

PEDIATRIC HEMATOLOGY:

Anemia

1. **Definition:** There are age related changes in the definition of anemia, so age related standards should be used. Anemia is defined as a hemoglobin or hematocrit > 2 standard deviations below the mean normal level for a given age or gender. After the newborn period, during most of childhood, anemia is defined as a hemoglobin < 11.0 gm/dL and a hematocrit < 33%. African – American children may have a hemoglobin level 0.5 gm/dL lower than Caucasian or Oriental children. Other cell lines in CBC should be normal. Anemia may be present in a variety of systemic disorders.

2. **Relevant Information** (family history, past medical history, medication):
 - Previous blood count
 - Ethnic background of both parents
 - Neonatal anemia or jaundice. Results of neonatal screening for hemoglobinopathies. Birth weight.
 - Family history of anemia, gall stones, splenectomy
 - Diet. Type of infant formula. 24 hour recall
 - Medications
 - Blood loss
 - Symptoms

3. **Physical Exam** (pertinent finding especially for referral):
 - Pallor, paleness of mucous membranes and conjunctiva
 - Scleral icterus
 - Splenomegaly
 - “Hemic” systolic heart murmur

4. **Initial Screening Studies:** Complete blood count done on venous blood by an electronic counter which includes: WBC and differential, platelets, RBC, Hbg, Hct, MCV, MCH, RDW, reticulocyte count and description of RBC morphology.

When appropriate, additional studies might include: ESR, serum ferritin and hemoglobin electrophoresis, including Hemoglobin A₂ level, Stool guiac.

5. **Disposition (Who should be referred):**
 - Children with more severe degrees of anemia (HB < 7.5 gm/dL)
 - Children with anemia plus low WBC and/or thrombocytopenia to rule out significant bone marrow disease
 - Children with probable hemolytic anemia – anemia, high reticulocyte count
 - If the diagnosis is not evident by the screening studies, or if there is parental anxiety

Referral to Pediatric Hematology (Howard Pearson, MD): Fax (203) 737 2228, Telephone (203) 785 4640.