

randomised controlled trial. *BMJ*. 2000;321(7266):931–933.

Diggle L, Deeks JJ, Pollard AJ. Effect of needle size on immunogenicity and reactogenicity of vaccines in infants: randomized controlled trial. *BMJ*. 2006;333(7568):571.

Groswasser J, Kahn A, Bouche B, et al. Needle length and injection technique for efficient intramuscular vaccine delivery in infants and children evaluated through an ultrasonographic determination of subcutaneous and muscle layer thickness. *Pediatrics*. 1997;100(3 Pt 1):400–403.

Guyatt GH, Oxman AD, Vist GE, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMJ*. 2008;336(7650):924–926.

National Center for Immunization and Respiratory Diseases. Centers for Disease Control and Prevention. General recommendations on immunization—recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recomm Rep*. 2011;60(2):1–64.

Ogston-Tuck S. Intramuscular injection technique: an evidence-based approach. *Nurs Stand*. 2014;29(4):52–59.

Ogston-Tuck S. Subcutaneous injection technique: an evidence-based approach. *Nurs Stand*. 2014;29(3):53–58.

Zuckerman J. The importance of injecting vaccines into muscle. *BMJ*. 2000;321(7271):1237–1238.

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\*See also [Intramuscular Administration](#), Chapter 20.

An important nursing responsibility is accurate documentation. Each child should have an immunization record for parents to keep, especially for families who move frequently. Although immunization rates have increased significantly, health professionals should use every opportunity to encourage complete immunization of all children (see [Community Focus](#) box). Blank immunization records may be downloaded from a number of websites, including the Immunization Action Coalition ([www.immunize.org](http://www.immunize.org)), which has vaccine information and records in a number of languages.