County of Los Angeles Public Health

2014-2015 Influenza *(FLU)* Vaccination Recommendations

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www.publichealth.lacounty.gov/ip

Courtesy & Disclosure Statement

The speaker has disclosed that there is* NO *financial interests related to the content of this presentation (see Evaluation form)

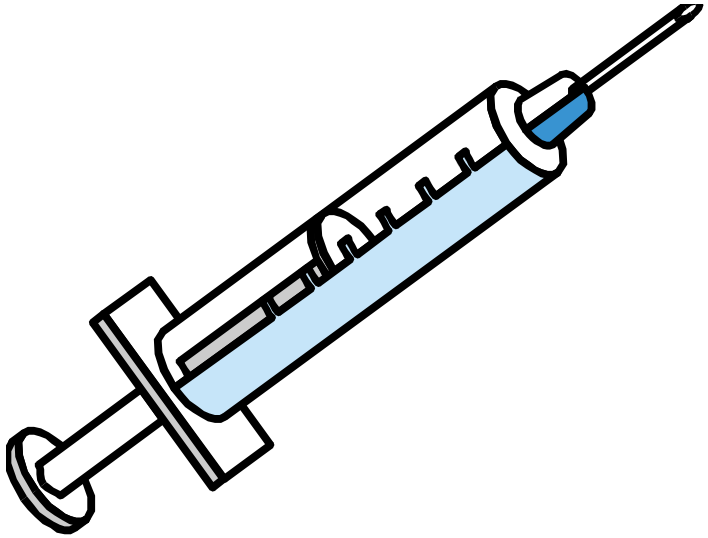
Learning Objectives

1. Identify five high-risk persons who should be immunized with flu vaccine recommended by ACIP.
2. Describe the new LAIV (FluMist) vaccination recommendation for children 2-8 years of age.

3. Identify the guidelines for vaccinating persons with a history of egg allergy.
4. List two reasons pregnant women are recommended to receive the ***"flu shot"*** annually.
5. Identify the precautions associated with flu vaccination.
6. State the importance of annual flu vaccination for Healthcare Personnel (HCP) in Los Angeles County.

Adult Vaccine Recommendations

** Flu **



Recommended Adult Immunization Schedule—United States - 2014

Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

Figure 1. Recommended adult immunization schedule, by vaccine and age group[1]

VACCINE ▼ AGE GROUP ▶	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years
Influenza[2,*]	1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap)[3,*]	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					
Varicella[4,*]	2 doses					
Human papillomavirus (HPV) Female[5,*]	3 doses					
Human papillomavirus (HPV) Male[5,*]	3 doses					
Zoster[6]					1 dose	
Measles, mumps, rubella (MMR)[7,*]	1 or 2 doses					
Pneumococcal 13-valent conjugate (PCV13)[8,*]	1 dose					
Pneumococcal polysaccharide (PPSV23)[9,10]	1 or 2 doses					1 dose
Meningococcal[11,*]	1 or more doses					
Hepatitis A[12,*]	2 doses					
Hepatitis B[13,*]	3 doses					
Haemophilus influenzae type b (Hib)[14,*]	1 or 3 doses					

*Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indication)

No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. - 8:00 p.m. Eastern Time, Monday - Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG) and American College of Nurse-Midwives (ACNM).

Figure 2. Vaccines that might be indicated for adults based on medical and other indications[1]

VACCINE ▼ INDICATION ▶	Pregnancy	Immune-compromising conditions (excluding human immunodeficiency virus [HIV])[4,6,7,9,10]	HIV infection CD4+ T lymphocyte count[4,6,7,9,10] < 200 cells/µL	HIV infection CD4+ T lymphocyte count[4,6,7,9,10] ≥ 200 cells/µL	Men who have sex with men (MSM)	Kidney failure, end-stage renal disease, receipt of hemodialysis	Heart disease, chronic lung disease, chronic alcoholism	Asplenia (including elective splenectomy and persistent complement component deficiencies)[9,10]	Chronic liver disease	Diabetes	Healthcare personnel
Influenza[2,*]	1 dose IIV annually				1 dose IIV or LAIV annually	1 dose IIV annually					1 dose IIV or LAIV annually
Tetanus, diphtheria, pertussis (Td/Tdap)[3,*]	1 dose Tdap each pregnancy	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs									
Varicella[4,*]	Contraindicated			2 doses							
Human papillomavirus (HPV) Female[5,*]		3 doses through age 26 yrs				3 doses through age 26 yrs					
Human papillomavirus (HPV) Male[5,*]		3 doses through age 26 yrs				3 doses through age 21 yrs					
Zoster[6]	Contraindicated				1 dose						
Measles, mumps, rubella (MMR)[7,*]	Contraindicated			1 or 2 doses							
Pneumococcal 13-valent conjugate (PCV13)[8,*]		1 dose									
Pneumococcal polysaccharide (PPSV23)[9,10]						1 or 2 doses					
Meningococcal[11,*]	1 or more doses										
Hepatitis A[12,*]	2 doses										
Hepatitis B[13,*]	3 doses										
Haemophilus influenzae type b (Hib)[14,*]		post-HSCT recipients only	1 or 3 doses								

*Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

No recommendation

U.S. Department of Health and Human Services Centers for Disease Control and Prevention

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of February 1, 2014. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/hcp/acip-recs/index.html). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

2014 Recommended Adult Immunization Schedule – United States

19 years of age and older

http://www.cdc.gov/vaccines/schedules/hcp/adult.html?s_cid=cs_959

Flu Vaccination Recommendations! *and* what is Influenza?

http://www.cdc.gov/flu/about/season/flu-season-2014-2015.htm

Morbidity and Mortality Weekly Report

Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP) — United States, 2014–15 Influenza Season

Lisa A. Grohskopf, MD[1], Sonja J. Olsen, PhD[1], Leslie Z. Sokolow, MSc, MPH[1], Joseph S. Bresee, MD[1], Nancy J. Cox, PhD[1], Karen R. Broder, MD[2], Ruth A. Karron, MD[3], Emmanuel B. Walter, MD[4] (Author affiliations at end of text)

This report updates the 2013 recommendations by the Advisory Committee on Immunization Practices (ACIP) regarding use of seasonal influenza vaccines (*1*). Updated information for the 2014–15 influenza season includes 1) antigenic composition of U.S. seasonal influenza vaccines; 2) vaccine dose considerations for children aged 6 months through 8 years; and 3) a preference for the use, when immediately available, of live attenuated influenza vaccine (LAIV) for healthy children aged 2 through 8 years, to be implemented as feasible for the 2014–15 season but not later than the 2015–16 season. Information regarding issues related to influenza vaccination not addressed in this report is available in the 2013 ACIP seasonal influenza recommendations (*1*).

For recommendations pertaining to use of influenza vaccines in children, ACIP reviewed data on the relative efficacy and safety of LAIV and inactivated influenza vaccines (IIVs). An adapted version of the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach was used to rate the quality of the evidence (*2*). Evidence summary tables and assessment of risk and benefits are available at http://www.cdc.gov/vaccines/acip/recs/grade/table-refs.html. Information in this report reflects discussion during public meetings of ACIP on February 26, 2014, and June 25, 2014. Meeting minutes, information on ACIP membership, and information on conflicts of interest are available at http://www.cdc.gov/vaccines/acip/meetings/meetings-info.html. Modifications were made during review at CDC to update and clarify wording. Any updates will be posted at http://www.cdc.gov/flu.

