

## Vaccine Administration Guidelines for Influenza A (H1N1) 2009 Monovalent Vaccines - Revised 10-15-09

Vaccines are licensed for specific age groups or for all ages 6 months and older (see table below.) However, vaccines may be packaged for particular age groups. For example, the sanofi product is licensed for people 6 months of age and older as stated in the package insert. However, it is packaged in 4 different presentations for different age groups (see table below). Even though the package insert states the vaccine is licensed for people age 6 months and older the vaccine should be used for the age group for which it is packaged. Look at the packages to determine which vaccine presentation to use based on the patient's age. This is important to ensure vaccine recipients receive the proper dosage and to correctly maintain vaccine inventory.

Any of the sanofi presentations may be used for any age (6 mos. and older), but the dosage would have to be adjusted if you do not use the vaccine for the right ages. For instance, if you use a 0.25mL pre-filled syringe to vaccinate someone 3 years or older, you would have to use two 0.25mL pre-filled syringes to obtain the full dose. This is not recommended. Similarly, if you need to vaccinate a child less than 3 years of age and you administer a 0.5mL pre-filled syringe you would be giving the child double the recommended dose.

Manufacturer & Vaccine Type	Packaging/Presentation	Age Groups to Administer	Dosage & Number of Doses	Site/Route	Thimerosal Content per Dose	Vaccine Name on OSIS Data Entry Form
Sanofi pasteur Inactivated Injectable	Prefilled syringe	6-35 mos	0.25mL x2	IM Vastus lateralis or deltoid	0	H1N1 San 6-35m
	Prefilled syringe	3-9 yrs	0.5mL x2		0	H1N1 San 3-older
	Prefilled syringe	10 yrs & older	0.5mL x1		0	H1N1 San 3-older
	10 dose vial	6mos & older	0.25mL x2		25 mcg.	H1N1 San 6 m-older
		3-9 yrs	0.5mL x2			
	10 yrs & older	0.5mL x1				
Novartis Inactivated Injectable	10 dose vial	4 yrs & older	0.5mL x2	IM Vastus lateralis or deltoid	25 mcg.	H1N1 Nov 4-older
		4-9 yrs				
	10 yrs & older	0.5mL x1	Trace ≤1 mcg			
	Prefilled syringe	4-9 yrs			0.5mL x2	
Prefilled syringe	10 yrs & older	0.5mL x1	Trace ≤1 mcg			
CSL Inactivated Injectable	10 dose vial	18 yrs & older	0.5mL x1	IM Vastus lateralis or deltoid	24.5 mcg.	H1N1 CSL 18y-older
	Prefilled syringe	18 yrs & older	0.5mL x1		0	
MedImmune Live Attenuated Intranasal	Nasal sprayer	2-9yrs	0.2mL x2	Intranasal Each 0.2mL dose is administered as 0.1 mL per nostril	0	H1N1 Med Nasal Mist
	Nasal sprayer	10-49 yrs	0.2mL x1		0	

**All injectable vaccines are given IM in the vastus lateralis or deltoid. No vaccines should be administered in the gluteus.**

- The interval between 2009 H1N1 monovalent vaccine doses, for children 6 months through 9 years, is stated as "approximately 1 month" in the package inserts. This means at least 28 days. However, if the second dose is separated from the first dose by at least 21 days the second dose can be considered to be valid. If the interval separating the doses is less than 21 days the second dose should be repeated 28 days (four weeks) after the invalid dose was given.
- The age for two doses is different for seasonal (6 months through 8 years) and 2009 H1N1 monovalent vaccine (6 months through 9 years) in the package inserts. CDC recommends that clinicians follow the guidance in the manufacturer package inserts. For 2009 H1N1 monovalent vaccines, that means that clinicians should administer two doses of 2009 H1N1 monovalent vaccine to children 6 months through 9 years of age. Persons 10 years and older should receive one dose.

Package Inserts for all H1N1 vaccines licensed in the U.S. may be found at the FDA website:

<http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm181950.htm>

If additional H1N1 vaccines are licensed in the U.S., the package inserts will also be at the FDA website.

**Guidelines for Simultaneous Administration of Influenza and Other Vaccines**

- Simultaneous administration means 'on the same day'.
- All live attenuated influenza vaccines in the U.S. are nasal spray vaccines.
- All inactivated influenza vaccines in the U.S. are injectable vaccines.
- Inactivated 2009 H1N1 vaccine can be administered at the same visit as any other vaccine, including pneumococcal polysaccharide vaccine. Live 2009 H1N1 vaccine can be administered at the same visit as any other live or inactivated vaccine EXCEPT seasonal live attenuated influenza vaccine. See the table below.
- If both types of LAIV are inadvertently administered during the same visit or at an interval less than 4 weeks, neither vaccine needs to be repeated.
- Vaccines administered on the same day should be administered in different anatomic sites if possible.

