

# Effectiveness of Beta-blockers Questioned by New Study



By Josh Bloom — October 6, 2015



Beta-blockers have been integral in the treatment of heart

disease and high blood pressure since the invention of Inderal (propranolol) almost 50 years ago.

But now there are indications that they may riskier than previously thought.

My [2102 editorial](#) [1] in *New Scientist* discussed a [study](#) [2] in *JAMA* which concluded: "In this observational study of patients with either [coronary artery disease] risk factors only, known prior MI, or known CAD without MI, the use of  $\beta$ -blockers was not associated with a lower risk of composite cardiovascular events."

Now, another study may cause those in cardiology circles to rethink the use of these drugs.

Mads E. Jørgensen of the Cardiovascular Research Center at Gentofte Hospital, University of Copenhagen, Denmark, and colleagues, just published a *JAMA Internal Medicine* online [paper](#) [3] that examined the increased risk of major adverse cardiovascular events (MACEs) in patients undergoing non-cardiovascular surgery who had been taking  $\beta$ -blockers in the long term.

The retrospective study looked at data from more than 14,644 patients who were taking them, as well as 40,676 who had been taking other types of drugs to control high blood pressure, and analyzed the frequency of MACEs within 30 days of surgery.

$\beta$ -blockers patients had about double the risk of having a MACE during that interval. This was especially true in men older than 70, who had a cardiovascular event, or died during the post-op month.

The researchers' conclusion: "Antihypertensive treatment with a  $\beta$ -blocker may be associated with increased risks of perioperative [MACE] and all-cause mortality in patients with uncomplicated hypertension."

While this study is eye-opening, it should be kept in mind that observational studies are far less reliable than prospective (planned) studies. A two-fold increased risk is generally considered to be the minimum number for such a study to have any meaning.

Yet, simply because it was observational, this study should not be dismissed outright. A large number of patients were studied over a long time period. At the very least,  $\beta$ -blockers should receive additional scrutiny, but they may not be the medical miracle that they were once considered to be.

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[1] <http://www.newscientist.com/article/mg21628900.200-beta-blockers-are-busted--what-happens-next.html>

[2] <http://jama.jamanetwork.com/article.aspx?articleid=1367524>

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