. The earlier a consult is submitted, results in a greater chance for hemoglobin optimization.



Scan for
Consultation
Form

What we Require:

- A completed “Request for Consultation/Referral” which includes the reasons for the referral. (These can be found on the Transfusion Manitoba Website).
- Recent (within 6 weeks of consult date) CBC, Ferritin & iron studies (Iron, TIBC).
- Patient height & weight.
- Medical History.
- Allergies.

We require this information to calculate the patient’s total iron deficit. If this information is missing, we will not be able to calculate this value, which can result in a delay of treatment.

Candidates for Blood Management Consultation:

Many patients can benefit from patient blood management including those who have:

- Expected high blood loss procedure.
- Pre-operative iron deficiency anemia.
- Low blood volume (low body weight).
- Objections to transfusions.
- Difficult cross match or known antibodies.

Inappropriate Patients for Referral

- Patients receiving dialysis.
- Patients with chronic, non-iron deficiency anemia (Ex. Aplastic Anemia).
- Patients with inflammatory conditions (Ex. Autoimmune).

Patients that should be deferred

- Any patients with an active infection.

Intravenous Iron:

Venofer (Iron Sucrose)

Indicated for treatment of iron deficiency anemia in adults. Patients will typically be prescribed Venofer 300mg IV given every other day up to 900mg. Once the patient completes their infusion(s), they will be followed up with a CBC and reticulocyte count, either seven days or three weeks later, time permitting. The patient's first hemoglobin response to the IV iron is approximately 7 days post infusion, with a full response at 3 weeks, providing that there is not blood loss in this time frame.



MonoFerric (Iron Isomaltoside)

Indicated for treatment of iron deficiency anemia in adults.

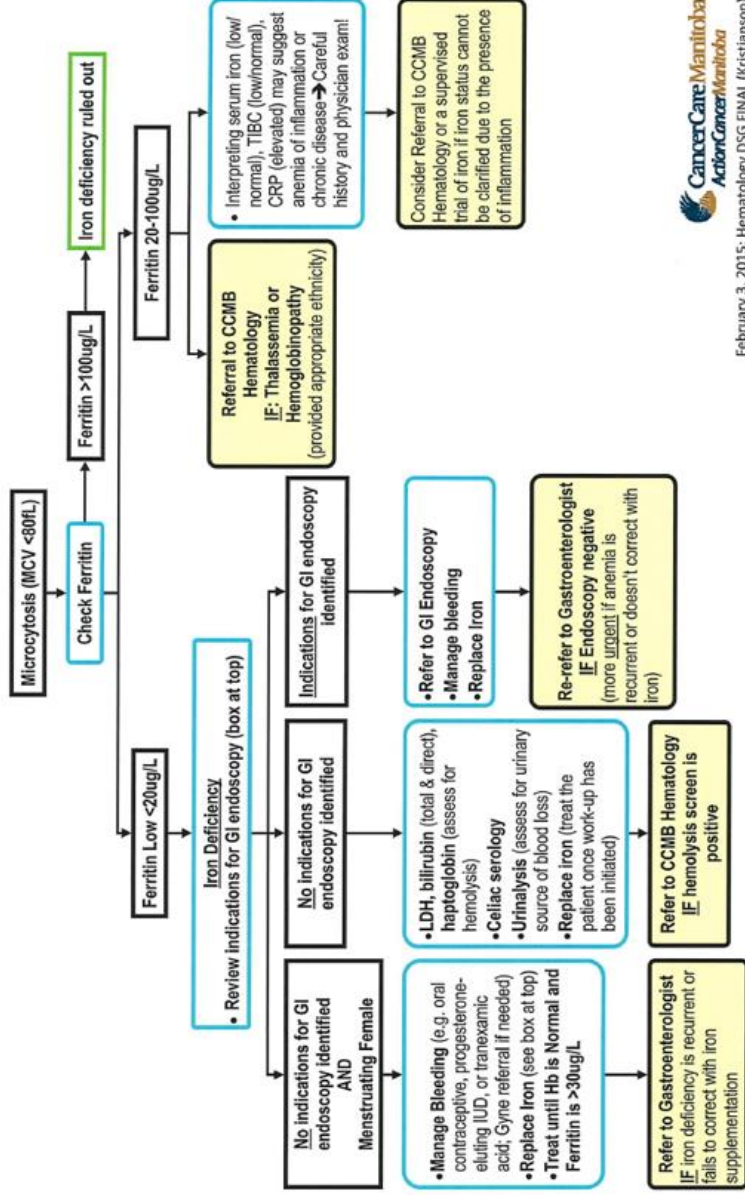
Patients are typically prescribed 500mg to 1,000mg IV. Full effects of MonoFerric can be measured 4 weeks from the initial infusion. CBC, reticulocytes, and ferritin are checked to determine a patient's response. This is not currently available for obstetrical patients.



