■ Pediatric Anemia: Practical Pearls for the General Pediatrician

Why It Matters

• Iron deficiency anemia (IDA) is the **most common** cause of pediatric anemia in the U.S.
• Even mild IDA can affect sleep, behavior, and cognition
• CBC indices allow confident diagnosis without overtesting

■ The CBC Diagnostic Triad

MCV + RBC count + RDW = most of the answer
• MCV → microcytic, normocytic, macrocytic
• RBC count → high suggests thalassemia
• RDW → high suggests iron deficiency
➡■ Always add a reticulocyte count: low = underproduction, high = hemolysis/bleeding

■ Physiologic Nadir (Don't Overtreat)

• Term infants: 8–12 weeks, Hgb ~9–11 g/dL
• Preterm infants: earlier and lower nadir
• No treatment needed in healthy term infants

■ Microcytic Anemia: Quick Differentiation

Iron Deficiency: Low MCV, **high RDW**, low ferritin
Thalassemia Trait: Very low MCV, normal RDW, **high RBC count**
Chronic Inflammation: Normal/high ferritin, low iron, low TIBC

■ Mentzer Index

MCV ÷ RBC count
>13 → **Iron deficiency more likely**
<13 → **Thalassemia trait more likely**

■ Ferritin = Best Test

• <12 ng/mL = iron deficiency
• <30 ng/mL strongly suggests deficiency
• May be falsely normal with inflammation → consider CRP/ESR

■ Treating Iron Deficiency

• Oral iron: **3–6 mg/kg/day elemental**, once daily
• Avoid milk; vitamin C improves absorption
• Expected response: retics 3–5 days, Hgb ↑ ~1 g/dL by week 2
• Continue iron **3 months after normalization**

■■ When to Refer

• Suspected hemoglobinopathy
• No response to iron therapy
• Evidence of hemolysis or marrow failure
• Autoimmune hemolytic anemia

Bottom Line: Most pediatric anemia can be diagnosed and managed confidently using CBC indices, ferritin, and a thoughtful history. When patterns don't fit—or treatment doesn't work—hematology can help.