Recommendations for routine use of vaccines in children, adolescents, and adults are developed by the Advisory Committee on Immunization Practices (ACIP). ACIP is chartered as a federal advisory committee to provide expert external advice and guidance to the Director of the Centers for Disease Control and Prevention (CDC) on use of vaccines and related agents for the control of vaccine-preventable diseases in the civilian population of the United States. Recommendations for routine use of vaccines in children and adolescents are harmonized to the greatest extent possible with recommendations made by the American Academy of Pediatrics (AAP), the American Academy of Family Physicians (AAFP), and the American College of Obstetrics and Gynecology (ACOG). Recommendations for routine use of vaccines in adults are harmonized with recommendations of AAFP, ACOG, and the American College of Physicians (ACP). ACIP recommendations adopted by the CDC Director become agency guidelines on the date published in the Morbidity and Mortality Weekly Report (MMWR). *Additional information regarding ACIP is available at http://www.cdc.gov/vaccines/acip.*

Groups Recommended for Vaccination and Timing of Vaccination

Routine annual influenza vaccination is recommended for all persons aged ≥6 months who do not have contraindications. Vaccination optimally should occur before onset of influenza activity in the community. Health care providers should offer vaccination soon after vaccine becomes available (by October, if possible). Vaccination should be offered as long as influenza viruses are circulating. Children aged 6 months through 8 years who require 2 doses (see "Vaccine Dose Considerations for Children Aged 6 Months through 8 Years") should receive their first dose as soon as possible after vaccine becomes available, and the second dose ≥4 weeks later. To avoid missed opportunities for vaccination, providers should offer vaccination during routine health care visits and hospitalizations when vaccine is available.

Antibody levels induced by vaccine decline postvaccination (*3–6*). Although a 2008 literature review found no clear evidence of more rapid decline among the elderly (*7*), a 2010 study noted a statistically significant decline in titers 6 months postvaccination among persons aged ≥65 years (although titers still met European Medicines Agency levels considered adequate for protection) (*6*). A case-control study conducted in Navarre, Spain, during the 2011–12 season revealed a decline in vaccine effectiveness primarily affecting persons aged ≥65 years (*8*). Although delaying vaccination might permit greater immunity later in the season, deferral might result in missed opportunities to vaccinate and difficulties in vaccinating a population within a limited time. Vaccination programs should balance maximizing likelihood of persistence of vaccine-induced protection through the season with avoiding missed opportunities to vaccinate or vaccinating after influenza virus circulation begins.

August 15, 2014

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6332a3.htm

CDC webpage:

What You Should Know for the 2014-2015 Influenza Season

http://www.cdc.gov/flu/about/season/flu-season-2014-2015.htm

What Flu viruses does this season's vaccine protect against?

- All of the 2014-2015 influenza vaccine is made to protect against the following three viruses (IIV3):
  - an A/California/7/2009 (H1N1)pdm09-like virus
  - an A/Texas/50/2012 (H3N2)-like virus
  - a B/Massachusetts/2/2012-like virus.
- Some of the 2014-2015 flu vaccine also protects against an additional B virus (B/Brisbane/60/2008-like virus) (IIV4)

http://www.cdc.gov/flu/about/season/flu-season-2014-2015.htm

2014-15 ACIP Flu Vaccination Recommendations

- All persons aged 6 months and older;
- All pregnant women;
- Healthcare personnel (HCP);
- Persons with chronic medical conditions *(i.e. diabetes, kidney disease, heart, asthma, cancer,* neurologic, *etc.)*, severely immunocompromised, and those living in a protective environment;
- Household contacts (including children) and caregivers of children aged less than 59 months and adults aged 50 years and older,
- Persons who live with or have direct contact with children less than 6 months; and
- Household contacts (including children) and caregivers of persons with medical conditions that put them at higher risk for severe complications from influenza.

New ACIP Vaccination Recommendation for Children 2-8 years of age?

- ACIP voted in favor of using the inhaled live attenuated flu vaccine (LAIV) also called FluMist, *for* ***healthy children*** ages 2 through 8 years.
  - ACIP looked at a study indicating the nasal spray vaccine offers better protection than injected flu vaccine against laboratory-confirmed influenza.
- **Children should be given the flu shot (IIV)** if the nasal vaccine - LAIV (FluMist) is not available.

http://www.cdc.gov/flu/about/season/flu-season-2014-2015.htm

Flu Vaccination & Persons Working with Children

- Is it important for persons who have direct contact with children through 18 years of age be vaccinated?
  - YES!

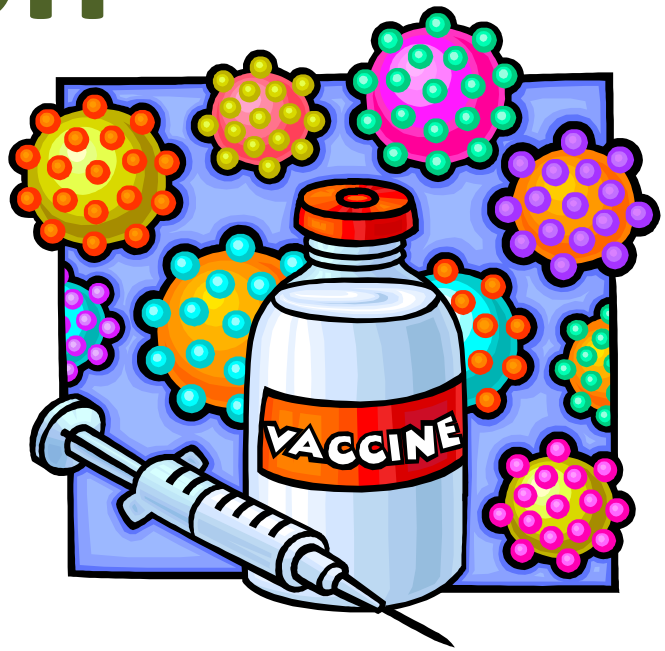
- While it is important for all persons aged 6 months and older to be vaccinated annually, emphasis should be placed on vaccination of persons who work with children and staff at Day Care Centers and Schools.

ACIP Recommends Annual Flu Vaccination for *all* HCP

- Research shows that HCP who get vaccinated annually help reduce:
  - Influenza-related morbidity and mortality that occurs in medical-care settings, especially those at high-risk for flu illness
  - transmission of influenza
  - ***staff illness and absenteeism***

- Higher vaccination levels among staff have been associated with a *lower risk* of nosocomial infection
  - (hospital-acquired) influenza cases
- Outbreaks in hospitals/long-term care facilities have been attributed to low vaccination rates among HCP in those facilities. www.cdc.gov/flu/healthcareworkers.htm

Pregnancy
&
Flu Vaccination



With a pertussis epidemic in progress and Flu season quickly approaching, ACIP/CDC **recommends that all pregnant women** receive:

- **Tdap** shot between 27 - 36 weeks gestation of <u>each</u> pregnancy
- **influenza shot** at any stage during their pregnancy
- Influenza is 5 times more likely to cause severe illness in pregnant women than non-pregnant women.
  - Changes in the immune system, heart, and lungs during pregnancy make pregnant women more prone to severe illness from influenza.
  - The risk of premature labor and delivery is increased in pregnant women with influenza.
  - Research shows that flu vaccination during pregnancy protects both mother/infant *(up to 6 months of age)* from influenza illness, hospitalizations and flu-related preterm birth.

Flu LA County Case Presentation (2013-14 season)

- LA County confirmed a flu death of a pregnant woman and her unborn baby from the South Bay area.
  - influenza A (H1N1)
- Pregnant and post partum women are at increased risk for severe illness and serious complications from flu infection.
- 2013-14 flu season was dominated by the Type A (2009 H1N1) strain resulting in moderately severe activity, locally/nationally.
  - **101 deaths (4 pediatrics) as of July 26, 2014** (Influenza Watch)
- The flu vaccine is recommended for everyone ≥6 mos of age and older, including pregnant women at any stage of pregnancy.

Influenza Watch Season Summary * 9/1/13 - 7/26/14
http://publichealth.lacounty.gov/acd/docs/IWcurrent201314.pdf

U.S. Department of Health and Human Services

Ira Dreyfuss, with Health Beat

American Journal of Obstetrics & Gynecology June 2011

Flu Vaccinations & Herd Immunity

ACIP recommends all persons 6 months of age and older receive flu vaccine. The principle of **"herd immunity"** is when a large percentage of the population is vaccinated; the spread of disease is limited. This indirectly protects unimmunized individuals, including those who cannot be immunized and those for whom vaccination was not successful.

http://www.cdc.gov/scienceambassador/lesson-plans/2013-herd-immunity.pdf

The Flu Is Contagious

- Most healthy adults may infect others beginning 1 day **before** symptoms develop and up to 5 to 7 days **after** becoming sick.
- Children may spread the virus for longer than 7 days.
  - Symptoms start 1 to 4 days after the virus enters the body. **That means that you may be able to "spread" the flu to someone else before you know you are sick, as well as while you are sick**.
- Some persons can be infected with the flu virus but have ***no*** symptoms.
- During this time, those persons may still spread the virus to others.

