

demonstrated pain relief potential. Having the mother hold the infant in skin-to-skin contact has been shown to significantly reduce the child's distress during the procedure ([Johnston, Fillion, Campbell-Yeo, et al, 2009](#); [Johnston, Stevens, Pinelli, et al, 2003](#)). Use of music as a calming measure for neonates was explored in a systematic review of nine studies ([Hartling, Shaik, Tjosvold, et al, 2009](#)). The authors concluded that although there was preliminary evidence for some therapeutic benefits of music for specific indications, more methodologically rigorous trials are needed to determine the contribution of music to neonatal pain relief. A recent Cochrane Review examined 51 randomized controlled trials and concluded that nonpharmacologic interventions (such as nonnutritive sucking, skin-to-skin holding, swaddling/facilitated tucking, and rocking or holding) can significantly manage pain behaviors associated with painful procedures in preterm infants, neonates, and older infants ([Pillai Riddell, Racine, Turcotte, et al, 2011](#)).

These studies provide evidence of a number of effective ways to decrease the pain associated with heel puncture in full-term and preterm newborns. It is essential that nurses use all available resources to advocate for the prevention and management of neonatal pain during such procedures. Because the overall goal is to decrease the effect of painful interventions such as heel stick on infants, a combination of pharmacologic and nonpharmacologic interventions is recommended. Also see the Atraumatic Care box later in this chapter.

The American Academy of Pediatrics recommends routine prenatal and perinatal human immunodeficiency virus (HIV) counseling and testing for all pregnant women ([Pickering, American Academy of Pediatrics, Committee on Infectious Diseases, 2012](#)). Benefits of early identification of HIV-infected infants are early antiretroviral therapy and aggressive nutritional supplementation; appropriate changes in their immunization schedule; monitoring and evaluation of immunologic, neurologic, and neuropsychologic functions for possible changes caused by antiretroviral therapy; initiation special educational services; evaluation for the need of other therapies, such as immunoglobulin for the prevention of bacterial infections; tuberculosis screening and