

REDEFINING RISK DISCUSSIONS: EXPLAINING RISKS OF FLU TO CARDIAC PATIENTS

CASE STUDY

Mrs. A is a 72-year-old female with a history of HTN, HLD, NIDDM2, and prior STEMI s/p PCI over 5 years ago. She quit smoking after her heart attack and is referred to your clinic for further management.

Mrs. A reports she is overall doing very well and is compliant with all of her medications. She follows a healthy diet, and she exercises at her weekly Zumba fitness classes. She would like to know if you have any other recommendations to keep her heart healthy.

In addition to reviewing her lipid profile, diabetes management, and antiplatelet options, you review her immunization history in the electronic record, but there is no indication of whether they are up to date. Along with keeping up with her medications and lifestyle modifications, are there other strategies you can recommend to prevent potential cardiovascular events or exacerbation of her conditions?

ANOTHER TOOL IN THE TOOLBOX: THE FLU VACCINE AS AN ESSENTIAL PART OF CVD MANAGEMENT

It is common and appropriate to prescribe medications like statins and low-dose aspirin for secondary prevention in people with cardiovascular disease. Health care professionals taking care of these patients must also remember another critical preventative strategy in their repertoire: an annual flu shot (and pneumococcal too for some patients).

Flu vaccination averts cardiovascular events. Estimates of the vaccine efficacy in prevention of myocardial infarction (MI) ranges from 15% to 45%¹ with a recent meta-analysis showing a 29% reduction in MI². Furthermore, in a prospective, randomized control trial which included patients presenting with acute coronary syndrome (ACS) who received standard medical therapy and percutaneous coronary intervention, those who received the flu vaccine had an absolute risk reduction of 9.8% in major adverse cardiac events (MACE)³, including death and hospitalization for ACS, stroke, or heart failure. Patients hospitalized with ACS who receive the flu vaccine have been shown to have a 6.1% absolute risk reduction for recurrent hospitalization for ACS within the following 12 months.

Recent studies suggest that the most effective way to improve flu vaccination rates are for cardiology practices to have flu vaccines in the office for patient visits and for to implement standing-order protocols that permit staff to administer the vaccine without waiting for a clinician order.

The American College of Cardiology (ACC), American Heart Association (AHA) and Centers for Disease Control and Prevention (CDC) all recommend vaccination against flu for patients with cardiovascular disease. In a meta-analysis of randomized control trials, the use of the flu vaccine was associated with a lower risk of MACE especially in those higher-risk patients with more active CAD. Recognition of the effects of flu on patients with heart disease provides the medical community with a valuable opportunity to further reduce cardiovascular morbidity and mortality.

Key Challenges – Case Study

- Evaluation of patient goals is an essential component of any productive clinician-patient dialogue. The focus, in this case, is secondary prevention of myocardial infarction and worsening disease.
- Limited time and resources at specialty cardiology? Clinic visits seemingly force the hand of clinicians to place hierarchal importance on discussion of health topics (leaving little time for discussion of flu vaccine).
- The tendency exists to want to “bump” this to the primary care clinician.
- There is the need to develop processes in practice to engage patients on this front (involve other members of the team / front desk staff or a checklist)

Flu vaccination is safe, inexpensive, and effective in reducing morbidity and mortality in high-risk patients with cardiovascular disease, but it is under-utilized.

Flu vaccine provides added protection for secondary prevention of heart attack.

Comparison of known coronary interventions and flu vaccine in prevention of myocardial infarction⁴

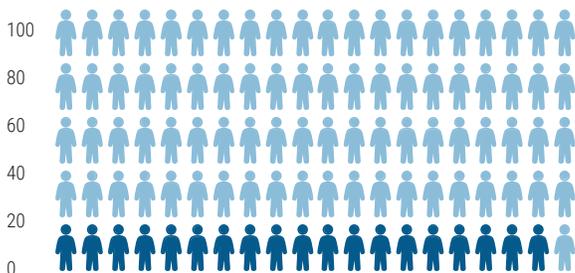
Intervention	Effectiveness for secondary prevention (%)
Tobacco Cessation	32-43%
Statins	19-30%
Antihypertensives	17-25%
Flu Vaccination	15-45%



