Proton Pump Inhibitor (PPI) in Adults Guidance

Bath and North East Somerset, Swindon and Wiltshire Together

Background

Diagnosis, referral and management should follow NICE CG184 2019 Management of dyspepsia in adults in primary care: https://www.nice.org.uk/guidance/cg184

On first presentation with dyspepsia symptoms:

- Review medications for possible causes of dyspepsia, for example, calcium antagonists, nitrates, theophyllines, bisphosphonates, steroids and non-steroidal anti-inflammatory drugs (NSAIDs).
- Consider trial of alginate or antacid if not already taking and review in one month if not needing referral.
- Patients undergoing endoscopy should be free from medication with a proton pump inhibitor (PPI) for a minimum of 2 weeks.
- Stop NSAIDs before endoscopy and, where possible, in patients with uninvestigated dyspepsia.

Lifestyle Measures – ALL PATIENTS SHOULD BE GIVEN THIS ADVICE

- Offer simple lifestyle advice, including advice on healthy eating, weight reduction and smoking cessation.
- Avoid their known dyspepsia triggers such as smoking, alcohol, coffee, chocolate, fatty foods and being overweight.
- Raising the head of the bed (using bricks or a plank of wood, not extra pillows) and avoid large or late meals, especially close to bedtime
- Address psychosocial triggers, such as stress.
- Read codes for lifestyle advice should be recorded as follows:
    - Lifestyle counselling: XaEFY
    - Smoking cessation advice: Ua1Nz
    - Patient advised re diet: 8CA4
    - Alcohol advice: XaJlr
    - Advice re exercise: Xa1dN

Risks Associated with PPIs

- Significant side effects are rare. Adverse effects are usually mild and reversible and include headache, diarrhoea, nausea, abdominal pain, constipation, dizziness and skin rashes.
- Consider if benefits of PPI outweigh risks for patients susceptible to these conditions e.g. elderly, care home residents, respiratory patients, malnourished & immunocompromised patients. Review continuing need for treatment regularly.

Which PPI to use

- Prescribe low acquisition cost PPIs in preference to high acquisition cost PPIs, for the shortest duration (& clearly documented indications). There is no evidence that any PPI is more effective than another.
- **First-line PPIs: Omeprazole or Lansoprazole CAPSULES.**
- Tablet formulations are available for both omeprazole (standard and dispersible tablets) and pantoprazole (dispersible tablets). However, these options are significantly more expensive than capsules.
- **DO NOT** prescribe by brand name as they are prohibitively more expensive.

Patients with swallowing difficulties and with enteral feeding tubes

- Options are available which are dispersible (listed in increasing cost order):
    - Esomeprazole gastro-resistant **capsules** (caps can be opened and pellets mixed in non-carbonated water. The liquid can be drunk or administered through a gastric tube- see SPC).
    - Esomeprazole gastro-resistant **tablets** (tabs can be dispersed in non-carbonated water. The liquid can be drunk or administered through a gastric tube- see SPC).
    - Lansoprazole orodispersible tablets
    - Omeprazole dispersible gastro-resistant tablets

Omeprazole Powder for Oral Suspension (Rosemont) is NOT included on BSW formulary for use in adults. DO NOT PRESCRIBE.
Within BSW, this is RESTRICTED for use only following specialist recommendation for paediatric patients under 1 year of age or under 10kg whereby dispersible tabs/esomeprazole sachets are not suitable. See BSWformulary paediatric chapter

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Dosage information on proton pump inhibitors (NICE CG184 2019)

Table 1: PPI doses relating to evidence synthesis and recommendations in the original CG17; 2004 guideline, updated 2024

PPI	Full/standard dose	Low dose (on-demand dose)	High/double dose
Omeprazole	20mg once a day	10mg once a day	40mg once a day
Lansoprazole	30mg once a day	15mg once a day	30mg[1] twice a day
Pantoprazole	40mg once a day	20mg once a day	40mg[1] twice a day
Esomeprazole	20mg[2] once a day	Not available	40mg[3] once a day
Rabeprazole	20mg once a day	10mg once a day	20mg[1] twice a day

1. Off-label dose for GORD.
2. Lower than the licensed starting dose for esomeprazole in gastro-oesophageal Reflux Disease (GORD), which is 40mg, but considered to be dose-equivalent to other PPIs. When undertaking meta-analysis of dose related effects, NICE classed esomeprazole 20mg as a full-dose equivalent to omeprazole 20mg.
3. 40mg is recommended as a double dose of esomeprazole because the 20mg dose is considered equivalent to omeprazole 20mg.

