



# Influenza vaccination for primary and secondary prevention of cardiovascular risk: Call to action of Cardiology Societies of Mexico

## Keywords:

influenza, vaccines, cardiovascular risk, coronary syndromes, hypertension, diabetes.

## Palabras clave:

influenza, vacunas, riesgo cardiovascular, síndromes coronarios, hipertensión, diabetes.

## Vacunación contra la influenza para la prevención primaria y secundaria del riesgo cardiovascular: una llamada para la acción de las Sociedades Cardiológicas de México

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## ABSTRACT

Influenza substantially increases the risk of triggering acute coronary syndromes and heart failure. Vaccination against influenza decreases these risks and diminishes the occurrence of complications. Vaccination of the entire population is recommended, especially for people at risk or with established cardiovascular disease.

## RESUMEN

La influenza aumenta sustancialmente el riesgo de desencadenar síndromes coronarios agudos e insuficiencia cardiaca. La vacunación contra la influenza disminuye estos riesgos y disminuye la aparición de complicaciones. Se recomienda la vacunación de toda la población, especialmente las personas con riesgo o con enfermedad cardiovascular establecida.

## INTRODUCTION

Influenza is associated with increased cardiovascular risk, especially in coronary syndromes and heart failure patients.

Considerations: 1. Influenza is an acute respiratory infection caused by the influenza virus that circulates in all parts of the world and is predominantly seasonal. It represents a high disease burden and is estimated to cause 3 to 5 million cases of severe illness and 290,000 to 650,000 deaths yearly.<sup>1</sup> 2. Several studies have confirmed that people with cardiovascular disease (CVD) are at increased risk of severe influenza illness. In addition, influenza-type respiratory infections are associated with cardiovascular events at follow-up, including acute myocardial

infarction, stroke, hospitalizations for heart failure, atrial fibrillation, and deaths from cardiovascular causes.<sup>2</sup> 3. About 11.7% of patients with confirmed influenza develop an acute cardiovascular event. (6.2% heart failure, 5.7% acute coronary syndrome).<sup>3</sup> 4. Influenza vaccination has been associated with a reduction in cardiovascular events and low-risk people over 65 years of age, i.e., absence of comorbidities, no established CV disease, or diabetes.<sup>5</sup> 6. Patients with *Acute Heart Failure* had a 45% lower risk of complications when they were vaccinated during their hospital stay.<sup>6</sup> 7. Vaccination in high-risk people reduces this risk by 45%. It is

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required to vaccinate 56 patients to prevent one case of myocardial infarction (NNT).<sup>7</sup> 8. After an acute coronary syndrome episode, vaccination during the first 24 h reduces major cardiovascular events by 28% and CV mortality by 41%.<sup>8</sup> 9. Recently, the Inter-American Society of Cardiology and the World Heart Federation (WHF) issued a consensus document entitled «Influenza Vaccination for the Prevention of Cardiovascular Disease in the Americas».<sup>9</sup>

## RECOMMENDATIONS

Given the overwhelming evidence of the benefit of influenza vaccination and aligned to the Inter-American Society of Cardiology and the World Heart Federation, the cardiological societies of Mexico recommend vaccination against influenza under the following conditions: 1. Preferably the entire population over six months of age and older will be vaccinated for influenza annually 2. If vaccines are not available for the entire population: Vaccinate patients over 65 years of age, even without CVD or risk factors 3. Vaccinate patients with chronic coronary heart disease annually with or without a history of revascularization, regardless of the patient's age. 4. Vaccinate all patients with heart failure annually against influenza. 5. Vaccinate annually against influenza people living with diabetes or high blood pressure, even without underlying CVD and regardless of their age. 6. Vaccinate patients with acute coronary syndromes or revascularization procedures before their hospital discharge, whatever the epidemiological season.

## CONCLUSION

The lack of vaccination against influenza in adults can be considered a modifiable cardiovascular risk factor

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