



National Prescribing Service Limited

30 June 2006



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DR SAM SAMPLE
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Prescribing
Practice Review

No. 34
Proton pump
inhibitors

Dear Dr Sample,

Proton pump inhibitors (PPIs) are now prescribed in most new cases of gastro-oesophageal reflux disease. These drugs provide rapid and effective control of symptoms with few adverse effects, but continuous use at standard dose may be more than many patients require. This edition of the Prescribing Practice Review details a number of strategies to tailor PPI use to individual clinical needs.

Prescribe a 4-week course when initiating a PPI

Many patients remain symptom-free after one month of PPI treatment and do not require ongoing therapy. Patients with persistent or recurrent symptoms should be reviewed for further therapy or investigation.

Step down to intermittent, symptom-driven PPI therapy or a lower dose if maintenance is required

After a course of standard-dose PPIs has healed any oesophagitis, most patients who need ongoing control of reflux or dyspepsia symptoms are highly satisfied with less intensive PPI therapy.

Communicate the goal and duration of PPI therapy to the patient and on referral or hospital discharge

Communicating the goal of therapy between specialists and GPs ensures that PPI therapy is stopped when it is no longer needed. A review every 6–12 months is appropriate.

Review the underlying need for an NSAID before considering co-prescribing a PPI

Stopping or reducing NSAID dosing is the best way to avoid NSAID-related peptic ulcer. In patients with risk factors for a gastrointestinal bleed who need an NSAID, gastroprotection with a PPI, H₂ antagonist, misoprostol or by substituting a COX-2 selective NSAID, may have benefits that outweigh any potential harms.

Your confidential prescribing feedback is attached. A clinical audit is available as an additional tool to help you review your prescribing. See the insert for enrolment details if you wish to participate.

Yours sincerely,

Dr Roger Boyd
Chair, National Prescribing Service Limited

NPS is an independent, Australian organisation for Quality Use of Medicines,
funded by the Australian Government Department of Health and Ageing.

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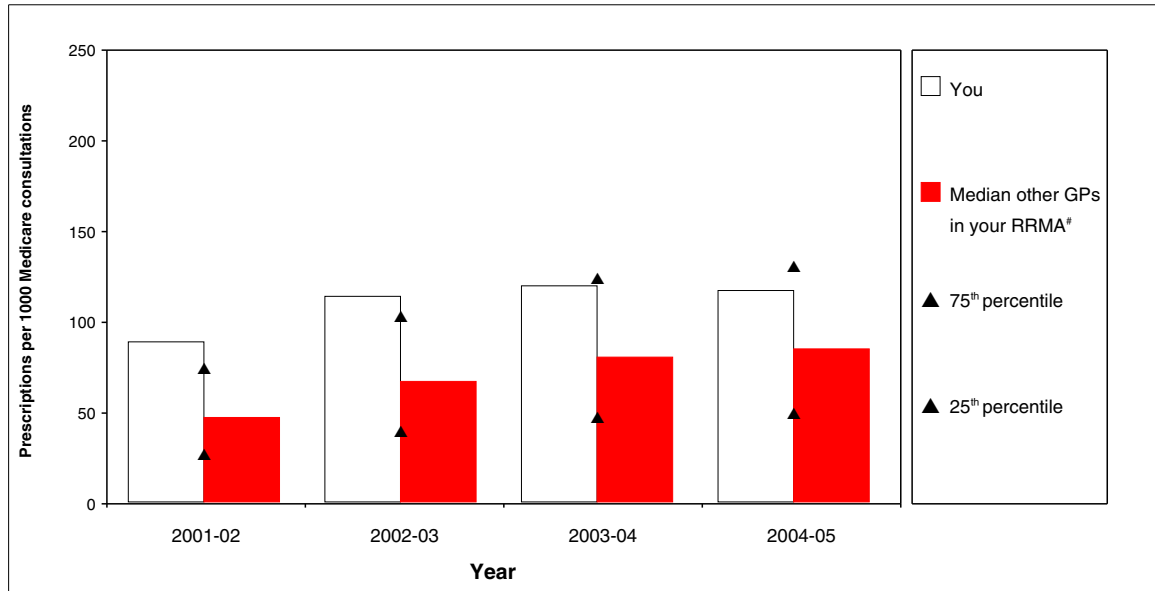
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Your confidential prescribing data

The data provided here include all prescriptions dispensed for your patients if the drug is above the general patient co-payment or, if the drug is below the general patient co-payment, it includes only those prescriptions dispensed for concession card holders, i.e. pantoprazole 20 mg from April 2005 and rabeprazole 10 mg from January 2005. Esomeprazole was PBS listed from August 2002.

