Deprescribing Proton Pump Inhibitors (PPIs)

For Providers

Why is it important to focus on PPIs?

Proton pump inhibitors (PPIs) are one of the top commonly prescribed drug classes in the United States. It is estimated that 40-80% of all prescriptions for PPIs are inappropriate and many patients prescribed a PPI will continue use for 2 years or more after the initial prescription. Both the American Geriatrics Society and the American College of Gastroenterology caution against long term use of PPIs.

What are the potential adverse effects of PPIs?

Infections:
- Increased risk of *c. difficile*, *salmonella*, and *campylobacter* gastrointestinal infections
- Increased risk of pneumonia

Electrolyte/Nutrition Imbalance:
- Increased risk of B12, magnesium, and iron deficiency
- Increased risk of other forms of malnutrition

Endocrine Effects:
- Altered bone metabolism resulting in increased risk of hip fracture
- Increased risk of hyperparathyroidism

Effects on Function:
- Fracture risk
- Functional decline

Effect on Kidneys:
- Increased risk of acute interstitial nephritis

Drug Interactions (partial list):
- Decreased bioavailability of ampicillin, iron, ketoconazole, and cefpodoxime
- Omeprazole/esomeprazole impair metabolism of warfarin, phenytoin, and diazepam
- May decrease the effectiveness of clopidogrel

Who benefits from deprescribing PPIs?

Patients who do not have an indication for long term PPI use.

* See next page for indications for long term PPI use
Chronic NSAID use or antiplatelet treatment with low dose ASA and at least one risk factor for increased bleeding (advanced age, concomitant use of anticoagulants or corticosteroids, or history of ulcer)

*Helicobacter pylori* induced duodenal or gastric ulcer

Non *Helicobacter pylori* induced ulcer

Needs to complete *Helicobacter pylori* eradication therapy before stopping PPI

Barrett’s Esophagus

Can be considered in relapsing GERD with or without esophagitis; however, many patients able to control symptoms with on-demand therapy and calcium carbonate

**Tips to successful deprescribing for PPIs:**

- Assess and document need for PPI at this point in patient’s life
- Balance the risks and benefits of long term PPI use
- Document clinical rationale or describe the underlying chronic disease that justifies continuing PPIs for longer than 12 weeks
- Monitor need for continued use routinely and trial dose reduction periodically
- Consider checking B12 and magnesium levels periodically for residents on long term PPIs
- Monitor for adverse effects
- For patients without indication for long term PPI, change the medication to “as needed” or decrease dose by 50% and monitor for recurrence of symptoms at 4 and 12 weeks
  - If patient develops occasional symptoms, these can usually be managed with an occasional H2-Blocker or antacid
  - Check how often “as needed” PPI is given
  - If patient develops persistent symptoms, consider return to previous dose

**Additional resources:**

5. https://gi.org/2016/05/16/more-perspectives-on-growing-controversy-over-long-term-ppis/