YOUR QUESTION

Does the flu vaccine increase the risk of contracting COVID-19?

IN A NUTSHELL

No study established a link between the flu vaccine and an increased risk of contracting COVID-19. Wolff, investigating viral interference among Department of Defence personnel concluded that the flu vaccine was not associated with viral interference and provides protection against influenza. The study did show varied results for how each non-flu respiratory virus, such as a coronavirus, impacted vaccinated subjects. This paper drew attention on social media with claims that the flu vaccine would increase the chances of getting COVID-19 by 36%. These claims are contradicted by Fichera. The WHO recommendations in relation to the COVID-19 pandemic and immunisation is overarching and less disease specific. WHO states that mass vaccination campaigns to prevent or respond to outbreaks of vaccine-preventable diseases and high impact diseases (VPD/HID) are effective strategies to reduce deaths and disease. Yet many countries have had to postpone such vaccination campaigns due to the physical distancing measures implemented to reduce COVID-19 transmission. WHO developed interim guidance, in the form of a framework and guiding principles to support countries in their decision-making regarding provision of immunization services during the COVID-19 pandemic. Each country will need to conduct risk assessments based on the local dynamics of COVID-19 transmission, immunization and health system characteristics and current VPD epidemiology in their setting. However the guiding principles recommend that where feasible, influenza vaccination of health workers, older adults and pregnant women is advised.
In Ireland, the Minister for Health, Simon Harris, announced that the flu vaccination programme will be extended and made available free of charge to all children aged 2-12 years and to those in at risk groups. This is to minimise the risk of a second wave of COVID-19 during the winter flu season.12

---

IRISH AND INTERNATIONAL GUIDANCE

What does the Health Protection Surveillance Centre (Ireland) say?

**HPSC (2020) Seasonal Influenza**¹

HPSC state that the flu vaccine offers the best protection for those at high risk for seasonal influenza. If you are in a risk group, it is recommended that you receive the vaccine.

What does the World Health Organization say?

**WHO (2020) Guiding principles for immunization activities during the COVID-19 pandemic. Interim guidance**²

This document provides guiding principles and considerations to support countries in their decision-making regarding provision of immunization services during the COVID-19 pandemic and is endorsed by the WHO’s Strategic Advisory Group of Experts on Immunization. There are seven guiding principles outlined in this document. The seventh guiding principle specifically mentions the influenza vaccine, stating that where feasible, influenza vaccination of health workers, older adults and pregnant women is advised.


In the context of the COVID-19 pandemic this document describes the principles to consider when deliberating the implementation of mass vaccination campaigns for prevention of vaccine-preventable diseases and high impact diseases (VPD/HID) and when assessing risks and benefits of
conducting outbreak-response vaccination campaigns to respond to VPD/HID outbreaks.

**What does the European Centre for Disease Prevention and Control say?**

**ECDC (2020) European Vaccination Information Portal**

The ECDC launched the European Vaccination Information Portal in April 2020. The purpose of this website is to provide accurate, objective, up-to-date evidence on vaccines and vaccination in general. It also provides an overview of the mechanisms in place in the EU to ensure that available vaccines conform to the highest standards of safety and effectiveness. The website contains information on influenza, including vaccination and disease fact sheets, vaccination schedules and surveillance data.

**What does the Centers for Disease Control and Prevention (CDC) say?**

**CDC (2020) Misconceptions about seasonal flu and flu vaccines. Is it true that getting a flu vaccine can make you more susceptible to other respiratory viruses?**

The preponderance of evidence suggests that this is not a common or regular occurrence and that influenza vaccination does not, in fact, make people more susceptible to other respiratory infections.

**INTERNATIONAL LITERATURE**

**What does the international literature say?**

**WOLFF (2020) Influenza Vaccination and Respiratory Virus Interference Among Department of Defense Personnel During the 2017-2018 Influenza Season**

This study examines if the flu vaccine given to Department of Defense Personnel during the influenza season of 2017-2018 increased their risk of getting other respiratory viruses. The overall results of the study showed little to no evidence supporting the association of virus interference and influenza vaccination. Examining virus interference by specific respiratory viruses showed mixed results. Vaccine derived virus interference was significantly associated with coronavirus and human metapneumovirus; however, significant protection with vaccination was associated not only
with most influenza viruses, but also parainfluenza, RSV and non-influenza virus coinfections.