Total proton pump inhibitor use



Proton pump inhibitor use by strength

		You		Median other GPs in your RRMA [†]	
		Percentage of prescriptions		Percentage of prescriptions	
		2003-04	2004-05	2003-04	2004-05
Lower strength products	esomeprazole (<i>Nexium</i>) 20 mg lansoprazole (<i>Zoton</i>) 15 mg omeprazole (<i>Losec</i>) 10 mg pantoprazole (<i>Somac</i>) 20 mg rabeprazole (<i>Pariet</i>) 10 mg	34%	28%	14%	17%
Higher strength products	esomeprazole (<i>Nexium</i>) 40 mg lansoprazole (<i>Zoton</i>) 30 mg omeprazole (<i>Acimax, Meprazol, Losec, Probitor</i>) 20 mg pantoprazole (<i>Somac</i>) 40 mg rabeprazole (<i>Pariet</i>) 20 mg	66%	72%	87%	84%

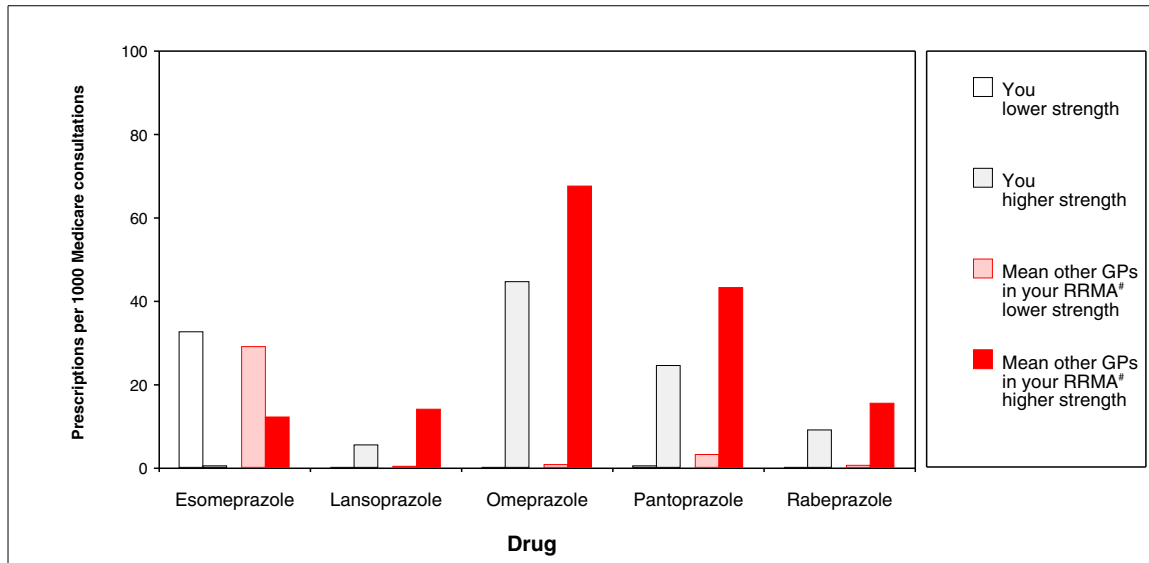
Percentages may not add up to 100 due to rounding of median values.

Practice points

- For maintenance therapy of gastro-oesophageal reflux disease (GORD) or uninvestigated dyspepsia, step down to intermittent symptom-driven PPI therapy or a lower dose; evidence shows that patients' satisfaction rates with symptom-driven, on-demand maintenance therapy are high and similar to continuous therapy.
- Nationally prescribing for lower strength PPIs has increased but this is mainly due to an increase in the use of lower strength esomeprazole.



Individual proton pump inhibitor use by strength 2004-05



Practice points

- The clinical efficacy is similar for all five PPIs.¹
- Adverse effects are similar for all PPIs (although reported more often with omeprazole which most likely reflects its longer availability).¹

Long term proton pump inhibitor use

	You		Median other GPs in your RRMA [#]	
	2003-04	2004-05	2003-04	2004-05
Number of patients (and percentage of those prescribed a PPI) who have had more than 6 PPI prescriptions dispensed	47 (53%)	59 (68%)	26 (36%)	28 (37%)

