

Low Hb/Hct



Retic count – corrected = ARC = %retic * RBC count or
 Corrected RC = %retic * (Hct/45)

<2%
 Decreased production



MCV

>2%
 Increased destruction



< 80
 Microcytic

Ferritin
 < 20 Fe def
 >100 Not Fe def
 20-100 50% of Fe def

- Fe deficiency:
 Low serum iron,
 Elevated TIBC
 (transferrin), Low %sat
 (Fe/TIBC or %
 transferrin sat)

- Anemic of chronic
 disease
 Normal – high ferritin,
 Low serum iron, Low
 TIBC, Low %sat

- **Thalassemia**
 More microcytic than
 anemic (Fe def more
 anemic than microcytic)

- **Sideroblastic anemia**
 Drugs, EtOH, Lead,
 Primary

80-94
 Normocytic

Decreased “demand”

- Renal failure –
 decreased Epo

- Androgen
 deficiency

- Hypothyroidism

- Adrenal failure

- Myelophthistic
 (marrow
 replacement,
 fibrosis) – tear drop
 cells

- Marrow failure -
 pancytopenia

> 94
 Macrocytic

Megaloblastic anemia
 (blastic refers to
 appearance of RBC
 nucleus in bone marrow,
 cytic refers to appearance
 of mature RBC on
 peripheral smear) –
 problem with DNA
 synthesis

- Chemo
 - Myelodysplastic
 syndrome
 - Antiretrovirals
 - B12 deficiency
 - Folate deficiency

Acute Bleeding
 Vs. Hemolysis –
 elevated indirect bili,
 elevated LDH,
 decreased haptoglobin

- Acquired (extrinsic
 defect) vs. inherited
 (intrinsic defect)
 hemolysis

**Acquired:
 Direct Coomb’s**

+	–
Immune cause: Drug-indt	Nonimmune cause: Hypersplenism, Microangiopathic (schistocytes), Low phos,

**Inherited:
 Peripheral smear**

- Hereditary
 spherocytosis
 - Sickle cell
 - G6P deficiency