Vaccine Combination	Recommended Minimum Interval Between Doses	Reasoning
Live H1N1 & Live Seasonal	<b>Do not administer on the same day.</b> Separate by 28 days.	Simultaneous administration is not expected to be harmful to the patient, but the immune response might be suboptimal for one or both of the vaccines.
Live H1N1 and Inactivated Seasonal	Can be administered simultaneously or at any interval between doses.	These combinations are being studied by NIH. These combinations would not be expected to interfere with each other based on prior vaccine experience.
Inactivated H1N1 and Live Seasonal	Can be administered simultaneously or at any interval between doses.	

## Additional Guidelines

- LAIV (Live attenuated influenza vaccine), including both H1N1 LAIV and seasonal LAIV should not be administered until 48 hours after cessation of therapy using antiviral influenza drugs. Alternatively, the client can be given inactivated influenza vaccine.
- Influenza antiviral drugs should not be administered for 2 weeks after receiving LAIV vaccines, unless necessary for treatment of influenza.
- Influenza antiviral drugs do not interfere with inactivated/injectable influenza vaccines.
- Antibiotics do not affect the immune response to LAIV or inactivated influenza vaccines.
- MMR, varicella, and zoster vaccines can be given anytime in relation to influenza antivirals or antibiotics even if the client is currently taking these medications.
- MMR, varicella, and/or zoster vaccines can be given on the same day as LAIVs or separated by 28 days. These vaccines may be administered simultaneously or at any time before or after inactivated influenza vaccine.
- All persons in a recommended vaccination target group who had a flu-like illness but did not have a laboratory test indicating 2009 H1N1 virus infection should receive the 2009 H1N1 vaccine. If a person reports having a positive test (RT-PCR) performed at the Oklahoma State Public Health Laboratory, this is considered a definitive test and the person should already have protective immunity. However, even persons who experienced flu-like symptoms and had a positive Flu A test result by a rapid flu test performed at an outpatient clinic or hospital May through October, 2009, likely had 2009 H1N1 virus infection and are immune. Persons in these categories do not need to receive the H1N1 vaccine.
  - When seasonal influenza viruses begin to circulate again in Oklahoma (after October), the rapid flu tests will not be able to decipher between seasonal flu A viruses and the 2009 H1N1 virus, therefore, flu-like symptoms occurring during this time period cannot be attributed to one particular type of influenza virus without laboratory testing.
  - Persons who were not tested, but who became ill after being exposed to a person with lab-confirmed 2009 H1N1 flu, should not assume that they also had 2009 H1N1 as many pathogens can cause a flu-like illness. These people should get the vaccine if they are in a recommended vaccination target group.
  - Vaccination of a person with prior exposure to the 2009 H1N1 influenza virus and existing immunity is not expected to be harmful.

## Intramuscular (IM) Injection

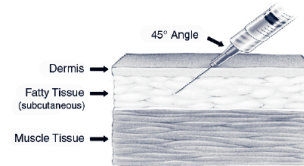
Use a 22-25 gauge needle. Choose the injection site and needle length appropriate to the person's age and body mass.

Age	Needle Length	Injection Site
Infants (6-12 mos.)	1"	Anterolateral thigh muscle
Toddlers (1-2 yrs.)	1" - 1¼"	Anterolateral thigh muscle or
	1"	Deltoid muscle of arm
Children & teens (3-18 yrs.)	1" - 1¼"	Deltoid muscle of the arm or anterolateral thigh muscle
Adults 19 yrs. & older		
Male or female less than 130 lbs.	1"	Deltoid muscle of the arm
Female 130-200 lbs. Male 130-260 lbs.	1" - 1½"	Deltoid muscle of the arm
Female 200+ lbs Male 260+ lbs.	1½"	Deltoid muscle of the arm

**Needle Length:** Proper needle length and technique are necessary to deliver the vaccine to the muscle. If the vaccine is not delivered to the muscle, the immune response may not be adequate and injection site reactions may be increased.

Subcutaneous (SC)

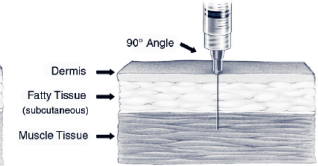
FIGURE 5. Subcutaneous needle insertion



Adapted from California Immunization Branch

Intramuscular (IM)

FIGURE 1. Intramuscular needle insertion



Adapted from California Immunization Branch

Illustrations from "General Recommendations on Immunization" MMWR Dec. 1, 2006 Vol. 55, No. RR-15.

Adapted from <http://www.immunize.org/catg.d/p3085.pdf> on June 5, 2009. We thank the Immunization Action Coalition