

Quick Look at Inactivated Influenza Vaccines (trivalent and quadrivalent): IIV4, High-Dose IIV4 (HD-IIV4), and Adjuvanted IIV (aIIV3, aIIV4), 2020-21

Annual influenza vaccination is recommended for all persons aged 6 months and older, including all healthy persons!

Indications for Use and Schedule

- Age range for use varies by brand:
 - IIV4 (IM): for persons aged 6 months and older
 - HD-IIV4, aIIV3, and aIIV4 (IM): for persons aged 65 years and older
- Vaccination is recommended to be offered by the end of October and **continued throughout the flu season** until vaccine expires

Key Points

- **No** preference for any flu vaccine product for any age group
 - Ensure vaccination occurs with an **age-appropriate product and dose volume**
- Some children aged 6 months through 8 years may need 2 doses of 2020-21 seasonal flu vaccine to best protect them (see below)
- Persons aged 9 years and older only need 1 dose of flu vaccine, regardless of previous flu vaccination history

Vaccine Administration¹

- IIV4, HD-IIV4, aIIV3, and aIIV4: administer **intramuscular (IM)** in the anterolateral thigh or deltoid of the arm
 - Children: 1-inch needle
 - Adolescents/adults: 1- to 1.5-inch needle
- All IIVs can be given with other vaccines at the same visit – do not miss an opportunity
 - Use separate sites, space at least 1-inch apart

Storage and Handling: All IIVs

- Store in the refrigerator at **36°F to 46°F (2°C to 8°C)**
- Pharmaceutical-grade (purpose-built) units are preferred for vaccine storage
- Do **not** freeze; keep in original box with lid on/protect from light
- Store different IIV formulations apart and label with age indications
- Do **not** use expired vaccine
- Multi-dose vials (MDV) – Afluria® Quadrivalent: once entered the MDV must be discarded within 28 days and no more than 20 punctures should be made to the MDV; Fluzone® Quadrivalent: a maximum of 10 doses (0.25 mL or 0.5 mL) can be withdrawn from the MDV

INFLUENZA DOSE VOLUME IS BASED ON AGE AND FLU VACCINE PRODUCT:

- For children aged 3 through 17 years and adults aged 18 years and older, dose volume for IIV is 0.5 mL per dose, with the exception of Fluzone® High-Dose Quadrivalent (HD-IIV4, licensed for 65 years and older) for which the correct volume is 0.7 mL per dose
- For children aged **6-35 months**, there are multiple licensed IIV products:
 - Dose volume per dose of **Afluria® Quadrivalent** is **0.25 mL**
 - Dose volume per dose of **FluLaval® Quadrivalent** and **Fluarix® Quadrivalent** is **0.5 mL**
 - Dose volume per dose of **Fluzone® Quadrivalent** can be **either 0.25 mL or 0.5 mL**; no preference is expressed for either Fluzone dose volume for this age group
- For IIV4, the needed volume may be administered from a prefilled syringe containing the appropriate volume as supplied by the manufacturer, a single-dose vial, or a multi-dose vial
 - Fluzone Quadrivalent is licensed for children 6 through 35 months at either 0.25 mL or 0.5 mL per dose, however, the 0.25-mL prefilled syringes will not be available for the 2020-21 season; if a prefilled syringe of Fluzone Quadrivalent is used for a child aged 6 through 35 months the dose volume will be 0.5 mL
 - Single-dose, 0.5-mL Fluzone Quadrivalent vials should be accessed for only 1 dose, and multi-dose vials for only 10 doses, regardless of the volume of the doses taken or any remaining in the vial; any vaccine remaining after the maximum number of doses has been removed should be discarded

- If a 0.5-mL single-dose vial is used for a 0.25-mL dose for a child aged 6 through 35 months, only half the vial's volume should be administered, and the remaining half should be discarded; single-dose vials should only be used for 1 person even if there is vaccine remaining in the vial
- Refer to "2020-21 Seasonal Influenza Vaccine Dose Volumes for Children" at www.michigan.gov/flu

INFORMATION ON WHICH CHILDREN AGED 6 MONTHS THROUGH 8 YEARS NEED 2 DOSES OF FLU VACCINE:

- Determination of the number of doses needed is based on the number of doses of flu vaccine received in previous seasons and the age at the time of the first dose of 2020-21 flu vaccine
- Children aged 6 months through 8 years who received 2 or more total doses of any trivalent or quadrivalent flu vaccine (i.e., IIV3, IIV4, LAIV3, LAIV4, cclIV3, cclIV4) at least 4 weeks apart before July 1, 2020, only need 1 dose of 2020-21 flu vaccine
- If a child has not received at least 2 trivalent or quadrivalent flu vaccines at least 4 weeks apart before July 1, 2020, give 2 doses of 2020-21 flu vaccine separated by 4 weeks
 - Give the 1st dose as soon as possible after vaccine becomes available to allow the 2nd dose to be received by the end of October
 - Both doses should be administered even if the child turns 9 years old between dose 1 and dose 2
- Refer to "Who Needs 2 Doses of 2020-21 Seasonal Influenza Vaccine?" at www.michigan.gov/flu

