

Treatment of Iron Deficiency Anemia

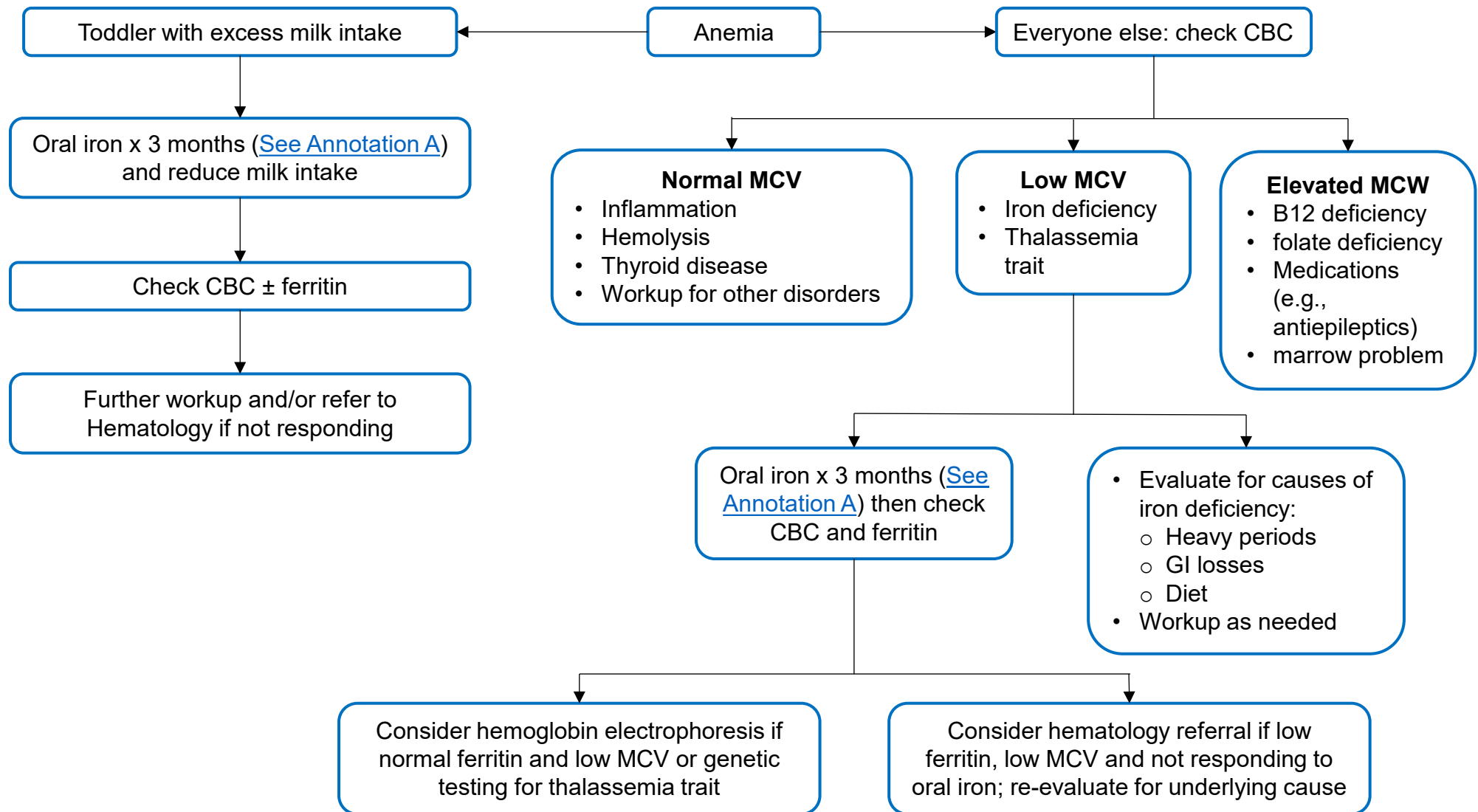
Clinical Guideline

This guideline supports initial treatment of patients with iron deficiency anemia and includes information for referral to the Children's Wisconsin Hematology Clinic. To support collaborative care, we have developed guidelines for our community providers to use when referring to, and managing patients with, the pediatric specialists at Children's Wisconsin. These guidelines provide information and recommendations for jointly managing patient care between community providers and our pediatric specialists.

