

2021-2022 INFLUENZA UPDATES

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KENTUCKY CABINET FOR
HEALTH AND FAMILY SERVICES



Kentucky Public Health
Prevent. Promote. Protect.

REDUCING THE BURDEN ON HEALTHCARE RESOURCES

- During the 2019-2020 flu season, the CDC estimates that flu vaccination prevented:
 - 7.5 million influenza illnesses;
 - 3.7 million influenza-associated medical visits;
 - 105,000 influenza-associated hospitalizations; and
 - 6,300 influenza-associated deaths.
- Among adults, flu vaccination was associated with 26% lower risk of ICU admission and 31% lower risk of death from flu compared to those who were unvaccinated.
- For those adults who were admitted to ICU with flu, vaccinated patients on average spent 4 fewer days in the hospital than those who were unvaccinated.

ALL FLU VACCINES ARE NOW QUADRIVALENT

➤ Every flu vaccine will provide protection against:

- Influenza A (H1N1); (strain updated for 2021-2022 season)
- Influenza A (H3N2); (strain updated for 2021-2022 season)
- Influenza B-Victoria; and
- Influenza B-Yamagata

The Influenza A (H1N1) strain is the only difference between the egg-based and cell- or recombinant-based vaccine compositions:

- Egg-based: Influenza *A/Victoria/2570/2019* (H1N1) pdm09-like virus
- Cell-or recombinant-based:
Influenza *A/Wisconsin/588/2019* (H1N1) pdm09-like virus

WHO SHOULD GET THE FLU VACCINE?

- Routine annual age-appropriate influenza vaccination is recommended for all persons aged ≥ 6 months who do not have contraindications.
- Vaccine should be ideally administered by the end of October, but should continue to be offered as long as influenza viruses are circulating locally and unexpired vaccine is available.
- High-dose flu vaccine should be considered for all persons ≥ 65 years of age.
- Vaccination should not be delayed for a specific vaccine product when another vaccine licensed for use in people ≥ 65 and older is available.

Influenza Vaccines Expected to be Available by Age Indication, United States, 2021–22 Influenza Season

Vaccine type		0 through 6 months	6 through 23 months	2 through 17 years	18 through 49 years	50 through 64 years	≥65 years
IIV4s	Standard-dose, unadjuvanted inactivated (IIV4)		Afluria Quadrivalent Fluarix Quadrivalent FluLaval Quadrivalent Fluzone Quadrivalent				
	Cell culture-based inactivated (ccIIV4)			Flucelvax Quadrivalent			
	Adjuvanted inactivated (aIIV4)						Fluad Quadrivalent
	High-dose inactivated (HD-IIV4)						Fluzone High-Dose Quadrivalent
RIV4	Recombinant (RIV4)				Flublok Quadrivalent		
LAIV4	Live attenuated (LAIV4)			FluMist Quadrivalent			

IIV4=quadrivalent inactivated influenza vaccine RIV4=quadrivalent recombinant influenza vaccine LAIV4=quadrivalent live attenuated influenza vaccine



Not approved for age group



Egg-based



Not egg-based

All vaccines expected for 2021-22 are quadrivalent (i.e., contain hemagglutinin derived from four viruses: one influenza A(H1N1), one influenza A(H3N2), one influenza B/Victoria and one influenza B/Yamagata).

CONTRAINDICATIONS AND PRECAUTIONS FOR PERSONS WITH A HISTORY OF SEVERE ALLERGIC REACTION TO AN INFLUENZA VACCINE: 2021-2022

VACCINE ASSOCIATED WITH PREVIOUS SEVERE ALLERGIC REACTION (e.g. ANAPHYLAXIS)	EGG-BASED IIVs AND LAIV4	ccIIV4	RIV4
Any egg-based IIV or LAIV	Contraindication*	Precaution†	Precaution†
Any ccIIV	Contraindication*	Contraindication*	Precaution†
Any RIV	Contraindication*	Precaution†	Contraindication*
Unknown influenza vaccine	ALLERGIST CONSULTATION RECOMMENDED	ALLERGIST CONSULTATION RECOMMENDED	ALLERGIST CONSULTATION RECOMMENDED

***Contraindication:** Vaccine should not be administered if the person had a severe allergic reaction (e.g., anaphylaxis) to the vaccine or a component of the vaccine. Vaccine components can be found in package inserts.

†Precaution: Vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction.

