SEPTEMBER 17, 2024

ACIP Recommendations Summary

WHAT TO KNOW

Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP)—United States, 2024-25

ACIP Recommendations for Vaccination

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Printable version of Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP)—United States, 2024-25

2024-25 Summary of Flu Vaccine Recommendations PDF

For additional information: MMWR Recomm Rep 2024;73(No. RR-5).

Groups Recommended for Vaccination

- Routine annual influenza vaccination is recommended for all persons aged ≥6 months who do not have contraindications.
- If supply is limited, see priority groups in the ACIP statement.

Timing of Vaccination

- For most persons who need only one dose of influenza vaccine for the season, vaccination should ideally be offered during September or October. However, vaccination should continue throughout the season as long as influenza viruses are circulating.
- Timing considerations for specific groups include:
  - For most adults (particularly those aged ≥65 years) and pregnant persons in the first or second trimester, vaccination during July and August should be avoided unless there is concern that later vaccination might not be possible.
  - Children 6 months through 8 years who need 2 doses (**Figure**) should receive dose 1 as soon as vaccine is available.Vaccination during July and August can be considered for children of any age who require only 1 dose, particularly if there is concern that later vaccination might not be possible.
  - July and August vaccination can be considered for pregnant persons who are in the third trimester during those months.

Vaccine selection

- Available vaccines, approved ages, and dose volumes are listed in **Table 1**.
- All persons should receive an age-appropriate vaccine, with the exception that solid organ transplant recipients aged 18 through 64 years who are receiving immunosuppressive medication regimens may receive HD-IIV3 or aIIV3 as acceptable options (see **Immunocompromised Persons**).
- LAIV3 is not recommended in pregnancy and for persons with some medical conditions (see **Table 3**), or for persons who have recently taken influenza antiviral medications (see **Vaccination and Influenza Antiviral Medications**).

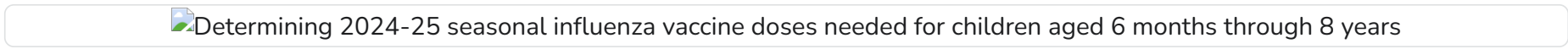
- With the exception of **Adults Aged ≥65 Years**, there are no preferences for any specific vaccine when more than one age-appropriate product is available.
- The selected vaccine should be administered at the appropriate dose volume for the recipient's age (**Table 1**). If a dose less than the necessary volume is inadvertently administered:
  - If discovered before the recipient has left the vaccination setting, administer the remaining volume.
  - If it is difficult to measure the remaining needed volume, or if discovered after the recipient has left the vaccination setting, administer a repeat full dose.
- All vaccines should be administered in settings in which personnel and equipment needed for rapid recognition and treatment of acute allergic reactions, including anaphylaxis, are available.

Influenza Vaccination in Pregnancy

- Persons who are or who might be pregnant during the influenza season should receive influenza vaccine.
- Any age-appropriate IIV3 or RIV3 should be used and may be given in any trimester.
- LAIV3 should not be used during pregnancy but can be used postpartum.

Number of Doses for Ages 6 Months through 8 Years

- Determine doses needed based on child's age at time of first dose of 2024–25 influenza vaccine and number of doses of influenza vaccine received in previous seasons (**Figure**).
- Persons aged ≥9 years need only one dose.



Did the child receive ≥ 2 doses of trivalent or quadrivalent influenza vaccine ≥4 weeks apart before July 1, 2024? (Doses need not have been received during same or consecutive seasons) Yes, 1 dose of 2024-25 influenza vaccine No/Don't know, 2 doses ...

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Adults Aged ≥65 Years

- ACIP recommends that adults aged ≥65 years preferentially receive any one of the following:
  - High-dose inactivated influenza vaccine (HD-IIV3, Fluzone High-Dose),
  - Recombinant influenza vaccine (RIV3, Flublok), or
  - Adjuvanted inactivated influenza vaccine (aIIV3, Fluad).
- If none of these three vaccines is available at a vaccination opportunity, then any other age-appropriate influenza vaccine should be used.
- Data support greater potential benefit of high-dose inactivated, adjuvanted inactivated, or recombinant vaccines relative to standard-dose unadjuvanted IIVs in this age group, with the most data available for HD-IIV3; but comparisons of these vaccines with one another are limited.

Persons with Chronic Medical Conditions

- LAIV3 is not recommended for persons with some chronic medical conditions (**Table 3**).

Immunocompromised Persons

- Immunocompromised persons should receive IIV3 or RIV3. LAIV3 should not be used.
- Solid organ transplant recipients aged 18 through 64 years who are receiving immunosuppressive medication regimens may receive HD-IIV3 or aIIV3 as acceptable options (without a preference over other age-appropriate IIV3s or RIV3).