Common Cold

Flu

- Rhinovirus, most common type of virus that causes Colds.
- Colds usually includes runny nose, sore throat, sneezing, and coughing, watery eyes, headache, mild body aches and these symptoms can last for up to 2 weeks.
- There's over 200 viruses that can cause the common cold

***The Flu* - Incubation period 2 days (range 1-4 days)**

- Influenza disease is characterized by the ***abrupt onset*** of fever, myalgia, sore throat, nonproductive cough, and headache.
- The fever is usually 101°–102°F and accompanied by prostration. *It's important to note that not everyone with flu will have a fever!*

www.cdc.gov/getsmart/antibiotic-use/uri/colds.html

Preventing the Flu!

County of Los Angeles Public Health

- Get a flu vaccination and keep your other immunizations up-to-date
- Stay home for 24 hours after fever ends
- Wash your hands with soap and water
- Cover coughs and sneezes
- Avoid touching your eyes, nose, and mouth
- Practice healthy habits:
  - Eating healthy foods
  - Getting enough sleep
  - Exercise to maintain a strong body that is able to ***fight*** germs

2013-2014 Influenza Watch Season *Summary for LA County*

INFLUENZA WATCH

Influenza and Related Disease Updates for Los Angeles County

Season Summary
August 5, 2014
Volume 8, Issue 15
Page 1 of 4

2013-2014 Influenza Season Summary

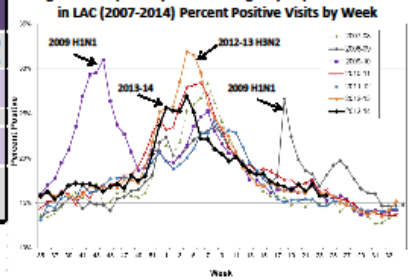
The 2013-2014 influenza season was dominated by the type A pandemic 2009 H1N1 strain (pH1N1), resulting in moderately severe activity both locally and nationally. Despite circulating as a seasonal strain and being included in the vaccine each season since the pandemic, pH1N1 caused the greatest impact on morbidity and mortality since its initial emergence. A total of 101 influenza-associated deaths were confirmed in Los Angeles County (LAC), with the 18-64 year old age group accounting for 65% of those. The greater effect on younger adults is similar to what was seen during the 2009 pandemic when pH1N1 first appeared (MMWR Update: Influenza Activity). In addition, 22 of 30 reported Intensive Care Unit (ICU) hospitalized influenza cases* in LAC were in those younger than 65 years old. Overall influenza activity reached peak levels during the last week of January (Table 1) when the highest percent positive visits to emergency departments for influenza-like-illness (ILI) were reported (Figure 1), the greatest number of influenza tests from sentinel sites were performed, and the greatest number of influenza-associated deaths occurred (community respiratory outbreaks peaked the previous week). A total of 17 community respiratory outbreaks were confirmed, with 2 definitively attributed to influenza verified by positive lab tests.

Table 1. LAC 2013-2014 Influenza Season Summary

	Peak Week 4 1/19/14-1/25/14	2013-14 Season 9/1/13-7/26/14
Positive Flu Tests/Total Tests† (Percent Positive Flu Tests)	681/2,853 (23.9%)	3,953/41,032 (9.6%)
Percent Flu A/B	97/3	92/8
Community Respiratory Outbreaks	2	17
Influenza confirmed outbreaks††	0	2
Pediatric Flu Deaths	0	4
Adult Flu Deaths, confirmed†††	19	97
Total	19	101

†Sentinel sites (9 participating) ††Associated with at least one positive influenza lab test
†††Confirmed influenza death is defined by a positive lab test, compatible symptoms, and clear progression from illness to death
Note: LA County tracks flu deaths of all ages, CA State reports on those <65 years only

Figure 1. Respiratory Illness Emergency Department Visits in LAC (2007-2014) Percent Positive Visits by Week



Highest Reported Influenza-Associated Deaths Since the 2009 Pandemic

LAC has tracked influenza related deaths across the age spectrum since the 2009 pandemic which allows for a more comprehensive overview of the true burden of mortality caused by the disease (Figure 2). During the 2013-2014 influenza season, the highest number of influenza-associated deaths was reported since the 2009 pandemic. In LAC 101 deaths were attributed to influenza: 4 pediatric and 97 adult. Both nationally and locally, the majority of influenza mortality was focused on the 18-64 year old age group which accounted for 65% of influenza-associated deaths in LAC. During this season, one influenza-associated death of a pregnant woman was reported. This fatality highlights the importance of vaccinating pregnant women. Influenza-associated deaths tend to be underreported, and therefore, the numbers documented here are most likely an underestimate of the true mortality influenza causes. Despite this limitation, this measure is useful in comparing seasons as well as aiding in identifying new risk factors for severe influenza outcomes.

*Reports of hospitalized influenza cases are NOT required by the Los Angeles County Department of Public Health, however some hospitals report on a voluntary basis. Therefore our data on ICU influenza cases is not inclusive and should be interpreted as an estimate of overall hospitalized cases of influenza in the county.

Contact Information: fluwatch@listserv.ph.lacounty.gov
Acute Communicable Disease Control (213) 240-7941
www.publichealth.lacounty.gov/acd

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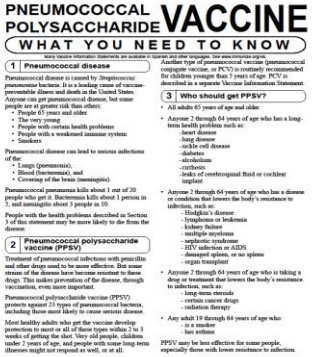
Pneumococcal polysaccharide (PPSV23) Recommendations:

- ALL adults 65 years and older without history of vaccination.
- Persons 2-64 years of age who have chronic illness;
  - immunocompromising conditions ;
  - functional or **anatomic asplenia**

    (e.g., sickle cell disease and other hemoglobinopathies, congenital or acquired asplenia, splenic dysfunction, or splenectomy)

    – **i.e. healthy 32 year old man without a spleen**
  - Adults age 19-64 years who have asthma or smoke cigarettes
- *One-time revaccination 5 years after the first dose* is recommended for persons aged 19 through 64 years with



PNEUMOCOCCAL POLYSACCHARIDE VACCINE

WHAT YOU NEED TO KNOW

Many vaccine information statements are available in Spanish and other languages. See www.hrsa.gov/vaccines.

1 Pneumococcal disease

Pneumococcal disease is caused by *Streptococcus pneumoniae* bacteria. It is a leading cause of vaccine-preventable illness and death in the United States. Anyone can get pneumococcal disease, but some people are at greater risk than others:

- People 65 years and older
- The very young
- People with certain health problems
- People with a weakened immune system
- Smokers

Pneumococcal disease can lead to serious infections of the:

- Lungs (pneumonia),
- Blood (bacteremia), and
- Covering of the brain (meningitis).

Pneumococcal pneumonia kills about 1 out of 20 people who get it. Bacteremia kills about 1 person in 5, and meningitis about 3 people in 10.

People with the health problems described in Section 3 of this statement may be more likely to die from the disease.

2 Pneumococcal polysaccharide vaccine (PPSV)

Treatment of pneumococcal infections with penicillin and other drugs used to be more effective. But some strains of the disease have become resistant to these drugs. This makes prevention of the disease, through vaccination, even more important.

Pneumococcal polysaccharide vaccine (PPSV) protects against 23 types of pneumococcal bacteria, including those most likely to cause serious disease.

Most healthy adults who get the vaccine develop protection to most or all of these types within 2 to 3 weeks of getting the shot. Very old people, children under 2 years of age, and people with some long-term illnesses might not respond as well, or at all.

