

activity of the enzyme **glucuronyl transferase** is reduced, which affects the conjugation of bilirubin with glucuronic acid and contributes to physiologic jaundice of newborns. The liver is also deficient in forming plasma proteins. The decreased plasma protein concentration probably plays a role in the edema usually seen at birth. Prothrombin and other coagulation factors are also low. The liver stores less glycogen at birth than later in life. Consequently, newborns are prone to hypoglycemia, which may be prevented by early and effective feeding, ideally breastfeeding.

Some salivary glands are functioning at birth, but the majority do not begin to secrete saliva until about age 2 to 3 months, when drooling is frequent. Newborn stomach capacity is difficult to determine; however, [Bergman \(2013\)](#) reviewed six published studies exploring this, concluding that stomach capacity is about 20 ml at birth, thus, infants require small feedings at 1 hour intervals. The colon also has a small volume; newborns may have a bowel movement after each feeding. Newborns who breastfeed usually have more frequent feedings and more frequent stools than infants who receive formula.

An infant's intestine is longer in relation to body size than that of the adult. Therefore, there are a larger number of secretory glands and a larger surface area for absorption compared with an adult's intestine. Infants have rapid peristaltic waves and simultaneous nonperistaltic waves along the entire esophagus, which propel nutrients forward. The relative immaturity of the peristaltic waves combined with decreased lower esophageal sphincter (LES) pressure, inappropriate relaxation of the LES, and delayed gastric emptying make regurgitation a common occurrence. Progressive changes in the stooling pattern indicate a properly functioning gastrointestinal tract ([Box 7-1](#)).

Box 7-1

Change in Stooling Patterns of Newborns

Meconium

Infant's first stool; composed of amniotic fluid and its constituents, intestinal secretions, shed mucosal cells, and possibly blood (ingested maternal blood or minor bleeding of alimentary tract)