The purpose of this document is to provide NYP providers with the most current recommendations regarding influenza vaccination for their patients. It is important to recognize that guidance reflects optimal supplies and we will continually update you should this change. This guidance is subdivided into recommendations for seasonal influenza vaccination and recommendations for 2009 Influenza A H1N1 vaccination.

**Seasonal Influenza Vaccination Recommendations for Pediatric Patients**

*All children aged 6 months-18 years should be vaccinated annually*

As providers and programs transition to routinely vaccinating all children and adolescents, children and adolescents at higher risk for influenza complications should continue to be a focus of vaccination efforts, including those who:

- are aged 6 months--< 5 years (59 months);
- have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, cognitive, neurologic/neuromuscular, hematological or metabolic disorders (including diabetes mellitus);
- are immunosuppressed (including immunosuppression caused by medications or by HIV);
- are receiving long-term aspirin therapy and therefore might be at risk for experiencing Reye syndrome after influenza virus infection;
- are residents of long-term care facilities; and
- are or will be pregnant during the influenza season.

Note: Children aged < 6 months cannot receive influenza vaccination. Household and other close contacts (e.g., daycare providers) of children aged < 6 months, including older children and adolescents, should be vaccinated.

**NOTE:** The text above is taken from Prevention &Control of Seasonal Influenza with Vaccines - Recommendations of the Advisory Committee on Immunization Practices (ACIP) 2009, MMWR 2009 Jul 24; Early Release:1-52.
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Seasonal Influenza Vaccination Recommendations for Adult Patients

Annual vaccination against influenza is recommended for any adult who wants to reduce the risk of becoming ill with influenza or of transmitting it to others. Vaccination is especially recommended for all adults in the following groups (who are without medical contraindications), because these persons either are at higher risk for influenza complications, or are close contacts of persons at higher risk:

- persons aged 50 years and older;
- women who are or will be pregnant during the influenza season;
- persons who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, cognitive, neurologic/neuromuscular, hematological or metabolic disorders (including diabetes mellitus);
- persons who have immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus);
- residents of nursing homes and other long-term care facilities;
- health-care personnel;
- household contacts and caregivers of children aged <5 years and adults aged 50 years and older, with particular emphasis on vaccinating contacts of children aged <6 months;
- household contacts and caregivers of persons with medical conditions that put them at higher risk for severe complications from influenza.

For additional information click link to CDC website:
http://www.cdc.gov/flu/professionals/acip/flu_vax_adults0910.htm#box2


There are multiple products available for seasonal influenza vaccination. Please review the indications for these products as they vary.
## Approved Seasonal Influenza Vaccines for Different Age Groups—United States, 2009-2010

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Trade name</th>
<th>Manufacturer</th>
<th>Presentation</th>
<th>Mercury content (mcg Hg/0.5 mL dose)</th>
<th>Age group</th>
<th>No. of doses</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIV*</td>
<td>Fluzone</td>
<td>Sanofi Pasteur</td>
<td>0.25 mL prefilled syringe</td>
<td>0</td>
<td>6–35 mos</td>
<td>1 or 2†</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 mL prefilled syringe</td>
<td>0</td>
<td>36 mos and older</td>
<td>1 or 2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 mL vial</td>
<td>0</td>
<td>36 mos and older</td>
<td>1 or 2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 mL multidose vial</td>
<td>25</td>
<td>6 mos and older</td>
<td>1 or 2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>TIV</td>
<td>Fluvirin</td>
<td>Novartis Vaccine</td>
<td>5 mL multidose vial</td>
<td>25</td>
<td>4 yrs and older</td>
<td>1 or 2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 mL prefilled syringe</td>
<td>&lt;1</td>
<td>4 yrs and older</td>
<td>1 or 2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>TIV</td>
<td>Fluarix</td>
<td>GlaxoSmithKline</td>
<td>0.5 mL prefilled syringe</td>
<td>0</td>
<td>18 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>TIV</td>
<td>Flulaval</td>
<td>GlaxoSmithKline</td>
<td>5 mL multidose vial</td>
<td>25</td>
<td>18 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>TIV</td>
<td>Afluria</td>
<td>CSL Biotherapies</td>
<td>0.5 mL prefilled syringe</td>
<td>0</td>
<td>18 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 mL multidose vial</td>
<td>25</td>
<td>18 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>LAIV¶</td>
<td>FluMist**</td>
<td>MedImmune</td>
<td>0.2 – mL sprayer</td>
<td>0</td>
<td>2–49 yrs</td>
<td>1 or 2 ††</td>
<td>Intranasal</td>
</tr>
</tbody>
</table>

* Trivalent inactivated vaccine. A 0.5-mL dose contains 15 mcg each of A/Brisbane/59/2007 (H1N1)-like, A/Brisbane/10/2007 (H3N2)-like, and B/Brisbane/60/2008-like antigens.

† Two doses administered at least 1 month apart are recommended for children aged 6 months—8 years who are receiving TIV for the first time and those who only received 1 dose in their first year of vaccination should receive 2 doses in the following year.