Practice points

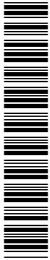
- A single 4-week initial course of standard-dose PPI is usually appropriate in uninvestigated dyspepsia or newly diagnosed GORD; review patients with persistent or recurrent symptoms.
- In 2004-05, two-thirds of PPI prescriptions were for the maximum number of repeats for the standard dose.²

Number and cost of proton pump inhibitor prescriptions dispensed

Year	You			All GPs nationally		
	Number of prescriptions	Total cost \$	Percentage of your total PBS cost	Number of prescriptions	Total cost \$	Percentage of total PBS cost
2001-02	527	27,919	7%	5,560,136	295,347,051	7%
2002-03	606	30,675	7%	7,474,414	391,391,650	9%
2003-04	642	31,806	7%	8,888,792	461,796,807	10%
2004-05	649	31,344	7%	9,253,334	466,815,518	10%

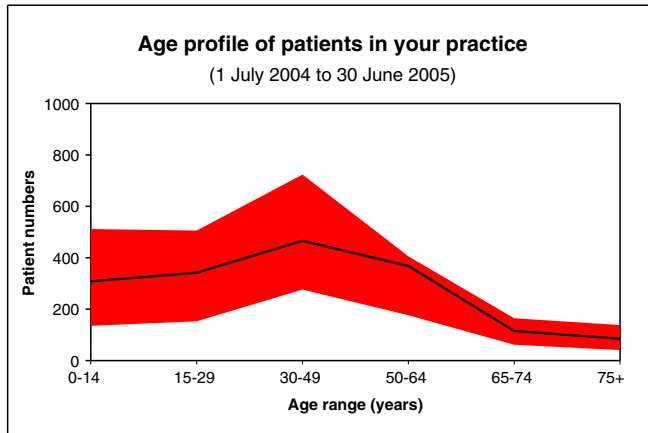
Practice point

- The number of prescriptions for PPIs has been increasing nationally since the requirement of seeking authority to prescribe on the PBS was removed in 2001.



Practice profile

The data below, based on Medicare claims, are provided to help you review your prescribing data within the profile of your practice. The number of concession card holders given provides an indication of the limitations of the data capture for under co-payment items.



The black line represents the age profile of patients in your practice. 25% to 75% of other GPs in your RRMA[#] fall within the shaded area.

Medicare patients and concession card holders in your practice
(1 April 2005 to 30 June 2005)

Patients	You	Median other GPs in your RRMA [#]
Total Medicare	831	679
Concession card holders^{**}	240	138

(*includes those reaching Safety Net)

Data from a three month period (1 April 2005 to 30 June 2005) that best represent your patient mix have been provided.

Notes

@ Data shown are an aggregate for all your provider locations.

The comparator group "other GPs in your RRMA" includes all prescribers who are currently located in a similar geographical region i.e 1. capital cities, 2. other metropolitan centres, 3. large rural centres, 4. small rural centres, 5. other rural centres, 6. remote centres and 7. other remote centres.

Your RRMA peer group is 1.

▲ 25% to 75% of "other GPs in your RRMA" fall in the range shown by the triangular symbols.

References

1. Australian Medicine Handbook 2006.
2. BEACH data, Australian General Practice Statistics and Classification Centre, a collaborating unit of the Family Medicine Research Centre, University of Sydney and the Australian Institute of Health and Welfare.

Proton pump inhibitors in primary care

Key Messages

- Prescribe a 4-week course when initiating a proton pump inhibitor (PPI)
 - Step down to intermittent, symptom-driven PPI therapy or to a lower dose if maintenance is required
 - Communicate the goal and duration of PPI therapy to the patient and on referral or hospital discharge
 - Review the underlying need for an NSAID before considering co-prescribing a PPI
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PPIs are now the standard treatment for gastro-oesophageal reflux disease

Proton pump inhibitors (PPIs) provide rapid and effective control of the symptoms of gastro-oesophageal reflux disease (GORD) and dyspepsia, with few adverse effects. These are now prescribed in most new cases of GORD.* Continuous use at a standard dose is common practice, but may represent more intensive therapy than many patients require.

Initiating treatment with a proton pump inhibitor

Are there alarm symptoms?

Refer patients with one or more alarm symptoms (gastrointestinal bleeding, upper abdominal mass, difficulty/pain on swallowing, unexplained weight loss or persistent vomiting) for endoscopy — on the same day in cases of significant acute bleeding.^{1,2}

In the absence of alarm symptoms, empirical PPI therapy is suitable for patients with dyspeptic symptoms.^{1,2}

Prescribe a single 4-week course in uninvestigated dyspepsia or newly diagnosed GORD

A single initial course of standard-dose PPI (see Table 1, page 4) will control symptoms and heal gastro-oesophageal lesions³; oesophagitis healing rates average about 75% after 4 weeks of therapy.³ Patients with persistent or recurring symptoms should return for review.

