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
Anemia Care Pathway for IBD

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

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

Iron Overload
- Ferritin >800 ng/ml

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

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

Assess IBD activity

Inactive IBD
- Oral Iron: 30-100 mg/day elemental iron

Active IBD
- 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

Persistent fatigue

No

Hematology Referral

Assess for other causes:
- Medications, Vitamin B12, Folate

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/Ferrlicit:
- 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


The anemia care pathway was developed, in part, with support from an independent medical education grant from Luitpold Pharmaceuticals.
## Iron Formulations and Dosing Schedules

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Examples</th>
<th>Elemental iron Concentration</th>
<th>Dose</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>
<td></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>
<td></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>
<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>
<td></td>
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<tr>
<td>Polysaccharide-iron complex</td>
<td>Available OTC</td>
<td>150mg = 150mg elemental Fe</td>
<td>150-300 mg daily</td>
<td></td>
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<tr>
<td><strong>Parenteral Iron Formulations</strong></td>
<td></td>
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<tr>
<td>Low molecular weight (LMW) iron dextran(^1)</td>
<td>INFeD</td>
<td>50 mg/ml</td>
<td>Total iron deficit correction(^2) or 2 ml (100 mg elemental iron)</td>
<td>Single dose (full deficit correction)(^3) -OR- Multiple doses until total dose</td>
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<tr>
<td>Ferric gluconate(^4)</td>
<td>Ferrlicit</td>
<td>12.5 mg/ml</td>
<td>10 ml (125 mg elemental iron)</td>
<td>Multiple doses</td>
</tr>
<tr>
<td>Iron Sucrose</td>
<td>Venofer</td>
<td>20 mg/ml</td>
<td>10 mg (200 mg elemental iron)</td>
<td>Multiple doses</td>
</tr>
<tr>
<td>Ferumoxytol(^5)</td>
<td>Feraheme</td>
<td>30 mg/ml</td>
<td>17 ml (510 elemental iron)</td>
<td>2 doses of 510 mg IV push, given within 3-4 days</td>
</tr>
<tr>
<td>Ferric Carboxymaltose</td>
<td>Injectaf, Ferinject</td>
<td>50 mg/ml</td>
<td>Weight &gt; 50 kg: 750 mg Weight &lt; 50 kg: 15 mg/kg</td>
<td>2 doses 7+ days apart</td>
</tr>
<tr>
<td>Iron isomaltoside</td>
<td>(Europe only)</td>
<td>100 mg/ml</td>
<td>5 ml (500 mg elemental iron)</td>
<td>Single dose of 20 mg/kg</td>
</tr>
</tbody>
</table>

\(^1\) Test dose 0.5 ml before 1st dose (required)  
\(^2\) Total dose (ml) = \([0.0442 \times (\text{desired Hb} - \text{observed Hb}) \times \text{LBW}] + (0.26 \times \text{LBW})\)  
\(^3\) 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)