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

Vaccination Guidelines for Patients for Influenza were prepared by Infection Prevention and Control.

**Approved Use of the nasal-spray flu vaccine live attenuated influenza vaccine (LAIV), FluMist®**

LAIV (FluMist®) is approved for use in healthy* people 2-49 years of age who are not pregnant.

The following persons should **not** be vaccinated with FluMist®:

- People less than 2 years of age
- People 50 years of age and over
- Pregnant women
- People with a medical condition that places them at high risk for complications from influenza, including those with chronic heart or lung disease, such as asthma or reactive airways disease; people with medical conditions such as diabetes or kidney failure; or people with illnesses that weaken the immune system, or who take medications that can weaken the immune system.
- Children <5 years old with a history of recurrent wheezing
- Children or adolescents receiving aspirin
- People with a history of Guillain-Barré syndrome, a rare disorder of the nervous system
- People who have a severe allergy to chicken eggs or who are allergic to any of the nasal spray vaccine components.

For additional information click link to CDC website: [http://www.cdc.gov/flu/professionals/acip/recommendations.htm](http://www.cdc.gov/flu/professionals/acip/recommendations.htm)

**NOTE:** The text above is taken from [Prevention & Control of Seasonal Influenza with Vaccines - Recommendations of the Advisory Committee on Immunization Practices (ACIP) 2009](http://www.cdc.gov/flu/professionals/acip/recommendations.htm). MMWR 2009 Jul 24; Early Release:1-52.
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Recommended Use of 2009 Influenza A H1N1 Monovalent Vaccine

Listed below are initial target groups for novel influenza A (H1N1) vaccination programs. If initial vaccine availability is not sufficient to meet demand, a subset of these target groups to receive vaccine is provided.*

The seasonal influenza vaccine does not provide protection against the 2009 Influenza A H1N1 strains.

Current guidance is that one dose is protective for persons > 10 years of age and two doses are protective for persons 6 months - 9 years of age.

Initial target groups

ACIP recommends that programs and providers provide vaccine to all persons in the following five initial target groups as soon as vaccine is available (order of target groups does not indicate priority):

- pregnant women,
- persons who live with or provide care for infants aged <6 months (e.g., parents, siblings, and daycare providers),
- health-care and emergency medical services personnel,
- children and young adults aged 6 months--24 years,
- persons aged 25 - 64 years who have medical conditions that put them at higher risk for influenza-related complications.

Subset of initial target groups*

ACIP recommends that all persons in the following subset of the five initial target groups receive priority for vaccination if vaccine availability is not sufficient to meet demand (order of target groups does not indicate priority):

- pregnant women,
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• persons who live with or provide care for infants aged <6 months (e.g., parents, siblings, and daycare providers),
• health-care and emergency medical services personnel who have direct contact with patients or infectious material,
• children aged 6 months–4 years,
• children and adolescents aged 5–18 years who have medical conditions that put them at higher risk for influenza-related complications.

* Priority should be given to persons in the subset of the five target groups only if initial vaccine availability is not sufficient to meet demand for all persons in the five target groups. As vaccine availability increases, vaccination programs should be expanded to include all members of the initial target groups. Vaccination of other adult populations is recommended as vaccine availability increases.

2009 H1N1 Vaccine Safety

• The H1N1 vaccine is licensed by the Federal Drug Administration (FDA) and is considered very safe, as safe as the seasonal influenza vaccine.
• The H1N1 vaccine was developed and licensed using the same process as the seasonal vaccine by the same manufacturers.
• The H1N1 vaccine was not fast-tracked and actually underwent more testing than the seasonal vaccine, which in recent years has not undergone clinical trials because the seasonal vaccine is proven safe and effective.
• The H1N1 vaccine was subjected to clinical trials for both effectiveness and safety. The clinical trials indicated that the H1N1 vaccine provides a good immune response to the new H1N1 flu virus and resulted in no significant adverse events. Current guidance is that one dose is protective for persons >10 years of age and two doses (4 weeks apart) are protective for persons 6 months - 9 years of age.
• Adverse effects are expected to be those of the seasonal influenza vaccines.
• Inactivated seasonal influenza vaccine and inactivated 2009 H1N1 vaccine can be given at the same time, if placed at 2 different sites (e.g., left arm and right arm). Providers can administer seasonal inactivated vaccine and 2009 H1N1 LAIV, or seasonal LAIV and inactivated 2009 H1N1 at the same visit, or at any time before or after each other. A person cannot receive both the live attenuated nasal seasonal vaccine and the novel H1N1 nasal vaccine at the same time. If a person is eligible and prefers the LAIV formulation of seasonal and 2009 H1N1 vaccine, these vaccines should be separated by a minimum of four weeks.
Approved Influenza A (H1N1) 2009 Monovalent Vaccines for Different Age Groups—United States

