# Co-management guidelines for iron deficiency anemia

**Presented by Randall Children's Cancer and Blood Disorders Program**

*A department of Legacy Emanuel Medical Center*

Patient presents with fatigue, pallor, poor feeding or pica

Check CBC and ferritin

If the Hgb is less than 8, call 503-276-9300 for urgent referral.
If the Hgb is < 6.5, call 503-276-9300 for probable admission.

Hgb 8–11 and MCV < 70

Treat with 3 mg/kg/day ÷ BID of elemental iron × 1 month

After 1 month, repeat Hgb. Hgb should increase by at least 1 g/dl.
If not, check CBC, ferritin, UA and stool guaiac.
Ask about adherence.

**Ensuring compliance:**

- Ask about stool changing color; they should become darker to black if compliant.
- Ask specific questions like, "How many doses are missed in a week?"
- Ask about side effects; however, iron supplements at standard doses cause gastrointestinal symptoms in fewer than 10 percent of patients.

**If the ferritin is:**

0–15, use 6 mg/kg/day ÷ BID-TID of elemental iron

15–30, use 3 mg/kg/day ÷ BID-TID of elemental iron

**× 1 month**

**Recheck CBC and Ferritin**

**Ferritin: Returns to normal (30–50)**

- Use 1 mg/kg/day of elemental iron, as maintenance dosing for minimum of 3 months. Then promote high-iron foods and multivitamin with iron.

**Ferritin: Remains low but is rising**

- Continue 3–6 mg/kg/day of elemental iron dosing for 2–3 months. Ensure good adherence.

**Ferritin: Does not increase**

- If adherence is good, call for referral **503-276-9300** or attempt in-office oral iron challenge.*

**Recheck CBC and ferritin monthly**

***In-office iron absorption test**

- Have the patient NPO overnight
- Place IV or plan for two blood draws
- Give 10 mg/kg of iron sulfate (elemental) orally with orange juice.
- The serum iron should be checked prior to the oral dose of iron and 1–2 hours after the dose. The serum iron should rise by 100 ug/dl. Call if it does not or if you have questions.

Hgb = hemoglobin g/dl; MCV = mean corpuscular volume fL;
CBC = complete blood count; ferritin units ng/ml

RANDALL CHILDREN'S HOSPITAL
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## Iron deficiency is the most common nutritional deficiency in children

**Causes for recurrent or refractory iron deficiency:**

- Compliance failures or intolerance to medication
- Ongoing gastrointestinal blood loss (cow's milk protein-induced colitis, parasitic infection, ulcers, *H. pylori*, Meckel diverticulum or other anatomic maladies)
- Chronic inflammatory bowel disease and celiac disease
- Rare mutations of iron transport
- Pulmonary hemosiderosis

**Complications of iron deficiency:**

- Impaired psychomotor and mental development
- Decreased exercise capacity
- Pica
- Impaired leukocyte and lymphocyte function

**Tips to help with iron absorption:**

- Iron settles in a solution; shake bottle before use.
- Give with orange juice or baby foods containing absorbic acid. The vitamin C aids in absorption.
- Do not give with milk or food; the calcium competes with iron absorption.
- Use a solution that is palatable, such as Niferex or Novaferrum (can be purchased on the internet).

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**To refer:**

Phone: **503-276-9300** or toll-free
**1-877-543-7662 (1-877-KIDS-ONC)**

Fax: **503-276-9351**

*Proud to be part of Legacy Cancer Institute, recipient of the American College of Surgeons Commission on Cancer Outstanding Achievement Award, which is earned by, on average, fewer than 20 percent of accredited cancer programs nationwide.*

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