SharedCare
Partners for Patients

YOU DECIDE

EVIDENCE SUMMARY

Proton Pump Inhibitors (PPIs) in the elderly in residential care

Remember – the elderly have a decreased ability to eliminate medications. While you may be reviewing a specific medication, it's the concomitant use of multiple medications that increases the risk of side effects and drug interactions.

EVIDENCE FOR USE

Evidence for GERD is provided as this is the most common indication. There are no studies specific to people over the age of 65 or the frail elderly, so data from younger populations have been used.

BENEFIT – data comes from RCTs/meta-analyses– for ease of use numbers have been rounded

Indication	Outcome	Placebo/no treatment (%)	H2RA (%)	PPI (%)
GERD-like symptoms (1)	**Heartburn remission**	25-40	55	70

H2RA = H2 receptor antagonists

HARM - Most evidence comes from post marketing data and observational studies so we can't be as confident about causation. While absolute risks are provided, they are just best guess estimates made from relative harm evidence and approximate baseline risks.

C. difficile infections	Consistent data	~1/10,000 in community higher in hospitalized patients (2)
Pneumonia	Conflicting data	at most 2.5% and some studies suggest <0.5% (3)
Osteoporotic fractures	Conflicting data	if real NNH – hip fracture ~2500, vertebral fractures ~350 (4)
Hypomagnesemia	Reported but prevalence unknown (5)	
B12 deficiency	Reported but prevalence unknown (6)	

Practice Points

- PPIs are the most effective agents available for heartburn symptoms, however H2RA are also effective for many people and should likely be tried first given their long term safety record (H2RA- monitor at risk frail elderly for cognitive decline, especially with cimetidine at high doses, although this is uncommon)
- many patients are on long term PPIs without a clear ongoing indication/benefit, and the more drugs, the more potential for side effects/adverse events plus takes time to administer:
    - For GERD- Use 4-8 weeks then trial discontinuation
    - NSAIDS, and therefore PPI, not generally recommended in this population
    - May have been started for 'stress ulcers' in hospital but can stop when discharged, unless major ongoing bleeding risk
- consider tapering the PPI or using ranitidine as a step down to discontinuation to prevent rebound hypersecretion syndrome
- maintenance treatment may need to be considered in patients with a history of, or potential for, severe upper GI bleeding, e.g. people on anticoagulants or with erosive esophagitis/Barrett's/complicated peptic ulcer disease
- high doses of PPI likely don't add an important clinical benefit over regular doses.

1) (CD002095)
2) Am J Gastroenterol 2012; 107:1011–9
3) Cleveland Clinic J Med 2011;78:39-49
4) Drugs 2012;72:437-45
5) Ann Pharmacotherapy 2013;47:773-80
6) *JAMA.* 2013;310(22):2435-2442. doi:10.1001/jama.2013.280490.