# POEMs

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## Beta Blockers Not Associated with Lower Morbidity/Mortality in Adults with CAD or CAD Risk Factors

### Clinical Question

Are beta blockers useful in adults with a history of myocardial infarction (MI), known coronary artery disease (CAD), or risk factors for CAD?

### Bottom Line

Beta-blocker therapy was not associated with a reduced risk of adverse cardiovascular events in adults with a prior MI, known CAD without prior MI, or three or more known risk factors for CAD. (Level of Evidence = 2b)

### Reference

*Bangalore S, Steg G, Deedwania P, et al.; REACH Registry Investigators. ß-Blocker use and clinical outcomes in stable outpatients with and without coronary artery disease.* JAMA. *2012;308(13):1340-1349.*

**Study design:** Cohort (prospective)

**Funding source:** Industry + government

**Setting:** Outpatient (any)

### Synopsis

Beta-blocker therapy is recommended for most patients with CAD, especially after an MI. However, the efficacy of long-term therapy with beta blockers for these patients is uncertain. These investigators analyzed data from a large international, prospective, observational registry enrolling consecutive eligible patients 45 years or older with known CAD or with at least three CAD risk factors between December 2003 and June 2004. Patients using beta blockers were divided into three groups: history of MI, known CAD without prior MI, and CAD risk factors only. Group assignment occurred by review of medical records; the authors do not specifically state whether reviewers remained masked to the study hypothesis. The primary outcome was a composite of cardiovascular death, nonfatal MI, or nonfatal stroke. Additional outcomes included hospitalization, revascularization procedures, and cardiovascular disease–related and all-cause mortality. Outcomes are reported using a propensity score analysis consisting of paired comparisons between patients in the group who were using beta blockers versus those who did not use beta blockers, with the dependent variable of beta-blocker use and 27 baseline characteristics as covariates. A sensitivity analysis was also conducted after excluding patients with known congestive heart failure.

From the registry, 44,708 patients met inclusion criteria, including 14,043 with history of MI, 12,012 with documented CAD but no prior MI, and 18,653 with CAD risk factors only. Complete follow-up occurred for 96 percent of patients at two years and for 74 percent at four years, with a median follow-up of 44 months. Of the total number of patients, 21,860 were paired for the propensity score analysis. In the history of MI cohort, event rates between the beta-blocker use group and the non-use group were not significantly different for any assessed outcomes. Likewise, in the CAD without prior MI cohort, there were no significant differences between the use and non-use groups for the primary outcome. However, the event rate was significantly higher in the beta-blocker use group than in the non-use group for revascularization procedures and hospitalizations. In the risk factors alone cohort, event rates were significantly higher in the beta-blocker use group than in the non-use group for the primary outcome, and revascularization procedures and hospitalizations. In the subgroup of patients with a recent history of MI (within the past year), beta-blocker use was significantly associated with a lower rate of hospitalization and revascularization procedures.

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