- Immune response might be reduced in persons on certain medications, chemotherapy, or transplant regimens.
- The Infectious Diseases Society of America (IDSA) has published guidance concerning the timing of vaccination in relation to such interventions (see **Further Information**).

Caregivers and Contacts of High-Risk Persons

- Caregivers and contacts (including those of immunosuppressed persons) may receive any age-appropriate IIV3 or RIV3.
- LAIV3 may be given to caregivers and contacts of persons who are not severely immunocompromised (i.e., who do not require a protected environment).
- Health care personnel or hospital visitors who receive LAIV3 should avoid caring for/contact with severely immunosuppressed persons who require a protected environment for 7 days after vaccination.

Persons with Egg Allergy

- Multiple studies indicate that egg-allergic persons are not at increased risk of severe allergic reactions to egg-based influenza vaccines.
- Any influenza vaccine that is otherwise appropriate for the recipient's age and health status (egg based or non-egg based) can be administered to persons with egg allergy.
- Egg allergy necessitates no additional safety measures for influenza vaccination beyond those recommended for any recipient of any vaccine.
- Regardless of allergy history, all vaccines should be administered in settings in which personnel and equipment needed for rapid recognition and treatment of acute allergic reactions, including anaphylaxis, are available.

Previous Severe Allergic Reactions to Influenza Vaccines

- Recommendations for persons with a previous severe allergic reaction to an influenza vaccine are summarized in **Tables 3** and **4**.

Vaccination Issues for Travelers

- Travelers who wish to reduce risk for influenza should consider vaccination, preferably ≥2 weeks before departure.
- Persons at higher risk for complications of influenza who were not vaccinated during the preceding fall or winter should consider influenza vaccination before departure, if planning to travel to the tropics, with organized tourist groups, on cruise ships, or to the Southern Hemisphere during April-September.
- Southern Hemisphere influenza vaccines might differ in viral composition from Northern Hemisphere formulations.
- Administration of Southern Hemisphere influenza vaccine before Southern Hemisphere travel might be reasonable, but these formulations are generally unavailable in the U.S.

Vaccination and Influenza Antiviral Medications

- Influenza antivirals given before or after LAIV3 might reduce its effectiveness. Persons who receive influenza antivirals within the following intervals should be revaccinated with an age-appropriate IIV3 or RIV3 (intervals might be longer in conditions where medication clearance is delayed):

Influenza Antiviral	Estimated window for potential interference
Oseltamivir and Zanamivir	48 hours before to 2 weeks after LAIV3
Peramivir	5 days before to 2 weeks after LAIV3

Baloxavir	17 days before to 2 weeks after LAIV3

Simultaneous Administration With Other Vaccines

- IIV3s and RIV3 may be administered simultaneously or sequentially with other live or inactivated vaccines.
- LAIV3 may be administered simultaneously with other inactivated or live vaccines If not given simultaneously, then ≥4 weeks should pass between administration of LAIV3 and another live vaccine.
- Injectable vaccines given simultaneously should be administered at separate anatomic sites ≥1 inch apart.
- Consider using non-adjuvanted influenza vaccine if giving another vaccine with non-aluminum adjuvant simultaneously (but vaccination should not be delayed to obtain a nonadjuvanted influenza vaccine).
- Consult current CDC/ACIP recommendations and guidance for up to date information concerning newer vaccines.

Vaccine Adverse Event Reporting System (VAERS)

- Health care providers are required to report to VAERS any adverse event listed by the vaccine manufacturer as a contraindication to further doses of that vaccine, and also are required to report adverse events listed here: https://vaers.hhs.gov/docs/VAERS_Table_of_Reportable_Events_Following_Vaccination.pdf PDF. They are encouraged to report any clinically significant adverse event after vaccination to VAERS.

See Also:
Instructions on how to report adverse reactions

Further Information

CDC Influenza Information (for more, call 800-232-4636)

- General influenza page
- Weekly U.S. Influenza Surveillance Report
- Influenza Antiviral Medications: Summary for Clinicians
- Vaccine Storage and Handling Toolkit
- General Best Practices for Immunization
- American Academy of Pediatrics (AAP) Guidance
- IDSA Guidance for vaccination of immunocompromised hosts

U.S. Influenza Vaccines, Age Indications, Dosage and Administration, and Contraindications and Precautions

Note: all U.S. 2024-25 influenza vaccines will be trivalent, containing hemagglutinin derived from 3 influenza viruses: one each of influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B/Victoria. Quadrivalent vaccines containing influenza B/Yamagata will not be available due to absence of detection of naturally occurring B/Yamagata viruses in global surveillance since March, 2020.

