



PEDIATRIC IRON DEFICIENCY ANEMIA

NGN NCLEX HIGH-YIELD REVIEW

Most Common Nutritional Deficiency

Peds Hematology

2026 Test Plan

PEAK AGE

6–24 mo

Toddlers · "Milk Babies"

TYPE OF ANEMIA

Microcytic

Hypochromic

GOLD STANDARD LAB

↓ Ferritin

Iron stores depleted



PATHOPHYSIOLOGY

- ▶ Insufficient iron → ↓ hemoglobin synthesis
- ▶ RBCs become **small (microcytic)** & **pale (hypochromic)**
- ▶ ↓ O₂ carrying capacity → tissue hypoxia
- ▶ Most common in rapid growth phases
- ▶ Iron stores from mom deplete by **4–6 months**



RISK FACTORS

- ▶ **Cow's milk < 12 months** (#1 risk!)
- ▶ > 24 oz cow's milk/day after 1 yr
- ▶ Premature / low birth weight infants
- ▶ Exclusive breastfeeding > 6 mo w/o iron
- ▶ Adolescent girls (menstruation, growth)
- ▶ Low socioeconomic status / poor diet



SIGNS & SYMPTOMS — What You'll See

- ▶ **Pallor** (palms, conjunctiva, nail beds)
- ▶ **Fatigue**, weakness, irritability
- ▶ **Pica** — eating ice, dirt, paper, clay
- ▶ Tachycardia, systolic murmur
- ▶ **Koilonychia** (spoon-shaped nails)
- ▶ Glossitis (smooth, red tongue)
- ▶ Delayed growth / cognitive development
- ▶ "Milk baby" — chubby, pale, poor appetite



MNEMONIC — Remember "ANEMIC"

A

Anorexia

N

Nail changes

E

Exhaustion

M

Murmur

I

Irritable

C

Chubby pallor



LAB VALUES — IDA Classic Picture

Lab	Normal (Peds)	IDA Finding	Why It Matters
Hemoglobin (Hgb)	11–16 g/dL	↓ < 11 g/dL	First value that drops
Hematocrit (Hct)	33–43%	↓	3× the Hgb (rule of 3)
MCV	77–95 fL	↓ Microcytic	Small RBCs
MCHC	32–36 g/dL	↓ Hypochromic	Pale RBCs
Serum Ferritin ★	7–140 ng/mL	↓↓	Most sensitive — iron stores
TIBC	240–450 mcg/dL	↑	Body craving iron
RDW	11.5–14.5%	↑	Varied RBC sizes



TREATMENT, TEACHING & RED FLAGS

IRON DEFICIENCY ANEMIA — PART 2

● FERROUS SULFATE — #1 Treatment

Dose: **3–6 mg/kg/day** of elemental iron, PO, divided BID/TID × 3 months AFTER Hgb normalizes

- Give with **VITAMIN C** (OJ) — ↑ absorption
- **AVOID** with milk, antacids, tea — ↓ absorption
- Expect **BLACK, TARRY stools** — normal, not bleeding
- Reticulocytes ↑ in 3–5 days — early response
- Give **BETWEEN meals** — empty stomach
- Use a **STRAW / dropper behind teeth** — stains teeth
- **Constipation common** — ↑ fluids & fiber
- **Store out of reach!** — #1 pediatric poisoning

01 IRON-RICH FOODS — Client Teaching

Heme iron (animal — better absorbed) | **Non-heme iron** (plant — pair w/ vitamin C)

Red Meat	Liver	Egg Yolks	Beans	Spinach	Fort. Cereal
Orange	Strawberry	Bell Pepper	Tomato	Broccoli	Cantaloupe

02 PREVENTION (Age-Based)

- ▶ **0–6 mo:** Breastmilk OR iron-fortified formula
- ▶ **4–6 mo:** Start iron-fortified infant cereal
- ▶ **6–12 mo:** Pureed meats, iron-rich solids
- ▶ **NO cow's milk before 12 months** ★
- ▶ **After 12 mo:** Limit milk to ≤ 24 oz/day
- ▶ Premies: iron supplements at 2 months
- ▶ Screen Hgb at **12 months** (routine)

03 NURSING INTERVENTIONS

- ▶ **Assess** pallor, fatigue, HR, growth
- ▶ Plan **frequent rest periods** → ↓ O₂ demand
- ▶ Small, frequent meals; limit milk intake
- ▶ Admin iron correctly (see med box above)
- ▶ Monitor Hgb & reticulocyte response
- ▶ Provide **safety** — tachycardia, dizziness
- ▶ Educate family on iron poisoning risk

⚠ NCLEX RED FLAG — Iron Overdose (Accidental)

Iron is the **#1 cause of pediatric poisoning death**. Signs: **vomiting, bloody diarrhea, shock, metabolic acidosis, hematemesis**. Antidote = **DEFOXAMINE (chelator)**. Store iron in child-proof containers, out of reach. Teach parents: "One adult pill can kill a toddler."

NGN TIP

Watch for the **"milk-only" toddler** with **pallor + irritability**. Answer choices featuring **"limit milk to 24 oz/day"** and **"give iron with vitamin C between meals"** are almost always correct.

04 PRIORITY / SATA HOT-PICKS

- ▶ **Priority:** VS (tachy)
- ▶ **Teach:** iron + OJ
- ▶ **Hgb < 7:** transfuse
- ▶ **Risk:** cognitive delay
- ▶ **Lab:** Hgb & ferritin
- ▶ **Expect:** black stools
- ▶ **Recheck** Hgb 4 wks
- ▶ **Antidote:** Deferoxamine

05 DON'T CONFUSE — Quick Peds Anemia Compare

★ NGN NCLEX PEDS REVIEW · Page 2 of 2 · Study. Slay. Pass. ★

Type	RBC Size	Key Clue	Treatment
Iron Deficiency	Microcytic, hypochromic	Milk baby, pica, ↓ ferritin	Ferrous sulfate + diet
Sickle Cell	Normocytic, crescent	African descent, pain crisis	Hydration, O ₂ , pain mgmt
Thalassemia	Microcytic	Mediterranean, normal ferritin	Transfusions, chelation
Aplastic	All cell lines ↓	Pancytopenia, infections	Bone marrow transplant