More than 1 patient in 5 has at most mild symptoms for at least the next 6 months after a short course of PPI.³⁻⁵ If symptoms do require ongoing management, step down to low-dose or intermittent, symptom-driven therapy (see *How to step down PPI therapy*, page 2). Continuous standard-dose maintenance therapy is indicated if severe or complicated oesophagitis has been established by endoscopy.

* Source: BEACH data, Australian General Practice Statistics and Classification Centre, a collaborating unit of the Family Medicine Research Centre, University of Sydney and the Australian Institute of Health and Welfare.

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Consider test-and-treat for *Helicobacter pylori* infection in uninvestigated dyspepsia without predominant GORD symptoms

Patients with predominant symptoms of heartburn or acid regurgitation are likely to have GORD and should be treated as above. For others, testing for *H. pylori* infection and treating with triple therapy is an alternative to empirical PPI treatment. This controls symptoms for 12 months in about 60% of those testing positive for *H. pylori*.³

Recent guidelines recommend test-and-treat either on initial presentation with dyspepsia (if alarm symptoms are absent) or second-line if the initial 4 weeks of PPI therapy fails.³

How to step down PPI therapy

Review maintenance therapy once or twice yearly

In patients taking maintenance PPIs, review to determine ongoing need. Step down to intermittent or low-dose therapy if symptoms are well controlled, or discuss stopping therapy (unless there is a diagnosis of severe oesophagitis, strictures, scleroderma or Barrett's oesophagus).^{1,2} A small proportion of patients with an inadequate response to standard-dose PPI may require a high-dose PPI or referral to a specialist.

Discuss intermittent, symptom-driven maintenance therapy

Evidence from randomised controlled trials in non-erosive and mild erosive GORD shows that intermittent, symptom-driven maintenance therapy results in rates of patient satisfaction similar to those for continuous therapy, even though patients experience some symptoms.^{3,6-8} Survey data suggest that patients take their treatment as required, regardless of the prescribed instructions.⁹

Advise patients to take a PPI on days when symptoms occur and to return for review if this becomes a continuous requirement. The maximum effect of PPIs may be reached only after repeated doses.¹⁰

Prescribe low-dose maintenance therapy

Continuous low-dose PPI maintenance therapy (Table 1) controls symptoms in most people who have completed a 4-week course of standard-dose therapy.³ Avoid supplying standard-strength PPI samples for continuous maintenance therapy unless specifically required.

Communicate the goal and duration of therapy

Tell the patient the goal of initial or ongoing therapy with a PPI

Reassure patients that dyspeptic symptoms are usually benign, respond well to PPI therapy and may resolve after an initial 4-week course that allows healing.

If maintenance therapy is needed in the absence of severe or complicated oesophagitis, explain that the primary purpose is to control symptoms and that the need for therapy will be reviewed every 6–12 months. In severe diagnoses, explain that PPIs are needed continuously to prevent serious complications.

Ask about the duration of therapy when referring for investigation

When referring for endoscopy, request specific details about the need for ongoing therapy. Milder grades of oesophagitis may heal with few residual symptoms after a 4–8-week course of PPI, and the role of PPIs in non-ulcer dyspepsia[†] is limited.

If the indication for ongoing therapy is uncertain, stop the PPI and review

The indication for PPIs prescribed in hospital may be unclear at discharge. If a need for ongoing therapy cannot be established, review before prescribing a further course. If there is a need for maintenance therapy, try stepping down to intermittent, symptom-driven dosing or a low dose (see *How to step down PPI therapy*, above).

[†] When reflux, ulcer, and malignancy are absent on endoscopy.

Self-managing dyspepsia

Self-management is effective for mild or intermittent symptoms

Symptoms of dyspepsia are very common, but only about 1 in 6 Australians has consulted a GP about them.¹¹ Mild or intermittent symptoms that do not interfere with daily activities are typically self-managed — strategies include avoiding triggers (which may relate to certain foods or behaviours) and using over-the-counter products such as antacids/alginate or H₂ antagonists.

The threshold for clinical management may vary from patient to patient, but consider it if symptoms are of recent onset and do not resolve spontaneously, or are severe, occur more than twice a week, or recur within 5 days of spontaneous recovery or stopping treatment with antacids/alginate or a non-prescription H₂ antagonist.