Work-Up of IRON DEFICIENCY ANEMIA in ADULTS

INDICATIONS FOR GI ENDOSCOPY: • Adult males • Post-menopausal females
 • Unexplained weight loss • Family history of GI cancer • Any associated GI Symptoms such as: Dysphagia, Odynophagia, Dyspepsia, Abdominal pain, Melena, Hematochezia, Tenesmus, Altered bowel habit.

IRON REPLACEMENT: a) Control Blood Loss: b) Warn patients of GI side effects and start slow; c) Ferrous sulfate, gluconate, or fumarate or iron polysaccharide in doses that provide 150-200mg of elemental iron per day (e.g. ferrous sulfate 300mg TID)



Quick guide to Iron deficiency and Iron deficient anemia

Quick guide to Iron deficiency and Iron deficient anemia				Recommended Oral Iron Supplements		Monitoring
Step 1: Identify iron deficiency	Step 2: Investigate cause	Step 3: Iron repletion		Iron Type	Formulation (elemental iron)	Maximum adult dose
Hemoglobin <120 g/L female	Decreased iron availability	Oral iron supplementation		Ferrous Fumarate	Tablet 300 mg (100 mg)	1 tablet BID
Hemoglobin <135 g/L male	Decreased absorption – gastric bypass, celiac, IBD, etc	Start low, go slow				
Ferritin < 30 ug/L	CHF	Discuss potential GI side effects		Ferrous Gluconate	Tablet 300 mg (35 mg)	2 tablets TID
•gold standard for diagnosing iron deficient anemia	•CKD	•100 to 200 mg of elemental iron per day		Ferrous Sulfate	Tablet 300 mg (60 mg)	1 tablet TID
•Acute-phase reactant and will be unreliable in patients with inflammation or cancer	•Decreased iron intake	IV iron				
	Increased iron need	Consider if				
MCV < 75fL	Increased requirements - Pregnancy and breastfeeding, rapid growth, menstruation	•Oral iron is inappropriate				
•A decrease represents advanced stage of iron deficiency	•Ongoing bleeding (menstrual, GI, cancer, etc)	•Reasonable trial of oral iron has failed				
•MCV may be normal in some patients with IDA		•Rapid replenishment is needed				
Tsat <20%		**Avoid RBC transfusion unless hemodynamic instability**				
				Maximize iron tolerability <ul style="list-style-type: none"> •Start at a lower dose 50-80 mg/day build up to 100-200 mg/day •Best to take on empty stomach •GI side effects may be reduced if taken after a meal or at bedtime •Can switch to EOD dosing if side effects persist 		Consider blood management consult if your patient has a confirmed iron deficient anemia (Hgb < 100g/L, Ferritin <30 g/L) AND <ul style="list-style-type: none"> •Patient is scheduled for surgery or •Obstetrical patient >13 week gestation with a failed trial of PO iron.
				Maximize Iron absorption <ul style="list-style-type: none"> •Take with vitamin C 250– 500 mg •Avoid calcium and caffeine within one to two hours of taking iron supplement 		Do NOT consult if patient has chronic inflammation, renal disease, active infections Fax: 204.940.3255 Phone: 204.926.8006

- CBC and reticulocytes at 2-4 weeks
- Goals for iron therapy
- Reticulocytosis in four days
- Increasing Hgb > 10 g/L in four weeks
- Correction of IDA should be observed within 2 – 4 months if appropriate iron dosages are administered and underlying cause of ID is addressed

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- Obstetrical patient >13 week gestation with a failed trial of PO iron.

