

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>

Evidence table: Elective extubation of the neonate

Reference (include title, author, journal title, year of publication, volume and issue, pages)	Evidence level (I-VII)	Key findings, outcomes or recommendations
Australian Resuscitation Council. 2010. <i>Neonatal Guidelines</i> 13.1. Introduction to resuscitation of the newborn infant. Pp 6-8. Available at www.resus.org.au	VII	<ul style="list-style-type: none"> Recommended equipment and drugs for resuscitation of the newborn infant.
Baucalari E and Polin RA. 2012. <i>The Newborn Lung. Neonatology Questions and Controversies</i> . 2 nd ed. P361.	VII	<ul style="list-style-type: none"> Complications/failure of extubation: poor respiratory effort, lose of lung volume with increasing respiratory distress, severe apnoeic episodes, rising oxygen requirements, upper airway damage and obstruction due to oedema and retained secretions.
Davis PG and Henderson-Smart DJ. Nasal continuous positive airway pressure immediately after extubation for preventing morbidity in preterm infants. (Review). The Cochrane Collaboration. <i>The Cochrane Library</i> 2009, Issue 2.	II	<ul style="list-style-type: none"> Nasal CPAP is effective in preventing failure of extubation in preterm infants following a period of endotracheal intubation and IPPV.
Extubation of a patient in PICU. PICU, RCH Melbourne. <i>Clinical Practice guideline</i> . August 2010.	VII	<ul style="list-style-type: none"> Clinical assessment for readiness for extubation. To only perform this procedure when there are enough medical & experienced nursing staff around. Some potential complications following extubation. Family centered care.
Extubation of a neonate. NICU Mercy Hospital for Women Melbourne. <i>Clinical Practise Guideline</i> . May 2010.	VII	<ul style="list-style-type: none"> Indications neonate may be ready for extubation. Equipment required for procedure & incase extubation fails. Nursing care & observations pre, during and post the procedure. Access required when the procedure is performed. Types of CPAP available to extubate to.

Extubation of infant in neonatal services. The Royal Women's Hospital Melbourne. ? Year.	VII	<ul style="list-style-type: none"> • Perform all nursing care procedures & observations just before extubating so that the infant can be left completely alone afterwards.
Extubation (elective neonates). <i>RCH Nursing Competency Workbook</i> . January 2011.	VII	<ul style="list-style-type: none"> • Knowledge required by new or up skilling nursing staff to pass competency and be allowed to perform procedure.
Fanaroff and Martin's Neonatal Perinatal Medicine. Diseases of the Fetus & Infant. 2011. Vol 2. 9 th ed. P1128	VII	<ul style="list-style-type: none"> • Prone position has been shown to improve gas exchange perhaps by stabilizing the chest wall and allowing abdominal viscera to fall away from diaphragm
Henderson-Smart DJ and Davis PG. Prophylactic methelxanthines for endotracheal extubation in preterm infants. (Review). The Cochrane Collaboration. <i>The Cochrane Library</i> 2013, Issue 3.	II	<ul style="list-style-type: none"> • Methylxanthines increase the chances for successful extubation of preterm infants within one week of age. Important neurodevelopmental outcomes are improved by methylxanthine therapy.
Gardner SL, Carter BS, Enzman-Hines M, and Henandez JA. 2011. <i>Merenstein & Gardner's Handbook of Neonatal Intensive Care</i> . 7 th ed. P 304.	VII	<ul style="list-style-type: none"> • The effects of prone positioning include: decreases heart rate variability, enhances respiratory control, improves oxygenation by 15-20%, improves lung mechanics and lung volumes decreases energy expenditure and decreases gastric reflux with head of the bed elevated 30 degrees.
Gardner SL, Carter BS, Enzman-Hines M and Henandez JA. 2011. <i>Merenstein & Gardner's Handbook of Neonatal Intensive Care</i> . 7 th ed. P 598.	VII	<ul style="list-style-type: none"> • Extubate before feeding or empty stomach to prevent vomiting • The [oropharynx] and nasopharynx must be suctioned and patent for extubation. Neonates are obligatory nasal breathers • Perform a chest x-ray to document atelectasis or fully expanded lungs