



# From the Front Lines

AlixaRx Clinical Pharmacists Address Everyday Challenges in Long-Term Care

## Unnecessary Medication Use After Hospital Discharge

Prilosec, Prevacid, Protonix, Nexium, all too familiar drugs in long term care. Proton-pump inhibitors, (PPIs) are one of the most effective groups of drugs for reducing gastric acid secretion.<sup>1</sup> These medications are effectively used to reduce the risk of GI bleeds due to NSAID's, low dose aspirin, or high dose steroid use. In addition they can be used for short-term use for the treatment of peptic acid disorders. All too often hospitalized patients are prescribed these expensive agents and, upon discharge to the nursing home, continued on these medications without a proper workup or established diagnosis. The prescribing of these unnecessary medications can impact patient's health, increase the potential for drug / drug interactions, as well as increase pharmacy costs at the nursing facility.<sup>2</sup>

Although they may seem benign, PPIs are not without health risk and complications. Gastric acid production, a protective mechanism for ingested pathogens, is decreased with the use of PPIs. By suppressing gastric acid, these agents have been associated with an increase in occurrence and recurrence of Clostridium difficile infection.<sup>3,4</sup> It is thought that the suppression of gastric acid and other enzymes allow for increased colonization and overgrowth of bacteria in the respiratory tract. Hence the use of PPIs has been associated with respiratory tract infections and an increased incidence of community acquired pneumonia (CAP).<sup>5</sup> Other complications of PPI use include:

- Increased incidence of hip, spine and wrist fractures
- Vitamin B-12 deficiency
- Hypomagnesaemia
- Altered absorption of pH-dependent medications
- Reduction of effectiveness of Plavix (Clopidogrel) with certain PPIs.

Many studies have demonstrated the overuse of these medications with up to 70% of patients being mistakenly discharged with these agents.<sup>6</sup> Research presented at the American Medical Directors Association determined that many patients entering nursing facilities are prescribed an unnecessary PPI.<sup>2</sup> In addition the presentation concluded that almost half of the patients prescribed a PPI did not have a clear indication for the drug. Another study presented at the annual meeting of the American Geriatrics Society concluded that almost one third of these medications may be unnecessary in the elderly.<sup>7</sup> Studies have also shown that PPIs were prescribed without proper diagnosis in up to 52% of Med-A patients.<sup>8</sup> If these expensive medications could be tapered for discontinuation, imagine the potential savings in both direct and indirect healthcare cost.

There is no doubt that the use of PPIs has saved countless lives over the years. When these medications are prescribed, patient risk and benefits must be considered. A proper diagnosis for these medications should be clear

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and documented in the chart for all patients admitted to a facility. The continued need for these drugs should be reviewed on a regular basis and unnecessary long-term use of these agents should be avoided when possible. Your consultant Pharmacist is an excellent source for evaluating unnecessary medications including PPIs. Working with your pharmacist can help increase nursing time, reduce pill burden and improve our patients' health.

1. Wolfe MM, Sachs G. Acid suppression: Optimizing therapy for gastroduodenal ulcer healing, gastroesophageal reflux disease, and stress-related erosive syndrome. *Gastroenterology*. 2000;118(Suppl.1):9-31 2. SCHNEIDER ME. "PPIs overused in elderly at transfer into nursing facilities" *Internal Medicine News*. July 1, 2007 3. Linsky A, Gupta K, Lawler EV, et al. Proton pump inhibitors and risk for recurrent Clostridium difficile infection. *Arch Intern Med*. 2010;170:772-778. 4. Howell MD, Novack V, Grgurich P, et al. Iatrogenic gastric acid suppression and the risk of nosocomial Clostridium difficile infection. *Arch Intern Med*. 2010;170:784-790. 5. Eom CS, Jeon CY, Lim JW, et al. Use of acid-suppressive drugs and risk of pneumonia: a systematic review and meta-analysis. *CMAJ*. 2011;183:310-319. 6. Grube RR, May DB. Stress ulcer prophylaxis in hospitalized patients not in intensive care units. *Am J Health Syst Pharm*. 2007;64:1396-1400. 7. Kim TF. Many PPI Scripts May Be Unnecessary in Elderly. *Geriatric Clinical Rounds*. July 1, 2007. pp29. [http://www.oncologypractice.com/fileadmin/content\\_pdf/rmn/archive\\_pdf/vol40iss13/70793\\_main.pdf](http://www.oncologypractice.com/fileadmin/content_pdf/rmn/archive_pdf/vol40iss13/70793_main.pdf) accessed 02/07/15. 8. Patterson, BD, et al. (2013, June 14). Use of Proton Pump Inhibitors with Lack of Diagnostic Indications in 22 Midwestern US Skilled Nursing Facilities. *JAMDA* (6) 429-32.

