State of Alaska Epidemiology **Bulletin**

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Influenza Vaccine Recommendations and Administration for 2010–11

Note: This Epidemiology *Bulletin* and the companion *Bulletin* No. 25, *TIV and LAIV Influenza Vaccines for 2010–11*,[1] provide **summary information only.** For complete information, consult the appropriate manufacturer package inserts and the recommendations of the Advisory Committee on Immunization Practices (ACIP) for the *Prevention and Control of Influenza with Vaccines*.[2]

Types of Influenza Vaccine

Annual influenza vaccination is the most effective method for preventing influenza virus infection and its complications.[2] The trivalent inactivated influenza vaccine (TIV) and the live, attenuated influenza vaccine (LAIV) are both available in the United States, include the same influenza antigens, are highly efficacious, and are initially grown in eggs. Current vaccine recommendations are summarized below (Box).

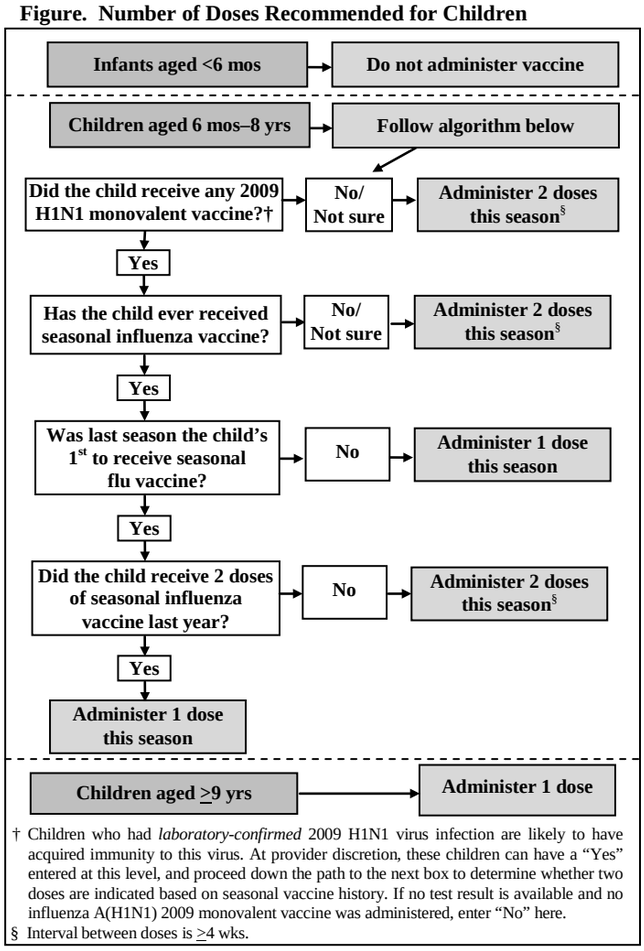
Box. Summary of Influenza Vaccine Recommendations

- *All persons aged ≥6 months should be vaccinated annually.*
- Protection of persons at higher risk for influenza-related complications should continue to be a focus of vaccination efforts as providers and programs transition to routine vaccination of all persons aged ≥6 months.
- When vaccine supply is limited, vaccination efforts should focus on delivering vaccination to persons who:
  - are aged 6 months through 4 years (59 months);
  - are aged ≥50 years;
  - have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, cognitive, neurologic, hematologic or metabolic disorders (including diabetes mellitus);
  - are immunosuppressed (including immunosuppression caused by medications or HIV);
  - are or will be pregnant during the flu season (Oct-May);
  - are aged 6 months to 18 years and receiving long-term aspirin therapy who therefore might be at risk for experiencing Reye syndrome after influenza virus infection;
  - are residents of chronic-care facilities (e.g., nursing homes);
  - are American Indians or Alaska Natives;
  - are morbidly obese (body-mass index ≥40);
  - are health care personnel; and/or
  - are household contacts and/or caregivers of children aged <5 years and adults aged ≥50 years (with particular emphasis on vaccinating contacts of children aged <6 months) or of persons with medical conditions that put them at higher risk for severe complications from influenza.

Additional Recommendations

1. Influenza vaccine should not be given to persons known to have severe hypersensitivity to eggs or other vaccine components. More detailed information on TIV- and LAIV-specific contraindications can be found in the manufacturer package inserts and the companion Epidemiology *Bulletin* No. 25.[1]
2. Health care providers should carefully check the vaccine they use to ensure that the product age-group indication includes the age of the person being immunized (Table).
3. Health care providers should begin offering influenza vaccine as soon as it is available and throughout the influenza season and follow the appropriate dosing algorithm for children (Figure).

