

# **LIVE ATTENUATED SEASONAL INFLUENZA VACCINE (LAIV) (FluMist® by MedImmune)**

## **GENERAL INFORMATION**

Seasonal influenza vaccine comes in two forms: trivalent inactivated vaccine (TIV) administered by injection and live attenuated, intranasally-administered vaccine (LAIV).

Decisions about eligibility for influenza vaccination in health departments are made each fall. In the absence of an influenza vaccine shortage, the Tennessee Immunization Program recommends vaccination of all persons aged 6 months and older.

Any changes in eligibility for vaccination during influenza season will be announced through Tennessee Immunization Program policy updates.

LAIV provided with federal funds is only for use in children <19 years.

The 2010-2011 seasonal trivalent influenza vaccine includes the 2009 H1N1 pandemic strain, plus two other strains (an H3N2 strain and a Type B strain).

No preference between TIV and LAIV is expressed for persons who are eligible to receive either. See the TIV protocol for influenza vaccination of persons who are not eligible for LAIV

## **Seasonal LAIV indication:**

LAIV is approved by the Food and Drug Administration (FDA) for use in healthy persons aged 24 months through 49 years who are not known to be pregnant.

## **Special situations:**

LAIV may be co-administered with any other vaccine at the same visit. Live vaccines that are not given on the same day (e.g., varicella, MMR) should be administered at least 4 weeks apart.

Patients <9 years of age who require 2 doses of vaccine this season do not have to use the same type of vaccine (TIV or LAIV) for both doses

LAIV should not be administered to close contacts of severely immunocompromised persons who reside in a protective environment (such as a bone marrow transplant unit). LAIV may be used by the close contacts of pregnant women, infants and contacts of persons with lesser degrees of immunocompromise. It may be used by breastfeeding mothers.

Do not administer LAIV <48 hours after a dose of antiviral (anti-influenza) medication, such as oseltamivir or zanamivir. Because antiviral medication may interfere with LAIV, recipient should not use an antiviral medication within 2 weeks of LAIV administration unless medically necessary.

## **Contraindications and precautions:**

- People less than 2 years of age or age 50 years or older
- People with a medical condition that places them at high risk for complications from influenza [e.g., chronic heart or lung disease, asthma, diabetes, kidney disease, hemoglobinopathies, any condition that compromises the ability to handle respiratory secretions, pregnant women, or persons with a weakened immune system]

- Children aged 2 through 4 years with a diagnosis of asthma or history of wheezing in the past 12 months (parent answers “yes” when asked “In the past 12 months, has a health care provider ever told you your child had wheezing or asthma?”)
- Children or adolescents receiving aspirin therapy
- People with a history of Guillain-Barré syndrome

**Common Adverse Reactions (≥10% of patients)**

Nasal congestion  
 Sore throat in adults  
 Fever >100°F in children ages 2-6 years

**PLAN**

Have recipient, parent, or guardian read Vaccine Information Statement (VIS)

Counsel regarding benefits, side effects, and management

Administer vaccine intranasal spray (0.1 ml in each nostril) according to manufacturer's recommendation

Remind that seasonal influenza vaccine is recommended annually (advise parent or guardian of recipients less than 9 years of age to return for a second dose in 1 month if the child is receiving seasonal influenza vaccine for the first time *or* if they were vaccinated for the first time during the 2009-2010 influenza season but only received one seasonal vaccine dose in that season, *or* if they did not receive any doses of 2009 H1N1 vaccine last season)

Because antiviral medication, such as oseltamivir (Tamiflu) may interfere with LAIV, advise that recipient should not use an antiviral medication within 2 weeks of LAIV administration unless medically necessary.

Advise to wait in clinic 20 minutes after intranasal administration

Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine

Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate VAERS form: <http://vaers.hhs.gov>)

**Recommended Schedule and Dosage of LAIV (FluMist®):**

Age Group	Influenza Vaccination Status	Dosage Schedule
Children 24 months through 8 years	A) Not previously vaccinated against influenza <i>or</i> B) Vaccinated for the first time in the 2009-10 influenza season but received only one dose of seasonal influenza vaccine <i>or</i> C) Has never had a dose of pandemic 2009 H1N1 vaccine	2 doses given at least 1 month apart (each dose = 0.1ml each nostril)
Children 24 months through 8 years	Not in category A, B or C above	1 dose (each dose = 0.1ml each nostril)
Other persons aged 9-49 years	n/a	1 dose (each dose = 0.1ml each nostril)

### **Referral Indicators:**

Persons with severe allergy to eggs or other components of vaccine (gelatin, gentamicin, arginine)

Persons with history of Guillain-Barré syndrome

Persons having moderate to severe acute febrile illness or illnesses with significant nasal congestion (until illness resolves)

### **REFERENCES**

Prevention and Control of Seasonal Influenza with Vaccines, Recommendations of the Advisory Committee on Immunization Practices (ACIP), U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, July 29, 2010. Available at <http://www.cdc.gov/mmwr/pdf/rr/rr5906.pdf>. Last accessed July 30, 2010.

