**2012-2013 INFLUENZA IMMUNIZATION PROGRAM**

8/10/12

**FREQUENTLY ASKED QUESTIONS**

**2012-2013 INFLUENZA VACCINE INFORMATION**

1. **What influenza strains are in this season’s vaccine?**
	* A/California/7/2009 (H1N1) same
	* A/Victoria/361/2011 (H3N2) **new**
	* B/Wisconsin/1/2010 **new**
2. **Do influenza vaccines administered at [*Hospital Name*] contain thimerosal or latex?**

Neither Fluzone nor FluMist contains latex. Single-dose vials and prefilled syringes do not contain thimerosal.

1. **Is there an influenza vaccine specifically for people 65 years and older?**

Fluzone High-Dose vaccine contains four times the antigen contained in the standard dose. The additional antigen is intended to create a stronger immune response. [*Hospital name*] has decided to not offer this vaccine until there is more information on the vaccine’s effectiveness. For more information see [Fluzone High-Dose Seasonal Influenza Vaccine.](http://www.cdc.gov/flu/protect/vaccine/qa_fluzone.htm)

1. **Is there an influenza vaccine with a smaller needle?**

Fluzone Intradermal was licensed by the FDA May 2011. The intradermal influenza vaccine is injected into the skin instead of the muscle. It uses a much smaller needle and requires less antigen to be as effective. It is licensed for adults 18-64 years of age. [*Hospital Name*] has decided to not offer this vaccine until there is more information on the vaccine’s effectiveness. For more information see [Intradermal Influenza Vaccination.](http://www.cdc.gov/flu/protect/vaccine/qa_intradermal-vaccine.htm)

**GENERAL INFORMATION ABOUT INFLUENZA VACCINATION**

1. **Does getting vaccinated against influenza early in the season pose a risk that immunity may wane before the end of the season?**

No. Influenza vaccination provides protection against the influenza strains contained in the vaccine for the entire season.

1. **When is it too late to get influenza vaccine?**

Vaccine should be administered throughout influenza season, which can begin as early as October and last as late as May.

1. **Does influenza vaccine work right away?**

It takes about two weeks after vaccination for antibodies to develop in the body and provide protection against influenza virus infection.

1. **What does TIV and LAIV stand for?**

TIV is trivalent inactivated influenza vaccine, administered by injection.

LAIV is live attenuated influenza vaccine, administered intranasally.

1. **When should a 1½″ needle be used for vaccine injections?**

### Decision on needle length must be made for each person on the basis of the size of the muscle and the thickness of adipose tissue at the injection site. The needle should be long enough to reach the muscle mass. In general, a 1½" needle is recommended in women weighing >200 lbs or men weighing >260 lbs.

1. **When should gloves be worn?**

Gloves are not required to be worn when administering vaccines unless the person administering the vaccine is likely to come into contact with potentially infectious body fluids or has open lesions on the hands. It is important to remember that gloves cannot prevent needle stick injuries.

## **Can influenza vaccine be administered on the same day as a tuberculin skin test (TST)?**

Yes. Either TIV or LAIV can be administered on the same day as a TST, or any time after a TST is applied. However, if LAIV, MMR, or varicella vaccines and TST are not done on the same day, they should be separated by at least 4 weeks.

1. **Can two live virus vaccines be administered on the same day?**

Yes. All vaccines (including live virus vaccines) can be administered at the same time. However, if live injectable vaccines (MMR, MMRV, varicella, zoster, and yellow fever) and LAIV are not administered at the same visit, they should be separated by at least 4 weeks.