CONTRAINDICATIONS (PERSONS WHO SHOULD NOT RECEIVE IIV):

- Severe allergic reaction (e.g., anaphylaxis) after a previous dose of flu vaccine or one of its components

PRECAUTIONS (IN CERTAIN CIRCUMSTANCES, PERSONS MAY RECEIVE IIV):

- Moderate or severe acute illness with or without fever
- History of Guillain-Barré syndrome (GBS) within 6 weeks of previous flu vaccination

FURTHER POINTS TO CONSIDER:

- Vaccination is recommended to be offered by the end of October and **continued throughout the flu season** until vaccine expires; for children who need 2 doses and haven't received both by the end of October as recommended, still complete their 2-dose series ensuring at least 4 weeks between doses
- **Note:** For persons who report egg allergy, administer any flu vaccine appropriate for the recipient's age and health status; if the person reports a reaction to eggs other than hives and a vaccine other than cclIV4 or RIV4 is used, administer flu vaccine in a medical setting in which a healthcare provider with experience in recognition and management of severe allergic conditions is immediately available
 - Refer to "2020-21 Influenza Vaccine Screening for Persons Who Report Egg Allergy" at www.michigan.gov/flu
- A CDC study showed a small increased risk for febrile seizures during the 24 hours following simultaneous administration of IIV and PCV13 and/or DTaP. ACIP has considered the risks and benefits and recommends these vaccines be given concomitantly when needed. For more information, refer to www.cdc.gov/vaccinesafety/concerns/febrile-seizures.html.
- In comparative safety studies, some injection site and systemic reactions were observed more frequently in older persons vaccinated with HD-IIV3 and aIIV3 compared with nonadjuvanted standard-dose (SD) IIV3; data summarizing comparisons of newer quadrivalent formulations relative to SD-IIV4 against lab-confirmed flu outcomes are not yet available
- IIV can be given with all other vaccines and with antiviral medications; for more information, refer to www.cdc.gov/flu
 - Note: Because of limited data on the safety of simultaneous administration of two or more vaccines containing novel adjuvants and the availability of nonadjuvanted influenza vaccine options, selection of a nonadjuvanted influenza vaccine **may be considered** in situations in which influenza vaccine and another

vaccine containing a novel adjuvant are to be administered concomitantly. However, **vaccination should not be delayed** if a specific product is not available. As recommended for all vaccines, vaccines with novel adjuvants should be administered at separate anatomical sites from other vaccines that are given concomitantly.

- Use current IIV/RIV Vaccine Information Statement (VIS) with details about the Michigan Care Improvement Registry (MCIR); Michigan VIS are posted at www.michigan.gov/VIS
- Document type of flu vaccine given on vaccine administration record and record card as “IIV4,” “HD-IIV4,” “aIIV3,” or “aIIV4”
- For more information on Recombinant Influenza Vaccine (RIV4, Flublok® Quadrivalent), Cell Culture-based IIV (cclIV4, Flucelvax® Quadrivalent), or Live Attenuated Influenza Vaccine (LAIV4, FluMist® Quadrivalent), refer to additional Quick Looks at www.michigan.gov/vaccinequicklooks

¹Assessment of needle size and injection site must be made for each person based on size of the muscle, thickness of adipose tissue at the injection site, volume of the material to be administered, and injection technique. For more information, see Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html.

For more guidance on influenza vaccine recommendations, refer to “Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP—U.S., 2020-21 Influenza Season,” MMWR Recomm Rep 2020; 69(No. RR-8):1-24, located at www.cdc.gov/mmwr.

Publicly purchased IIV can be administered to eligible children aged 6 months through 18 years through the Vaccines for Children (VFC) program. Eligible children include those who are uninsured, underinsured, Medicaid eligible, American Indians and Alaskan Natives. Eligible adults, particularly those who are uninsured and underinsured, may receive adult flu vaccine from a participating Michigan Adult Vaccine Program (MI-AVP) provider such as local health departments, federally qualified health centers, tribal health centers, migrant health centers, etc.

For more information regarding flu vaccination, contact your local health department, visit Michigan Department of Health and Human Services at www.michigan.gov/flu, or visit www.cdc.gov/flu or www.cdc.gov/mmwr.