Symptoms/Diagnosis/Causes:	Referring provider's initial evaluation and management:	When to initiate or consider referral to Hematology Clinic:	How to refer and what to send to Hematology Clinic:	Specialist's workup will likely include:
Signs and symptoms • Pallor • Fatigue (acute or chronic) • Onset of jaundice • Headache • Associated illness • Diet (e.g., excess milk intake) • Family history Diagnosis • Important to compare values (hemoglobin, indices) obtained on local testing with normal childhood values as there are significant differences between adult and childhood norms • Newborn hemoglobin typically 17 to 19 g • 8 to 12 weeks of age is the physiologic nadir with normal values 9 to 11 g, lower in premature infants • Gradual rise to hemoglobin 11.5 - 13.5 by about a year of age • Adult values reached by ages 13 to 15 years of age Causes • Dietary deficiency, especially iron • Chronic hemolytic anemia, for example sickle cell disease • Acute onset of hemolytic anemia for example, autoimmune hemolytic anemia • Acute fall in hemoglobin due to blood loss	History & physical exam : • History • Vital signs • Assess for: ○ Pallor ○ Fatigue ○ Jaundice ○ Mental status • Labs: ○ CBC ○ Indices (e.g., low MCV) ○ Reticulocyte count See next page for management recommendations	Immediately: • Hemoglobin less than 6 to 7 g/dL • Rapidly falling hemoglobin • New onset jaundice • Symptomatic anemia (lightheadedness, dizziness, headache, altered state of consciousness, chest pain, shortness of breath) PLEASE CALL HEMATOLOGY ON-CALL THROUGH THE PHYSICIAN PROVIDER LINE: 414-266-2471 To be seen non-urgently: • Mild to moderate anemia especially if recent onset where there is no history of dietary insufficiency or heavy menstrual bleeding • No hemoglobin improvement after 8 weeks of therapy • No ferritin improvement after 12 weeks of therapy • Heavy menstrual bleeding with iron deficiency/iron deficiency anemia • Poor tolerance to oral iron • Recurrent iron deficiency	How to refer: In Children's Epic: place an ambulatory referral to Hematology Clinic. External providers: • In your instance of Epic - Place an external referral order to CHW HEMATOLOGY & ONCOLOGY CLINICS or • Fax (414-607-5288) or • Online ambulatory referral For urgent requests: Contact the Physician Consultation Line (414-266-2460).	After referral to Hematology Clinic: • CBC • Reticulocyte count • Smear • Chemistries • Coombs test • Possibly iron studies • Possibly vitamin levels After examination: • Recommendations for local therapy and local follow-up CBC to evaluate response • If evidence of iron deficiency, may include recommendations for IV iron Model of Care: Initial consult and return to PCP for ongoing management.

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Annotations

A. Iron dosing and recommendations:

Oral iron (first line) • Children: 3–6 mg/kg/day elemental iron • Adolescents: ~65 mg elemental iron daily or every other day • Ferrous sulfate preferred for absorption Administration tips • Best on empty stomach or with Vitamin C • Avoid milk/dairy 1 hour before or 2 hours after • Do not mix with milk • Liquid may stain teeth → use straw + brush after • Dark stools are expected • Pills may be crushed for young children	Well-tolerated options • Polysaccharide iron complex liquid (15 mg/mL) • Ferric glycinate powder (15 mg/scoop) • Ferrous fumarate gummies (65 mg/2 gummies) Dietitian referral recommended for: • All toddlers with iron deficiency • Any child/adolescent with poor diet Follow-up labs • CBC + ferritin in 4–8 weeks • Hgb should improve in 3–4 weeks; ferritin normalizes by ~12 weeks
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References

1. Mazzocchi, A., Berti, C. & Agostoni, C. Iron deficiency beyond anemia: implication for neurodevelopment and the potential of liposomal iron in children. A commentary. *Pediatr Res* **98**, 1995–1996 (2025). <https://doi.org/10.1038/s41390-025-04331-3>

2. Rehman T, Agrawal R, Ahamed F, Das S, Mitra S, Kumar D, Sethy C, Kanungo S, Bhattacharya D, Pati S. Optimal dose and duration of iron supplementation for treating iron deficiency anaemia in children and adolescents: A systematic review and meta-analysis. *PLoS One*. 2025 Feb 14;20(2):e0319068. doi: 10.1371/journal.pone.0319068. PMID: 39951396; PMCID: PMC11828412.

Please contact clinicalguidelines@childrenswi.org for questions or comments.

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Medical Disclaimer

This Clinical Guideline (CG) is designed to provide a framework for evaluation and treatment. It is not intended to establish a protocol for all patients with this condition, nor is it intended to replace a clinician’s judgement. Adherence to this CG is voluntary. Decisions to adopt recommendations from this CG must be made by the clinician in light of available resources and the individual circumstances of the patient. Medicine is a dynamic science; as research and clinical experience enhance and inform the practice of medicine, changes in treatment protocols and drug therapies are required. The authors have checked with sources believed to be reliable in their effort to provide information that is complete and generally in accord with standards accepted at the time of publication. However, because of the possibility of human error and changes in medical science, neither the authors nor Children’s Hospital and Health System, Inc., nor any other party involved in the preparation of this work warrant that the information contained in this work is in every respect accurate or complete, and they are not responsible for any errors in, omissions from, or results obtained from the use of this information.