

Influenza vaccines, also known as flu shots, are vaccines that protect against infection by influenza viruses. New versions of the vaccines are developed twice a year, as the influenza virus rapidly changes. While their effectiveness varies from year to year, most provide modest to high protection against influenza. The United States Centers for Disease Control and Prevention (CDC) estimates that vaccination against influenza reduces sickness, medical visits, hospitalizations, and deaths. Immunized workers who do catch the flu return to work half a day sooner on average. Vaccine effectiveness in those over 65 years old remains uncertain due to a lack of high-quality research.

Vaccines are an effective means to control outbreaks of many diseases. However, vaccines for respiratory viral infections such as flu are still suboptimal and do not offer broad-spectrum protection.

Vaccination against influenza began in the 1930s, with large-scale availability in the United States beginning in 1945. It is on the World Health Organization's List of Essential Medicines.

The World Health Organization (WHO) and the CDC recommend yearly vaccination for nearly all people over the age of six months, especially those at high risk. The European Centre for Disease Prevention and Control (ECDC) also recommends yearly vaccination of high risk groups. These groups include pregnant women, the elderly, children between six months and five years of age, and those with certain health problems.

The vaccines are generally safe, including for people who have severe egg allergies. Fever occurs in five to ten percent of children vaccinated, and temporary muscle pains or feelings of tiredness may occur. In certain years, the vaccine was linked to an increase in Guillain–Barré syndrome among older people at a rate of about one case per million doses. Influenza vaccines are not recommended in those who have had a severe allergy to previous versions of the vaccine itself. The vaccine comes in inactive and weakened viral forms. The live, weakened vaccine is generally not recommended in pregnant women, children less than two years old, adults older than 50, or people with a weakened immune system. Depending on the type they can be injected into a muscle, sprayed into the nose, or injected into the middle layer of the skin (intradermal). The intradermal vaccine was not available during the 2018–2019 and 2019–2020 influenza seasons.

In the present book, fifteen typical literatures about Influenza Vaccine published on international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original researches on Influenza Vaccine. We hope this book can demonstrate advances in Influenza Vaccine as well as give references to the researchers, students and other related people.¹

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¹ https://en.wikipedia.org/wiki/Influenza_vaccine