

## Proton Pump Inhibitors (PPIs) and Older Adults

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### Why is it Important to Talk About PPIs?

- ⇒ PPIs were first introduced in the mid-1980s
- ⇒ They are a very common medication- 8-10% of ambulatory adults have been prescribed a PPI in the past 30 days
- ⇒ People over the age of 60 are 3.5x more likely to be using a PPI than people under 60
- ⇒ >1/3 of all PPI users have no documented indication and almost ½ of all PPI users have no documented response to therapy

### Safety Concerns with Long-Term Use of PPIs

- ⇒ Multiple safety concerns, however few of these have been supported by consistent data showing a causal relationship
- ⇒ However, given the number of possible risks that may come with long-term use of PPIs, it is essential to consider whether your patient truly needs this medication

### **Some of the most prevalent safety concerns include:**

- Increased risk of C.diff infections
- CKD and AIN
- Increased risk of fractures
- Vit B12 deficiency
- Drug-induced lupus
- Hypomagnesemia
- Pneumonia
- Dementia (however newer studies have not found an association between PPIs and worsening cognitive function)
- Increase in all-cause mortality (increased with duration of use)



## Drug Interactions to be Aware of When Using PPIs:

- ⇒ do not use Omeprazole in someone on Plavix
- ⇒ certain HIV medications (protease inhibitors)
- ⇒ Methotrexate (may decrease methotrexate elimination)

Despite these risks, there are times when patients **should** be continued on PPIs long-term:

## Definite Indications for Long-Term Use

- ⇒ Treatment of erosive esophagitis and prevention of relapse (risk of relapse is 72% if PPI is stopped in these individuals)
- ⇒ Chronic users of NSAIDs/ASA who have increased RF (concurrent use of anti-coagulation/anti-platelet medications/steroids, **age >70**, prior hx of PUD, or multiple severe medical comorbidities)
- ⇒ Prevention of progression of Barrett's esophagus
- ⇒ ZE Syndrome
- ⇒ Eradication of H.Pylori infection



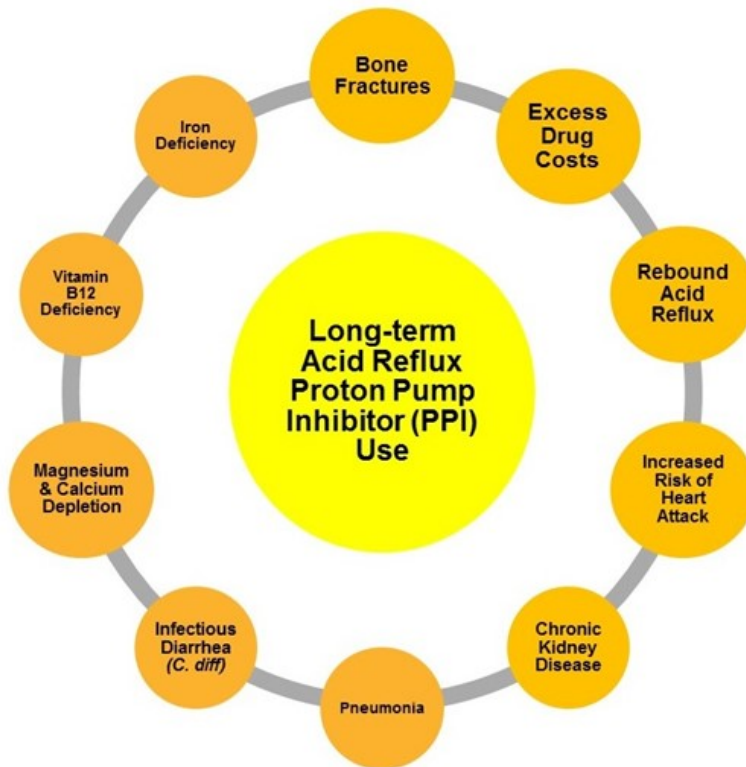
**Goal:** The lowest dose of PPI for the shortest duration of time.

**How do we reach this Goal?**



## PPI Deprescribing

- ⇒ If a patient has been on a PPI for  $\geq 6$  months and is **not** on them for one of the reasons above, should consider a taper
- ⇒ Start by dose reduction if on a higher dose
- ⇒ No proven best way to taper off of this medication- can trial  $\frac{1}{2}$  dose x 1-2 weeks, then off
- ⇒ Can also trial on-demand therapy (only use prn rather than scheduled)
- ⇒ Do **not** suddenly discontinue a PPI as patients can experience rebound gastric acid hypersecretion- can trial adding H2RAs while tapering to help with this
- ⇒ Make patients aware that these rebound symptoms may happen, especially within the first week of stopping this medication, and encourage them not to immediately restart their PPI when these occur



## The Bottom Line

- ◆ Given the current uncertainty regarding safety concerns with long-term use of PPIs, providers should attempt to have their patients taper off these medications if not on them for one of the definite indications listed above.
- ◆ Do not suddenly discontinue a PPI given the risk of rebound gastric acid hypersecretion; taper slowly, make lifestyle modifications, and trial H2RAs during this process to help.

## References

- \* Targownik, L. Discontinuing Long-Term PPI Therapy: Why, With Whom, and How? *Am J Gastroenterol* 2018; 113:519-528; doi:10.1038/ajg.2018.29; published online 20 March 2018.
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- \* Lazarus et al. Proton pump inhibitor use and risk of chronic kidney disease. *JAMA Intern Med*. 2016 Feb; 176 (2):238-46.
- \* Goldstein et al. Proton pump inhibitors and risk of mild cognitive impairment and dementia. *J Am Geriatr Soc*. 2017 Sep; 65(9): 1969-1974.