## Regulatory Review

F-Tags take a holistic approach to medication management with emphasis placed on the importance of the entire care process for each patient. Medication use is just one component of the plan of care. As we review the different F-tags throughout the year, it will be important to understand how each deficiency can be closely related and potentially written in relation to one patient and even one issue with that patient. The first F-tag we will review is F-428 - Medication Regimen Review (MRR)

This regulation is to ensure that each resident is reviewed at least monthly by a licensed pharmacist and that the pharmacist reports any irregularities to the attending physician and the director of nursing and that all recommendations are acted upon.

The intent of the regulation is to ensure that the facility maintains the highest level of care and prevents or minimizes adverse consequences related to medication therapy.

It is important for the interdisciplinary team (IDT) to work together to ensure that the physician and staff have documented objective findings, diagnosis and/or indication associated with each medication to support its use, including residents drug allergies, potential side effects and/or drug interactions. Each medication should be reviewed based upon the resident's current condition, evaluating the dose, frequency, route of administration, duration of therapy along with documented goals of therapy.

Processes must be in place to ensure medication errors are documented appropriately, change of condition and short-stay reviews are requested and reviewed in a timely manner and that clinical rationale is documented when any pharmacy recommendations are denied.

All aspects of medications must be considered including monitoring (e.g. labs, behaviors, AIMS) and medical conditions that may warrant additional therapy.

The pharmacist is expected to review, identify and report concerns regarding the following categories:

- Adequate indications for use
- Safer alternatives have been considered, if necessary
- Ineffective medications due to timing of administration, dosing intervals, sufficiency of dosing, other reasons
- Excessive dosing (including duplicate therapy) or excessive duration
- Presence of adverse drug consequences
- Lack of adequate monitoring
- Presence of medication errors or the risk for such errors
- Presence of a clinical condition that may require initiation of medication therapy
- Presence of a drug interaction

Suggestions for compliance:

The facility must act upon a report of clinically significant risks or existing adverse consequences or other irregularities,

ensuring that the clinical pharmacist's recommendations are being effectively communicated to all prescribers 100% of the time, AND that all prescribers are responding to these recommendations. Additionally, if the prescriber rejects the recommendation, the facility shall ensure that the prescriber has documented the clinical rationale as to why the recommendation was rejected.

The facility must collaborate with the pharmacy to address those issues where there is potential for serious harm and the attending physician does not take action on the report/recommendation(s), so that these instances are reported to the facility's medical director in addition to acting upon nursing recommendations (e.g. increased blood pressure monitoring for a specific resident, etc.). It is also imperative for the facility to have a process in place to have all residents reviewed monthly or more frequently if necessary, i.e. change of condition (COC) or short-stay review.

For more questions and answers related to survey compliance, please contact your AlixaRx Clinical Pharmacist.

## **To Be or Not to Be: On Vitamins?**

In an editorial in the Journal of the American Medical Association, Dr. John Morley decries the over use of vitamin supplements in this country. First of all, 53 percent of people in the United States take vitamin supplements, with 39 percent using multivitamins. Data is overwhelming that a healthy diet rich in fruits and vegetables is associated with increased longevity and improved quality of life. However, this does not translate into the concept that taking vitamin supplements confers the same benefits as eating healthy foods. In fact, some supplements have been shown to actually cause harm.

In a study of 56 clinical trials, there was strong evidence that antioxidants such as Vitamin E and beta-carotene increased mortality. This also was true for higher doses of vitamin A. Much has been written about the damaging effects of free radicals and that antioxidants can improve health by reducing free radicals. In reality, free radicals are essential for survival. They are part of the body's defense against infection and cancer, and free radicals such as nitric oxide increase blood flow and improve activity in the nervous system.

Vitamin E has been promoted to slow functional decline in patients with early Alzheimer's disease. However, the change was miniscule and vitamin E had no effect when given with memantine, a drug commonly given to Alzheimer's patients. Another study of vitamin E in patients with mild cognitive impairment failed to show any effect.

Conversely, foods such as broccoli have been shown to reduce cancer risk, and olive oil and resveratrol, which can be found in red wine, have considerable data to support a reduction in first heart attack, mortality and risk for developing Alzheimer's disease.

While most Americans would benefit by depending less on supplements and more on healthy diets, there are some beneficial supplements for certain persons. Vitamin B12 deficiency can be caused by pernicious anemia, bacterial overgrowth, and the use of drugs such as omeprazole that significantly reduce stomach acid. Vitamin B12 deficiency is a common, reversible cause of dementia and should be replaced when tests show low levels. Vitamin D deficiency is common in older adults with exposure to direct sunlight less than 30 minutes daily – think northern Ohio in winter. If needed, supplementation with 1000 units of Vitamin D daily may reduce mortality and the risk of falls. Also, supplementation with calcium and vitamin D may help to reduce the risk of hip fracture in patients with low bone density, including those with osteopenia and osteoporosis.

Finally, older adults who are frail and/or malnourished have increased risk of delirium and cognitive impairment. Adding food in the form of juice-based drinks would appear to be a better choice than vitamin supplementation as liquid caloric supplements given between meals actually may increase food intake during meals.



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