Another type of pneumococcal vaccine (pneumococcal conjugate vaccine, or PCV) is routinely recommended for children younger than 5 years of age. PCV is described in a separate Vaccine Information Statement.

3 Who should get PPSV?

- All adults 65 years of age and older.
- Anyone 2 through 64 years of age who has a long-term health problem such as:
  - heart disease
  - lung disease
  - sickle cell disease
  - diabetes
  - alcoholism
  - cirrhosis
  - leaks of cerebrospinal fluid or cochlear implant
- Anyone 2 through 64 years of age who has a disease or condition that lowers the body's resistance to infection, such as:
  - Hodgkin's disease
  - lymphoma or leukemia
  - kidney failure
  - multiple myeloma
  - nephrotic syndrome
  - HIV infection or AIDS
  - damaged spleen, or no spleen
  - organ transplant
- Anyone 2 through 64 years of age who is taking a drug or treatment that lowers the body's resistance to infection, such as:
  - long-term steroids
  - certain cancer drugs
  - radiation therapy
- Any adult 19 through 64 years of age who:
  - is a smoker
  - has asthma

PPSV may be less effective for some people, especially those with lower resistance to infection.

Flu Personal Story * www.shotbyshot.org

Let's Talk Flu Vaccines

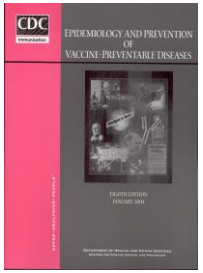
Quick Review

Flu Vaccine Abbreviation Changes

- TIV (Trivalent Inactivated Influenza Vaccine) changed to **IIV** (Inactivated Influenza Vaccine):
  - IIV refers to inactivated vaccines (egg and cell-culture based)
  - Includes trivalent (IIV3) and quadrivalent (IIV4) vaccines;
  - Cell-culture-based IIV is referred to as ccIIV/ccIIV3 (for 18 years and older)

- RIV refers to recombinant hemagglutinin (HA) influenza vaccine (a Trivalent called RIV3):
  - Egg-free; Aged 18-49 years
- LAIV refers to Live Attenuated Influenza Vaccine
  - Quadrivalent (LAIV4)
  - Intranasal spray
  - For healthy persons ***NOT pregnant*** aged 2-49 years
- Intradermal (ID) for 18-64 yrs
- High-Dose for age 65 yrs/older

Some of my patients refuse influenza vaccination because they insist they ***"got the flu"*** after receiving the injectable vaccine (IIV) in the past. What can I tell them about this misconception?



1) **Less than 1% of people who are vaccinated with IIV develop flu-like symptoms.**
   - Mild fever and muscle aches, 6-12 hours after vaccination, can last up to 1-2 days . 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 who get vaccinated later in the season (December or later) may get influenza shortly afterward.
   - Late vaccinees develop flu because they're exposed to someone with the virus before they became immune. It is ***Not*** the result of the vaccination.

Pink Book http://www.cdc.gov/vaccines/pubs/pinkbook/flu.html#reactions

Can the flu vaccine give me the Flu? NO!

- Flu vaccine cannot cause flu illness.
- Vaccines administered with a needle are currently made in two ways. Either with:
  - flu vaccine viruses that have been 'inactivated' and are therefore not infectious, or
  - with no flu vaccine viruses at all (which is the case for recombinant influenza vaccine)
- The nasal spray (FluMist) does contain live viruses they are attenuated (weakened), and therefore **cannot cause flu illness**.
  - *The weakened viruses are cold-adapted, which means they are designed to only cause infection at the cooler temperatures found within the nose. The viruses cannot infect the lungs or other areas where warmer temperatures exist.*

http://www.cdc.gov/flu/protect/keyfacts.htm#side-effects

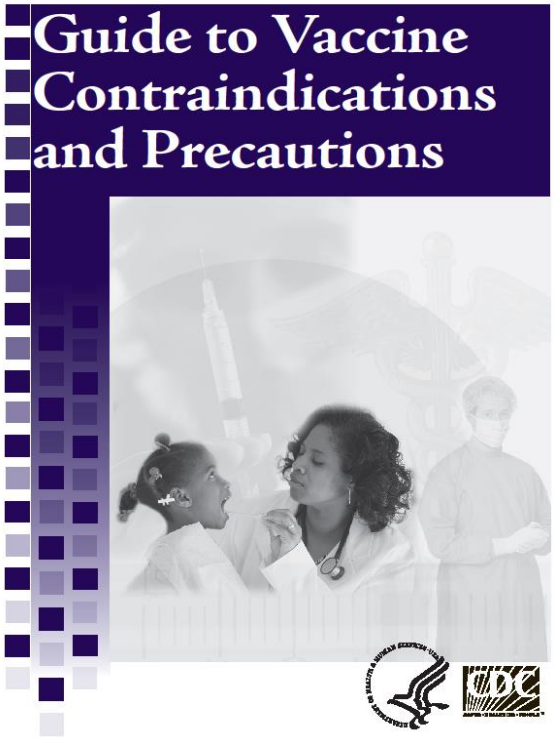
How Do Flu Vaccines Work?

- Flu vaccines cause protective antibodies levels to develop in the body by two weeks after vaccination.
  - *These antibodies provide protection against infection with the viruses covered by the vaccine.*
- This season's flu vaccine protects against the influenza viruses that epidemiological data indicates will be most common during the upcoming season.
  - *Flu vaccines, are made to protect against: an influenza A **(H1N1)** virus, an influenza A (H3N2) virus, and an influenza B virus (and last year an additional B virus for IIV4)*

1. http://www.cdc.gov/flu/protect/keyfacts.htm#benefits

Before Flu Vaccination Screening…..

