

REFERENCES

- 1 **Jay S.** Invasive medical procedures: psychological intervention and assessment. In: Routh D, ed. *Handbook of pediatric psychology*. New York: Guilford, 1998:410–25.
- 2 **Schechter N.** Management of pain associated with acute medical illness. In: Schechter B, Berde CB, Yaster M, eds. *Pain in infants, children and adolescents*. Baltimore: Williams and Wilkins, 1993.
- 3 **Jacobson RM, Swan A, Adegberno A, et al.** Making vaccines more acceptable - methods to prevent and minimize pain and other common adverse events associated with vaccines. *Vaccine* 2001;**19**:2418–27.
- 4 **The Vaccine Administration Taskforce.** *UK Guidance on best practice in vaccine administration*, London: Shire Hall Communications, 2001.
- 5 **Chiodini J.** Best practice in vaccine administration. *Nurs Stand* 2001;**16**:35–8.
- 6 **Beyea S, Nicoll L.** Administration of medications via the intramuscular route: an integrative review of the literature and research-based protocol for the procedure. *Appl Nurs Res* 1995;**8**:23–3.
- 7 **Rodger MA, King L.** Drawing up and administering intramuscular injections: a review of the literature. *J Adv Nurs* 2000;**31**:574–82.
- 8 **Zelman S.** Notes on techniques of intramuscular injection. *Am J Med Sci* 1961;**241**:47–58.
- 9 **Chiodini J.** Vaccine administration. *Nurs Stand* 2000;**14**:38–42.
- 10 **Workman B.** Safe injection technique. *Nurs Stand* 1999;**13**:47–53.
- 11 **Ipp M, Sam J, Parkin P.** Needle aspiration and intramuscular immunization. *Arch Pediatr Adolesc Med* 2006;**160**:451.
- 12 **Committee on Infectious Diseases.** Active immunization: report of the Committee on Infectious Diseases. In: Pickering LK, ed. *Red book*, 26th ed. Elk Grove Village, IL: American Academy Paediatrics, 2003:7–53.
- 13 **National Advisory Committee on Immunization.** *Canadian immunization guide*, 6th ed. Ottawa: Ministry of Health, 2002.
- 14 **Committee on Infectious Diseases.** Active immunization: report of the Committee on Infectious Diseases. In: Pickering LK, ed. *Red book*. 27th ed. Elk Grove Village, IL: American Academy Paediatrics, 2006:9–51.
- 15 **Taddio A, Nulman I, Koren BS, et al.** A revised measure of acute pain in infants. *J Pain Symptom Manage* 1995;**10**:456–63.
- 16 **Ipp M, Taddio A, Goldbach M, et al.** Effects of age, gender and holding on pain response during infant immunization. *Can J Clin Pharmacol* 2004;**11**:e2–7.
- 17 **O'Brien L, Taddio A, Ipp M, et al.** Topical 4% amethocaine gel reduces the pain of subcutaneous measles-mumps-rubella immunization. *Pediatrics* 2004;**114**:e720–4.
- 18 **Peragallo-Dittko V.** Aspiration of the subcutaneous insulin injection: clinical evaluation of needle size and amount of subcutaneous fat. *Diabetes Educ* 1995;**21**:291–6.
- 19 **Taddio A, Nulman I, Goldbach M, et al.** Use of lidocaine-prilocaine cream for immunization pain in infants. *J Pediatr* 1994;**124**:643–8.
- 20 **Ipp MM, Gold R, Greenberg S, et al.** Acetaminophen prophylaxis of adverse reactions following immunization of infants with diphtheria-pertussis-tetanus-toxoids-polio vaccine. *Pediatr Infect Dis J* 1987;**6**:721–5.
- 21 **Huang FY, Huang LM.** Effect of local massage on immunization: DTP and DTPa. *Acta Paediatr Taiwan* 1999;**40**:166–70.
- 22 **Ipp MM, Gold R, Goldbach M, et al.** Adverse reactions to diphtheria, tetanus, pertussis-polio immunization at 18 months of age: effect of injection site and needle length. *Pediatrics* 1989;**83**:676–82.
- 23 **Ipp M, Goldbach M, Greenberg S, et al.** Effect of needle change and air bubble in syringe on minor adverse reactions associated with DTP-polio immunization in infants. *Pediatr Infect Dis* 1990;**9**:291–2.
- 24 **Gouvernement du Québec.** Santé et Services sociaux Québec. Immunisation 2007. Available at <http://msssa4.msss.gouv.qc.ca/santpub/immunisa.nsf/liste?OpenView> (accessed 24 August 2007).

ARCHIVIST.....

SSRIs in pregnancy: small risk of birth defects?

Selective serotonin-reuptake inhibitors (SSRIs) were introduced as a new class of antidepressant drugs in the late 1980s. Recently, there have been reports of increased risk of birth defects associated the use of some SSRIs in early pregnancy, but now two reports in one issue of the *New England Journal of Medicine* suggest that the risk is small (Carol Louik and colleagues. *New England Journal of Medicine* 2007;**356**:2675–83; Sura Alwan and colleagues. *Ibid*: 2684–92; see also Editorial, *ibid*: 2732–3).

The Slone Epidemiology Center Birth Defects Study began in 1976 and includes areas around Boston, Philadelphia, Toronto, San Diego and part of New York State. The analysis included 9849 infants with birth defects and 5860 infants without birth defects born between 1993 and 2004. The use of SSRIs overall in the first trimester was not associated with significantly increased risks of defects previously associated with SSRI use (craniosynostosis, omphalocele or heart defects). Among individual SSRIs there were significant associations between use of sertraline and risk of omphalocele or septal defect, and use of paroxetine and risk of right ventricular outflow tract obstruction defects. The absolute risks, however, were small.

The National Birth Defects Prevention Study includes data for 9622 infants with birth defects and 4092 control infants born between 1997 and 2002 in eight US states. There were no significant associations between overall SSRI use and congenital heart defects or most other defects. There were statistically significant associations between SSRI use and anencephaly, craniosynostosis and omphalocele, but again the absolute risks were small.

Some SSRIs may increase the risk of some birth defects if taken in early pregnancy, but the absolute risks are small.