INFLUENZA VACCINE OPTIONS

- Injectable influenza vaccines (IIV) are approved for use in children aged 6 months and older, including healthy children and children with chronic health problems.
- Live inactivated influenza vaccine (LAIV) is given as a nasal spray and is approved for use in people 2 through 49 years old.
- **There is a precaution against the use of nasal spray flu vaccine (LAIV) in people with certain underlying medical conditions, including children with neurologic/neuromuscular disorders.**

NEUROLOGIC CONDITIONS CAN INCLUDE:

- Disorders of the brain, spinal cord, or peripheral nerve
- Cerebral palsy
- Epilepsy (seizure disorders)
- Stroke
- Intellectual disability
- Moderate to severe developmental delay
- Muscular dystrophy
- Spinal cord injury

WHO SHOULD **NOT** BE VACCINATED WITH THE NASAL SPRAY FLU VACCINE?

- Children younger than 2 years
- Adults 50 years and older
- People with a history of severe allergic reaction to any ingredient of the vaccine or to a previous dose of any influenza vaccine
- Children 2 years through 17 years old who are receiving aspirin- or salicylate-containing medications.

<https://www.cdc.gov/flu/prevent/nasalspray.htm>

- Children 2 years through 4 years old who have asthma or who have had a history of wheezing in the past 12 months
- People with an active leak between the cerebrospinal fluid and the mouth, nose, ear, or other place within the skull
- People with weakened immune systems (immunosuppression) from any cause

- People who care for severely immunocompromised persons who require a protected environment (or otherwise avoid contact with those persons for 7 days after getting the nasal spray vaccine)
- People without a spleen, or with a non-functioning spleen
- Pregnant women
- People with cochlear implants
- People who have taken flu antiviral drugs within the previous 48 hours for oseltamivir and zanamivir, previous 5 days for peramivir, and previous 17 days for baloxavir.

IN ADDITION, THE FOLLOWING CONDITIONS ARE ***PRECAUTIONS**** TO THE USE OF THE NASAL SPRAY FLU VACCINE

- Asthma in people aged 5 years and older
- Neurologic and neurodevelopment conditions
- Blood disorders (such as sickle cell disease)
- Chronic lung disease (such as chronic obstructive pulmonary disease (COPD) and cystic fibrosis)

* DISCUSS WITH THE CHILD'S PRIMARY CARE PROVIDER OR PEDIATRIC SPECIALIST

- Endocrine disorders (such as diabetes mellitus)
- Moderate or severe acute illness with or without fever
- Guillain-Barré Syndrome within 6 weeks following a previous dose of flu vaccine.
- Heart disease (except isolated hypertension)
 - Congenital heart disease
 - Congestive heart failure
 - Coronary artery disease)

- Kidney diseases
- Liver disorders
- Metabolic disorders
 - Inherited metabolic disorders
 - Mitochondrial disorders
- People who are obese with a body mass index (BMI) at or above the 95th percentile, for age and sex, or a BMI of 40 or higher
- People younger than 19 years old on long-term aspirin-or salicylate-containing medications

- People with a weakened immune system due to disease such as
 - People with HIV or AIDS
 - Some cancers, such as leukemia

- People taking medications such as
 - Those receiving chemotherapy or radiation treatment for cancer
 - Persons with chronic conditions requiring chronic corticosteroids or other drugs that suppress the immune system

- People who have had a stroke

GUIDANCE FOR PREGNANT WOMEN

- Persons who are pregnant or who might be pregnant during the influenza season should receive influenza vaccine.
- Children less than 6 months of age cannot get the flu vaccine. They rely on the mother getting a flu shot and passing antibodies through the placenta to the infant.
- **For women in the third trimester of pregnancy, vaccination soon after vaccine becomes available can now be considered.**
- Any age-appropriate IIV4 or RIV4 may be given in any trimester.
- LAIV4 should not be used during pregnancy but can be used postpartum and if breastfeeding.

INFANT MORTALITY DUE TO INFLUENZA

- Children <6 months of age have the highest mortality rate (0.66 deaths per 100,000 children).
- Compared with children aged 13-17 years, infants aged <6 months were more than 6 times as likely to have an influenza-associated death, and
- Children aged 6 to 23 months were >3 times as likely to have an influenza-associated death.

- Children younger than 5, and especially those younger than 2, are among the groups at highest risk for developing flu-related complications, per the CDC. At this young age, kids lack fully-developed immune systems needed to fight the virus.
- A 2017 study by the CDC found that flu vaccination reduced the risk of flu-associated death by
 - 51% among children with underlying high-risk medical conditions; and
 - 65% among healthy children.