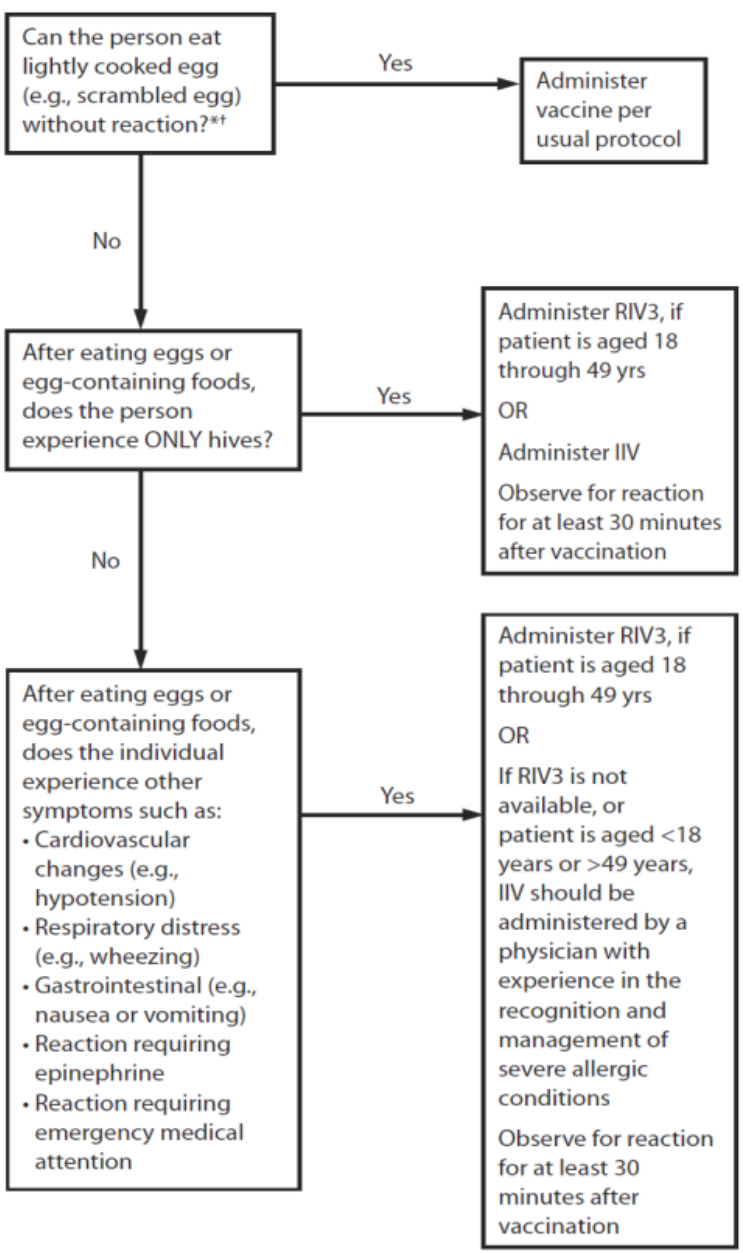
Patient Screening



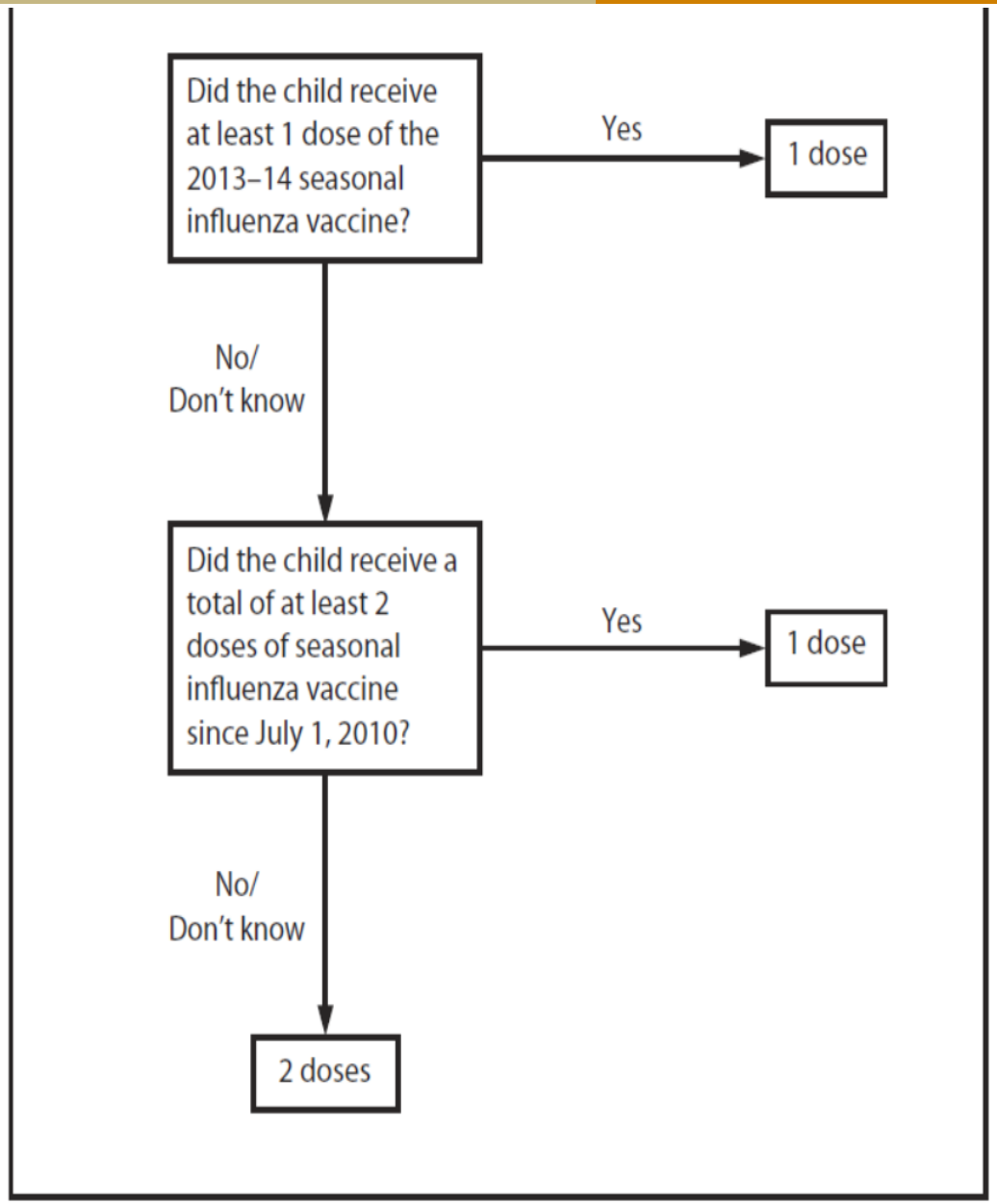
Always screen for any contraindications and precautions to vaccine:

- History of severe hypersensitivity to a prior dose
- Severe allergic reactions to vaccine component
- Moderate to severe acute illness

1. CDC Vaccine Contraindications and Precautions
http://www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm



2014 - 2015 ACIP recommendations regarding influenza vaccination of persons who report allergy to Eggs



Influenza vaccine dosing algorithm for children aged 6 months through 8 years — ACIP, U. S., 2014–2015 influenza season*

**** For simplicity, this algorithm takes into consideration only doses of seasonal flu vaccine received since July 1, 2010 to determine the number of doses needed for the 2014–15 season.***

MMWR / August 15, 2014 / Vol. 63 / No. 32

Quiz #1

Shannon is a 2 year-old girl who received only one dose of flu vaccine during the 2013-14 influenza season. How many doses should she receive during the 2014-15 season?

- ❑ One dose
- ❑ Two doses

Answer #1

1 dose

Since the strains contained in the 2014–15 seasonal influenza vaccines are identical to those contained in the 2013–14 vaccines, only 1 dose is required for any child aged 6 months through 8 years who previously received ≥1 dose of 2013–14 seasonal influenza vaccine.

1. MMWR / August 15, 2014 / Vol. 63 / No. 32

Quiz #2

Kyle is a healthy 5 year-old boy who has never received flu vaccine. How many doses of flu vaccine should he receive during the 2014-15 season?

- ❑ One dose
- ❑ Two doses

Answer #2

2 doses

Children aged 6 months through 8 years require 2 doses of influenza vaccine (administered ≥4 weeks apart) during their first season of vaccination to optimize immune response.

ACIP recommends LAIV (FluMist) vaccine *for* ***healthy children*** ages 2 through 8 years.

Children should be given the flu shot (IIV) if LAIV is not available.

Don't miss an opportunity to vaccinate!

1. MMWR / August 15, 2014 / Vol. 63 / No. 32

Let's take a quick stretch break but please don't leave!

