

DEPRESCRIBING GUIDE FOR PROTON PUMP INHIBITORS (PPIs)

(including omeprazole, pantoprazole, esomeprazole, lansoprazole, rabeprazole)



This guide provides deprescribing information that can be applied to written and/or verbal communication (in the form of “preferred language”) between clinicians, patients and/or carers. Adapt appropriately for individual patients.



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CONSIDER TWO STEPS WHEN DEPRESCRIBING:

1

Should I deprescribe?

2

How do I deprescribe?

STEP 1: SHOULD I DEPRESCRIBE? (PATIENT ASSESSMENT)

Deprescribing triggers:

- Inappropriate indication, no current indication, presence or risk of adverse events, drug interaction, drug-disease interaction, poor adherence, or patient preference.

1a) Is there a documented indication or symptoms supporting continued use?

Inappropriate indication for continued regular use:³

- Mild to moderate oesophagitis.
- Gastro-oesophageal reflux disease (GORD) treated for 4-8 weeks (oesophagitis healed, symptoms controlled).
- Peptic ulcer disease treated for 2-12 weeks (from non-steroidal anti-inflammatory drug [NSAID] and/or *Helicobacter pylori* [*H. pylori*]).
- Upper gastrointestinal (GI) symptoms without endoscopy, asymptomatic for 3 consecutive days.
- Intensive care unit (ICU) stress ulcer prophylaxis treated beyond ICU admission.
- Uncomplicated *H. pylori* treated for 2 weeks and asymptomatic.

Do not deprescribe if:³

- Barrett’s oesophagus without consulting gastroenterologist.
- Chronic NSAID users with bleeding risk.
- Severe oesophagitis.
- Documented history of bleeding GI ulcer.

Consider whether the PPI is part of a prescribing cascade and confirm appropriateness of other drugs:¹

- **Drugs that may cause or worsen GORD or cause peptic ulcer disease:** e.g. NSAIDs, aspirin, corticosteroids, bisphosphonates, calcium channel blockers, nitrates, drugs with anticholinergic effects (e.g. tricyclic antidepressants) and benzodiazepines.
- **Chronic use of medications with high risk of bleeding:** e.g. antiplatelets, anticoagulants.

1b) Are there adverse effects?

Consider potential adverse effects:

- Common: headache, nausea, vomiting, diarrhoea, abdominal pain, constipation, flatulence.
- Increased risk of *Clostridium difficile* (*C. difficile*) infection, pneumonia, chronic kidney disease, hypomagnesaemia.
- Chronic use: increased risk of fractures with use >1 year, vitamin B12 deficiency with use >2 years.

1c) Is this medication likely to cause more harm than benefit?

See [Evidence-based advice](#) for additional information on risks of harm and benefits of continued use.

1d) Does the patient/carer agree with the recommendation to deprescribe?

Following provision of information, discussion and shared-decision making, the patient or carer has communicated that they would like to proceed with or decline the deprescribing recommendation.

PREFERRED LANGUAGE:

(Adapt for each patient and medicine as appropriate)

_____ is currently taking _____
(patient name) (drug name: e.g. pantoprazole 40 mg daily)

for _____, and is currently experiencing/at risk of _____
(indication: e.g. heartburn) (patient issue: e.g. asymptomatic)

The _____ outweighs the _____ for continued use of _____.
(risk/benefit + rationale) (risk/benefit + rationale) (drug name: e.g. pantoprazole)

Discussed with _____ and _____ deprescribing recommendation.
(patient /carer name) (agreed/willing to trial/considering/declined)

STEP 2: HOW DO I DEPRESCRIBE? (RECOMMENDATION AND MANAGEMENT)

2a) How to wean

Key Points

- Establish a supportive and trusting relationship with the patient to engage in complex/sensitive discussions.
- Accompany weaning with commencement of relevant non-pharmacological therapy. See [Alternative management](#) recommendations.
- In general, wean slowly by 50% or stop outright and use on-demand.
- If reason for deprescribing is a serious adverse effect, consider weaning faster.
- Provide advice to patient/carer on self-monitoring and what to do if symptoms re-occur.
- Organise appropriate follow up appointments with general practitioner (GP) (frequency determined by rate of weaning).

