

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>

Databases searched:	<input checked="" type="checkbox"/> CINAHL (Ebsco)	<input checked="" type="checkbox"/> Medline (Ebsco)	<input type="checkbox"/> Pubmed (NLM)	<input type="checkbox"/> Nursing (Ovid)	<input type="checkbox"/> Emcare (Ovid)	<input checked="" type="checkbox"/> Other List: Cochrane Library
Keywords used:	(opioid N2 constipation OR prevent* constipation OR laxative*) AND (postoperative OR after W1 surgery OR post W1 surgery) +/- p#ediatric* OR infant* OR child* OR adolescent* OR teenager*					
Search limits:	English, Full Text, Peer-Reviewed +/- All Infant, All Child					
Other search comments:						

Reference (include title, author, journal title, year of publication, volume and issue, pages)	Evidence level (I-VII)	Key findings, outcomes or recommendations
<p>Okusaga, O., Mowat, R. & Cook, C. (2022). Effectiveness of early mobilisation versus laxative use in reducing opioid induced constipation in post-operative orthopaedic patients: an integrative review. <i>Australian Journal of Advanced Nursing</i>, 39 (2), 23–35.</p>	V	<ul style="list-style-type: none"> • Early mobilisation is not emphasised as much as laxative use in treatment of opioid induced constipation • Bedpans, encouraging bed rest and lack of physical movement increased risk of constipation • Mobilisation should begin as soon as possible after surgery, once patient is stable • Coloxyl and Senna and Movicol were most effective, Movicol therapy recorded fastest time to bowel action • Majority of papers found prophylactic laxative use does not reduce postoperative constipation due to ongoing opioid use • Opioids should be given at lowest effective dose for shortest period of time to help prevent constipation • Multiple forms of laxatives are needed to relieve constipation in this population
<p>Trads, M., Deutch, S.R., & Pedersen, P.U. (2018). Supporting patients in reducing postoperative constipation: fundamental nursing care - a quasi-experimental study. <i>Scandinavian Journal of Caring Sciences</i>, 32 (2), 824–832.</p>	III	<ul style="list-style-type: none"> • Increases in fluid and fibre intake reduced constipation • <1.5L fluid intake per day increases risk of constipation (in adults) • Women 2-3 times more likely to become constipated • Patients who ate <3.8 pieces of fruit/vegetables per day were more likely to be constipated • Patients who drank <1750ml of fluid/day were more likely to be constipated

<p>Gordon, M., MacDonald, J.K., Parker, C.E., Akobeng, A.K. & Thomas, A.G. (2016). Osmotic and stimulant laxatives for the management of childhood constipation. <i>Cochrane Database of Systematic Reviews 2016</i>, Issue 8.</p>	<p>I</p>	<ul style="list-style-type: none"> • Results suggest polyethylene glycol (macrogol) preparations may be superior to lactulose and milk of magnesia preparations • There were no statistically significant differences in stools per week when comparing macrogol with enemas, and macrogol with liquid paraffin preparations; suggesting similar efficacy. • Greater number of stools per week using macrogol versus lactulose • Use of macrogol needed less additional therapies compared with lactulose • evidence from one study suggests that high dose macrogol (0.7 g/kg) may be superior to low dose macrogol (0.3 g/kg)
<p>Rodrigues, M.A., Lofton, T., Tume, S.C., & Lemming, K I. (2022). Reducing Opioid-Induced Constipation Post-Cardiac Surgery: An Improvement Project in a Pediatric Cardiac Intensive Care Unit. <i>Journal of Nursing Care Quality</i>, 37 (3), 213–217.</p>	<p>III</p>	<ul style="list-style-type: none"> • Age appropriate aperient use contributed to the success of bowel regimens in infant populations • Ability to choose sets of (evidence-based) aperient regimes based on child’s age in EMR increased physician confidence and frequency in prescribing

<p>Yue, C., Liu, Y., Zhang, X., Xu, B. & Sheng, H. (2020). Randomised controlled trial of a comprehensive protocol for preventing constipation following total hip arthroplasty. <i>Journal of Clinical Nursing</i>, 29 (15-16), 2863-2871.</p>	<p>II</p>	<ul style="list-style-type: none"> • Even small increases in activity can improve peristalsis and help to reduce constipation in post-op patients • Abdominal massage can help to stimulate peristalsis and may help to prevent or reduce symptoms of constipation • Abdominal massage may reduce laxative use and assist with abdominal pain and discomfort associated with constipation • The massage was provided to patients for 20mins BD and consisted primarily of circular, clockwise palm movements along the line of the colon; palmar pressure was gradually increased to permeate to the ascending, transverse and descending colon • Authors recommended a combination of non-pharmacological and pharmacological methods as the most effective protocol to prevent constipation
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<p>Sonneborn, O. & Bui, T. (2019). Opioid induced constipation management in orthopaedic and trauma patients: treatment and the potential of nurse-initiated management. <i>International Journal of Orthopaedic and Trauma Nursing</i>, Retrieved from https://doi.org/10.1016/j.ijotn.2019.03.002</p>	<p>V</p>	<ul style="list-style-type: none"> • A review of the literature was undertaken to find the most effective laxative regimen for the management of opioid induced constipation (OIC) and identify the role of the nurse in the management. • Management of OIC involves lifestyle measures (oral intake, activity and responding to the urge to defecate) as well as laxatives. • Laxative choice is based on symptoms, required onset of action, patient preference, stool consistency, previous response, cost and adverse effects. • A combination of laxatives may be required and should be charted with opioids. • There is a risk of persistent or chronic pain associated with discontinuation of opioids. • The use of peripheral acting mu-opioid receptor antagonists (PAMORAs) could be used when a combination of laxatives have been unsuccessful e.g. prolonged release naloxone-oxycodone (Targin). • Nurses are responsible for regularly assessing and documenting bowel function and are therefore in the best position to initiate a bowel management protocol.
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<p>Twycross, R., Sykes, N., Mihalyo, M. & Wilcock, A. (2012). Therapeutic Reviews: Stimulant laxatives and opioid-induced constipation. <i>Journal of Pain and Symptom Management</i>, 43 (2), 306-313</p>	<p>V</p>	<ul style="list-style-type: none"> • Article states the management of constipation aims to restore the amount of water in the faeces. This includes – reducing bowel transit time (exercise & stimulant laxatives), increasing faecal water (osmotic & stimulant laxatives) and increasing the ability of the faeces to retain water (fibre, docusate & osmotic laxatives). • In practice, a combination of faecal softener and stimulant is prescribed. • Authors state that dosages for opioid-induced constipation are generally higher than general constipation as a result of understanding the mechanism the opioid has on the gastrointestinal tract. • Authors include an example protocol which assists in the assessment of a patient with opioid-induced constipation. The protocol is a step by step process – <ol style="list-style-type: none"> 1. Ask about the patient’s past & present bowel history 2. Palpate for faecal masses 3. Keep a daily fluid balance record 4. Encourage oral diet & fluids 5. Opioid administration should include laxative administration 6. Titrate dose accordingly (wean if bowels open, upgrade stimulants to suppositories to enable bowel actions)
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