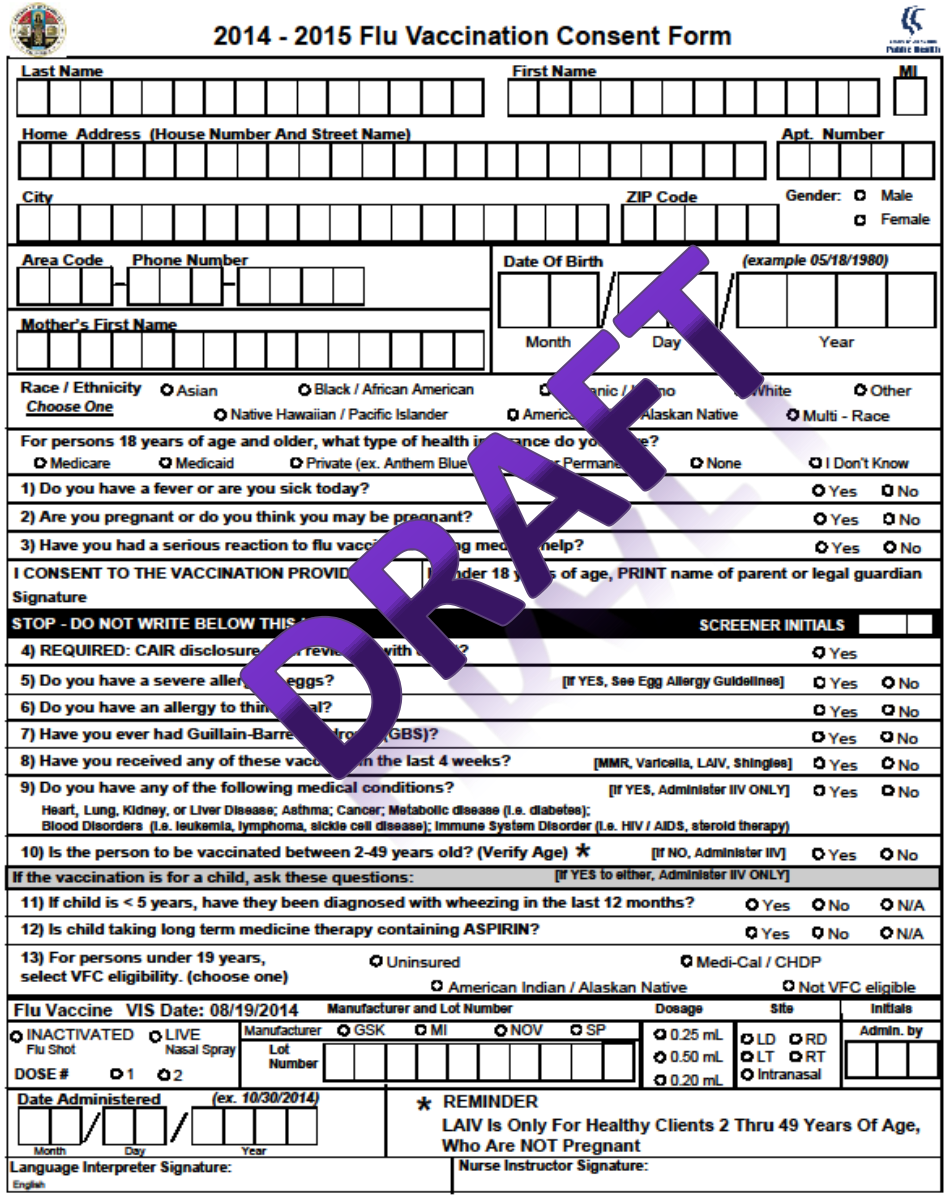
Vaccine Administration & Flu Outreach Clinics

Flu Consents Forms *without* County Seals will be available on IP webpage:

- English
- Spanish
- Chinese
- Korean

**write legibly*

publichealth.lacounty.gov/ip



2014 - 2015 Flu Vaccination Consent Form

Last Name | First Name | MI

Home Address (House Number And Street Name) | Apt. Number

City | ZIP Code | Gender: ☐ Male ☐ Female

Area Code – Phone Number – | Date Of Birth / / (example 05/18/1980) Month Day Year

Mother's First Name

Race / Ethnicity Choose One: ☐ Asian ☐ Black / African American ☐ Hispanic / Latino ☐ White ☐ Other ☐ Native Hawaiian / Pacific Islander ☐ American Indian / Alaskan Native ☐ Multi - Race

For persons 18 years of age and older, what type of health insurance do you have? ☐ Medicare ☐ Medicaid ☐ Private (ex. Anthem Blue ☐ Permanente) ☐ None ☐ I Don't Know

1) Do you have a fever or are you sick today? ☐ Yes ☐ No

2) Are you pregnant or do you think you may be pregnant? ☐ Yes ☐ No

3) Have you had a serious reaction to flu vaccine or any medical help? ☐ Yes ☐ No

I CONSENT TO THE VACCINATION PROVIDED. If under 18 years of age, PRINT name of parent or legal guardian

Signature

STOP - DO NOT WRITE BELOW THIS LINE | SCREENER INITIALS

4) REQUIRED: CAIR disclosure reviewed with client? ☐ Yes

5) Do you have a severe allergy to eggs? [If YES, See Egg Allergy Guidelines] ☐ Yes ☐ No

6) Do you have an allergy to thimerosal? ☐ Yes ☐ No

7) Have you ever had Guillain-Barre Syndrome (GBS)? ☐ Yes ☐ No

8) Have you received any of these vaccines in the last 4 weeks? [MMR, Varicella, LAIV, Shingles] ☐ Yes ☐ No

9) Do you have any of the following medical conditions? [If YES, Administer IIV ONLY] ☐ Yes ☐ No
Heart, Lung, Kidney, or Liver Disease; Asthma; Cancer; Metabolic disease (i.e. diabetes); Blood Disorders (i.e. leukemia, lymphoma, sickle cell disease); Immune System Disorder (i.e. HIV / AIDS, steroid therapy)

10) Is the person to be vaccinated between 2-49 years old? (Verify Age) * [If NO, Administer IIV] ☐ Yes ☐ No

If the vaccination is for a child, ask these questions: [If YES to either, Administer IIV ONLY]

11) If child is < 5 years, have they been diagnosed with wheezing in the last 12 months? ☐ Yes ☐ No ☐ N/A

12) Is child taking long term medicine therapy containing ASPIRIN? ☐ Yes ☐ No ☐ N/A

13) For persons under 19 years, select VFC eligibility. (choose one) ☐ Uninsured ☐ Medi-Cal / CHDP ☐ American Indian / Alaskan Native ☐ Not VFC eligible

Flu Vaccine VIS Date: 08/19/2014 | Manufacturer and Lot Number | Dosage | Site | Initials

☐ INACTIVATED Flu Shot ☐ LIVE Nasal Spray | Manufacturer ☐ GSK ☐ MI ☐ NOV ☐ SP | ☐ 0.25 mL ☐ 0.50 mL ☐ 0.20 mL | ☐ LD ☐ RD ☐ LT ☐ RT ☐ Intranasal | Admin. by

DOSE # ☐ 1 ☐ 2 | Lot Number

Date Administered (ex. 10/30/2014) / / Month Day Year

* REMINDER
LAIV Is Only For Healthy Clients 2 Thru 49 Years Of Age, Who Are NOT Pregnant

Language Interpreter Signature: English | Nurse Instructor Signature:

DRAFT

VIS

Inactivated Influenza Vaccine (IIV)

VACCINE INFORMATION STATEMENT

Influenza Vaccine

What You Need to Know

(Flu Vaccine, Inactivated or Recombinant)

2014-2015

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Influenza ("flu") is a contagious disease that spreads around the United States every winter, usually between October and May.

Flu is caused by influenza viruses, and is spread mainly by coughing, sneezing, and close contact.

Anyone can get flu, but the risk of getting flu is highest among children. Symptoms come on suddenly and may last several days. They can include:

- fever/chills
- sore throat
- muscle aches
- fatigue
- cough
- headache
- runny or stuffy nose

Flu can make some people much sicker than others. These people include young children, people 65 and older, pregnant women, and people with certain health conditions—such as heart, lung or kidney disease, nervous system disorders, or a weakened immune system. Flu vaccination is especially important for these people, and anyone in close contact with them.

Flu can also lead to pneumonia, and make existing medical conditions worse. It can cause diarrhea and seizures in children.

Each year **thousands of people in the United States die from flu**, and many more are hospitalized.

Flu vaccine is the best protection against flu and its complications. Flu vaccine also helps prevent spreading flu from person to person.

2 Inactivated and recombinant flu vaccines

You are getting an injectable flu vaccine, which is either an "**inactivated**" or "**recombinant**" vaccine. These vaccines do not contain any live influenza virus. They are given by injection with a needle, and often called the "flu shot."

A different, **live, attenuated** (weakened) influenza vaccine is sprayed into the nostrils. *This vaccine is described in a separate Vaccine Information Statement.*

Flu vaccination is recommended every year. Some children 6 months through 8 years of age might need two doses during one year.

Flu viruses are always changing. Each year's flu vaccine is made to protect against 3 or 4 viruses that are likely to cause disease that year. Flu vaccine cannot prevent all cases of flu, but it is the best defense against the disease.

It takes about 2 weeks for protection to develop after the vaccination, and protection lasts several months to a year.

Some illnesses that are not caused by influenza virus are often mistaken for flu. Flu vaccine will not prevent these illnesses. It can only prevent influenza.

Some inactivated flu vaccine contains a very small amount of a mercury-based preservative called thimerosal. Studies have shown that thimerosal in vaccines is not harmful, but flu vaccines that do not contain a preservative are available.

