

Protein pump inhibitors (PPIs) in our residential care patients/clients.

During our medication reviews we find a significant number who are on PPIs. In some cases there is a documented reason for their use. There has been some question raised about their safety in long-term use. Does the benefit outweigh the risk?

The first concern raised was regarding the interaction of clopidogrel with the PPIs. This was partially laid to rest with the information that the interaction was with omeprazole and esomeprazole and not the others.

Gastric acid suppression, using [H₂-receptor antagonists](#) and PPIs, is associated with an increased risk of community-acquired [pneumonia](#). Acid suppression may result in insufficient elimination of pathogenic organisms. Therefore, patients at higher risk of pneumonia are suggested to be prescribed PPIs only at lower doses and only when necessary.

On 8 February 2012, the US-FDA issued a safety announcement on PPIs, based on the review report from the Adverse Event Reporting System. This review report suggested an increased risk of *Clostridium difficile*-associated diarrhea with PPI use. The safety announcement reported that PPIs have been shown to raise risk of [Clostridium difficile](#) infection by 1.7 times with once-daily use and 2.4 times with more-than-once-daily use. The risk can be minimized by judicious short-term prescriptions.

Long term PPI therapy also interferes with zinc absorption and zinc body stores. None of the PPI users however were found to be classically zinc-deficient. Gastric acid is required for the production of intrinsic factor for the absorption of vitamin B12 and PPI use can lead to vitamin B12 deficiency.

A 2006 study of 135,000 people 50 or older found that those taking high doses of PPIs for longer than one year were 2.6 times more likely to break a hip. Theories as to the cause of the increase are the possibility that the reduction of stomach acid reduces the amount of calcium dissolved in the stomach or that PPIs may interfere with the breakdown and rebuilding of bone by interfering with the acid production of [osteoclasts](#).

If you consider stopping PPIs remember that there is usually a symptomatic rebound of hyperacidity likely gastric mediated but this seems to disappear in about three weeks.