

Flu vaccine associated with lower risk of cardiovascular events

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Receiving an influenza vaccination was associated with a lower risk of major adverse cardiovascular events such as heart failure or hospitalization for heart attack, with the greatest treatment effect seen among patients with recent acute coronary syndrome (ACS; such as heart attack or unstable angina), according to a meta-analysis published in the October 23/30 issue of *JAMA*.

"Among nontraditional cardiovascular risk factors, there remains interest in a potential association between respiratory tract infections, of which influenza and influenza-like illnesses are common causes, and subsequent [cardiovascular events](#)," according to background information in the article. Several epidemiological studies have suggested a strong inverse relationship between influenza vaccination and the risk of fatal and nonfatal cardiovascular events.

Jacob A. Udell, M.D., M.P.H., F.R.C.P.C., of the University of Toronto, and colleagues conducted a meta-analysis of all randomized clinical trials (RCTs) of influenza vaccine that studied cardiovascular events as efficacy or safety outcomes to determine if influenza vaccination is associated with prevention of cardiovascular events. The researchers identified five published and 1 unpublished RCTs of 6,735 patients (average age, 67 years; 51 percent women; 36 percent with a cardiac history; average follow-up time, 7.9 months) that met inclusion criteria for the study. Analyses were stratified by subgroups of patients with and without a history of [acute coronary syndrome](#) (ACS) within 1 year of randomization.

In the 5 published RCTs, 95 of 3,238 patients treated with influenza vaccine (2.9 percent) developed a major adverse cardiovascular event compared with 151 of 3,231 patients (4.7 percent) treated with placebo or control within 1 year of follow-up, an absolute risk difference favoring flu vaccine of 1.74 percent. The addition of the unpublished data did not materially change the results (2.9 percent influenza vaccine vs. 4.6 percent placebo or control).

In a subgroup analysis of 3 RCTs of patients with pre-existing coronary artery disease (CAD), the risk of major adverse cardiovascular events among patients with a history of recent ACS was especially lower with vaccine (10.3 percent influenza vaccine vs. 23.1 percent placebo or control), an absolute-risk difference of 12.9 percent, compared to patients with stable CAD (6.9 percent influenza vaccine vs. 7.4 percent placebo or control). Results were similar with the addition of unpublished data.

"Within this global meta-analysis of RCTs that studied patients with high cardiovascular risk, influenza vaccination was associated with a lower risk of major adverse cardiovascular events within 1 year. Influenza vaccination was particularly associated with cardiovascular prevention in patients with recent ACS. Future research with an adequately powered multicenter trial to confirm the efficacy of this low-cost, annual, safe, easily administered, and well-tolerated therapy to reduce [cardiovascular risk](#) beyond current therapies is warranted," the authors conclude.

In an accompanying editorial, Kathleen M. Neuzil, M.D., M.P.H., of PATH, Seattle, discusses the importance of improving [influenza vaccination](#) coverage.

"There are proven ways to increase vaccination coverage, including expanding access through nontraditional settings (e.g., pharmacy, workplace, school venues), improving the use of evidence-based

practices at medical sites (e.g., standing orders, reminder or recall notification), and using immunization registries. One of the most consistent and relevant findings of operational research is that recommendation for vaccination from physicians and other health care professionals is a strong predictor of vaccine acceptance and receipt among patients. While few are in a position to develop new influenza vaccines, all health care practitioners can recommend [influenza vaccine](#) to their [patients](#). Doing so will help achieve the goal of 100 percent vaccination for the 2013-2014 [influenza](#) season."

More information: [DOI: 10.1001/jama.2013.279206](https://doi.org/10.1001/jama.2013.279206)
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