

# Proton pump inhibitors should be used judiciously to minimize rare adverse events

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Proton pump inhibitors (PPIs), commonly used for heartburn and gastric distress, should be prescribed at the lowest dose possible and for the shortest length of time because of potential side effects, according to a review in *CMAJ (Canadian Medical Association Journal)*.

"Proton pump inhibitors are associated with a number of rare but potentially serious adverse effects," writes Dr. Todd C. Lee, an internal medicine specialist in the Department of Medicine, McGill University Health Centre, Montréal, Québec, with coauthors. "These uncommon effects become highly relevant when considering the tens of millions of [patients](#) who take PPIs worldwide."

PPIs, which are very effective at alleviating gastric distress from overproductive stomach acids, have been increasingly prescribed for conditions beyond the evidence base for recommended use. They are prescribed worldwide, with more than 4 million prescriptions in Canada alone in 2010.

The review outlines the potential risks of long-term use of PPIs to help physicians and their patients understand the implications. It looks at drug interactions and noninfectious and infectious complications.

Some PPIs have been associated, in observational studies, with [increased risk](#) of heart attack in patients taking the antiplatelet agent clopidogrel. Other adverse effects, which occur in varying frequencies, include rebound heartburn after discontinuing PPIs, malabsorption of vitamin

B12, iron and magnesium, an increased risk of infection with *Clostridium difficile* and possible increased risk of fractures in patients receiving long-term PPI therapy.

To minimize the risk of [adverse effects](#), the authors recommend lifestyle modifications such as limiting caffeine and alcohol, which can cause gastric distress, and a focus by physicians on evidence-based prescribing. They echo the recommendation by the Canadian Association of Gastroenterology for periodic reassessment of patients taking PPIs.

"Although gaps in knowledge remain, we believe that Health Canada's advice, that PPIs should be prescribed at the lowest dose and for the shortest duration of therapy appropriate to the condition being treated, reflects best practice and follows the tenets of the Choosing Wisely Canada campaign," conclude the authors.

Choosing Wisely Canada is a campaign to help physicians and patients engage in conversations about unnecessary tests, treatments and procedures, and to help physicians and patients make smart and effective choices to ensure high-quality care. It is modelled on a similar campaign in the US.

**More information:** *Canadian Medical Association Journal*,  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.150570](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.150570)

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