Proton Pump Inhibitor (PPI) Choice in Children & Young People

Scope

This information sheet is intended to support prescribing of enteral (both oral and NG, PEG etc.) Proton Pump Inhibitors (PPIs) in primary care, including advice on selection of the most suitable formulation and when to consider stopping or reducing the dose.

Background

Gastro-oesophageal reflux (GOR) is common in infants as they are physiologically predisposed to reflux due to possessing a shorter intra-abdominal oesophagus, they are frequently in the supine or seated position and consume frequent liquid feeds resulting in gastric distension.

Normal asymptomatic occurrences seen in infants is characterised by the effortless regurgitation of feeds. It does not usually need further investigation or treatment.

Only a small proportion (approx. 5%) suffer from pathological reflux, defined by suffering complications of reflux which have a significant impact on quality of life. This is usually secondary to other conditions such as cow's milk allergy in infancy and will need to be clinically managed as Gastro-Oesophageal Reflux Disease (GORD).

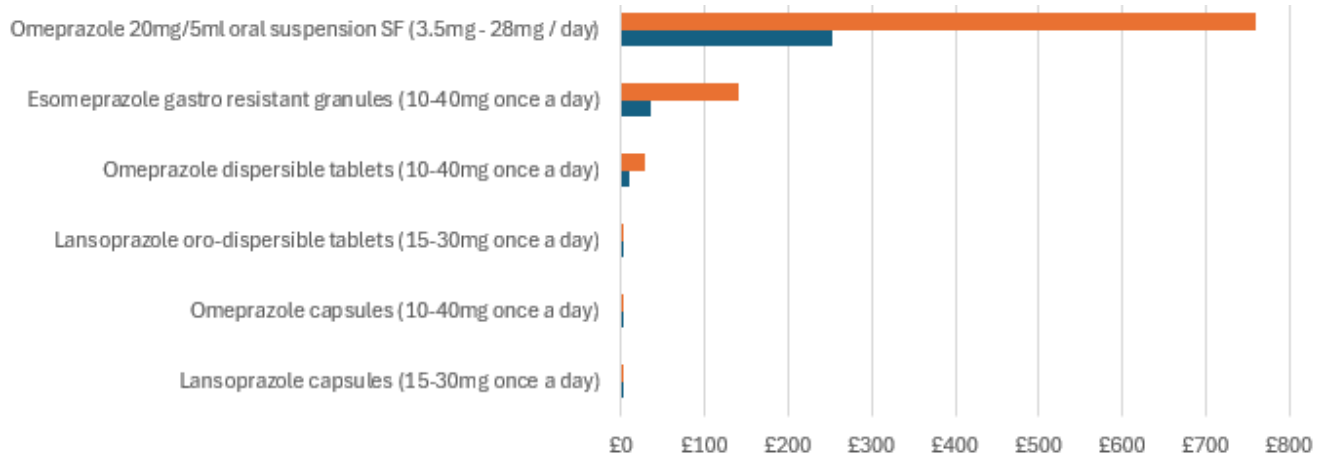
Do not routinely offer PPIs or H2 antagonists to treat GORD, especially in children under 1 year of age. Pharmacological GORD treatment should only be considered after a cow's milk elimination diet has been trialled without success and GORD has been proven.

Clinically there is no evidence that one PPI is more effective than the other, and choice is guided by licensing (see table 1), route of administration and cost (see chart 1).

In adults, long-term PPI use has been associated with several adverse effects including an increased risk of gastrointestinal and respiratory tract infection, vitamin B12 deficiency, hypomagnesaemia, bone fractures, acute and chronic kidney failure, and rebound hyperacidity after discontinuation.

Until the evidence base develops further it should be assumed that children are equally at risk from these long-term adverse effects[3]. **Hence patients on PPIs should be regularly reviewed, and the medicines discontinued where they are no longer deemed to be necessary.**

Chart 1: Cost of enteral PPIs included in this guideline (Drug Tariff May 2026) Price for 28 days



From February 2025 to January 2026, there was a **£686,870** spend across Nottinghamshire on omeprazole liquid for under 18s. De-prescribing or switching to more cost-effective formulations has the potential to save over **£300,000 a year**.