3 Some people should not get this vaccine

Tell the person who gives you the vaccine:

- **If you have any severe, life-threatening allergies.** If you ever had a life-threatening allergic reaction after a dose of flu vaccine, or have a severe allergy to any part of this vaccine, including (for example) an allergy to gelatin, antibiotics, or eggs, you may be advised not to get vaccinated. Most, but not all, types of flu vaccine contain a small amount of egg protein.
- **If you ever had Guillain-Barré Syndrome** (a severe paralyzing illness, also called GBS). Some people with a history of GBS should not get this vaccine. This should be discussed with your doctor.
- **If you are not feeling well.** It is usually okay to get flu vaccine when you have a mild illness, but you might be advised to wait until you feel better. You should come back when you are better.

U.S. Department of Health and Human Services Centers for Disease Control and Prevention

Shot or Injection

Live Attenuated Influenza Vaccine (LAIV) aka FluMist

VACCINE INFORMATION STATEMENT

Influenza Vaccine

What You Need to Know

(Flu Vaccine, Live, Intranasal)

2014-2015

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

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- fatigue
- cough
- headache
- runny or stuffy nose

Flu can make some people much sicker than others. These people include young children, people 65 and older, pregnant women, and people with certain health conditions – such as heart, lung or kidney disease, nervous system disorders, or a weakened immune system. Flu vaccination is especially important for these people, and anyone in close contact with them.

Flu can also lead to pneumonia, and make existing medical conditions worse. It can cause diarrhea and seizures in children.

Each year **thousands of people in the United States die from flu**, and many more are hospitalized.

Flu vaccine is the best protection against flu and its complications. Flu vaccine also helps prevent spreading flu from person to person.

2 Live, attenuated flu vaccine—LAIV, Nasal Spray

You are getting a **live, attenuated influenza vaccine** (called LAIV), which is sprayed into the nose. "Attenuated" means weakened. The viruses in the vaccine have been weakened so they won't give you the flu.

There are other "inactivated" and "recombinant" flu vaccines that do not contain live virus. These "flu shots" are given by injection with a needle.

Injectable flu vaccines are described in a separate Vaccine Information Statement.

Flu vaccination is recommended every year. Some children 6 months through 8 years of age might need two doses during one year.

Flu viruses are always changing. Each year's flu vaccine is made to protect against viruses that are likely to cause disease that year. LAIV protects against 4 different influenza viruses. Flu vaccine cannot prevent all cases of flu, but it is the best defense against the disease.

It takes about 2 weeks for protection to develop after vaccination, and protection lasts several months to a year.

Some illnesses that are **not** caused by influenza virus are often mistaken for flu. Flu vaccine will not prevent these illnesses. It can only prevent influenza.

LAIV may be given to people **2 through 49 years of age**. It may safely be given at the same time as other vaccines.

LAIV does not contain thimerosal or other preservatives.

3 Some people should not get this vaccine

Tell the person who gives you the vaccine:

- **If you have any severe, life-threatening allergies**, including (for example) an allergy to gelatin or antibiotics. If you ever had a life-threatening allergic reaction after a dose of flu vaccine, or have a severe allergy to any part of this vaccine, you should not get vaccinated.
- **If you ever had Guillain-Barré Syndrome** (a severe paralyzing illness, also called GBS). Some people with a history of GBS should not get this vaccine. This should be discussed with your doctor.
- **If you have long-term health problems**, such as certain heart, breathing, kidney, liver, or nervous system problems, your doctor can help you decide if you should get LAIV.

U.S. Department of Health and Human Services Centers for Disease Control and Prevention

Nasal Spray

It's a Federal Law to Provide the VIS!

Administration of Immunizations (Medication)

- The "Rights of Medication Administration" must be applied to each encounter when medications are administered:

1. the right **patient**;
2. the right **medication**;
3. the right **time**;
4. the right **dosage**;
5. the right **route** and technique;
6. the right **site**; and
7. the right **documentation**.

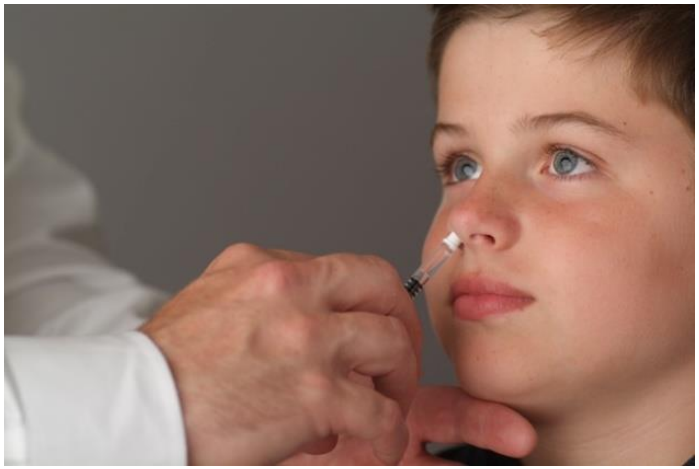
15 second scrub!

Friendly Reminder

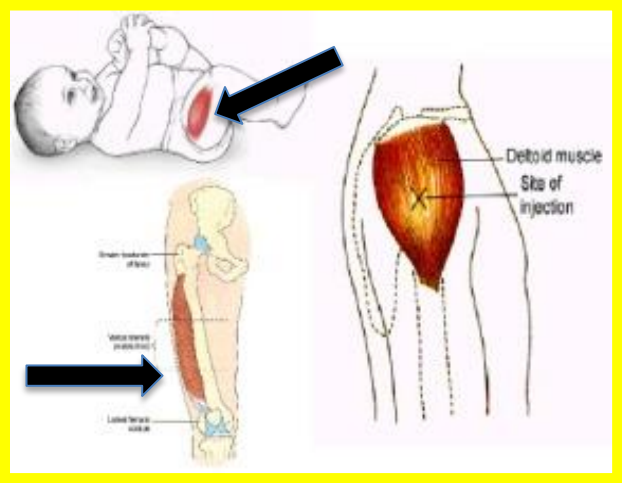
No Immunizations Back Here!

Flu Vaccination Administration Routes

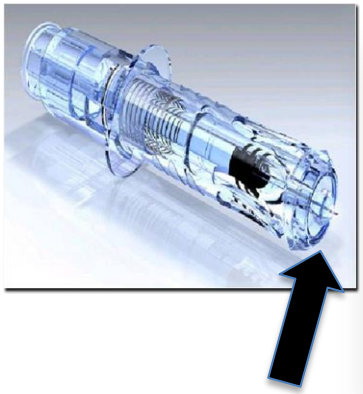
Deltoid Muscle IM injection



LAIV (FluMist) intranasal



Vastus Lateralis muscle



Intradermal (ID) flu injection given in the deltoid muscle for persons 18-64 years

California Immunization Registry (CAIR)

CAIR - Patient Immunization History

Main Menu | Patient Search | Delete Patient | Report | Help

Registry ID: **1415088** Med. Rec. No: Kaiser No: Pref: **Y**

Name: **DOE, JANE** Suf: Sex: **F** DOB: **03/03/1980** Age: **30y 11m 5d**

Next Vac. Date: **Past Due** Reactions: **Create New Siblings**

Waivers: Risks: VFC Eligibility: **5-Not VFC-Eligible**

History | Parent/Guardian | Address | Preferences | BirthInfo | Patient IDs | OtherInfo

Immunization History

Vaccine	Group	Seq	Date Recv.	Age	Provider
Tdap	DTP	B	01/03/2011	30y10m 0d	LACDHS-CH(
PNUps	PNUps	1	01/03/2011	30y10m 0d	LACDHS-CH(
FLU	FLU	1	01/03/2011	30y10m 0d	LACDHS-CH(

New | Refresh | Why | Quick | Symbols | Notes

Recommendations:

>HEPB	1	03/03/1980
>MMR	1	03/03/1981
>VZV	1	03/03/1981
>HAV	1	03/03/1981
>MCV4	1	03/03/1991
FLU	1	08/01/2011
DTP(Td)	B	01/03/2021

Accelerated Schedule

Had Chickenpox

Archived: 0 Options for Recommendations

To enroll in CAIR call the Help Desk 800-578-7889

Important Vaccine Considerations

- Emergency Procedures

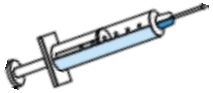
- Vaccine Adverse Event Reporting System form (VAERS)

  www.vaers.hhs.gov

- Storage and Handling

  refrigerate between 35°F and 46°F

Management of Anaphylaxis



Age Group	Epinephrine Dose
1-6 months	0.05 mL
7-36 months	0.10 mL
37-59 months	0.15 mL
5-7 years	0.20 - 0.25 mL
8-10 years	0.25 – 0.30 mL
11-12 years	0.35 – 0.40 mL
13 years and older	0.50 mL

Call 911 immediately!

