

exercising for an adult, and these infants often do not have the energy or cardiac reserve to do extra work. The nurse seeks measures to enable the infant to feed easily without excess fatigue and to increase the caloric density of the formula.

The infant should be well rested before feeding and fed soon after awakening so as not to expend energy on crying. A 3-hour feeding schedule works well for many infants. (Feeding every 2 hours does not provide enough rest between feedings, and a 4-hour schedule requires an increased volume of feeding, which many infants are unable to take.) The feeding schedule should be individualized to the infant's needs. A feeding goal of 150 ml/kg/day and at least 120 kcal/kg/day is common for newborns with significant heart disease (Steltzer, Rudd, and Pick, 2005). A soft preemie nipple or a slit in a regular nipple to enlarge the opening decreases the infant's energy expenditure while sucking. Infants should be well supported and fed in a semiupright position. Infants may need to rest frequently and may need to have the jaw and cheeks stroked to encourage sucking. Generally, giving an infant about a half hour to complete a feeding is reasonable. Prolonging the feeding time can exhaust the infant and decrease the rest period between feedings.

Infants with feeding difficulties are often gavage fed using a nasogastric tube to supplement their oral intake and ensure adequate calories. If they are very stressed and fatigued, experiencing signs of respiratory distress, or tachypneic to 80 to 100 breaths/min, oral feedings may be withheld and all nutrition given by gavage feedings. Gavage feedings are usually a temporary measure until the infant's medical status improves and nutritional needs can be met through oral feedings. Some infants with severe HF, neurologic deficits, or significant gastroesophageal reflux may need placement of a gastrostomy tube to allow adequate nutrition.

The caloric density of formulas is frequently increased by concentration and then adding Polycose, medium-chain triglyceride oil, or corn oil. Infant formulas provide 20 kcal/oz, and the use of additives can increase the calories to 30 kcal/oz or more. This allows the infant to obtain more calories despite a smaller volume intake of formula. The caloric density of the formula needs to be increased slowly (by 2 kcal/oz/day) to prevent diarrhea or formula intolerance. Breastfeeding mothers are encouraged to provide the infant with alternating feedings of breast milk and high-calorie