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Trade name</th>
<th>Manufacturer</th>
<th>Presentation</th>
<th>Mercury content (mcg Hg/0.5 mL dose)</th>
<th>Age group</th>
<th>No. of doses</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A (H1N1) Monovalent</td>
<td>None</td>
<td>Sanofi Pasteur</td>
<td>0.25 mL prefilled syringe</td>
<td>0</td>
<td>6 mos-35 mos</td>
<td>2†</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Vaccine</td>
<td></td>
<td></td>
<td>0.5 mL prefilled syringe</td>
<td>0</td>
<td>36 mos - 9 yrs</td>
<td>2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 mL vial</td>
<td>0</td>
<td>10 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 mL multidose vial</td>
<td>25</td>
<td>6 mos and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Influenza A (H1N1) Monovalent</td>
<td>None</td>
<td>Novartis Vaccines and Diagnostic Limited</td>
<td>0.5 mL prefilled syringe</td>
<td>&lt;1</td>
<td>4 yrs-9 yrs</td>
<td>2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Vaccine</td>
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<td></td>
<td>0.5 mL prefilled syringe</td>
<td>&lt;1</td>
<td>10 yrs-17 yrs</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 mL prefilled syringe</td>
<td>&lt;1</td>
<td>18 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 mL multidose vial</td>
<td>25</td>
<td>4 yrs and older</td>
<td>1 or 2</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Influenza A (H1N1) Monovalent</td>
<td>None</td>
<td>CSL Limited</td>
<td>0.5 mL prefilled syringe</td>
<td>0</td>
<td>18 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Vaccine</td>
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<td></td>
<td>5 mL multidose vial</td>
<td>24.5</td>
<td>18 yrs and older</td>
<td>1</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Influenza A (H1N1) 2009 Monovalent</td>
<td>None**</td>
<td>MedImmune, LLC</td>
<td>0.2 – mL sprayer</td>
<td>0</td>
<td>2 yrs-9 yrs</td>
<td>2</td>
<td>Intranasal</td>
</tr>
<tr>
<td>Vaccine Live, Intranasal¶</td>
<td></td>
<td></td>
<td>0.2 – mL sprayer</td>
<td>0</td>
<td>10 yrs-49 yrs</td>
<td>1</td>
<td>Intranasal</td>
</tr>
</tbody>
</table>

* Influenza A (H1N1) 2009 Monovalent Vaccine is formulated to contain 15 mcg HA per 0.5 mL dose of influenza A/California/7/2009 (H1N1)v-like virus.

† Available data show that children 9 years of age and younger are largely serologically naive to the pandemic (H1N1) 2009 virus. Based upon these data Influenza A (H1N1) 2009 Monovalent Vaccine should be administered as follows: Children 6 through 35 months of age should receive two 0.25 mL intramuscular doses approximately 1 month apart,
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For additional information click link to CDC and NYSDOH websites:
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr58e0821a1.htm
http://www.health.state.ny.us/diseases/communicable/influenza/h1n1/www.medicalletter.org
http://www.cdc.gov/flu/about/qa/thimerosal.htm

To view more product information click link to FDA website:
http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm181956.htm

Click link to view NEJM article: Trial of Influenza A (H1N1) 2009 Monovalent MF59-Adjuvanted Vaccine — Preliminary Report
http://content.nejm.org/cgi/reprint/NEJMoa0907650.pdf?resourcetype=HWCIT

Click link to view NEJM article: Response after One Dose of a Monovalent Influenza A (H1N1) 2009 Vaccine — Preliminary Report
http://content.nejm.org/cgi/reprint/NEJMoa0907413.pdf?resourcetype=HWCIT

children 36 months through 9 years of age should receive two 0.5 mL intramuscular doses approximately 1 month apart, children 10 years of age and older should receive a single 0.5 mL intramuscular dose. The preferred sites for intramuscular injections are the anterolateral aspect of the thigh in infants or the deltoid muscle of the upper arm in toddlers and young children. The vaccine should not be injected into the gluteal region or into areas where there may be a major nerve trunk. Persons 18 years of age and older should receive a single 0.5 mL intramuscular dose. In adults, the preferred site for intramuscular injection is the deltoid muscle.

¶¶Each pre-filled refrigerated Influenza A (H1N1) 2009 Monovalent Vaccine Live, Intranasal spray contains a single 0.2 mL dose. Each 0.2 mL dose contains 10^6.5-7.5 FFU of the live attenuated influenza virus reassortant of the pandemic (H1N1) 2009 virus: A/California/7/2009 (H1N1)v.

** INFLUENZA A (H1N1) 2009 MONOVALENT VACCINE LIVE, INTRANASAL SHOULD BE STORED IN A REFRIGERATOR BETWEEN 2-8°C (35-46°F) UPON RECEIPT AND UNTIL USE. THE PRODUCT MUST BE USED BEFORE THE EXPIRATION DATE ON THE SPRAYER LABEL. DO NOT FREEZE. The dose is 0.2 mL divided equally between each nostril. Influenza A (H1N1) 2009 Monovalent Vaccine Live, Intranasal should not be administered to any individuals with asthma or children < 5 years of age with recurrent wheezing because of the potential for increased risk of wheezing post vaccination.