FluMist® Influenza Vaccine, Live Intranasal Vaccine Prescribing Information for 2010-2011 (MedImmune). [http://www.medimmune.com/pdf/products/flumist\\_pi.pdf](http://www.medimmune.com/pdf/products/flumist_pi.pdf). Last accessed July 30, 2010.

# TRIVALENT INACTIVATED SEASONAL INFLUENZA VACCINE (TIV)

## GENERAL INFORMATION

### General Recommendations for Influenza Vaccination:

Seasonal influenza vaccine comes in two forms: trivalent inactivated vaccine (TIV) administered by injection and live-attenuated, intranasally-administered vaccine (LAIV). See LAIV protocol for healthy persons 24 months and up who choose LAIV, where available.

Decisions about eligibility for influenza vaccination in health departments are made each fall. In the absence of influenza vaccine shortages, the Tennessee Immunization Program recommends that all persons aged  $\geq 6$  months be vaccinated.

Any changes in eligibility for vaccination during influenza season will be announced through Tennessee Immunization Program policy updates.

The 2010-2011 seasonal trivalent influenza vaccine includes the 2009 H1N1 pandemic strain, plus 2 other strains (an H3N2 strain and a Type B strain).

### Licensed TIV formulations by Manufacturer (not all are available in health departments):

Manufacturer	Product Formulation	FDA-licensed ages
Sanofi Pasteur TIV (Fluzone®)	0.25 ml preservative-free, pre-filled syringe (PFS)	6-35 months only
	0.5 ml PFS or single dose vial	$\geq 36$ months
	5 ml multidose vial	$\geq 6$ months
Novartis TIV (Fluvirin®)	5 ml multidose vial	$\geq 4$ years
	0.5 ml PFS	
CSL, distributed by Merck (Afluria®)	0.5 ml PFS	9 years and up
	5 ml multidose vial	9 years and up
GSK TIV (Fluarix®)	0.5 ml PFS	$\geq 3$ years
GSK TIV (Flulaval®)	5 ml multidose vial	$\geq 18$ years
Sanofi Pasteur TIV High Dose (Fluzone High-Dose®)	0.5 ml PFS	$\geq 65$ years

### Centers for Disease Control and Prevention (CDC) recommendations:

As of February 2010, the CDC recommends annual influenza vaccine for ALL persons aged 6 months and older.

### Persons who should not receive the influenza vaccine include the following:

(See Referral Indicators)

Persons with a severe allergy (i.e., anaphylactic allergic reaction) to a previous dose of influenza vaccine or its components

Children less than 6 months of age

## INFLUENZA VACCINE (Continued)

### PLAN

Have recipient, parent, or guardian read Vaccine Information Statement (VIS)

Counsel regarding benefits, side effects, and management

Administer vaccine injection intramuscularly according to manufacturer's recommendation

Remind that seasonal influenza vaccine is recommended annually (advise parent or guardian of recipients less than 9 years of age to return for a second dose in 1 month if the child is receiving influenza vaccine for the first time *or* if they received their first dose of influenza vaccine in the 2009-2010 season, but received only one dose in that season, *or* if the child has had no previous doses of pandemic 2009 H1N1 vaccine)

Advise to wait in clinic 20 minutes after injection

Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine

Instruct patient to contact Health Department if adverse reaction occurs (complete appropriate VAERS form)

### Recommended Schedule and Dosage of Seasonal Trivalent Inactivated Vaccine (TIV):

Age Group	Influenza Vaccination Status	Dosage Schedule
Children 6 months through 35 months	A) Not previously vaccinated against influenza <i>or</i> B) Vaccinated for the first time in the 2009-10 influenza season but received only one dose of seasonal influenza vaccine <i>or</i> C) Has never had a dose of pandemic 2009 H1N1 vaccine	2 doses (each dose 0.25 ml, IM) given at least 1 month apart*
	Not in category A, B or C above	1 dose (0.25 ml, IM)
Children 36 months through 8 years	A) Not previously vaccinated against influenza <i>or</i> B) Vaccinated for the first time in the 2009-2010 influenza season but received only one dose of seasonal influenza vaccine <i>or</i> C) Has never had a dose of pandemic 2009 H1N1 vaccine	2 doses (each dose 0.5 ml, IM) given at least 1 month apart*
	Not in category A, B or C above	1 dose (0.5 ml, IM)
All other persons aged 9 years and up	n/a	1 dose (0.5 ml, IM)

\*TIV or LAIV may be used interchangeably for either dose, if appropriate.

**Referral Indicators:**

Persons allergic to eggs or components of vaccine (see prescribing information)

Persons with history of Guillain-Barré syndrome

Persons having moderate to severe acute febrile illness (until illness resolves)

**REFERENCES**

Prevention and Control of Seasonal Influenza with Vaccines, Recommendations of the Advisory Committee on Immunization Practices (ACIP), U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, July 29, 2010. Available at <http://www.cdc.gov/mmwr/pdf/rr/rr5906.pdf>. Last accessed July 30, 2010.