

## Lactulose versus polyethylene glycol for chronic constipation

NICE has developed the Cochrane Quality and Productivity topics to help the NHS identify practices that could be significantly reduced or stopped completely, releasing cash and/or resources without negatively affecting the quality of NHS care. Each topic has been derived from a Cochrane systematic review that has concluded that the evidence shows that the practice is harmful or ineffective and should not be used, or that there is insufficient evidence to support widespread use of the practice.

Unless otherwise stated, the information is taken with permission from the Cochrane systematic review.

### **NICE summary of Cochrane review conclusions**

Polyethylene glycol should be used in preference to lactulose in the treatment of chronic constipation.

Using polyethylene glycol in preference to lactulose in the treatment of chronic constipation is likely to improve the quality of patient care by reducing the use of a less effective treatment.

### **The 'Implications for practice' section of the Cochrane review stated:**

'Polyethylene glycol should be used in preference to lactulose in the treatment of chronic constipation.'

### **Details of Cochrane review**

#### **Cochrane review title**

Lactulose versus polyethylene glycol for chronic constipation (review)

#### **Citation**

[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.](#)

#### **When the review content was assessed as up to date**

13 June 2010

<b>Relevant codes</b>	OPCS	ICD10	HRG
		K59.0	

#### **Programme budget:**

Problems of the gastrointestinal system

## Evidence

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### Relevance to the NHS

The Cochrane review included ten randomised controlled trials, which enrolled a total of 868 participants (322 were adults and 546 were children). The findings indicated that polyethylene glycol is better than lactulose in outcomes of stool frequency per week, form of stool, relief of abdominal pain and the need for additional products, for example, alternative laxative agents and/or enemas (putting liquid into the rectum to clear it out). This was seen in both adults and children. However, there was an exception for relief of abdominal pain, for which polyethylene glycol was found to be more effective than lactulose in children, but not in adults, for whom no difference was seen.

Constipation is a common clinical problem. Lactulose and Polyethylene Glycol (PEG) are both commonly used osmotic laxatives that have been shown to be effective and safe treatments for chronic constipation. However, there is no definitive data as to which provides the best treatment.

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### Relevant NICE guidance and products

#### **CG99 Constipation in children and young people (2010)**

1.4.3 Offer the following oral medication regimen for disimpaction if indicated:

- Polyethylene glycol 3350 + electrolytes, using an escalating dose regimen as the first-line treatment.
- Polyethylene glycol 3350 + electrolytes may be mixed with a cold drink.
- Add a stimulant laxative if polyethylene glycol 3350 + electrolytes does not lead to disimpaction after 2 weeks.
- Substitute a stimulant laxative singly or in combination with an osmotic laxative such as lactulose if polyethylene glycol 3350 + electrolytes is not tolerated.

1.4.11 Offer the following regimen for ongoing treatment or maintenance therapy:

- Polyethylene glycol 3350 + electrolytes as the first-line treatment.
- Adjust the dose of polyethylene glycol 3350 + electrolytes according to symptoms and response. As a guide for children and young people who have had disimpaction the starting maintenance dose might be half the disimpaction dose.
- Add a stimulant laxative if polyethylene glycol 3350 + electrolytes does not work.
- Substitute a stimulant laxative if polyethylene glycol 3350 + electrolytes is not tolerated by the child or young person. Add another laxative such as lactulose or docusate if stools are hard.
- Continue medication at maintenance dose for several weeks after regular bowel habit is established – this may take several months. Children who are toilet training should remain on laxatives until toilet training is well established. Do not stop medication abruptly: gradually reduce the dose over a period of months in response to stool consistency and frequency. Some children may require laxative therapy for several years. A minority may require ongoing laxative therapy.

#### **Irritable bowel syndrome in adults: Diagnosis and management of irritable bowel syndrome in primary care – NICE clinical guideline 61**

(Published: February 2008, updated April 2017)

#### **1.2.2 Pharmacological therapy**

1.2.2.2 Laxatives should be considered for the treatment of constipation in people with IBS, but

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people should be discouraged from taking lactulose.

[QS62 Constipation in children and young people \(2014\)](#)

## Other accredited guidance and products

[Paediatric continence forum \(2014\) Paediatric continence commissioning guide : a handbook for the commissioning and running of paediatric continence service](#)

[Scottish Intercollegiate Guidelines Network \(2010\) Guideline 113: Diagnosis and pharmacological management of Parkinson's disease - Full guideline](#)

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## Potential productivity savings

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### Estimate of current NHS use

In 2014–15 there were 80,537 finished consultant episodes of primary diagnosis of constipation in England (NHS Digital 2017). There is no information on the number of people taking either of these drugs for chronic constipation.

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### Level of productivity savings anticipated

Superficially this may be more expensive because Movicol (a commonly used form of polyethylene glycol) costs more per dose than lactulose. An average dose of lactulose is 5–10 ml per day. An average dose of Movicol is one sachet. There are, however, significant individual variations between doses used, with many patients using much larger doses of either medication.

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### Type of saving

Lactulose costs £0.21 per day and Movicol costs £0.45 per day if taken in the lowest recommended doses (NHS drug tariff). The use of Movicol may help avoid future secondary care activity because it delivers more successful treatment in primary care.

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### Any costs needed to achieve the savings

Change can be achieved with minimal additional resources

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### Other information

It is possible that because of Movicol's better efficacy, relative to lactulose, that patients may need less of this particular laxative. Costs may not necessarily increase and they may even decrease from switching from lactulose to Movicol.

Overall this may be a cost neutral event but there are anticipated benefits to the quality of patients' care.

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## Potential impact on quality of NHS care

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### Impact on clinical quality

There will be an improvement in clinical quality as the symptoms of constipation are reduced more when using polyethylene glycol rather than lactulose.

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### Impact on patient safety

Not anticipated to have any impact on patient safety.

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## Impact on patient and carer experience

Improved patient and carer experience anticipated.

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## Likely ease of implementation

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### Time taken to implement

Can be achieved quickly in 0–3 months.

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### Healthcare sectors affected

Affects a whole organisation across a number of teams or departments.

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### Stakeholder support

Likely to achieve good buy-in from key influencers.

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## References

[National Institute for Health and Care Excellence \(2010\) CG99 Constipation in children and young people](#)

[NHS Digital \(2017\) Hospital Episode Statistics](#)

[NHS Drug Tariff \(2017\)](#)

[Paediatric continence forum \(2014\) Paediatric continence commissioning guide: a handbook for the commissioning and running of paediatric continence service](#)

[QS62 Constipation in children and young people \(2014\)](#)

[Scottish Intercollegiate Guidelines Network \(2010\) Guideline 113: Diagnosis and pharmacological management of Parkinson's disease - Full guideline](#)