

common result at 3 to 6 months old is **physiologic anemia**. High levels of fetal hemoglobin depress the production of erythropoietin, a hormone released by the kidneys that stimulates RBC production.

Maternally derived iron stores are present for the first 5 to 6 months of life and gradually diminish, which also accounts for lowered hemoglobin levels toward the end of the first 6 months. The occurrence of physiologic anemia is not affected by an adequate supply of iron. However, when erythropoiesis is stimulated, iron stores are necessary for the formation of hemoglobin.

The digestive processes are relatively immature at birth. Although term newborn infants have some limitations in digestive function, human milk has properties that partially compensate for decreased digestive enzymatic activity, thus enabling breastfed infants to receive optimal nutrition during the first several months of life. The enzyme amylase (also called *ptyalin*) is present in small amounts but usually has little effect on the foodstuffs because of the small amount of time the food stays in the mouth. Gastric digestion in the stomach consists primarily of the action of hydrochloric acid and rennin, an enzyme that acts specifically on the casein in milk to cause the formation of **curds**—coagulated semisolid particles of milk. The curds cause the milk to be retained in the stomach long enough for digestion to occur.

Digestion also takes place in the duodenum, where pancreatic enzymes and bile begin to break down protein and fat. Secretion of the pancreatic enzyme **amylase**, which is needed for digestion of complex carbohydrates, is deficient until about the fourth to sixth month of life. **Lipase** is also limited, and infants do not achieve adult levels of fat absorption until 4 to 5 months old. **Trypsin** is secreted in sufficient quantities to catabolize protein into polypeptides and some amino acids.

The immaturity of the digestive processes is evident in the appearance of stools. During infancy, solid foods (e.g., peas, carrots, corn, raisins) are passed incompletely broken down in the feces. An excess quantity of fiber easily disposes infants to loose, bulky stools.

During infancy, the stomach enlarges to accommodate a greater volume of food. By the end of the first year, infants are able to tolerate three meals a day and an evening bottle and may have one or two bowel movements daily. However, with any type of gastric