Initiation

(i) **Lower the dose every 1-2 weeks** (i.e. take the standard dose less frequently [e.g. from twice daily to once daily], or lower the dose at the same frequency [e.g. halve the dose])

OR

(ii) **Stop outright and use PPI on-demand.**

The deprescribing methods described above are equally effective and their use informed by the clinical scenario.

Adjustments depend on response

Adjust according to response (see [Monitoring](#) recommendations).

- If no recurrent symptoms occur, continue to wean and stop.
- Consider slower weaning when reducing to the final lowest dose. End treatment 2 weeks after administering the lowest dose.
- Consider alternate day dosing to aid with weaning if dosage forms are limited.

Adjustments in the case of recurrent symptoms

In the case of recurrent symptoms, revert to the previous lowest tolerated dose. Recommence weaning after 6-12 weeks at a slower weaning rate (e.g. reduce by 25% of daily dose each month) then stop.

If recurrent symptoms persist for > 7 days and interfere with normal activity, then test for *H. pylori* (and treat accordingly) and/or consider returning to the previous lowest tolerated dose.

(Based on recommendations in [References](#)²⁻⁵)

PREFERRED LANGUAGE:

(Adapt for each patient and medicine as appropriate)

Recommend non-pharmacological replacement therapy to reduce reliance on PPIs.

Recommend gradually reducing to _____ for _____ and reassess,
(drug: e.g. pantoprazole 40mg daily) (timeframe: e.g. 1 week)
then reduce to _____ for _____ and then stop.
(e.g. pantoprazole 20mg daily) (e.g. 1 week)

Follow up with GP _____ after discharge.
(e.g. fortnightly)

2b) Alternative management

Non-pharmacological support

Use behavioural and lifestyle management strategies concurrently (e.g. avoid meals 2-3 hours before bedtime, consider whether weight loss is needed, avoid exercise after meals, elevate head of bed, quit smoking). Avoid dietary triggers (e.g. caffeine, alcohol, high fat meals, spicy food, citrus fruits, chocolate, carbonated beverages, tomato products).

Switching within drug class or consider alternative therapy

Manage rebound or occasional symptoms with on-demand PPI or on-demand over the counter antacid, H2 antagonists, or alginate; or with H2 antagonists daily.³

To consider other options, refer to [\[AMH-Gastrointestinal drugs\]](#).

PREFERRED LANGUAGE:

Use **behavioural and lifestyle management strategies** concurrently.

2c) Monitoring

Monitor short term (within days to weeks)	Monitor long term (4-12 weeks)
<p>Monitor for rebound symptoms In daily PPI exposure > 4 weeks, rebound acid hypersecretion within ~2-8 weeks after discontinuation is likely.⁶ See Alternative management recommendations.</p>	<p>Monitor for rebound or new symptoms Recurrence of previous or new symptoms (e.g. heartburn, regurgitation, dyspepsia, epigastric pain, weight loss, loss of appetite, agitation) may occur 2 weeks after dose reduction.</p>
<ul style="list-style-type: none"> • Common rebound symptoms (e.g. heartburn, regurgitation, dyspepsia) are usually mild, highly variable and can last up to several days to weeks, depending on the duration of PPI exposure. • If severe symptoms (e.g. epigastric pain, weight loss, loss of appetite, agitation, blood in vomit, black tarry stools, anaemia) occur, restart at lowest effective dose. 	

PREFERRED LANGUAGE:

Within 2 weeks of dose reduction, monitor for **mild** (e.g. *heartburn, regurgitation, dyspepsia*) or **severe** symptoms (e.g. *epigastric pain, weight loss, loss of appetite, agitation*).

Monitor for **new symptoms** within 4-12 weeks of dose reduction, including *epigastric pain, weight loss, loss of appetite, or agitation*.

Restart at lowest effective dose with retrial of weaning at 6-12 weeks.

EVIDENCE-BASED ADVICE

Effectiveness and safety

Long term PPI use is associated with significant harm from **adverse effects** such as fractures, kidney disease, **C. difficile** infection, pneumonia, and hypomagnesaemia.

