

EBCH Summary

Summary of ‘Lactulose versus polyethylene glycol for chronic constipation’

Evidence-Based Child Health Canadian Editorial Office*

This is a summary of a Cochrane review, published in this issue of EBCH, first published as: Lee-Robichaud H, Thomas K, Morgan J, Nelson RL. Lactulose versus polyethylene glycol for chronic constipation. *Cochrane Database of Systematic Reviews* 2010, Issue 7. Art. No.: CD007570. DOI: 10.1002/14651858.CD007570.pub2.

Objectives

- The aim of this review is to determine whether lactulose or polyethylene glycol is more effective at treating chronic constipation and faecal impaction.

Relevance

- Constipation is a common clinical problem; for many, this condition is chronic.
- Constipation encompasses more than reduced stool frequency alone; a range of symptoms are described, such as hard or small stool, excessive straining, feelings of incomplete evacuation, abdominal discomfort or a requirement for digital manipulation to assist defecation. No widely accepted clinically useful definition of chronic constipation exists, but the Rome criteria – and most recently, the Rome III criteria – have been created by consensus to form a framework for diagnosis.
- Faecal impaction may occur with chronic constipation, where a firm impassable mass of faeces forms in the colon or rectum, and may lead to overflow diarrhoea and faecal soiling/incontinence.
- Lactulose and polyethylene glycol (PEG) are osmotic laxatives, and are non-absorbable, non-metabolized agents which increase the amount of water in the large bowel. Lactulose is a semi-synthetic disaccharide producing an osmotic diarrhoea of low faecal pH. PEG is an inert polymer which sequesters fluid in the bowel.
- Both lactulose and PEG have been shown to be effective and safe treatments for chronic constipation, and are commonly used in both paediatric and adult populations.

Participants

- Ten trials enrolled a total of 868 participants, of which 322 were adults and 546 were children.

Comparison

- Treatment with lactulose versus PEG in adults and children with chronic constipation and/or faecal impaction.

Results

- PEG compared to lactulose led to significantly higher stool frequencies per week (Mean Difference [MD]: 0.65; 95% Confidence Intervals [CI]: 0.15, 1.15) and higher scores on the Bristol Stool Scale (measures form of stool) (MD: 0.89; 95% CI: 0.43, 1.35).
- Significantly more participants receiving PEG versus lactulose experienced relief of abdominal pain (Odds Ratio [OR]: 2.09; 95% CI: 1.26, 3.44), and significantly less participants needed to use additional products alongside treatment (OR: 4.00; 95% CI: 2.01, 7.95).
- A subgroup analysis was performed on children, and all comparisons remained significant in favour of PEG:
 - Stool frequency per week – MD: 1.57; 95% CI: 0.36, 2.77
 - Form of stool – MD: 0.63; 95% CI: 0.33, 0.93
 - Relief of abdominal pain – OR: 2.52; 95% CI: 1.45, 4.40
 - Use of additional products – OR: 5.69; 95% CI: 2.06, 15.68

Implications

- PEG should be used in preference to lactulose in the treatment of chronic constipation.

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How Recent is the Evidence

- Databases were searched in January 2008.

a standard definition of chronic constipation, e.g. Rome III criteria.

- Further research is needed in subgroups by age.

Research Gaps

- Future research should use a standardized validated scale for form of stool, e.g. Bristol Stool Score, and