The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynyk and Fineout-Overholt (2011).

I Evidence obtained from a systematic review of all relevant randomised control trials.

II Evidence obtained from at least one well designed randomised control trial.

III Evidence obtained from well-designed controlled trials without randomisation.

IV Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case- series

V Evidence obtained from systematic reviews of descriptive and qualitative studies

VI Evidence obtained from single descriptive and qualitative studies

VII Expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology V

Melynyk, B. & Fineout-Overholt, E. (2011). *Evidence-based practice in nursing & healthcare: A guide to best practice (2nd ed.).* Philadelphia: Wolters Kluwer, Lippincott Williams & Wilkins.

National Health and Medical Research Council (2009). *NHMRC levels of evidence and grades for recommendations for developers of guidelines* (2009). Australian Government: NHMRC. http://www.nhmrc.gov.au/_files_nhmrc/file/guidelines/evidence_statement_form.pdf

OCEBM Levels of Evidence Working Group Oxford (2011).*The Oxford 2011 Levels of Evidence*. Oxford Centre for Evidence-Based Medicine. http://www.cebm.net/index.aspx?o=1025

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Reference ***(include title, author, journal title, year of publication, volume and issue, pages)***	**Method**	**Evidence level (I-VII)**	**Key findings, outcomes or recommendations**
Hull B P, Dey A, Menzies R I, Brotherton J M and McIntyre P B. (2012). Annual Report – Immunisation Coverage, 2012. *Communicable Diseases Intelligence,* 38 (3), E208 – E231.	Expert opinion	V	• Immunisation coverage report of standard age milestones and for individual vaccines on the National Immunisation Program • Indigenous and non-Indigenous comparisons • Percentage of children whose parents officially object to vaccination
National Health and Medical Research Council (NHMRC) (2013). The Australian Immunisation Handbook, 10th Edition, p.24-103.	Text book	V	• Provides clinical guidelines for health professionals on the safest and most effective use of vaccines in their practice. • Recommendations are developed by the Australian Technical Advisory Group on Immunisation (ATAGI) and considered for approval by the National Health and Medical Research Council (NHMRC) (under section 14A of the *NHMRC Act 1992*) • Provides guidance based on the best scientific evidence available at the time of publication from published and unpublished literature.
Grayson ML, Russo P, Ryan K, Havers S and Heard K. (2010) Hand Hygiene Australia - 5 moments for hand hygiene. Australian Commission on Safety and Quality in Healthcare, 2010.	Expert opinion	V	• Provides a practical step-by-step guide to implementing and sustaining the Han Hygiene culture-change and how to participate in the National Hand Hygiene Initiative.

Hutin Y, Hauri A, Chiarello L, Catlin M, Stilwell B, Ghebrehiwet T and Garner J (2003). Best infection control practices for intradermal, subcutaneous, and intramuscular needle injections**.** *Bulletin of the World Health Organization***,** 81:491-500	Literature review	V	• Describes best infection control practices when administering injections including the use of sterile injection equipment, the prevention of contamination of injection equipment and medication as well as the prevention of needle-stick injuries to the provider
Diggle L, Deeks JJ, Pollard AJ (2006). Effect of needle size on immunogenicity and reactogenicity of vaccines in infants: randomised controlled trial, *British Medical Journal*;333:571.	Randomised Controlled Trial	II	• Long (25 mm) needles for infant immunisations can significantly reduce vaccine reactions at each dose while achieving comparable immune responses to that of short (16 mm) needles.
Harrison D, Elia S, Manias E and Royle J (2014). Sucrose and lollypops to reduce immunisation pain in toddlers and young children: Two pilot randomised controlled trials. *Neonatal, Paediatric & Child Health Nursing,* 17(1): 19-26	Randomised Controlled Trial	II	• Double-blinded RCT of 33% sucrose (intervention) compared to water (control) in toddlers receiving their 12- or 18-month immunizations demonstrated no significant differences in crying time or pain scores between intervention and control group • Non-blinded RCT of lollypop compared to standard care (active distraction using bubble and pin wheel blowing) in pre-school children aged 3-5 years demonstrated no difference in crying time or pain scores • The study interventions were acceptable to children and parents, and the trials feasible to conduct.
Taddio A, Appleton M, Bortolussi R, Chambers C, Dubey V, Halperin S, Hanrahan A, Ipp M, Lockett D, MacDonald N, Midmer D, Mousmanis P, Palda V, Pielak K, Pillai Riddell R, Rieder M, Scott J and Shah V (2010). Reducing the pain of childhood vaccination: an evidence-based clinical practice guideline. *CMAJ Canadian Medical Association Journal*;182:E843-55	Literature review	V	• Simple, cost-effective, evidence-based pain-relieving strategies are available, combining pharmacologic, physical and psychological factors • Recommendations such as breastfeeding, positioning, order of vaccines, rapid injection technique, topical anaesthetic agents and distraction techniques are discussed.