1. **Some patients refuse influenza vaccination because they insist they “got the flu” after receiving influenza vaccine in the past. Is this possible?**

No, however there are several reasons why this misconception persists:

* + 1. Less than 1% of people who are vaccinated with the injectable vaccine develop flu-like symptoms, such as mild fever and muscle aches, after vaccination. These side effects are not the same as having influenza, but people confuse the symptoms.
		2. Protective immunity doesn't develop until 1-2 weeks after vaccination. Some people develop influenza because they were exposed to someone with the virus before they became immune. It is not the result of the vaccination.
		3. To many people “the flu” is any illness with fever and cold symptoms. If they get any viral illness, they may blame it on the flu shot or think they got “the flu” despite being vaccinated. Influenza vaccine only protects against certain influenza viruses, not all viruses.
		4. The influenza vaccine is not 100% effective, especially in older persons. The vaccine is only 30%-40% effective in preventing illness among frail elderly persons (although among elderly persons, the vaccine is 50%-60% effective in preventing hospitalization and 80% effective in preventing death).

**PREGNANCY AND BREASTFEEDING**

1. **Is the influenza vaccine recommended for pregnant women?**

Yes. Pregnant women and newborns are at risk for influenza complications, and all women who are pregnant or will be pregnant during influenza season should be vaccinated with the injectable vaccine. The American College of Obstetricians and Gynecologists and the American Academy of Family Physicians recommend routine vaccination of all pregnant women. LAIV is not licensed for use in pregnant women. However, pregnant women do not need to avoid contact with persons recently vaccinated with LAIV.

1. **For planned pregnancies, how long should a woman wait after receiving LAIV before becoming pregnant?**

There are no studies of LAIV among women who are pregnant or who are planning to become pregnant. However, the vaccine virus is cold-adapted and replicates in the nasopharyngeal tissues rather than at core body temperature. Consequently, infection of a fetus with live attenuated influenza virus is very unlikely. It is not necessary to defer pregnancy for a specific interval following LAIV.

1. **In addition to protecting the pregnant woman from influenza, are there benefits to the newborn?**

Influenza immunizationof **pregnant** women also protects infants younger than 6 monthsof age who cannot be immunized or receive antiviralprophylaxis. Neither vaccine nor antiviral agents areapproved for use in infants younger than 6 months of age.

1. **Can women who are breastfeeding receive influenza vaccine?**

Yes. Vaccination is recommended for all persons, including breastfeeding women, who have contact with infants or children aged <5 years, because infants and young children are at higher risk for influenza complications and are more likely to require medical care or hospitalization if infected. Breastfeeding does not affect the immune response adversely and is not a contraindication for vaccination with TIV or LAIV.

**TRIVALENT INACTIVATED INFLUENZA VACCINE (TIV)**

### What side effects are associated with TIV?

Soreness, redness, or swelling at the injection site; hoarseness; sore, red or itchy eyes; cough, fever, aches. If these problems occur, they usually begin soon after the injection and last 1-2 days.

1. **Can severe problems occur?**

The risk of inactivated influenza vaccine causing serious harm, or death, is extremely small. However, a vaccine, like any medicine, may rarely cause serious problems, such as severe allergic reactions. Life-threatening allergic reactions from vaccines are very rare. If they do occur, it is usually within a few minutes to a few hours after the injection. Almost all people who get influenza vaccine have no serious problems from it.

<http://www.cdc.gov/flu/about/qa/vaccineeffect.htm>

### How effective is the inactivated influenza vaccine (TIV)?

### The ability of a flu vaccine to protect a person depends on the age and health status of the person getting the vaccine, and the similarity or “match” between the viruses or virus in the vaccine and those in circulation. [Vaccine Effectiveness – How Well Does the Flu Vaccine Work?](http://www.cdc.gov/flu/about/qa/vaccineeffect.htm)

**LIVE ATTENUATED INFLUENZA VACCINE (LAIV)**

###### What side effects are associated with LAIV?

In children, side effects can include runny nose, headache, wheezing, vomiting, muscle aches, and fever. In adults, side effects can include runny nose, headache, sore throat, and cough. Fever is not a common side effect in adults receiving the nasal-spray influenza vaccine. Life-threatening allergic reactions from vaccines are very rare. Millions of doses of LAIV have been distributed since it was licensed, and the vaccine has not been associated with any serious problems.