Table 1: PPI Choice Algorithm & Administration Information

Child Weight - Obtain weight at the time of prescribing and consistently at every review. Review formulation choice regularly according to age or weight band

1st line options – oral and enteral feeding tube

Oral administration				Administration via enteral feeding tube (e.g. NG, PEG, NJ, PEG-J) NB: *COULD* the medicine be given by mouth?			
Neonate / <3.5kg	**3.5 – 20kg**		**>20kg**	**<1 year or Age >1 year & weight <10kg**	**Age >1 year and weight ≥10kg**		
Omeprazole 20mg/5ml oral suspension SF (licensed in children >1 month)	**Omeprazole dispersible tablets** (licensed in children >1 year)		**Omeprazole capsules** (licensed in children >1 year)	**Omeprazole 20mg/5ml oral suspension SF** (licensed in children >1 month)	**Esomeprazole gastro-resistant granules sachets** (licensed in children >1 year)		
	3.5 - 7kg	**7.1 – 20kg**			**1-11 years**		**12-17 years**
Omeprazole 0.7mg/kg ONCE daily, increase as needed to maximum dose of 2.8mg/kg ONCE daily.	Omeprazole 5mg ONCE daily, increasing in increments of 5mg to a maximum dose of 3mg/kg ONCE daily. Max 20mg.	Omeprazole 10mg ONCE daily, increasing in increments of 5mg to a maximum dose of 20mg ONCE daily.	Omeprazole 20mg ONCE daily, increasing in increments of 10mg, to a maximum dose of 40mg ONCE daily.	Omeprazole 0.7mg/kg ONCE daily, increase as needed to a maximum dose of 2.8mg/kg ONCE daily. Max 20mg.	**10-20kg** Esomeprazole 10mg ONCE daily.	**>20kg** Esomeprazole 10mg ONCE daily. Can be increased to 20mg ONCE daily if severe symptoms.	Esomeprazole 20mg ONCE daily. Can be increased to 40mg ONCE daily if severe symptoms.

Administration Information	
Omeprazole dispersible tablets	10mg dispersible tablets can be halved and dispersed in non-carbonated water, fruit juice or fruit puree to allow administration of doses of 5mg. The tablet should not be crushed before use or dissolved whole to obtain a part dose.
Omeprazole capsules	Capsules can be opened and beads swallowed without crushing or can be mixed with cold, soft food e.g. yoghurt or fruit puree, or non-carbonated drinks to aid administration in patients unable to swallow whole capsules.
Esomeprazole gastro-resistance granules	Each 10mg sachet should be dissolved with 15ml non-carbonated water for administration. Leave to thicken for a few minutes. Small beads may be visible after reconstitution. Administer within 30 minutes. Flush tube with 20ml water. Licensed for use in feeding tubes as small as 6Fr. Delivery into small bowel does not affect absorption as beads are enteric coated.
Omeprazole 20mg/5ml oral suspension SF	28-day expiry once opened. NB: Use preferred regional strength. No enteric coating so more likely to be degraded by stomach acid.

2nd line option – oral only. Do not use via paediatric feeding tubes.				
Lansoprazole can be used as an alternative to oral Omeprazole if specifically indicated e.g. concomitant administration of Clopidogrel or if Omeprazole is not tolerated.				
Neonate / <3.5kg	**>1 month old & 3.5 – 7.5kg**	**7.6 – 15kg**	**15.1 – 30kg**	**>30kg**
Use Omeprazole (licensed in children >1 month)	**Lansoprazole 3.75mg daily** (Not licensed in children)	**Lansoprazole 7.5mg daily** (Not licensed in children)	**Lansoprazole 15mg daily** (Not licensed in children)	**Lansoprazole 15-30mg daily** (Not licensed in children)

