

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
Association of Paediatric Anaesthetists of Great Britain and Ireland (2010). <i>Immunisation Guideline: the timing of vaccination with respect to anaesthesia and surgery</i> . Retrieved from https://www.apagbi.org.uk/sites/default/files/inline-files/Final%20Immunisation%20apa.pdf	VII	<ol style="list-style-type: none"> 1. Surgery following immunisation with inactivated vaccines 2. Surgery following immunisation with live attenuated vaccines 3. Vaccination after surgery 4. Advice for pre-assessment
Australian Government Department of Health (2020). The Australian Immunisation Handbook. Retrieved from https://immunisationhandbook.health.gov.au/	VII	Vaccination before or after anaesthesia/surgery
Bertolizio, G., Astuto, M., and Ingelmo, P. (2017). The implications of Immunization in the daily practice of pediatric anesthesia. <i>Current Opinion in Anesthesiology</i> , 30(3), 368-75. doi: 10.1097/ACO.0000000000000462	VII	<ol style="list-style-type: none"> 1. Postpone an elective procedure that requires anesthesia rather than alternating the vaccination schedule 2. Postpone anesthesia and surgery 1 week after vaccination with inactivated vaccines 3. Postpone anesthesia and surgery to 3 weeks after vaccination with live attenuated vaccine
Crowcroft, N.S., & Elliman, D. (2007). Vaccination and anesthesia: the precautionary principle is to vaccinate. <i>Pediatric Anesthesia</i> , 17(12), 1216-1218	VII	Impact of delaying surgery or delaying vaccination is likely to do more harm than good and the safest outcome is when in doubt, vaccinate
Currie, J. (2006). Vaccination: is it a real problem for anesthesia and surgery? <i>Pediatric Anesthesia</i> , 16(5), 501-503	VII	<p>Inactivated vaccines – delay anaesthesia for 7 days</p> <p>Live vaccines – delay anaesthesia for 3 weeks</p>

<p>Nafiu, O. O., & Lewis, I. (2007). Vaccination and anesthesia: more questions than answers. <i>Pediatric Anesthesia</i>, 17(12), 1215.</p>	<p>VII</p>	<p>Editorial comment that delaying anaesthesia after vaccinations is too strong recommendation based on findings in research</p>
<p>Lonsdale, H., & Sivaprakasam, J. (2014, June). <i>Immunisation and general anaesthesia – audit of practice in a specialist paediatric hospital</i>. Paper presented at the AAGBI GAT Annual Scientific Meeting, Newcastle upon Tyne, UK. Abstract retrieved from http://onlinelibrary.wiley.com/doi/10.1111/anae.12765/pdf</p>	<p>VII</p>	<p>Highlighted lack of compliance with national guidelines and lack of knowledge of local procedures (which were out-dated)</p>
<p>Pandey, R., Garg, R., Darlong, V., & Punj, J. (2008). Vaccination and urgent surgery in children: anesthetic concerns. <i>ACTA Anaesthesiologica Taiwanica</i>, 46(4), 199-200. doi: 10.1016/S1875-4597(09)60011-4</p>	<p>VII</p>	<p>Letter to the editor about a case study , recommending delaying surgery, for 2 days with inactivated vaccines and 21 days for live vaccines to prevent confusion between possible vaccine related adverse events and postoperative complications</p>
<p>Popa, A., Malos, A., & Cernea, D. (2009). Recently immunization and anesthesia of the children. <i>Current Health Sciences Journal</i> 35(3), 201-204. Retrieved from http://www.chsjournal.org/archive/vol-35-no3-2009/for-practitioner/recently-immunization-and-anesthesia-of-the-children</p>	<p>VII</p>	<p>Opinion piece and review of the literature recommending that elective surgery and anaesthesia should be postponed for one week after inactive vaccination and 3 weeks after live attenuated vaccination in children</p>
<p>Short, J. A., van der Walt, J. H., & Zoanetti, D. C. (2006). Immunization and anesthesia – an international survey. <i>Pediatric Anesthesia</i>, 16(5), 514-522. doi: 10.1111/j.1460-9592.2006.01897.x</p>	<p>VII</p>	<p>Recommend elective surgery and anaesthesia be postponed for 1 week after inactive vaccination and 3 weeks after live vaccination</p>
<p>Siebert, J. N., Posfay-Barbe, K. M., Habre, W., & Siegrist, C. A. (2007). Influence of anesthesia on immune responses and its effect on vaccination in children: review of evidence. <i>Pediatric Anesthesia</i>, 17(5), 410-420. doi: 10.1111/j1460-9592.2006.02120.x</p>	<p>I</p>	<p>Recommend not to postpone surgery in recently vaccinated children, although a delay may be useful to avoid misinterpreting post-operative complications</p>