stressed by an attempt to feed too rapidly. It is important not to tire the infants or overtax their capacity to retain the feedings. When infants require a prolonged time (arbitrarily, more than 30 minutes) to complete a feeding, gavage feeding may be considered for the next time.

A developmental approach to feeding considers the individual infant's readiness rather than initiating feedings based on weight and age or a predetermined time schedule. Feeding readiness is determined by each infant's medical status, energy level, ability to sustain a brief quiet alert state, gag reflex (demonstrated with a gavage tube insertion), spontaneous rooting and sucking behaviors, and hand-to-mouth behaviors (Jones, 2012; Newland, L'hullier, and Petrey, 2013). A preterm infant may experience difficulty coordinating sucking, swallowing, and breathing with resultant apnea, bradycardia, and decreased oxygen saturation. The infant's ability to suck on a pacifier does not indicate complete readiness for nipple feeding or ability to coordinate the aforementioned activities without some degree of stress; a gradual introduction of nippling in preterm infants is based on careful evaluation of their ability to maintain adequate cardiopulmonary functions while feeding. When infants are unable to tolerate bottle feedings, intermittent feedings by gavage are instituted until they gain enough strength and coordination to use the nipple.

Nursing Alert

Poor feeding behaviors such as apnea, bradycardia, cyanosis, pallor, and decreased oxygen saturation in any infant who has previously fed well may indicate an underlying illness.

The nipple used should be relatively firm and stable. Although a high-flow, pliable nipple requires less energy to use, it may provide a flow rate that is too rapid for some preterm infants to manage without a risk of aspiration. A firmer nipple facilitates a more "cupped" tongue configuration and allows for a more controlled, manageable flow rate.

The infant is positioned in the feeder's arms or placed semiupright in the lap (Fig. 8-8) and is held with the back curved slightly to simulate the position assumed naturally by most full-