

H1N1 Vaccine: FluMist vs. Flu Shot

There are two types of vaccines available for immunization against H1N1 virus infection. The first is an inactivated vaccine. This vaccine contains killed virus and is injected into the muscle. The annual flu shot is this type of vaccine. Since the virus is dead, it does not multiply after injection into the muscle. Some inactivated 2009 H1N1 vaccine contains a preservative called thimerosal to keep it free from germs. Some people have suggested that thimerosal might be related to autism. In 2004 a group of experts at the Institute of Medicine reviewed many studies looking into this theory, and found no association between thimerosal and autism. Additional studies since then reached the same conclusion.

The second type of vaccine contains live virus. The viruses contained in the vaccine are attenuated (weakened) and cannot cause flu illness. FluMist is such a vaccine. The weakened virus in the FluMist vaccine is cold-adapted, which means they are designed to only cause infection in normal individuals at the cooler temperatures found within the nose. The virus cannot infect the lungs or other areas of normal individuals where warmer temperatures exist. Other vaccines that contain live virus are polio vaccine, mumps, measles and rubella virus vaccines.

Even though the virus is weakened, it has the potential to cause severe infection in individuals with severely weakened immune systems. Furthermore, immunocompromised persons are at risk for influenza complications but might have inadequate protection after vaccination. Close contacts of immunocompromised persons, including health care providers, should be vaccinated to reduce the risk for influenza transmission to the immunocompromised individual. The inactivated (flu shot) H1N1 vaccine is recommended for vaccinating household members, health care providers, and others who have close contact with severely immunosuppressed persons (e.g., patients with hematopoietic stem cell transplants) **during those periods in which the immunosuppressed person requires care in a protective environment** (typically defined as a specialized patient-care area with a positive airflow relative to the corridor, high-efficiency particulate air filtration, and frequent air changes) (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5753a6.htm>).

Transmission of influenza virus from a person recently vaccinated with FluMist causing significant illness in an immunocompromised contact has **not** been reported. The rationale for avoiding use of live virus vaccines among health care providers or other close contacts of severely immunocompromised patients is the theoretical risk that a live, attenuated vaccine virus could be transmitted to the severely immunosuppressed person.

There are mild side effects associated with FluMist vaccination. In children, side effects can include runny nose, headache, wheezing, vomiting, muscle aches, and fever. In adults, side effects may include runny nose, headache, sore throat, and cough. Fever is not a common side effect in adults receiving the nasal spray flu vaccine.

The following individuals should **not** be vaccinated with the nasal spray flu vaccine (FluMist):

- People less than 2 years of age
- People 50 years of age and over
- 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 younger than 5 years old with a history of recurrent wheezing

- Children or adolescents receiving aspirin
- People with a history of Guillain–Barré Syndrome that occurred after receiving influenza vaccine
- Pregnant women
- People who have a severe allergy to chicken eggs or who are allergic to any of the nasal spray vaccine components.

Related Questions:

Q: Should individuals who receive the FluMist (nasal spray) form of the vaccine avoid contact with others after receiving it?

A: Individuals who receive the FluMist form of the vaccine should avoid contact **only** with people who have severely weakened immune systems (such as those who are being cared for in a protective environment, for example people with hematopoietic stem cell transplants) for 21 days after receiving the FluMist. If this time period is not possible they should receive the flu shot form of the vaccine. People who have contact with those with lesser degrees of immunosuppression (for example, people with diabetes, people with asthma taking corticosteroids, or people infected with HIV) do **not** need to avoid contact with this group after receiving the nasal spray vaccine.

Q: Does my child have to stay home from school for 24 hours after receiving the FluMist?

A: No. Your child can attend school and all other activities immediately upon receiving the flu mist.

Q: Because some students will be receiving the FluMist (nasal spray) vaccine, should I keep my child with asthma, diabetes, etc. home from school for any period of time following the school vaccination clinic?

A: No, it is not necessary to keep your child home from school. If your child is well enough to attend school on a regular basis, it is safe for him or her to attend school before, during and after the school vaccination clinic.

CDC links:

FluMist Questions and Answers - www.cdc.gov/flu/about/qa/nasalspray.htm

Contraindications - www.cdc.gov/mmwr/preview/mmwrhtml/rr5306a1.htm

Thimerosal Questions and Answers - www.cdc.gov/h1n1flu/vaccination/thimerosal_qa.htm