Proton Pump Inhibitor (PPI): Deprescribing algorithm (adults)

Why is the patient prescribed a PPI? Does prescribing follow recommendations in NICE CG184?

If unsure, find out if the patient**:** Has previously had an endoscopy, has ever been hospitalised for a bleeding ulcer, is taking a PPI for gastroprotection against an ulcerogenic medicine, has ever had heartburn or dyspepsia?

Indication still unknown?

- Mild to moderate oesophagitis or
- GORD treated for 4-8 weeks (oesophagitis healed, symptoms controlled).

- Peptic ulcer disease treated for 2-12 weeks (from NSAID use; H. pylori).
- Upper GI symptoms without endoscopy; asymptomatic for 3 consecutive days.
- ICU/surgery stress ulcer prophylaxis treated beyond a hospital admission.
- Uncomplicated H. pylori treated for 2 weeks and now asymptomatic.

Documented history of any of the following:

- Barrett's oesophagus
- Severe oesophagitis
- History of bleeding GI ulcer
- On-going, uncontrolled GORD
- Used for gastro-protection if a person is at high risk of GI adverse effects and co-prescribed a potentially ulcerogenic medicine:
  - NSAID
  - Antiplatelets
  - Anticoagulants
  - Corticosteroids
  - SSRIs
  - NSAID + SSRIs and/or aspirin

Recommend deprescribing

- Taper to lower dose: Evidence suggests no increased risk in return of symptoms compared with continuing higher dose, **OR**
- Stop and use on demand: If needed use daily until symptoms stop [10% of patients may have return of symptoms].

Stop PPI

If the potentially ulcerogenic medicine is stopped.

Continue PPI

Monitor at 4 & 12 weeks for: Heartburn, dyspepsia, regurgitation, epigastric pain, loss of appetite, weight loss, agitation

Non-pharmacological interventions:

- Avoid meals 2-3 hours before bedtime.
- Elevate head of bed.
- Address if a need for weight loss.
- Avoid dietary triggers, e.g. caffeine, chocolate, fatty foods.
- Smoking cessation.
- Reduce/ stop alcohol intake.

Manage occasional symptoms using:

- Over the counter: Antacid, alginate, PPI, H_2RA - take as required.
- H_2RA daily [up to 20% of patients may have return of symptoms].

If symptoms relapse:

If symptoms persist for between 3-7 days and interfere with normal activity:

1) Test and treat for *H. pylori*, if present.
2) Consider returning to previous dose.
3) Further attempt to stop the PPI after 2-4 weeks of continued therapy.

General principles of deprescribing

- Treat the patient as an individual, use shared decision-making – patients and/or care givers are more likely to engage if they understand the rationale for deprescribing at initiation of a new medicine.
- Taper doses, unless a severe adverse drug event (ADE or side effect) is experienced.
- Patients with multimorbidity who are treated according to guidelines are prescribed a large number of medicines. This polypharmacy increases the risk of an ADE. Stopping medication may relieve these effects, and thereby improve the patient's wellbeing.

Specific therapeutic information

- A short course of a PPI with review and stopping criteria is appropriate for some indications.
- Risks of PPIs if used long-term: increased fractures; *C difficile* infections; diarrhoea; community acquired pneumonia; vitamin B_{12} deficiency; hypomagnesaemia; dementia; acute interstitial nephritis and chronic kidney disease.
- The risk of side effects may outweigh the benefits when an on-going indication is unclear.
- Efficacy of PPIs in patients without erosions is lower than in those with established erosions.
- Tapering doses: There is no evidence that one approach is best, but gradual step down reduces the risk of rebound hyperacidity and the need to reinstate. Advise patients there may be an increase in symptoms for a few days.
- Offer lifestyle advice along with reducing the frequency and dose or stopping the PPI and advise use on demand. Use shared decision-making to understand what is convenient and acceptable to the patient.

PPI (formulation if appropriate)	Standard dose (healing) (once daily) *	Low dose (maintenance) (once daily)
Omeprazole (as capsules)	20mg+	10mg+
Lansoprazole (as capsules)	30mg+	15mg+
Pantoprazole	40mg	20mg
Rabeprazole	20mg	10mg
Esomeprazole	20mg[a] or 40mg[b]	20mg

Posology and method of administration can be found in the individual Summaries of Product Characteristics (SPC).

* Standard dose PPI taken BD only indicated in treatment of peptic ulcer caused by H. pylori; PPI should generally be stopped once eradication therapy is complete unless risk factors warrant continuing PPI.

+ Can be sprinkled on food

[a] Dose in non-erosive reflux disease

[b] Dose in reflux oesophagitis

Bibliography

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