### How effective is LAIV?

In one large study among children aged 15-85 months, LAIV reduced the chance of influenza illness by 92% compared with placebo. In a study among adults, the participants were not specifically tested for influenza. However, the study found 19% fewer severe febrile respiratory tract illnesses, 24% fewer respiratory tract illnesses with fever, 23-27% fewer days of illness, 13-28% fewer lost work days, 15-41% fewer health care provider visits, and 43-47% less use of antibiotics compared with placebo.

### Can LAIV be used together with influenza antiviral medications?

If a person is taking an influenza antiviral drug (including Tamiflu® or Relenza®), LAIV should not be given until 48 hours after the last dose of the influenza antiviral medication was given. If a person takes antiviral drugs within two weeks of getting LAIV, the person should get revaccinated. (The antiviral drugs will have killed the vaccine viruses that are intended to cause the immune response against those viruses.) Antiviral drugs can be taken with TIV.

###### Can LAIV be given to patients when they are ill?

LAIV can be given to people with minor illnesses (e.g., diarrhea or mild upper respiratory tract infection with or without fever). However, if nasal congestion is present that might limit delivery of the vaccine to the nasal lining, then delaying of vaccination until the nasal congestion is reduced should be considered or TIV should be administered instead.

1. **Can contacts of people with weakened immune systems get LAIV?**

People who are in contact with patients who are severely immunosuppressed during periods when they require a protective environment (e.g., persons with bone marrow transplants who are hospitalized and in protective isolation) should not receive LAIV. They should receive TIV instead. People who have contact with others with lesser degrees of immunosuppression (for example, people with diabetes, people with asthma taking corticosteroids, or people infected with HIV) can get LAIV.

1. **How long after someone is vaccinated with LAIV must they stay away from a severely immunosuppressed person (a person who is in protective isolation)?**

Persons vaccinated with LAIV should avoid contact with any person who is severely immunosuppressed for at least 7 days after receiving LAIV.

1. **Should the patient be told to inhale when they are receiving LAIV?**

No. The patient should be instructed to breathe normally. Active inhalation (i.e., sniffing) is not required during administration**.**

1. **If the person receiving LAIV sneezes after vaccine administration, should the dose be repeated?**

No. The dose does not need to be repeated.

**CONTRAINDICATIONS AND PRECAUTIONS**

1. **Can people with egg allergies receive influenza vaccine?**

Any allergic reaction to eggs severe enough to cause hives is a contraindication for LAIV; however, it is only a precaution for receipt of TIV. If the reaction consists of hives only, the person should be given TIV by a healthcare provider who is familiar with the potential manifestations of egg allergy. The person should also be observed for at least 30 minutes after being vaccinated. If the reaction includes more severe symptoms, including but not limited to swelling of the lips and throat, angioedema, lightheadedness, cardiovascular symptoms (e.g., hypotension), respiratory symptoms (e.g., wheezing), gastrointestinal symptoms (e.g., nausea, vomiting), a history of required use of epinephrine following egg ingestion, or a history of required emergency medical intervention, then the patient should be referred to a physician familiar with the management of allergic conditions.

People who indicate that they can eat lightly cooked eggs (e.g., scrambled eggs) without reaction are unlikely to have an egg allergy. Don't rely on their ability to eat eggs in baked products (e.g., cakes, breads), however, since the baking might denature the protein and mask an intrinsic anaphylactic allergy to eggs. Also a history of tolerance to baked products that do not contain eggs may be misinterpreted as egg tolerance.

1. **What percentage of vaccine recipients will experience an anaphylactic reaction?**

It is estimated that for every million doses administered, about one (~0.0001%) will result in an anaphylactic reaction following vaccination. With proper screening, most providers who administer thousands of vaccines in their lifetimes will never see an anaphylactic reaction.

1. **Is a history of an allergic reaction to influenza vaccine (or to a vaccine component) a contraindication to further doses?**

Ask the patient to describe their symptoms. If the patient describes any of the following symptoms, the reaction would be considered anaphylactic in nature and influenza vaccine should not be administered.