**LI et al (2020) Modeling the impact of mass influenza vaccination and public health interventions on COVID-19 epidemics with limited detection capability**

In the present study, we devised a mathematical model focusing on the treatment of people complaining of influenza-like-illness (ILI) and were potentially at risk of contracting COVID-19 or other emerging/re-emerging respiratory infectious agents during their admission at the healthcare setting. The model is used to assess the effect of mass influenza vaccination on the spread of COVID-19 and other respiratory pathogens in the case of a coincidence of the outbreak with the influenza season. Here, we show that increasing influenza vaccine uptake or enhancing the public health interventions would facilitate the management of respiratory outbreaks coinciding with the peak flu season.


The authors conducted an online search for all treatment options related to coronavirus infections. It is suggested that the nutritional status of each infected patient should be evaluated before the administration of general treatments and that the current children's RNA-virus vaccines including influenza vaccine should be administered to all uninfected people and healthcare workers.

**SALEM et al (2020) [Letter to the Editor] The possible beneficial adjuvant effect of influenza vaccine to minimize the severity of COVID-19**

The authors present the hypothesis that the resultant immunity against prior influenza infection would, at least in part, foster immunity against SARS-CoV-2. It is suggested that due to the cross reactivity between Flu and SARS-CoV-2, the Flu-induced bystander immunity is of more beneficial effect to COVID-19 than those suggested by MMR and BCG vaccines. In conclusion the authors recommend the use of Flu vaccine, at least in part, as a bystander adjuvant to minimize the severity of COVID-19 disease.
SKOWRONSKI et al (2020) Influenza vaccine does not increase the risk of coronavirus or other non-influenza respiratory viruses: retrospective analysis from Canada, 2010-11 to 2016-17\(^1\)

Influenza vaccine effectiveness against influenza and non-influenza respiratory viruses (NIRV) was assessed by test-negative design using historic datasets of the community-based Canadian Sentinel Practitioner Surveillance Network (SPSN), spanning 2010-11 to 2016-17. Vaccine significantly reduced the risk of influenza illness by >40% with no effect on coronaviruses or other NIRV risk.

AROKIARAJ (2020) [Preprint] Correlation of Influenza Vaccination and the COVID-19 Severity\(^2\)

The current analysis was performed to correlate the severity of COVID-19 and influenza (H1N1) vaccination statistics. There is a correlation between COVID-19 related mortality and morbidity and the status of influenza vaccination, which appears protective. The tendency of correlation is more visualized as the pandemic is evolving. The case incidence and recovery parameters also showed a beneficial trend. Since evolutionarily influenza is close to SARS-CoV-2 viruses and shares some common epitopes, there is a possibility of partial protection to reduce the COVID-19 related severity using the influenza vaccination.

OTHER

HPSC (2020) Influenza vaccines to be made available without charge to all children aged 2 – 12 and all risk groups\(^3\)

This news item clearly outlines who is included in the influenza at risk groups.

FICHERA (2020) No evidence that flu shot increases risk of COVID-19\(^4\)

Fichera debunks a claim being pushed on social media and by an organization skeptical of vaccines using a military study to falsely suggest that the flu vaccine increases someone’s risk of contracting COVID-19.
Document outlines which groups are eligible for flu vaccination with reference to the universal vaccination of health and care workers.

NACI (2020) Summary of the NACI Seasonal Influenza Vaccine Statement for 2020–2021¹⁵
The National Advisory Committee on Immunization (NACI) provides annual recommendations to the Public Health Agency of Canada regarding the use of seasonal influenza vaccines. NACI recommend that healthcare workers and other care providers in facilities and community settings should be vaccinated annually against influenza and that this group be included among those particularly recommended to receive the influenza vaccine. NACI also recommend that an age-appropriate influenza vaccine should be offered annually to anyone six months of age and older who does not have contraindications to the vaccine, with a focus on the groups for whom influenza vaccination is particularly recommended.
The following search strategy was used:

```plaintext
2019-nCoV OR 2019nCoV OR COVID-19 OR SARS-CoV-2 OR ((wuhan AND coronavirus) AND 2019/12[PDAT]:2030[PDAT]))

and

(((influenza[Title/Abstract]) OR (flu[Title/Abstract]))) AND (vaccination[Title/Abstract] OR vaccine[Title/Abstract] OR immunization[Title/Abstract] OR immunisation[Title/Abstract])
```
Plan for 2020 to 2021