Approximately 1 in 10 patients may experience recurrent symptoms after stopping a PPI.³

In a meta-analysis, 16% of participants in the on-demand deprescribing group experienced lack of symptom control versus 9% of participants with no change in continuous daily PPI use (relative risk [RR] 1.71, 95% confidence interval [CI] 1.31 to 2.21).⁷

Over 90% of people would be willing to stop one or more of their medicines if recommended by their doctor.⁸

PPI use incurs financial burden to the patient and high costs to the health system (e.g. esomeprazole costs the Australian government ~\$140 million/year). Esomeprazole and pantoprazole were among the top 50 most commonly prescribed medicines on the Pharmaceutical Benefits Scheme (PBS) in 2016-2017.⁹

Recommended duration of use

Limit drug treatment to short-term use of up to 8 weeks. Long-term use is not recommended, especially in older adults.

SUMMARISED PHRASING DURING HOSPITAL ADMISSION AND/OR AT DISCHARGE

When communicating deprescribing decisions to GPs at discharge, written and verbal communication should include information in the sequence of:

“Medicine, Intention, Rationale. Clear Plan (dose change, duration, follow up). Patient agreement”

PREFERRED LANGUAGE

(write in GP follow up plan and medication list):

_____ : _____ **due to** _____ **outweighing effects** _____ .
current medication (e.g. pantoprazole) stopped/dose reduced specific rationale (e.g. risk of fractures) of/on current indication (e.g. heartburn)

_____ **reduced to** _____ **for** _____ , **then** _____ . **Patient/Carer agreed.**
If weaning, old dose changed to new dose (e.g. pantoprazole 40mg stopped, use pantoprazole 20mg daily) if weaning, time frame (e.g. 1 week) follow-up action (e.g. for GP's review for weaning/stopping)

Refer to www.nswtag.org.au/deprescribing-tools/

Example:

Pantoprazole: Dose reduced due to risk of fracture (and other potential adverse effects) outweighing effects on heartburn. Pantoprazole 40mg reduced to pantoprazole 20mg daily. GP to consider reducing further by using “on demand” dosing with aim of stopping after 4-12 weeks. Patient agreed. Refer to www.nswtag.org.au/deprescribing-tools/



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1. Australian Medicines Handbook (AMH). Proton pump inhibitors. 2018. 2. Medicinewise News: StePPing the appropriate path with GORD medicines. NPS MedicineWise. June 2018. Available at https://cdn0.scrvt.com/08ab3606b0b7a8ea53fd0b40b1c44f86/46d8899849570192/388367b654ea/MW_News_PPIs_for_GORD_2018_v2.pdf 3. Farrell B, Pottie K, Thompson W, et al. Deprescribing proton pump inhibitors. Evidence-based clinical practice guideline. Can Fam Physician. 2017;63:354-64. Available at: <http://www.cfp.ca/content/cfp/63/5/354.full.pdf> 4. Tenni P, Dunbabin D. A guide to deprescribing: proton pump inhibitors. Primary Health Tasmania. May 2016. Available at <https://www.primaryhealthtas.com.au/sites/default/files/A%20Guide%20to%20Deprescribing%20Proton%20Pump%20Inhibitors.pdf> 5. Medstopper. Available at <http://medstopper.com> 6. Lødrup AB, Reimer C, Bytzer P. Systematic review: symptoms of rebound acid hypersecretion following proton pump inhibitor treatment. Scand J Gastroenterol. 2013; 48(5):515-22. 7. Boghossian TA, Rashid FJ, Thompson W, et al. Deprescribing versus continuation of chronic proton pump inhibitor use in adults. Cochrane Database Syst Rev. 2017;(3). CD011969. 8. Reeve E, Wiese MD, Hendrix I, et al. People's attitudes, beliefs, and experiences regarding polypharmacy and willingness to deprescribe. J Am Geriatr Soc. 2013; 61(9): 1508-1514. 9. Seeniyar R, Wilkinson C. Expenditure and prescriptions twelve months to 30 June 2017. Department of Health, Australia. Available at <https://www.pbs.gov.au/statistics/expenditure-prescriptions/2016-2017/expenditure-and-prescriptions-twelve-months-to-30-june-2017.pdf>

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