GUIDANCE FOR CHILDREN

- Some children aged 6 months through 8 years require 2 doses of influenza vaccine. These children should receive their first dose as soon as possible after vaccine becomes available, and the second dose ≥ 4 weeks later.
- Children in this age group who previously received ≥ 2 doses of trivalent or quadrivalent influenza vaccine ≥ 4 weeks apart *before July 1, 2021* need 1 dose of 2021-22 influenza vaccine. The two previous doses need not have been received in the same or consecutive influenza seasons.
- For children aged 8 years who require 2 doses, both doses should be administered even if the child turns age 9 years between dose 1 and dose 2.
- Persons aged ≥ 9 years need only one dose.

EARLY ANTIVIRAL TREATMENT CAN SHORTEN HOSPITAL STAYS IN CHILDREN WITH FLU

- Compared with those not receiving flu antiviral drugs, length of stay was shorter for children who were treated within 2 days of illness onset.
- Median length of hospital stay was
 - 2 days for those who received early flu antiviral treatment (within 2 days of illness onset) compared to
 - 3 days for those not treated with antivirals.
- Antiviral treatment increased the probability of hospital discharge by:
 - 37% per day for hospitalized children with underlying medical conditions, and
 - 46% per day for children in the ICU.

FLU ANTIVIRALS DRUGS APPROVED FOR CHILDREN

- There are four U.S. Food and Drug Administration (FDA) approved flu antiviral drugs that are recommended by CDC for use in children this flu season:
- **Oseltamivir** (*available as a generic version or under the trade name Tamiflu®*) is approved for treatment of flu in **children 2 weeks old or older**. Oral oseltamivir comes in the form of pills and liquid. Although not part of the FDA-approved indications, use of oral oseltamivir for treatment of flu in infants younger than 14 days old.
- **Zanamivir** (trade name **Relenza®**) is approved for treatment of flu in **children 7 years and older**. It is not recommended for use in children with underlying respiratory disease, including those with asthma and other chronic lung diseases. Inhaled zanamivir is given via a special inhaler (Diskhaler®).
- **Peramivir** (trade name **Rapivab®**) *is given intravenously* and recommended for use in **children 2 years and older**.
- **Baloxavir** (trade name **Xofluza®**) is a pill that is given as a single dose by mouth and is approved for early outpatient treatment of children with flu who are **aged 12 years and older**.

FLU VACCINATION IS AN IMPORTANT *PREVENTIVE* TOOL FOR PEOPLE WITH CERTAIN CHRONIC HEALTH CONDITIONS.

- Flu vaccination has been associated with lower rates of some cardiac events among people with heart disease, especially among those who have had a cardiac event in the past year.
- Flu vaccination can reduce the risk of a flu-related worsening of chronic lung disease (for example, chronic obstructive pulmonary disease (COPD) requiring hospitalization.
- Among people with diabetes and chronic lung disease, flu vaccination also has been shown in separate studies to be associated with reduced hospitalizations from a worsening of their chronic condition.

COVID-19 and FLU VACCINE

Flu vaccines and COVID-19 vaccines can be given at the same time.

- Includes simultaneous administration with other vaccines on the same day, including vaccination for COVID-19. There is no longer a need to wait 14 days between vaccinations.
- If multiple vaccines are administered at a single visit administer each injection in a different injection site.
- **Flu vaccination should be deferred for people with suspected or confirmed COVID-19, whether or not they have symptoms, until they have met the criteria to discontinue their isolation.**
- **When scheduling or confirming appointments for flu vaccination, patients should be instructed to notify the health care professional's office or clinic in advance if they currently have or develop any symptoms of COVID-19.**

REASONS TO CONSIDER CO-ADMINISTRATION

➤ Co-administration considerations

- Patient is behind or at risk of becoming behind on recommended vaccines.
- Patient's risk of vaccine-preventable disease.
- Reactogenicity profile of the vaccines.

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-product%2Fclinical-considerations.html#Coadministration

- ## ➤ **Never miss an opportunity to vaccinate if there are no contraindications and the vaccine is age-appropriate.**

ADMINISTERING COVID-19 WITH OTHER VACCINES

- Label each syringe.
- Use your judgment on the reactogenicity of a vaccine
- Administer the influenza and COVID-19 vaccines in separate limbs if feasible.
- The deltoid is the preferred site.
 - However, the anterolateral thigh may be used as an alternate site
- If administering in the same limb, separate injection sites by 1 inch or more, if possible.
- There are no requirements which vaccine is administered first.

REFERENCES NOT INDICATED ON SLIDES

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