What measures are effective in reducing pain experienced during routine childhood immunizations for infants and children 0 to 18 months old?

Search for the Evidence

Search Strategies

Search selection criteria included English publications within past 10 years, research-based articles (level 1 or lower) on infants and children (0 to 18 months old) receiving routine childhood immunizations.

Databases Used

PubMed, Cochrane Collaboration, MD Consult, Joanna Briggs Institute, National Guideline Clearinghouse (AHQR), TRIP Database Plus, PedsCCM, BestBETs

Critically Analyze the Evidence

Injection Techniques

- Needle length (longer versus shorter needle)

- A systematic review conducted by Davenport (2004) identified two small classic studies that demonstrated that a 25-mm-long needle produced less redness and swelling compared to a 16-mm-long needle when used during routine childhood immunizations. Study A (Ipp, Gol, Goldbach, et al, 1989) and Study B (Diggle and Deeks, 2000) both examined the effect of needle length on local reaction (redness and swelling) in infants and children, 0 to 24 months old, receiving routine DTP-polio immunizations. The 25-mm needle produced less redness and swelling compared to the 16-mm needle but was not associated with lower pain scores.