

immature neutrophils in the peripheral blood from hyperfunction of the bone marrow, as seen during a bacterial infection.

## Red Blood Cell Disorders

### Anemia

The term **anemia** describes a condition in which the number of red blood cells (RBCs) or the hemoglobin (Hgb or Hb) concentration is reduced below normal values for age. This diminishes the oxygen-carrying capacity of the blood, causing a reduction in the oxygen available to the tissues. The anemias are the most common hematologic disorder of infancy and childhood and are not diseases but an indication or manifestation of an underlying pathologic process.

### Classification

Anemias can be classified using two basic approaches: **etiology** or **physiology**, manifested by erythrocyte or Hgb depletion, and **morphology**, the characteristic changes in RBC size, shape, or color ([Box 24-1](#)). Although the morphologic classification is useful in terms of laboratory evaluation of anemia, the etiology provides direction for planning nursing care. For example, anemia with reduced Hgb concentration may be caused by a dietary depletion of iron, and the principal intervention is replenishing iron stores. The classification of anemias is found in [Fig. 24-1](#).

#### **Box 24-1**

### Red Blood Cell Morphology

#### Size (Cell Size)

Variation in RBC sizes (anisocytosis)

- Normocytes (normal cell size)
- Microcytes (smaller than normal cell size)
- Macrocytes (larger than normal cell size)