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

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Reference ***(include title, author, journal title, year of publication, volume and issue, pages)***	**Evidence level (I-VII)**	**Key findings, outcomes or recommendations**
Anu, T., Smithamol, P.,B., Depptiman, J., et.al. (2023) A cross-sectional observation study to evaluate the efficacy and complications of epidural analgesia in paediatric population. Journal of Anaesthesiology Clinical Pharmacology 39 (2) 189-194	1V	A prospective observational study in a tertiary hospital looking at continuous epidural analgesia in infants and young people to determine pain scores at specific times post operatively along with any complications. A level of patient satisfactory and surgeon satisfaction was recorded. There was evidence management was best achieved when an APS team was involved to optimize the epidural analgesia. There were no major complications in this single center study and any complications were technical such as kinking catheter. The results were seen to be similar in other reported studies. Optimal pain management benefited long term outcomes for children
Bravenboer-Monster, K. Keyzer-Dekker, C. et al. (2019) Efficacy of Epidural Analgesia after Laparotomy in Children. Eur. J. Pediatr. Surg, 29 (02): 209-214	1V	Retrospective study looking at effect of post-operative epidural after laparotomy and the frequency of adverse events. Pain was assessed and data was collected on interventions, pain, complications and any adverse events. The data revealed the success or not based on pain, adverse events, side effects, opioid use and length of time the epidural remained in situ
Kumar, A., Nag, M., Dash, L., et. al. (2019) Comparison between Efficacy of Single Dose Caudal Ropivacaine and Levobupivacaine for Post-Operative Analgesia following Infraumbilical Surgeries in Paediatric Patients. Journal of Evolution of Medical and Dental Sciences. 8 (37)	11	Randomized double blind control design dividing children into two groups. Caudal block was performed under anaesthesia. Haemodynamic parameters were monitored. Patients were monitored before transferring to their ward. Pain assessment was hourly until the score reached 4/10 or the first analgesia was required. The study reviewed the duration of analgesia The comparison between the two showed little difference apart from the intraoperative haemodynamic status which could indicate intra and postoperative pain is improved in the ropivacaine group

Shug, S. Palmer, G et al. Acute Pain Management: Scientific Evidence Fifth ed. (2020) Edition Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine		Compilation of the most recent evidence in acute pain management including section on paediatric epidural analgesia (see section 10.6.3.1) https://www.anzca.edu.au/resources/college-publications/acute-pain-management/apmse5.pdf
Walker et al (2012) Neuraxial analgesia in neonates and infants: A review of clinical and preclinical strategies for the development of safety and efficacy data. *Anaesthesia and Analgesia*. 115 (3), 638-662	V	Review article of clinical data and strategies evaluating use of local anaesthetics in neonates and infants
Wong, G.K. et al. (2013) Major complications related to epidural analgesia in children: a 15 year audit of 3,152 epidurals. Can. J Anaesth 60 (4): 355-63	1V	A retrospective study in a single institution looking at complications and trying to identify incidents from all causes to look towards improving and reducing preventable complications The results showed an incidence of 7.6 complications per 1000 epidural infusions, similar to other published data. There were no know major complications identified. The most common being local infection and drug error. It was seen that these 58% were preventable complications