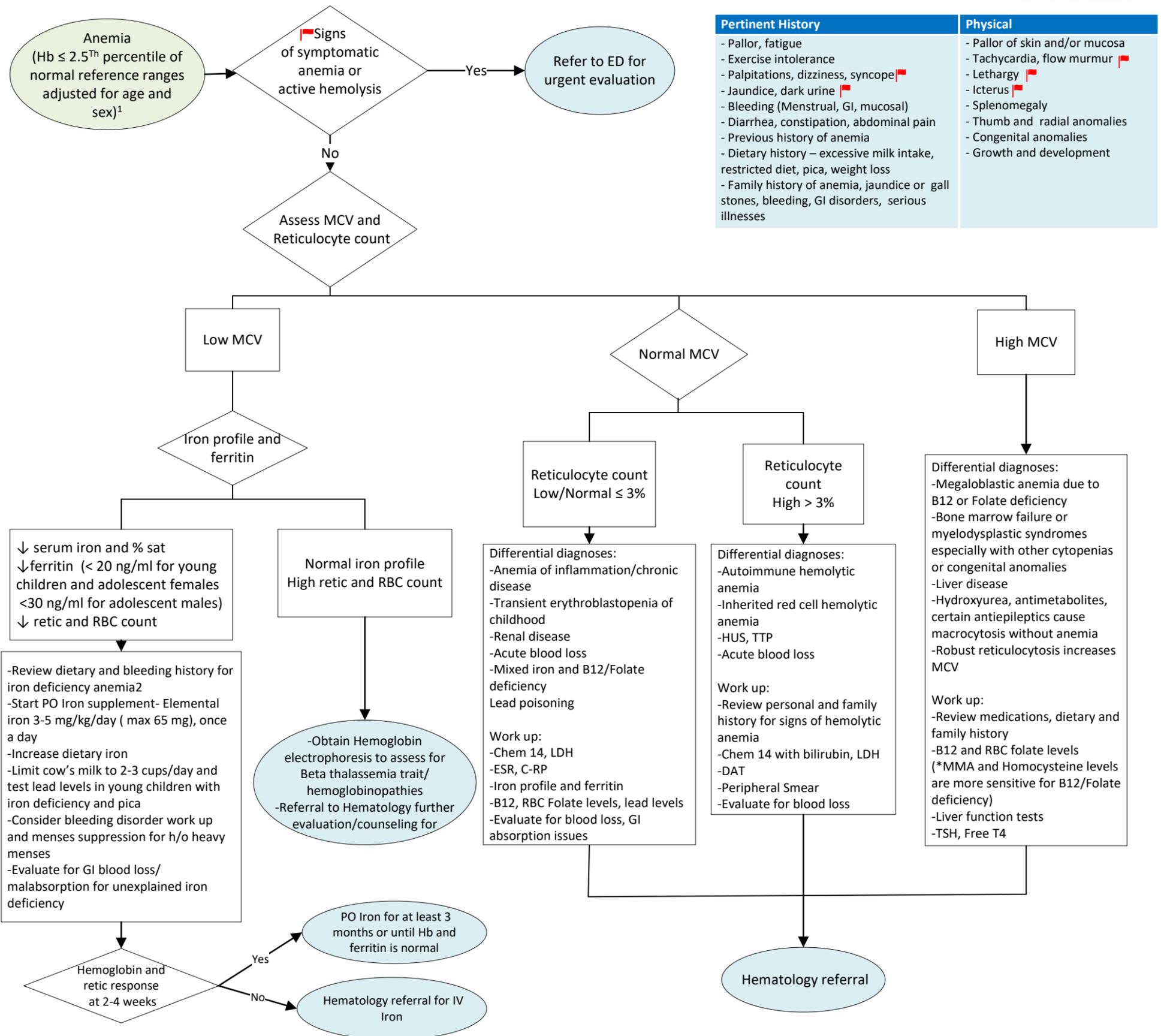


Approach to Anemia



Pertinent History	Physical
<ul style="list-style-type: none"> - Pallor, fatigue - Exercise intolerance - Palpitations, dizziness, syncope - Jaundice, dark urine - Bleeding (Menstrual, GI, mucosal) - Diarrhea, constipation, abdominal pain - Previous history of anemia - Dietary history – excessive milk intake, restricted diet, pica, weight loss - Family history of anemia, jaundice or gall stones, bleeding, GI disorders, serious illnesses 	<ul style="list-style-type: none"> - Pallor of skin and/or mucosa - Tachycardia, flow murmur - Lethargy - Icterus - Splenomegaly - Thumb and radial anomalies - Congenital anomalies - Growth and development

1 – Whenever feasible confirm true anemia by verifying POC hemoglobin with CBC and cross-checking hemoglobin reference ranges. Refer to <https://www.uptodate.com/contents/approach-to-the-child-with-anemia>, Table 1 for pediatric hemoglobin reference ranges. If patient has borderline low hemoglobin with symptoms of anemia, consider checking iron profile for symptomatic iron deficiency without anemia.

2- Excessive cow's milk intake in toddler age group and heavy menstrual losses are the most common causes of iron deficiency affecting children the US. Outside of this, iron deficiency due to poor nutrition is relatively rare and should trigger work up for increased iron losses or malabsorption from the gut.

A note on iron supplementation:

- Elemental iron 1 mg/kg/day recommended in exclusively breast-fed infants 4-6 months of age until regular intake of iron-rich foods
- Elemental iron 3-5 mg/kg/day is needed for treatment of iron deficiency, maximum 65 mg/day
- Increase absorption by taking along with vitamin C containing products, avoid taking with milk
- Once a day dosing or every other day dosing is superior to twice or thrice a day dosing with lesser GI side effects
- Anticipated response to oral iron : Increase in reticulocyte count in 1 week, 1-2 g/dl rise in hemoglobin in 2-4 weeks
- Continue oral iron therapy at least for 3-6 months until normalization of ferritin

Iron	Formulation	Cost	To Note
Ferrous sulfate	325 mg tablet (65 mg elemental iron/tablet) 200 mg tablet (65 mg elemental iron/tablet) 300 mg/5 mL oral syrup (60 mg elemental iron/ 5 mL) 220 mg/5 mL oral elixir (44 mg elemental iron /5 mL) 75 mg/mL oral solution (15 mg elemental iron/1 mL)	\$	<ul style="list-style-type: none"> - Most commonly used with known efficacy - Frequent GI side effects – can be improved with once a day dosing - Slow release- enteric coated forms have lesser GI side effects but lower absorption - Liquid forms cause staining of teeth
Iron polysaccharide	Several formulations available – e.g Novoferrum (Typically, 15 mg elemental iron/1 ml, 50-60 mg elemental iron/tablet)	\$\$	<ul style="list-style-type: none"> - Better tasting flavors than ferrous sulfate, especially liquid forms for toddlers - Slower hemoglobin response than ferrous sulfate
Iron bisglycinate	Several formulations available – e.g Ferrachel (Typically, 18 mg elemental iron/15 ml, 28 mg capsule)	\$\$	<ul style="list-style-type: none"> - Chelated form of iron reportedly better absorbed with fewer GI side effects - Robust data unavailable regarding bioavailability - Needs larger liquid volume for same dose of elemental iron