

as heel punctures, in preterm and newborn infants ([Meek and Huertas, 2012](#); [Pillai Riddell, Racine, Turcotte, et al, 2011](#)) (see [Research Focus](#) box).

Research Focus

Nonpharmacologic Methods of Pain Management— Preterm and Newborn Infants

Sucrose is safe and effective in reducing pain during needle sticks in neonates ([Stevens, Yamada, Ohlsson, et al, 2004](#)). In a randomized controlled trial of 71 infants comparing oral sucrose, facilitated tucking, and a combination of both interventions, sucrose with and without facilitated tucking had pain-relieving effects ([Cignacco, Sellam, Stoffel, 2012](#)). Significant differences were found in pain responses during heel lancing between infants who were kangaroo held and those who were not. Infant responses to pain during heel lance procedures were studied using kangaroo holding ([Fig. 5-6](#)), with the neonate held upright at a 60-degree angle between the mother's breasts for maximal skin-to-skin contact ([Johnston, Stevens, Pinelli, et al, 2003](#)). A blanket was placed over the neonate's back, and the mother's clothes were wrapped around the neonate for 30 minutes before the lancing procedure, during, and at least 30 minutes after the heel stick. Another group remained in the isolette in a prone position, swaddled with a blanket and the heel accessible, for 30 minutes before the heel lancing procedure. Pain scores were significantly lower in kangaroo-held infants.

Although there is lack of evidence on the effectiveness of sweet-tasting solutions in reducing injection pain in infants and children 1 to 12 months old, the data is promising ([Kassab, Foster, Foureux, et al, 2012](#)). A recent randomized controlled trial found sucrose reduced 16- to 19-month-old infant distress during immunizations ([Yilmaz, Ceylan, Oguz, et al, 2014](#)).