See Also:
Package Inserts

Table 1: Inactivated Influenza Vaccines (IIV3s) and Recombinant Influenza Vaccine (RIV3)

Trade Name (*Manufacturer*)	Presentations	Approved ages	Volume per dose by age group	CPT Code	Comments
IIV3s: Standard-dose (15 µg HA per virus component in 0.5 mL; 7.5 µg in 0.25 mL)					
Afluria (*Seqirus*)	0.5 mL PFS	≥3 yrs†	≥3 yrs—0.5 mL†	90656	Dose from MDV can be given by jet injector for 18-64 yrs only. Egg-based.
	5.0 mL MDV*	≥6 mos†	6 through 35 mos—0.25 mL†	90657	
			≥3 yrs—0.5 mL†	90658	
Fluarix (*GlaxoSmithKline*)	0.5 mL PFS	≥6 mos	≥6 mos—0.5 mL	90656	Egg-based.
Flucelvax (*Seqirus*)	0.5 mL PFS	≥6 mos	≥6 mos—0.5 mL	90661	Cell culture-based.
	5.0 mL MDV*	≥6 mos	≥6 mos—0.5 mL	90661	
FluLaval (*GlaxoSmithKline*)	0.5 mL PFS	≥6 mos	≥6 mos—0.5 mL	90656	Egg-based.
Fluzone (*Sanofi Pasteur*)	0.5 mL PFS	≥6 mos§	≥3 yrs—0.5 mL§	90656	Either 0.25 or 0.5 mL approved for ages 6-35 months. Egg-based.
	5.0 mL MDV*	≥6 mos§	6 through 35 mos—0.25 mL	90657	
			or 0.5 mL§	90658	
			≥3 yrs—0.5 mL§	90658	
HD-IIV3: High-dose (60 µg hemagglutinin per virus component in 0.5 mL)					
Fluzone High-Dose (*Sanofi Pasteur*)	0.5 mL PFS	≥65 yrs	≥65 yrs—0.5 mL	90662	One of 3 options preferred for ≥65 years. Egg-based.
aIIV3: Standard-dose, with MF59 adjuvant (15 µg hemagglutinin per virus component in 0.5 mL)					
Fluad (*Seqirus*)	0.5 mL PFS	≥65 yrs	≥65 yrs—0.5 mL	90653	One of 3 options preferred for ≥65 years. Egg-based.
RIV3: Recombinant HA (45 µg hemagglutinin per virus component in 0.5 mL)					
Flublok (*Sanofi Pasteur*)	0.5 mL PFS	≥18 yrs	≥18 yrs—0.5 mL	90673	One of 3 options preferred for ≥65 years.

CPT=Current Procedural Terminology; HA = hemagglutinin; MDV=multidose vial; PFS=prefilled syringe

* Contains thimerosal as a preservative agent.

† The approved dose volume for Afluria Quadrivalent is 0.25mL for children aged 6 through 35 months and 0.5mL for persons aged =3 years. However, 0.25mL prefilled syringes are no longer available. For children aged 6 through 35 months, a 0.25mL dose must be obtained from a multidose vial.

§ Per the package insert, Fluzone is approved for children aged 6 through 35 months at either 0.25 mL or 0.5 mL per dose. Prefilled 0.25-mL syringes are no longer available. However, 0.5mL prefilled syringes of can be used for this age group.

Administration of IIV3s and RIV3

- IIV3s and RIV3 are administered intramuscularly (IM). For adults and older children, the deltoid is the preferred site. For infants and younger children, the anterolateral thigh is the preferred site. For detailed guidance for administration sites and needle length, see the General Best Practice Guidelines for Immunization (see **Further Information**).

Table 2: Live Attenuated Influenza Vaccine (LAIV3) — 10 6.5-7.5 fluorescent focus units live attenuated virus in 0.2 mL

Trade name/*Manufacturer*	Presentations	Approved ages	Volume per dose	CPT code	Comment
FluMist (*AstraZeneca*)	0.2 mL prefilled single-use intranasal sprayer	2 through 49 yrs	0.1 mL each nostril (0.2 mL total)	90660	Egg-based.

Administration of LAIV3

- LAIV3 is administered intranasally. Half of the total sprayer contents is sprayed into the first nostril while the recipient is in the upright position. The attached divider clip is removed and the second half is administered into the other nostril.

- If the vaccine recipient sneezes immediately after administration, the dose should not be repeated.
- If nasal congestion is present that might interfere with delivery of the vaccine to the nasopharyngeal mucosa, deferral should be considered, or another age-appropriate vaccine should be administered.