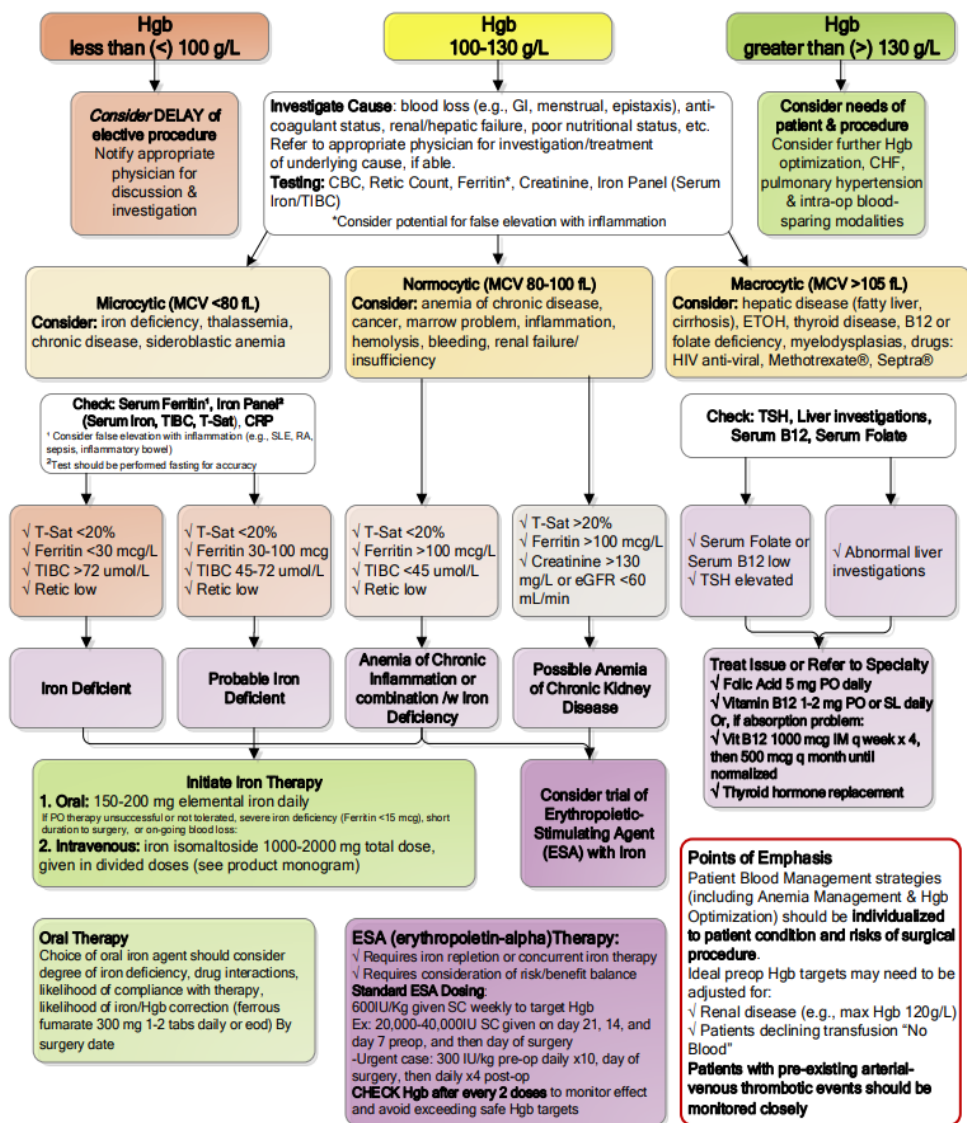
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Preoperative Anemia Management & Hemoglobin (Hgb) Optimization

At-Risk Patient Populations: Hgb <130 g/L (male or female), weight <65 kg, female gender, complex or revision surgery, renal disease, anti-platelet and/or anti-coagulant therapy, hematologic conditions (e.g., thalassemia), 'No Blood'/transfusion-refusal
Ideal Timeline for Assessment: Ideally at surgical INTAKE, at time of acceptance for surgery; **at least 30 days pre-op**



Blood Management Service

Provincially supporting
patients and healthcare
professionals to enhance
patient care through blood
and blood alternative
education.

Contact us:

204-926-8006

Visit:

**Transfusion Manitoba
Website at**

