

# Flu shot may aid heart bypass recovery

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Getting a flu shot before heart bypass surgery can head off inflammation throughout the body and possibly lead to a healthier recovery, a new study suggests.

Heart [surgery](#) has been associated with inflammation and altered

immune function, said Dr. Fady Ebrahim, lead author of the preliminary study to be presented Sunday in Philadelphia at the American Heart Association's Scientific Sessions.

"This is related to the significant stress placed on the body during invasive procedures," said Ebrahim, an anesthesiology fellow at the University of Toronto in Ontario.

The study involved 30 [heart bypass patients](#) at a hospital in Sudbury, Ontario. Fifteen patients were vaccinated against influenza before surgery. The rest were given a placebo. The researchers then tested blood levels of various substances linked to inflammation at seven intervals, starting with the beginning of surgery and ending 48 hours after the operation

In people who received the [flu shot](#), the levels of two chemicals that promote inflammation were lower than in those who received the placebo. Meanwhile, levels of a chemical that fights inflammation were higher among the vaccinated group. The difference lasted up to around 24 hours after the operation

Patients in the study underwent coronary bypass graft surgery, the most common [heart surgery](#) currently performed worldwide. More than 370,000 people in the U.S. undergo the procedure each year.

The surgery can relieve [chest pain](#) known as angina and reduce the risk of heart attack. In the procedure, arteries or veins are taken from elsewhere in the body and used to reroute blood around a clogged vessel that feeds the heart . Patients might undergo one or several bypass grafts, depending on how many coronary arteries have blockages.

Doctors haven't yet found any reliable preventive treatments to reduce the rate and the severity of the body's [inflammatory reaction](#) to surgery,

Ebrahim said. An elevated inflammatory reaction predisposes a patient to complications.

Though the new study involved only a small number of patients, the flu vaccine's impact on markers of inflammation was notable, said Dr. Jennifer Robinson , director of the Preventive Intervention Center at the University of Iowa College of Public Health.

"Vaccines work by revving up the body's infection-fighting machinery," Robinson said. In the new study, "the [influenza vaccine](#) had striking protective physiologic effects that could have important implications for reducing post-operative complications."

But more research is needed to replicate the findings, she said, and to see whether flu vaccination can shorten recovery times after surgery.

Also, "although not common, reducing the risk of post-operative heart attacks and strokes would have an important impact," Robinson said.

While the study showed the flu vaccination could affect [inflammatory response](#) shortly after surgery, the trial design did not allow researchers to assess how patients fared medically. Ebrahim said the new findings are a springboard for a larger multi-centered trial.

Provided by American Heart Association

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