Anemia Testing

**INDICATIONS FOR TESTING**
Fatigue, weakness, pallor, dizziness, fainting

**ORDER**
- CBC with Platelet Count and Automated Differential (including RBC indices and morphology on manual differential)
- Reticulocytes, Percent & Number

Anemia present on CBC (males Hgb <13g/dL, females Hgb <12g/dL)
**AND**
- Corrected reticulocyte index ≥2.5

Classify by RBC indices
- Normocytic, normochromic (normal MCV, MCHC) (suggests hypoproliferation)
- Microcytic, hypochromic (low MCV, MCHC) (suggests maturation defects)
- Macrocytic (high MCV) (suggests maturation defects)

Suspect hemorrhage and acute blood loss

Suggestions for hemolytic process:
- Metabolic defect (see PNH Consult topic)
- Hemoglobinopathies (eg, sickle cell) (see Hemolytic Anemias Testing Algorithm)
- Autoimmune destruction
- Splenic sequestration
- RBC membrane defect (see Hemolytic Anemias Consult topic)
- Intravascular hemolysis (see Hemolytic Anemias Consult topic)

Abnormal peripheral smear
- Iron and Iron Binding Capacity
- Ferritin

If no obvious chronic disease present, consider bone marrow biopsy

**Abbreviations and Formula**

<table>
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>MCV</td>
<td>mean cell volume</td>
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<tr>
<td>MCHC</td>
<td>mean cell hemoglobin concentration</td>
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<td>TIBC</td>
<td>total iron binding capacity</td>
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Reticulocyte correction for anemia:

\[
\text{ReticCount}\% = \frac{\text{Hgb}}{\text{Htc}} \times \frac{1}{\text{Maturation time correction}}
\]

(use 2 for most patients)

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