

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>

Sham feeding for infants with unrepaired long-gap oesophageal atresia

Reference (include title, author, journal title, year of publication, volume and issue, pages)	Evidence level (I-VII)	Key findings, outcomes or recommendations
<p>Golonka, NR, & Hayashi, AH. 2008. 'Early "sham" feeding of neonates promotes oral feeding after delayed primary repair of major congenital esophageal anomalies.' The American Journal of Surgery. Vol. 195, pp. 659-662.</p>	<p>VI</p>	<p>All infants successfully completed the sham feeding protocol before undergoing delayed primary esophageal repair. After repair, they had a shortened time to full oral feeding. 'Our "sham" feeding protocol is safe and very effective in early development of oral feeding mechanisms and shortens time to complete oral feeding after delayed esophageal repair.'</p>
<p>Vancouver Island Health Authority – Special Care Nursery Unit Manual. 2010. 'Guidelines for sham feeding infants with esophageal atresia.'</p>	<p>VII & VI</p>	<p>Developed by nursing staff at Victoria General Hospital, Vancouver & Golonka & Hayashi as above.</p> <p>'Sham feeding sessions are considered if primary repair in infants with esophageal atresia is delayed to enable further growth of the infant and additional esophageal growth....Infants who are deprived of oral feeding may develop oral defensiveness or other behaviours that make the eventual transition to oral feeding difficult.'</p> <ol style="list-style-type: none"> 1. Ensure the Replogle tube is positioned correctly and is functioning. 2. The infant should be fed in an upright position. 3. Introduce sham feedings initially by offering a small amount of H2O, 5% dextrose/H2O or ½ strength expressed breastmilk by nipple. (To monitor infant's condition with sucking, swallowing & breathing. Some infants may require techniques to slow the flow from the nipple, ie. Haberman feeder). 4. The Replogle tube is used to empty the esophageal pouch as the infant sucks and swallows. (Two options for retrieval of esophageal contents (milk & mucus) can be: (a) A mucus trap addition to the continuous suction set up, (b) withdrawing via a syringe attached to the Replogle tube. 5. Re-feed esophageal contents via the gastrostomy tube. 6. Increase amounts & strength of feed as per infant's tolerance. Mother can breast feed once routine is established.'

<p>Hawley, A. 2001. Long-gap Oesophageal Atresia – A Nursing Perspective. <i>Journal of Child Health Care</i>. 5 (1). Pp.19-25.</p>	<p>VII</p>	<p>Key findings: outcomes for infants with long-gap OA maintained nil orally until delayed primary repair or oesophageal replacement include delayed time to full oral feeding & prolonged tube feeding dependency.</p>
<p>Hawley, AD & Harrison D. 'Suctioning Practices for the upper oesophageal pouch in infants with unrepaired oesophageal atresia in Australia and New Zealand.' P105. <i>Perinatal Society of Australia and New Zealand Annual Congress</i> March 2003, Hobart, Australia</p>	<p>VII</p>	<p>Key findings: Many methods used for oesophageal pouch suction in infants with unrepaired oesophageal atresia. No current literature / research / evidence available on the subject. Further research required.</p>
<p>Hawley, A, McLeod, EJ & Hunt, RW. 2011. Tube feeding dependence in infants with repaired oesophageal atresia and distal trachea-oesophageal fistula. <i>Journal of Paediatrics and Child Health</i>. 47 (S1), April, pp. 86.</p>	<p>VI</p>	<p>'Infants with OA and distal TOF have a number of factors that influence the post-operative establishment of oral feeding and contribute to reliance on tube feeding at the time of discharge. These factors include associated surgical issues, postoperative complications related to TOF/OA repair, neonatal issues, associated congenital anomalies and respiratory issues.'</p> <p>'The use of 'sham' feeding may be applicable to our population undergoing a delayed repair or replacement as this practice would support the early development of oral feeding, allowing the baby to breast or bottle feed in the first few weeks of life, thus facilitating oral feeding following OA repair.'</p>
<p>Bass J. 2002. "A technique to facilitate nursing care in patients with long-gap esophageal atresia.' <i>Pediatric Surgery International</i>. 18: 749-750.</p>	<p>VII</p>	<p>Recommends: The patient (with a Replogle tube insitu on continuous suction as described in his article) 'is allowed to drink small amounts of water several times a day in order to stimulate the swallowing reflex.'</p>

<p>Cavallaro S, Pineschi A, Freni G et al. 1992. 'Feeding troubles following delayed primary repair of esophageal atresia.' European Journal Pediatric Surgery. 2: 73-77.</p>	<p>VI</p>	<p>'Comparison of babies with long-gap oesophageal atresia who underwent a delayed primary anastomosis after spontaneous growth of their esophageal stumps. with 20 cases of direct esophageal anastomosis, operated on in the same period, was carried out by means of recorded esophagrams, pH monitoring and questionnaires charting the growth pattern and feeding habits of the patients. Bottle feeding, and, later on, the introduction of semi-solid foods was significantly retarded in the group of children with delayed primary anastomosis as well as height and weight parameters. Failure to complete feeds, dysphagia, vomiting, coughing, choking and recurrent respiratory symptoms were also significantly more common in this group than in the primary anastomosis group even in the absence of stricture.</p> <p>Our data suggest that the retarded start of oral feeding and swallowing coordination in patients with delayed primary anastomosis add further negative factors to their congenitally impaired esophageal motility, causing protracted dysphagia which represents a major problem for both family and hospital staff.'</p>
<p>Sri Paran T, Decaluwe D, Corbally M, Puri P. 2007. 'Long-term results of delayed primary anastomosis for pure OA: a 27 – year follow-up.' 23 (7): 647-651.</p>	<p>VI</p>	<p>Key findings: 'At the time of this study, 15 out of the 17 survivors (88%) were on normal diet with no respiratory problems and 2 (12%) were dependent on gastrostomy feeds'.</p> <p>'The high incidence of gastroesophageal reflux and associated morbidity requires early intervention to prevent ongoing feeding problems due to oesophagitis and stricture formation'.</p>
<p>Puntis, JW, Ritson DG, Holden CE, Buick RG. 1990. 'Growth and feeding problems after repair of oesophageal atresia.' Archives Disease in Childhood. 65:84-88.</p>	<p>VII</p>	<p>Discussed 'sham feeding was regarded as an important way of facilitating the return to normal feeding once oesophageal substitution was performed' for those infants that had an oesophagostomy.</p>
<p>Alberti D, Boroni G, Corasaniti L & Torri F. 2011. "Esophageal atresia: pre and post-operative management.' Journal of Maternal-Fetal and Neonatal Medicine. 24 (S(1): 4-6.</p>	<p>VII</p>	<p>Discussed: 'When surgical treatment is delayed, some authors have suggested a method of "sham feeding" in which the patient is allowed to "eat" by mouth while the material swallowed is immediately aspirated from the Replogle tube; this allows the development of sucking and swallowing and a more rapid recovery of the oral feeding after correction of the atresia, but requires optimum care to prevent aspiration.'</p>