Administration Information	
Lansoprazole oro-dispersible tablets	15mg oro-dispersible tablets can be halved or quartered to allow administration of doses of 3.75mg or 7.5mg. The tablet should not be crushed before use or dissolved whole to obtain a part dose. The patient can either allow the dose to dissolve on the tongue or dissolve in non-carbonated water for administration. Lansoprazole is not absorbed sublingually – the oro-dispersible tablets release gastro-resistant granules which must be swallowed whole to be effective. Do not mix with milk or carbonated liquids.
Lansoprazole capsules	Capsules can be opened and their contents mixed with non-carbonated water, apple/tomato juice, or sprinkled on soft food (e.g. yoghurt, apple puree) to help people with swallowing difficulties.

Table 2: Review of Prescribing Algorithm

Why is the medication being prescribed? Does the patient still need to be on treatment?
NICE NG1 & ESPGHAN recommend that after 4 to 8 weeks treatment, a trial off the medication should be attempted.

Consider potential interactions with existing medicines– check BNFc.
Review for ongoing need and doses may need to be adjusted according to symptoms and in line with BNFc dosing.
If being used long term, the lowest effective dose should be used.

Consider stopping*/reducing the dose if:

- Indication still unknown
- Started for infant reflux and patient now eating some solids
- Gastro-oesophageal reflux disease (GORD) treated for 4-8 weeks (oesophagitis healed, symptoms controlled)
- Completed *Helicobacter pylori eradication* (in combination with antibiotics)
- Symptom-free for over 3 months
- Started as cover for NSAID/steroid/antiplatelet which is now stopped

* If patient has been on a PPI for >6 months, reduce dose over 2-4 weeks before stopping to reduce risk of rebound symptoms.

Treatment **should not be stopped** if the child has been diagnosed with:

- Benign gastric ulcer
- Duodenal ulcers
- On-going, uncontrolled GORD
- Acid related dyspepsia
- Zollinger-Ellison Syndrome
- Eosinophilic oesophagitis
- Previous dystonic crises/status dystonicus
- Fat malabsorption despite pancreatic enzyme replacement therapy in cystic fibrosis
- Short-bowel syndrome +/- high output stoma or chronic diarrhoea
- Gastro-protection whilst co-prescribed a potentially ulcerogenic medicine: NSAID; antiplatelets; anticoagulants; corticosteroids; SSRIs; NSAID + SSRIS and/or aspirin.
- Barrett's oesophagus
- Severe oesophagitis
- History of bleeding GI ulcer

Recommend reducing the dose

Stop treatment and monitor for return of symptoms

Continue treatment but optimise formulation choice

Monitor at 2-4 weeks & at 12 weeks for: heartburn, dyspepsia, regurgitation, epigastric pain, loss of appetite, weight loss, and agitation. Advise parents / carers to contact the GP if the symptoms reoccur before the review date.

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References:

Gastro-oesophageal reflux disease in children and young people: diagnosis and management. NICE guideline [NG1] Last updated: 09 October 2019. Available at:https://www.nice.org.uk/guidance/ng1/chapter/1-Recommendations#pharmacological-treatment-of-gord (Accessed – April 26)

Pediatric Gastroesophageal Reflux Clinical Practice Guidelines. ESPGHAN guidelines 2017. Available at: https://www.espghan.org/knowledge-center/publications/Gastroenterology/2017_Pediatric_Gastroesophageal_Reflux_Clinical_practice_guidelines (Accessed - April 26)

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NHS Medicines A-Z – How and when to take Lansoprazole (Accessed – April 26)

PrescQIPP Bulletin 267: PPIs - Long term safety and gastroprotection: Proton Pump Inhibitor (PPI): Deprescribing algorithm (adults) (Accessed online in November 2025 via Bulletins (prescqipp.info)).

Accessibility checked – contains flow charts, tables and low-contrast text that may not be accessible for screen readers.