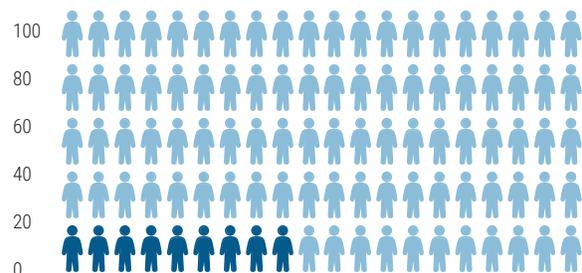
Current ACC Recommendations

- Influenza immunization with inactivated vaccine (administered intramuscularly) as part of comprehensive secondary prevention in persons with coronary and other atherosclerotic vascular disease (Class 1, Level B).
- Immunization with live, attenuated vaccine (intranasally) is not currently recommended for persons with cardiovascular conditions.

1 out of 2
patients in hospital for
flu have heart disease



 Approximately 19 patients without flu vaccine may experience MACE within 12 months after initial event left untreated



 Approximately 9 patients with flu vaccine may experience MACE within 12 months after initial event

MAKING RISK MEANINGFUL

- **Flu vaccination should be a routine part of any conversation** with patients about measures to reduce their cardiac risk, just like they take their heart medicines, exercise and are mindful of what they eat. Explain that the flu can exacerbate their condition and may also trigger a heart attack or stroke.
- **Begin by listening and understanding a patient's health care goals.** This deepens the clinician-patient connection, better informs risk discussions, and establishes a collaborative partnership in helping them meet their health care needs.
- Remind patients that while the general population is susceptible to illness from flu, **people with cardiovascular disease have more severe symptoms and are more likely to develop more dire complications**, including pneumonia, heart attack, hospitalization and even death. One out of two patients hospitalized for flu has heart disease.
- Getting a flu shot this year is even more important as **seasonal flu activity will coincide with the ongoing COVID-19 pandemic**, posing a double threat to people at high risk of complications.
- In temperate regions, **flu epidemics annually recur in winter** and coincide with a rise in cardiovascular morbidity and mortality. Vaccination can have a meaningful impact on decreasing infection rates.
- **Identify and try to address obstacles to vaccination.** Based on clinical experience, cardiologists report the top three barriers are:
 - A fear or general dislike of shots
 - Not remembering to get a flu shot in time
 - The belief that the vaccine has limited protection or that it is not effective at all (Patients will often say, “Every year I’ve gotten the flu shot, I get the flu”). There are also a lot of people who do not get the flu vaccine because they expect it to give them 100% protection, so it’s an important education point.

Establish process improvement program for flu vaccination.

Features may include:

- Sending reminders.
- Empowering other members of the practice with ascertaining a patient's flu vaccine status.
- Administering the flu vaccine in the office if you do not already (optimal timing is late-September, early October).
- Collaborating with local pharmacies to vaccinate patients at the time they pick up prescriptions.
- Educating patients about the flu vaccine – for example, the flu vaccine does not provide 100% protection against illness. Its effectiveness depends on how closely it matches circulating strains of the virus, but it does reduce the risk of severe illness and complications, such as pneumonia, even if the patient contracts the flu.

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1. *Heart*. 2016 Dec 15; 102(24): 1953–1956. Published online 2016 Sep 29. doi: [10.1136/heartjnl-2016-309983](https://doi.org/10.1136/heartjnl-2016-309983)

2. Acute myocardial infarction and flu: a meta-analysis of case-control studies. Barnes M, Heywood AE, Mahimbo A, Rahman B, Newall AT, Macintyre CR. *Heart*. 2015 Nov; 101(21):1738-47.

3. Flu vaccination reduces cardiovascular events in patients with acute coronary syndrome. Phrommintikul A, Kuanprasert S, Wongcharoen W, Kanjanavanit R, Chaiwarith R, Sukonthasarn A. *Eur Heart J*. 2011 Jul; 32(14):1730-5

4. Adapted from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5256393/>