NOTE: Rabeprazole is NON-FORMULARY across BSWformulary.

Table 2: PPI doses for severe oesophagitis in NICE CG184, 2019

PPI	Full/standard dose	Low dose (on-demand dose)	High/double dose
Omeprazole	40mg[1] once a day	20mg[1] once a day	40mg[1] twice a day
Lansoprazole	30mg once a day	15mg once a day	30mg[2] twice a day
Pantoprazole	40mg once a day	20mg once a day	40mg[2] twice a day
Esomeprazole	40mg[1] once a day	20mg[1] once a day	40mg[1] twice a day
Rabeprazole	20mg once a day	10mg once a day	20mg[2] twice a day

[1] Change from the 2004 dose, specifically for severe oesophagitis, agreed by the GDG during the update of CG17.

[2] Off-label dose for GORD.

NOTE: Rabeprazole is NON-FORMULARY across BSWformulary.

Patient Information and Review Timescales

- Ensure patients are aware of why they have been prescribed a PPI – supply patient leaflet from www.patient.co.uk
- Prescribe as acute for one month and ask patient to arrange a review appointment.
- Only put PPI on repeat if need for long-term therapy has been established.
- Explain to patients that over time their dose may be reduced and they may be asked to stop treatment once symptoms are well controlled.
- Some patients with GORD may not respond to a first-line PPI and so it might be appropriate to trial an alternative PPI.

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Prophylaxis of GI Complications due to concomitant medicines

Certain patient groups may need gastro-protection with PPIs during treatment with the following drugs:

NSAIDS	
Gastro-protection should be given to:	
• Anyone with osteoarthritis or rheumatoid arthritis (NICE)	• Concomitant oral steroids or anticoagulants
• Anyone ≥45 years of age with chronic low back pain (NICE)	• Requirement for prolonged use of maximal doses of NSAIDs
• Patients aged 65 and over	• Presence of cardiovascular disease, diabetes, hypertension, renal or hepatic impairment
• Past history of peptic ulcer disease (PUD) or serious GI complication	
Doses for NSAID Prophylaxis: Lansoprazole CAPSULES 30mg, Omeprazole CAPSULES 20mg Note that people younger than 45 years of age and at low risk of GI adverse events (e.g. no history of GI bleeding or *Helicobacter pylori* infection and not on aspirin, warfarin, or oral corticosteroids) may not need the concomitant use of a gastro-protective drug with an NSAID. If a patient develops GI symptoms after starting on an NSAID, stop the NSAID if possible to see if they resolve. If they don't resolve, further investigation is required.	
ASPIRIN	
Gastro-protect patients on low dose aspirin if also prescribed an NSAID, selective serotonin reuptake inhibitor (SSRI), or have a history of PUD or serious GI complication.	
SSRIs	
Gastro-protect patients on SSRIs if co-prescribed an NSAID. Consider/seek advice as to whether a different anti-depressant could be used to reduce the risk.	

Review of patients taking PPIs

The following patient groups should be reviewed that are taking PPIs:

1.) Patients that can move from high dose to maintenance dose regimes
The following patients may be considered for step-down to the lowest maintenance dose of PPI (and change to generic, cost-effective PPI where applicable as per NICE), but should not proceed to self-management plans:
Patients with a history of peptic ulceration associated with CLO negative status.
Patients diagnosed with Barrett's oesophagus (20mg maintenance dose omeprazole).
Patients who need to continue NSAID therapy but do **not** fall into high-risk categories. i.e. History of peptic ulceration, concurrent use of medications harmful to the gastric or duodenal lining, elderly patients, patients on long-term, high-dose NSAID therapy. (20mg Omeprazole is defined as maintenance dose for NSAID coverage).
Patients using aspirin or clopidogrel for cardiovascular disease prevention can discontinue concomitant PPI therapy **if not high risk**.e.g. History of peptic ulceration, concurrent use of medications harmful to the gastric or duodenal lining, elderly patients.
To improve symptom control and support successful dosage reduction it may be appropriate to recommend a suitable alginate or antacid as symptomatic treatment. This may prevent and/or treat occasional break through symptoms, due to rebound acid hypersecretion/acid breakthrough.
These patients should be reviewed for step off approximately 2-3 months after dose reduction to maintenance dose.
2.) Patients that are on maintenance dose that can trial stopping their PPI
Patients who have been on a PPI maintenance dose for more than eight weeks and do not meet the exclusion criteria should be counselled and advised to step off PPI therapy to a suitable alginate or antacid for symptomatic relief.
Encourage patients to buy the alginate/antacid treatment themselves over the counter where possible.
Ensure patients understand that long-term, frequent, or continuous use of antacids should be avoided. Antacids provide only short-term symptom relief and do not prevent symptoms.
Some patients may need to use a PPI on a "PRN" basis for a short duration whilst stepping off treatment completely.
Consider also stopping other medication which could be contributing to symptoms such as NSAIDs, SSRIs, anti-platelets, nitrates & nicorandil, bisphosphonates, corticosteroids and theophylline if appropriate to do so.
Follow up of these patients is not necessary but do encourage patients to report any further symptoms or issues.

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Review of patients taking PPIs: continued

3.) Patients that need to remain on a long-term PPI

Offer these patients an annual review of their condition and encourage them to step down or stop treatment when clinically appropriate. This should be considered unless there is an underlying condition or co-medication that requires ongoing therapy.

Exclusion Criteria

The following patients are **not** suitable for PPI review:

- Patients on healing doses of PPIs <one month for un-investigated dyspepsia.
- Patients on maintenance dose PPIs <one month for non-ulcer dyspepsia.
- Patients on healing doses of PPIs <two months for gastro-oesophageal reflux disease/peptic ulcer disease
- Patients currently on *H. Pylori* eradication therapy
- Patients under review at GI clinic or awaiting referral
- Patients awaiting gastroscopy or review
- Zollinger-Ellison Syndrome
- Patients at end stage in Gold Standard Framework
- Patients with grade 3 or 4 oesophagitis
- Patients on high dose steroids with life threatening or chronic illness, e.g. patients awaiting transplant, post-transplant patients
- Patients receiving immuno-suppression therapy
- Patients undergoing chemotherapy or radiotherapy
- Patients with oesophageal strictures or oesophageal dilation
- Patients with a history of oesophageal varices

Points for discussion with patient during review

- Is the prescribing for treatment or prophylaxis? If for prophylaxis, is the other drug still being prescribed or still needed?
- Check length of treatment and dosage – can healing dose be stepped down or maintenance dose stepped off?
- Check symptom control.
- Discuss risk factors associated with long term use of PPIs e.g. increased risk of fractures, pneumonia and *C. difficile*.
- Discuss lifestyle issues and read code for advice given.
- Discuss rebound effect and rescue treatment (alginate).
- Follow up after 2-3 months for patients moving down to a maintenance dose.

References

- NICE CG184 2019 Management of dyspepsia in adults in primary care: https://www.nice.org.uk/guidance/cg184
- NICE CKS 2024 Dyspepsia – unidentified cause: https://cks.nice.org.uk/topics/dyspepsia-unidentified-cause/prescribing-information/proton-pump-inhibitors-ppis/
- NICE CKS 2024 Dyspepsia – proven functional: https://cks.nice.org.uk/topics/dyspepsia-proven-functional/
- NICE CKS 2024 Dyspepsia - proven GORD: https://cks.nice.org.uk/topics/dyspepsia-proven-gord/
- NICE CKS 2024 Dyspepsia - proven peptic ulcer: https://cks.nice.org.uk/topics/dyspepsia-proven-peptic-ulcer/
- NICE NG226 2022 Osteoarthritis in over 16s: diagnosis and management:https://www.nice.org.uk/guidance/ng226
- NICE NG59 2016 Management of sciatica and lower back pain in adults: https://www.nice.org.uk/guidance/ng59
- Drug tariff https://www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/drug-tariff

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