After initial healing, many patients can self-manage even if minor symptoms remain

Studies in uninvestigated dyspepsia have found that 6–12 months after a short course of PPIs for initial symptom control, 20–40% of patients experienced at most mild symptoms and did not require another prescription.^{4,5}

Advise patients to return for review rather than self-manage if they experience alarm symptoms or recurrent troublesome dyspepsia or reflux.

Managing the gastrointestinal adverse effects of NSAIDs

Minimise NSAID use, especially in high-risk patients

Patients aged 65 or more, using anti-coagulants or oral corticosteroids, with serious illness or a history of peptic ulcer are at increased risk of NSAID-related gastrointestinal ulcer complications.¹² Consider stopping or reducing the dose of NSAIDs in these patients. Use NSAIDs short term, or intermittently as needed. Paracetamol is first-line for musculoskeletal pain, and may also be used in combination to reduce the required NSAID dose.¹³

PPIs reduce NSAID-related dyspepsia but their effectiveness in preventing ulcer complications is uncertain

PPIs and double-dose H₂ antagonists reduce the dyspepsia common with both conventional and COX-2 selective NSAIDs, and reduce the incidence of NSAID-related endoscopically detectable ulcers.^{14–16} However, it is unknown how well they prevent clinical ulcer complications. Recurrence rates of complicated ulcer are high (5% in 6 months) in patients with a recently healed ulcer who receive an NSAID combined with a PPI.^{17,18}

Consider gastroprotection for high-risk patients only

The benefit of gastroprotection is small in patients without risk factors for ulcer and may not outweigh the costs and harms.²

The recommended gastroprotective strategies are co-prescribing a PPI, double-dose H₂ antagonist, or misoprostol with a conventional NSAID, or substituting a COX-2 selective NSAID.^{2,3} Misoprostol[‡] 800 micrograms daily prevents serious ulcer complications, but may cause diarrhoea and nausea.¹⁹ All NSAIDs should be used with caution in patients with cardiovascular risk factors (see *NPS RADAR, Aug 05: Elevated cardiovascular risk with NSAIDs?*). Concomitant low-dose aspirin eliminates any gastrointestinal safety advantage of COX-2 selective NSAIDs.¹³

[‡] Misoprostol must not be used in pregnancy.

Stop NSAIDs in diagnosed peptic ulcer. Prescribe 4–8 weeks PPI therapy for ulcer healing

Guidelines recommend 4–8 weeks of a standard-dose PPI or double-dose H₂ antagonist for ulcer healing.^{2,3,13} Do not switch to a COX-2 selective NSAID in active peptic ulcer.² For gastric ulcer, endoscopy is advisable at 6–8 weeks after treatment to confirm healing and exclude malignancy.²

There is some evidence in patients with a history of dyspepsia or ulcer that *H. pylori* elimination before starting an NSAID can reduce the risk of complicated ulcer.²⁰

Low-dose aspirin for cardiovascular prevention must be continuous

Low-dose aspirin must be taken continuously to prevent cardiovascular events. To minimise the risk of serious ulcer complications in patients with gastrointestinal risk factors, avoid combining low-dose aspirin with an NSAID. Prescribe aspirin for secondary prevention of ischaemic events or primary prevention when the benefit outweighs the harms (see *NPS Prescribing Practice Review 24 — Using antithrombotics: maximising benefits; minimising risks*). As with NSAIDs, consider co-prescribing a gastroprotective agent in patients at high risk of ulcer complications.²

Table 1: Standard and low doses of PPIs²

PPI	Standard dose*	Low dose*
esomeprazole Nexium	20 mg daily [†]	20 mg daily
lansoprazole Zoton	30 mg daily	15 mg daily
omeprazole Acimax, Losec, Meprazol, Omepral, Probitor	20 mg daily	10 mg daily [‡]
pantoprazole Somac	40 mg daily	20 mg daily
rabeprazole Pariet	20 mg daily	10 mg daily

* Standard dose refers to the dose usually recommended for initial therapy in uninvestigated dyspepsia, GORD, or oesophagitis; low dose refers to the lower dose recommended for maintenance therapy.

[†] 40 mg daily is indicated for erosive reflux oesophagitis.

[‡] Losec tablets are the only brand of omeprazole available in a 10 mg strength.

Reviewer

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Online citations available at www.nps.org.au/healthpro

The information contained in this material is derived from a critical analysis of a wide range of authoritative evidence. Any treatment decisions based on this information should be made in the context of the clinical circumstances of each patient.



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