* sudden or gradual onset of generalized itching
* erythema (redness)
* urticaria (hives)
* angioedema (swelling of the lips, face, or throat)
* severe bronchospasm (wheezing)
* shortness of breath
* shock
* abdominal cramping
* cardiovascular collapse

Mild-to-moderate local reactions (i.e., swelling, redness, and soreness), low-grade or moderate fever, malaise, myalgia, and other systemic symptoms can occur and are not a contraindication to future vaccination.

1. **What is Guillain-Barré syndrome (GBS)?**

Guillain-Barré (pronounced *ghee-YAN bah-RAY*) syndrome is a disease in which the body damages its own nerve cells (outside of the brain and spinal cord), resulting in muscle weakness and sometimes paralysis. GBS can last for weeks to months. Most people eventually recover completely or nearly completely, but some people have permanent nerve damage and between 5% and 6% of people who develop GBS die. GBS affects people of both sexes and all ages, and has been reported in all races.

1. **What causes GBS?**

It is thought that GBS may be triggered by an infection. The infection that most commonly precedes GBS is caused by *Campylobacter jejuni*. Other respiratory or intestinal illnesses and other triggers may also precede an episode of GBS. In 1976, vaccination with the swine flu vaccine was associated with getting GBS. Several studies have been done to evaluate if other influenza vaccines since 1976 were associated with GBS. Only one of the studies showed an association. That study suggested that one person out of 1 million vaccinated persons may be at risk of GBS associated with the vaccine.

**GELATIN CONCERNS**

1. **What should we ask a patient when screening to determine a gelatin allergy?**

Begin by asking a general question about whether the person has an allergy to any food, medication, or vaccine. If they report an allergy to gelatin or foods that contain gelatin, you could follow up by asking if they can eat Jell-O™ and gelatin-type products. Gelatin allergies are extremely rare. Only severe, life-threatening (anaphylactic) allergy is a contraindication to vaccination.

1. **Can observant Muslims receive vaccine that contains gelatin?**

A letter written in July 2001 by the Regional Office of the World Health Organization (WHO) for the Eastern Mediterranean reported on the findings of more than one hundred Islamic legal scholars who met to clarify Islamic purity laws. The scholars met in 1995 at a seminar convened by the Islamic Organization for Medical Sciences on the topic "The Judicially Prohibited and Impure Substances in Foodstuff and Drugs."

The topic is of interest to the immunization community because some vaccines contain pork gelatin. In Islamic law, pork and pork products are impure, and observant Muslims do not consume them. Quoting from a statement issued by the scholars, the letter states the following: “The seminar issued a number of recommendations, included in the attached statement, stipulating that ‘Transformation which means the conversion of a substance into another substance, different in characteristics, changes substances that are judicially impure ... into pure substances, and changes substances that are prohibited into lawful and permissible substances’.”

Consequently, the scholars determined that the transformation of pork products into gelatin alters them sufficiently to make it permissible for observant Muslims to receive vaccines containing pork gelatin and to take medicine packaged in gelatin capsules.

1. **Can observant Jews receive vaccine that contains gelatin?**

It should be noted that according to Jewish laws, there is no problems with porcine or other animal derived ingredients in non oral products. This includes vaccines, injections, suppositories, creams and ointments. Rabbi Abraham Adler, BPharm MRPharm S, Kashrus and Medicines Information Service

**REFERENCES:**

* PNHS Immunization Procedures - Facets
* CDC. General Recommendations on Immunization (ACIP)
* CDC. Prevention and Control of Influenza: Recommendations of ACIP, 2011
* Immunization Action Coalition, Ask the Experts; General Vaccine Questions, Influenza
* Effectiveness of Maternal Influenza Immunization in Mothers and Infants, NEJM
* Influenza vaccination and treatment during pregnancy. ACOG
* Fluzone, Sanofi Pasteur prescribing information
* FluMist, MedImmune prescribing information
* Religious Leaders Approval of Use of Vaccines Containing Porcine Gelatin