Dear Provider,

This is a fact sheet on the IBD and Anemia Care Pathway. In this document, you will find information on the care pathway's purpose and a description of its components. Also included is a diagram and suggested pre-medications and precautions. You may wish to use this resource in your clinical practice.

Introduction

Anemia is a common but under-recognized complication in patients with inflammatory bowel diseases (IBD). Despite published practice guidelines and quality measures for anemia in IBD, screening and management of anemia among IBD patients is suboptimal. In an effort to address this under-met need, the Crohn's & Colitis Foundation initiated the development of an Anemia Care Pathway (ACP) for the purpose of standardizing clinical management of anemia.

The care pathway is structured to identify and target high-risk patients so that appropriate and timely care can be provided. The use of the anemia care pathway, which incorporates guideline recommendations, will help improve patient outcomes. The Anemia Care Pathway is currently in use at several clinical practices participating in the Crohn's & Colitis Foundation's national quality of care initiative, IBD Qorus.

For more information about IBD Qorus and the Anemia Care Pathway, please visit: ibdqorus.org

To access an online education activity on Anemia and the care pathway, please visit: www.crohnscolitisfoundation.org/science-and-professionals/programs-materials/virtual-preceptorship.html

Goals

- Process of identifying patients with anemia or at risk of anemia
- Testing for anemia type and severity
- Means of maintenance, follow-up, and failure to respond
- Recognize correlation between fatigue and anemia
Patient presents with symptoms:
• Fatigue
• Bleeding

AND/OR
Provider orders lab tests which include ferritin as a universal test

Recognition of anemia or iron deficiency

Recognition of non-anemic iron deficiency

Low Hemoglobin
<12 g/dL Women
<13 g/dL Men

Ferritin levels
<30 ng/ml

Inadequate Iron Stores
Ferritin <100 ng/ml
Ferritin >100 ng/ml and Transferrin saturation <20%

Iron Overload
Ferritin >800 ng/ml

Adequate Iron Stores
Ferritin >100 ng/ml and Transferrin saturation >20%

Assess IBD activity

Hematology Referral

Assess for other causes:
Medications, Vitamin B12, Folate

Oral Iron:
30-100 mg/day elemental iron

IV Iron

Consider hematology referral

Assess response in 4 weeks: Increase in Hb by at least 2 g/dL from baseline

Yes

No

Escalate Therapy
• Switch PO to IV Iron
• Hematology Referral

Repeat Hb in another 4 weeks: Is anemia resolved? (Hb > 12 g/dL women, >13 g/dL Men)

Yes

No

Persistent fatigue

Evaluate for other causes

Monitor Hb and symptoms at clinical appointments

Key for Pathway:
- Screening
- Evaluation
- Intervention
- Follow-up
**Care Pathway Components**

**Screening:** occurs through two separate pathways: (1) patient driven symptoms, and/or (2) provider driven recognition of laboratory abnormalities.

**Evaluation:** patients who enter the pathway with either anemia and/or iron deficiency will have further evaluation based on certain lab criteria; patients should be classified based on adequacy of iron stores as defined in screening.

**Intervention:** patients will be assessed based on the severity of anemia and iron stores to determine the iron therapy needed.

**Follow-up:** monitor patient closely to see if anemia has been resolved and/or consider escalation of therapy or hematology referral, as needed.

**Suggested Pre-Medications**

Iron Dextran (INFeD):
- Benadryl 25 mg IVPB
- Zantac 50 mg IVPB
- (optional: Dexamethasone 10 mg IVPB)

Feraheme/Injectafer/Ferrlecit:
- Benadryl 25 mg PO/IV

**Precautions**

- Parenteral iron is generally very safe. However, iron infusions have been rarely associated with allergic-type (including anaphylactoid) reactions that warrant a protocolized approach to treating an infusion reaction.
- When any iron products are administered, caution should be taken for possible infusion reaction/anaphylaxis/anaphylactoid reaction.
- Infusions should be performed in settings experienced in managing infusion reactions, and medications at hand should include antihistamines, corticosteroids, and epinephrine.

**References**


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Iron Formulations and Dosing Schedules

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Examples</th>
<th>Dose and Elemental Iron Concentrations</th>
<th>Schedule</th>
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</thead>
<tbody>
<tr>
<td><strong>Oral Iron Formulations</strong></td>
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<tr>
<td>Ferrous fumarate</td>
<td>Available OTC</td>
<td>324/325 mg = 106 mg elemental Fe</td>
<td>100-200 mg/day, divided 2-3 times/day</td>
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<tr>
<td>Ferrous gluconate</td>
<td>Available OTC</td>
<td>240 mg = 29 mg elemental Fe</td>
<td>2-3 mg/kg elemental Fe/day divided 2-3 times/day</td>
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<tr>
<td></td>
<td></td>
<td>300 mg = 36 mg elemental Fe</td>
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<tr>
<td></td>
<td></td>
<td>324/325 mg = 39 mg elemental Fe</td>
<td></td>
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<tr>
<td>Ferrous sulfate</td>
<td>Available OTC</td>
<td>324/325 mg = 65 mg elemental Fe</td>
<td>750-150 mg/day, divided 2-4 times/day</td>
</tr>
<tr>
<td>Polysaccharide-iron complex</td>
<td>Available OTC</td>
<td>150 mg = 150 mg elemental Fe</td>
<td>150-300 mg daily</td>
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<tr>
<td><strong>Parenteral Iron Formulations</strong></td>
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<tr>
<td>Low molecular weight (LMW)</td>
<td>INFeD</td>
<td>50 mg/ml</td>
<td>Single dose (full deficit correction)³ - OR - Multiple doses until total dose</td>
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<tr>
<td>iron dextran</td>
<td></td>
<td>Total iron deficit correction² or 2 ml (100 mg elemental iron)</td>
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<tr>
<td>Ferric gluconate</td>
<td>Ferrlecit</td>
<td>12.5 mg/ml</td>
<td>Multiple doses</td>
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<tr>
<td>Iron Sucrose</td>
<td>Venofer</td>
<td>20 mg/ml</td>
<td>Multiple doses</td>
</tr>
<tr>
<td>Ferumoxytol</td>
<td>Feraheme</td>
<td>30 mg/ml</td>
<td>2 doses of 510 mg, given within 3-4 days</td>
</tr>
<tr>
<td>Ferric Carboxymaltose</td>
<td>Injectafer, Ferinject</td>
<td>50 mg/ml</td>
<td>2 doses 7+ days apart</td>
</tr>
<tr>
<td>Iron isomaltoside</td>
<td>(Europe only)</td>
<td>100 mg/ml</td>
<td>Single dose of 20 mg/kg</td>
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</tbody>
</table>

¹ Test dose 0.5 ml before 1st dose (required)
² Total dose (ml) = [0.0442 x (desired Hb — observed Hb) x LBW] + (0.26 x LBW)
³ Not FDA approved schedule
⁴ Test dose recommended in patients with history of drug allergies
⁵ Notify radiologist if MRI performed within 3 months from infusion

(LBW: lean body weight; ER: extended release; OTC: over the counter)