

## **Meta-analysis: duration of first-line proton-pump inhibitor based triple therapy for *Helicobacter pylori* eradication.**

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**BACKGROUND:** Proton-pump inhibitor (PPI)-based triple therapy is the recommended first-line treatment for *Helicobacter pylori* infection. A consensus on treatment duration is lacking. **PURPOSE:** To summarize the benefits and harms of different durations of PPI-based triple therapy. **DATA SOURCES:** PubMed, EMBASE, the Cochrane Library, and proceedings of major meetings through May 2007. **STUDY SELECTION:** English-language reports of randomized, controlled trials that compared duration (7, 10, or 14 days) of triple therapy and in which adequate testing confirmed the initial *H. pylori* infection and its eradication. **DATA EXTRACTION:** Two authors independently extracted data on study design, treatment, number of patients enrolled and number of patients with successful eradication, disease at enrollment, testing, adverse effects, year of publication, publication format, and country. **DATA SYNTHESIS:** Of 21 included studies, 11 compared 7-day therapy with 10-day therapy, and 13 compared 7-day therapy with 14-day therapy. Meta-analysis yielded relative risks (RRs) for eradication of 1.05 (95% CI, 1.01 to 1.10) for 7-day compared with 10-day amoxicillin-containing triple therapy (10 studies) and 1.07 (CI, 1.02 to 1.12) for 7-day compared with 14-day therapy (11 studies). Meta-analysis of the 3 studies that compared 7-day with 14-day metronidazole-containing therapy yielded an RR of 1.08 (CI, 0.96 to 1.22). The 7-day versus 10-day comparisons yielded RRs of 1.03 (CI, 0.97 to 1.10) for peptic ulcer disease and 1.10 (CI, 1.02 to 1.20) for nonulcer dyspepsia. For the 7-day versus 14-day comparisons, the RRs were 1.04 (CI, 0.99 to 1.09) and 1.03 (CI, 0.88 to 1.20), respectively. The RRs for frequency of adverse events were 0.98 (CI, 0.85 to 1.14) and 1.08 (CI, 0.84 to 1.40) for 7-day therapy compared with 10- and 14-day therapy, respectively. Diarrhea and taste disturbance were the most frequently reported adverse events (5%). **LIMITATIONS:** Subgroup analyses were limited by the few studies evaluating different drug regimens and disease at enrollment. Seventeen of the included studies had poor methodological quality or inadequate reporting. **CONCLUSION:** Available data suggest that extending triple therapy beyond 7 days is unlikely to be a clinically useful strategy.

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