

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

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>

Reference (include title, author, journal title, year of publication, volume and issue, pages)	Evidence level (I-VII)	Key findings, outcomes or recommendations
Stevens, B., et al. (2004). Sucrose for analgesia in newborn infants undergoing painful procedures. <i>Cochrane Database of Systematic Reviews</i> 2004, Issue 3. (Issue 2).	I	<p>Sucrose reduces procedural pain from heel lance and venepuncture in neonates, with minimal to no side effects.</p> <p>Very small doses are efficacious in very low birth weight infants while larger doses reduce the proportion of time crying in term infants following a painful procedure.</p> <p>Routine use of sucrose to be administered approximately 2 minutes prior to single heel lances and venepunctures for pain relief in neonates.</p> <p>Other methods of pain relief should also be considered for use in combination with sucrose to more significantly reduce or eliminate pain in this population.</p>
Harrison, D., et al. (2003). Oral sucrose for procedural pain in sick hospitalized infants: A randomized-controlled trial. <i>J Paediatr Child Health</i> , 39(8), 591-597.	II	Oral sucrose is effective in reducing behavioural responses to pain during heel lancing in sick hospitalized infants with a previous history of surgery and opioid administration.
Stevens, B., et al. (2005). Consistent management of repeated procedural pain with sucrose in preterm neonates: Is it effective and safe for repeated use over time? <i>Clin J Pain</i> , 21(6), 543-548.	II	Consistent use of oral sucrose during the first month of life in premature infants is safe and effective
Harrison, D., et al. (2007). The effectiveness of repeated doses of oral sucrose in reducing procedural pain during the course of an infant's prolonged hospitalisation. <i>J Paediatr Child Health</i> , 43(Supplement 1), A20.	III-3	<p>Consistent use of oral sucrose during a prolonged period of hospitalisation (1 – 5 months) resulted in low behavioural responses to heel lance procedures.</p> <p>A lack of any significant increase or decrease in pain responses is suggestive of a sustained analgesic effect of oral sucrose throughout the full course of an infants' hospitalisation.</p>

<p>Harrison, D. (In Press). Oral sucrose for pain management in infants: Myths and misconceptions. <i>Journal of Neonatal Nursing</i></p>	<p>Literature review</p>	<p>Oral sucrose, when administered to both healthy and sick hospitalised infants, in small volumes prior to acute painful procedures, is a safe, effective, economic, and feasible pain reduction strategy. Sucrose use for pain management is endorsed by the Baby Friendly Health Initiative (BFHI) There is no evidence of increased risk of necrotising enterocolitis, dental caries, bacterial overgrowth or hyperglycemia associated with oral sucrose.</p>
<p>Blass, E., & Ciaramitaro, V. (1994). A new look at some old mechanisms in human newborns. <i>Monogr Soc Res Child Dev</i>, 59(1).</p>	<p>II-2</p>	<p>Oral sucrose failed to calm newborn infants born to mothers on methadone, due to their low levels of circulating endogenous opioids. The same newborn infants were calmed when sucking on a dummy.</p>
<p>Stevens B, Yamada J, Ohlsson A. Sucrose for analgesia in newborn infants undergoing painful procedures. <i>Cochrane database of systematic reviews</i>, 2010, Issue 1.</p>	<p>I</p>	<p>In both single and repeated heel lance procedures the safety and efficacy of oral sucrose use is supported. Sucrose should be administered approximately 2 minutes prior to procedure. Oral sucrose has been found to be effective for use in preterm infants and also reduced crying time in term infants.</p>