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## APPROPRIATE PRESCRIBING OF PROTON PUMP INHIBITORS BEFORE AND AFTER AN EDUCATIONAL INTERVENTION ON AN ORTHOPAEDIC WARD AT A SWISS HOSPITAL

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### Abstract

*Background:* Patients suffering from acid related upper gastrointestinal disorders of the upper gastrointestinal tract are successfully treated with proton pump inhibitors (PPIs). However, worldwide statistics clearly has shown overuse of PPI for over a decade. Frequently, PPIs are initiated in the hospital setting without proper indication.

*Objectives:* to develop of a guideline for appropriate prescribing of proton pump inhibitors; to improve the appropriate PPI prescription on an orthopaedic ward by a single educational intervention.

*Methods:* Literature was searched for indications of PPI, risk factors for upper gastrointestinal bleeding, and long-term adverse effects of PPI. An educational intervention with introduction of the guideline was performed. PPI prescription was assessed in two time periods on an orthopaedic ward, before and after the introduction of the guideline, using patient records. Appropriateness of prescription of PPI was evaluated according to the new guideline and compared at pre- and post-assessment.

*Results:* we developed a pocket sized card with the guideline including an algorithm and a list of negative outcome factors to consider as a clinical decision support. The guideline was discussed and approved by the hospital's drugs and therapeutic committee. Hospital records of 187 patients were viewed, of whom 127 (68%) were prescribed a PPI (pre-assessment n=61; post-assessment n=66). Pantoprazole 20mg one tablet in the morning orally was prescribed most frequently. Overall, there was no difference by numbers of patients prescribed PPI appropriately before and after the introduction of the guideline (pre-assessment n=22; post-assessment n=16;  $\chi^2 = 2.11$ ;  $p > 0.1$ ). At pre-assessment, three patients had a documented diagnose and nineteen patients with concomitant NSAID use had at least one additional risk factor that justified PPI prescription. At post-assessment four patients had a documented diagnose and twelve patients with concomitant NSAID use qualified for PPI prescription by additional risk factors. The risk factor most frequently leading to appropriate PPI prescription was age  $\geq 65$  years. PPI was prescribed to patients without indication and risk factors in 30 (49%) of cases at pre-assessment and in 26 (39%) at post-assessment. Over 90% of these patients were prescribed a NSAID concomitantly.

*Conclusion:* the guideline was composed of secondary and tertiary literature, the official Swiss drug information and selected literature. PPIs are prescribed without documented indication or risk factors in 44% of patients. A simple educational intervention with distribution of the guideline did not improve appropriate PPI prescribing.