Figure. Number of Doses Recommended for Children



† Children who had *laboratory-confirmed* 2009 H1N1 virus infection are likely to have acquired immunity to this virus. At provider discretion, these children can have a "Yes" entered at this level, and proceed down the path to the next box to determine whether two doses are indicated based on seasonal vaccine history. If no test result is available and no influenza A(H1N1) 2009 monovalent vaccine was administered, enter "No" here.

§ Interval between doses is ≥4 wks.

References

1. Section of Epidemiology. TIV and LAIV Influenza Vaccines for 2010–11. *Bulletin* No. 25, August 26, 2010. Available at: http://www.epi.alaska.gov/bulletins/docs/b2010_25.pdf
2. CDC. Prevention and Control of Influenza with Vaccines. *MMWR Morb Mort Wkly Rep* 2010;59(RR-8):1-62. Available at: http://www.cdc.gov/mmwr/pdf/rr/rr5908.pdf

Table. Approved Influenza Vaccines for Different Age-Groups — United States, 2010–11 Season

Vaccine*	Trade Name	Manufacturer	Presentation	Age Group	Mercury Content (μg Hg/0.5 mL dose)	# of Doses	Route
TIV	**Fluzone** (State-supplied vaccine is limited to persons aged 6 mos thru 18 yrs)	Sanofi Pasteur	0.25 mL prefilled syringe	6–35 mos	0	1 or 2†	Intramuscular§
			0.5 mL prefilled syringe	≥36 mos			
			0.5 mL vial	≥36 mos			
			5.0 mL multidose vial	≥6 mos	25.0		
TIV	**Fluvirin**	Novartis Vaccine	5.0 mL multidose vial	≥4 yrs	25.0	1 or 2†	Intramuscular§
			0.5 mL prefilled syringe		<1.0		
TIV	**Agriflu**	Novartis Vaccine	0.5 mL prefilled syringe	≥18 yrs	0	1	Intramuscular§
TIV	**Fluarix**	GlaxoSmithKline	0.5 mL prefilled syringe	≥3 yrs	0	1 or 2†	Intramuscular§
TIV	**FluLaval**	GlaxoSmithKline	5.0 mL multidose vial	≥18 yrs	25.0	1	Intramuscular§
TIV	**Afluria**¶	CSL Biotherapies	0.5 mL prefilled syringe	≥9 yrs	0	1	Intramuscular§
TIV High Dose**	**Fluzone-High Dose**	Sanofi Pasteur	0.5 mL prefilled syringe	≥65 yrs	0	1	Intramuscular§
LAIV	**FluMist**††	MedImmune	0.2 mL sprayer, divided dose	2–49 yrs	0	1 or 2†	Intranasal

* TIV: Trivalent Inactivated Influenza Vaccine. LAIV: Live, Attenuated Influenza Vaccine.
A 0.5 mL dose of TIV contains 15 μg each of *A/California/7/2009 (H1N1)-like, A/Perth/16/2009 (H3N2)-like, and B/Brisbane/60/2008-like* antigens.
A 0.2 mL dose of LAIV contains $10^{6.5\text{-}7.5}$ fluorescent focal units of live attenuated influenza virus reassortants of each of the same three strains shown above (*) for TIV.

† Children aged 6 mos–8 yrs who did not receive at least 1 dose of an influenza A (H1N1) 2009 monovalent vaccine, who have never received a seasonal influenza vaccine before, or who were vaccinated for the first time with the seasonal 2009-10 vaccine but who received only 1 dose should receive 2 doses of 2010-11 influenza vaccine formula, spaced ≥4 wks.

§ For adults and older children, the recommended vaccination site is the deltoid muscle. The preferred site for infants and young children is the anterolateral aspect of the thigh.

¶ Afluria is approved by the FDA for persons aged ≥6 mos. However, the ACIP recommends that the 2010-11 formulation of Afluria not be administered to children aged 6 mos–8 yrs because of an increased frequency of fever or febrile seizures reported among young children (mostly children aged <5 yrs). Therefore, another age-appropriate, licensed seasonal influenza vaccine formulation should be used with children aged 6 mos–8 yrs. If no other age-appropriate seasonal influenza vaccine is available for a child 5–8 yrs who has a medical condition that increases the child's risk for influenza complications, Afluria can be used. Providers should discuss risks/benefits of influenza vaccination before administration.

** Trivalent inactivated vaccine high dose. A 0.5 mL dose contains 60 mcg each of the same three strains shown above (*).

†† FluMist is shipped refrigerated and stored in the refrigerator at 35°F–46°F (2°C–8°C). The dose is 0.2 mL, divided equally between each nostril. FluMist should not be administered to persons with asthma. Providers should carefully screen children for asthma or wheezing. (See package insert for additional information.)