Table 3: Influenza Vaccine Contraindications and Precautions

Egg based IIV3s	**Contraindications:** • History of severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine (other than egg), or to a previous dose of any influenza vaccine (any egg-based IIV, ccIIV, RIV, or LAIV of any valency) **Precautions:** • Moderate or severe acute illness with or without fever • History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine
ccIIV3	**Contraindications:** • History of severe allergic reaction (e.g., anaphylaxis) to ccIIV of any valency, or to any component of ccIIV3 **Precautions:** • Moderate or severe acute illness with or without fever • History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine • History of severe allergic reaction to a previous dose of any other influenza vaccine (any egg-based IIV, RIV, or LAIV of any valency)
RIV3	**Contraindications:** • History of severe allergic reaction (e.g., anaphylaxis) to RIV of any valency, or to any component of RIV3 **Precautions:** • Moderate or severe acute illness with or without fever • History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine • History of severe allergic reaction to a previous dose of any other influenza vaccine (any egg-based IIV, ccIIV, or LAIV of any valency)
	Contraindications: • History of severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine (other than egg) or to a previous dose of any influenza vaccine (i.e, any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Concomitant aspirin or salicylate-containing therapy in children and adolescents • Children aged 2 through 4 years who have received a diagnosis of asthma or whose parents or caregivers report that a health care provider has told them during the preceding 12 months that their child had wheezing or asthma or whose medical record indicates a wheezing episode has occurred during the preceding 12 months • Children and adults who are immunocompromised due to any cause, including but not limited to medications, congenital or acquired immunodeficiency states, HIV infection, anatomic asplenia, or functional asplenia (e.g., due to sickle-cell anemia) • Close contacts and caregivers of severely immunosuppressed persons who require a protected environment • Pregnancy

LAIV3	• Persons with active communication between the CSF and the oropharynx, nasopharynx, nose, or ear or any other cranial CSF leak • Persons with cochlear implants (due to potential for CSF leak, which might exist for some period of time after implantation. Providers might consider consultation with a specialist concerning risk of persistent CSF leak if an age- appropriate inactivated or recombinant vaccine cannot be used) • Receipt of influenza antiviral medication within the previous 48 hours for oseltamivir and zanamivir, 5 days for peramivir, and 17 days for baloxavir (see **Vaccination and influenza antiviral medications**, for additional guidance) **Precautions:** • Moderate or severe acute illness with or without fever • History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine • Asthma in persons aged ≥5 years • Other underlying medical conditions that might predispose to complications from influenza (e.g., chronic pulmonary, cardiovascular [except isolated hypertension], renal, hepatic, neurologic, hematologic, or metabolic disorders [including diabetes mellitus])

Table 4: Contraindications and Precautions for Persons with a History of Severe Allergic Reaction to an Influenza Vaccine

	Available 2024–25 influenza vaccines		
Vaccine (of any valency) associated with previous severe allergic reaction (e.g., anaphylaxis)	**Egg-based IIV3s and LAIV3**	**ccIIV3**	**RIV3**
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		

***When a contraindication is present, a vaccine should not be administered. In addition to the contraindications based on history of severe allergic reaction to influenza vaccines noted in the Table, each individual influenza vaccine is contraindicated for persons who have had a severe allergic reaction (e.g., anaphylaxis) to any component of that vaccine. Vaccine components can be found in package inserts. Although a history of severe allergic reaction (e.g., anaphylaxis) to egg is a labeled contraindication to the use of egg-based IIV3s and LAIV3, ACIP makes an exception for allergy to egg (see **Persons with Egg Allergy**).

†When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Providers can consider using vaccines for which there is a precaution; however, vaccination should occur in an inpatient or outpatient medical setting with supervision by a health care provider who is able to recognize and manage severe allergic reactions. Providers can also consider consulting with an allergist to help determine which vaccine component is responsible for the allergic reaction.

Vaccine Abbreviations

- Main influenza vaccine types:
  - **IIV**= Inactivated Influenza Vaccine
  - **RIV**= Recombinant Influenza Vaccine
  - **LAIV**= Live Attenuated Influenza Vaccine
- Numerals after letters indicate valency (the number of influenza viruses represented):
  - **3** for trivalent vaccines
  - **4** for quadrivalent vaccines
- Prefixes are sometimes used to refer to specific IIVs:
  - **a** for adjuvanted IIV (e.g., aIIV4)
  - **cc** for cell culture-based IIV (e.g., ccIIV4)

- **HD** for high-dose IIV (e.g., HD-IIV4)
- **SD** for standard-dose IIV (e.g., SD-IIV4)

Resource

The below document summarizes background literature relevant to influenza vaccines. It was last updated in 2019 and is presented for archival purposes. It contains information on some influenza vaccines that are no longer available. It is not a systematic review. However, links to systematic evidence reviews are provided for topics for which review was performed since 2019.

This is not a guidance or recommendations document. For recommendations on the use of influenza vaccines, please consult the current Advisory Committee on Immunization Practices (ACIP) Influenza Statement, which can be found at ACIP Recommendations: Influenza (Flu) Vaccine | ACIP Recommendations | CDC.

Background Document for Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2019-20 Influenza Season PDF

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