- *Administer epinephrine hydrochloride 1:1000 via IM into deltoid or vastus lateralis muscle*
- *Doses every 10 -15 minutes up to 3 doses as needed to control symptoms and increase B/P*
- *Inject Epi into same site to slow absorption*
- *Monitor vital signs*
- *BCLS if necessary*

DPH Management of Anaphylaxis Policy No. QID-318 (7.2.2014)

Vaccine Error Reporting Program

http://verp.ismp.org/ - Windows Internet Explorer

ISMP National Vaccine Error Reporting Program

Please consider the following items when completing this online reporting form:

- Answer the questions as best you can.
- Tell us the story of what went wrong, any causes or contributing factors, how the event was discovered or intercepted, and the outcome of the patient(s) involved.
- Share your recommendations for error prevention.
- Provide any associated materials (e.g., product photographs, containers, labels, de-identified prescription order scans) that help support the information being submitted.

ISMP guarantees confidentiality of information received. ISMP is a federally certified patient safety organization (PSO), providing legal protection and confidentiality for submitted patient safety data and error reports. Click here to learn more about legal protection of patient safety information submitted to ISMP.

The report information will be forwarded, in confidence, to the Vaccine Adverse Event Reporting System (VAERS), a national vaccine safety surveillance program co-sponsored by the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA). When applicable, the report information will be forwarded to product vendors to inform them about vaccine labeling, packaging, and nomenclature issues that may foster errors by their design. Your name and contact information will not be shared unless you grant permission.

If you are reporting an unpreventable adverse reaction to a vaccine product, please visit VAERS (http://vaers.hhs.gov).

http://verp.ismp.org/

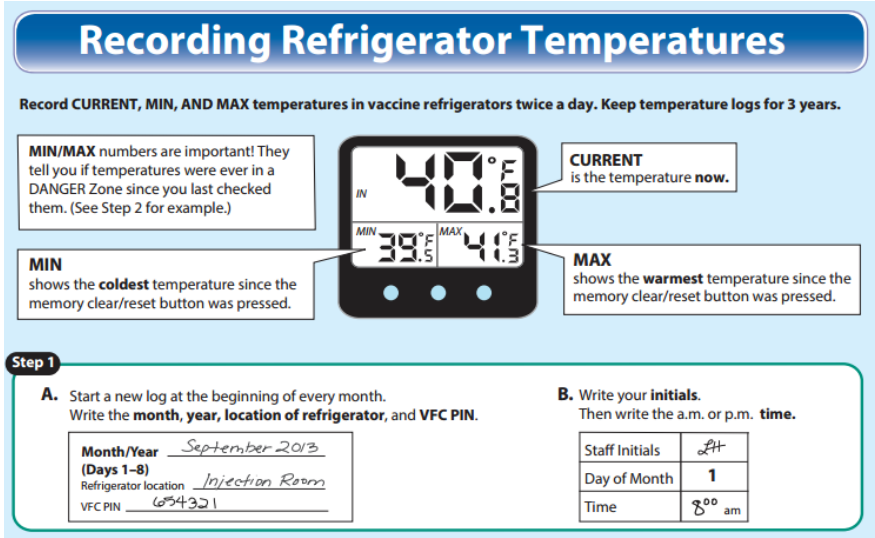
Anaphylaxis Reaction Documentation

****DPH Nurses****

Report Anaphylaxis reactions documentation to the University Health System Consortium, Patient Safety (UHC PSN) via internet.

http://intranet/ph/PDFs/PHNursing/StandardizedProcedures/DPHSP-Anaphylaxis6-21-10.pdf

Vaccine Storage & Handling



Recording Refrigerator Temperatures

Record CURRENT, MIN, AND MAX temperatures in vaccine refrigerators twice a day. Keep temperature logs for 3 years.

MIN/MAX numbers are important! They tell you if temperatures were ever in a DANGER Zone since you last checked them. (See Step 2 for example.)

MIN
shows the **coldest** temperature since the memory clear/reset button was pressed.

IN 40.8°F
MIN 39.5°F
MAX 41.3°F

CURRENT
is the temperature **now.**

MAX
shows the **warmest** temperature since the memory clear/reset button was pressed.

Step 1

A. Start a new log at the beginning of every month.
Write the **month, year, location of refrigerator**, and **VFC PIN**.

Month/Year (Days 1–8) September 2013
Refrigerator location Injection Room
VFC PIN 654321

B. Write your **initials**.
Then write the a.m. or p.m. **time.**

Staff Initials	LH
Day of Month	1
Time	8:00 am

Transporting Refrigerated Vaccines

Transporting Refrigerated Vaccines (1)

Pack vaccine and prepare for transport

1. Cold packs

Spread conditioned cold packs to cover only half of the bottom of the cooler.

2. Bubble wrap & Thermometer

Completely cover the cold packs with a 2-inch layer of bubble wrap.
Then, place the thermometer/probe on top of the bubble wrap directly above a cold pack.

3. Vaccine

Stack layers of vaccine boxes on the bubble wrap. Do not let the boxes of vaccine touch the cold packs.

4. Bubble wrap

Completely cover the vaccine with another 2-inch layer of bubble wrap.

5. Cold packs

Spread "conditioned" cold packs to cover only half of the bubble wrap. Make sure that the cold packs do not touch the boxes of vaccine.

6. Form & display

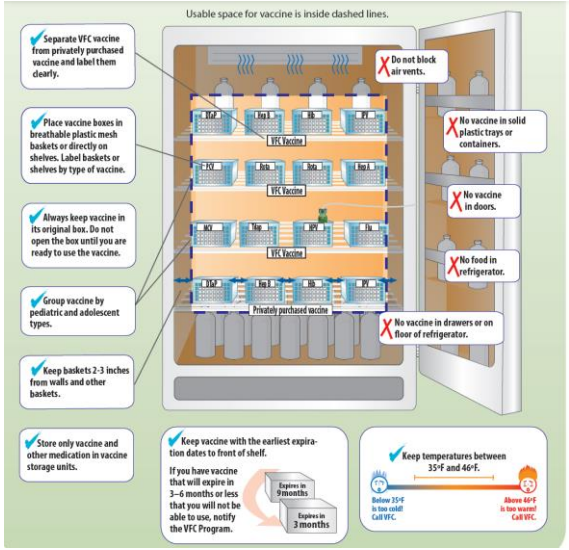
Fill the cooler to the top with bubble wrap. Place the thermometer's digital display and the Refrigerated Vaccine Transport Log on top. It's okay if temperatures go above 46°F while packing.

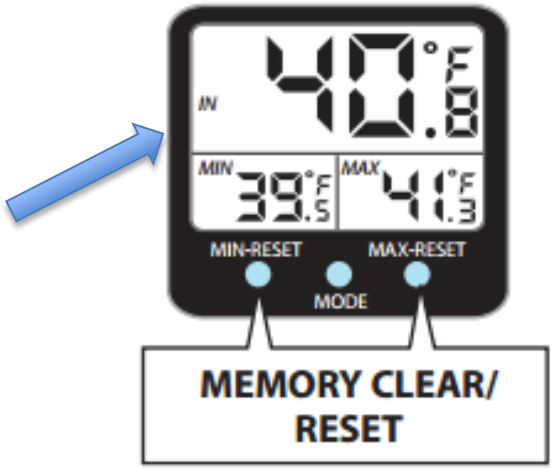
Vaccine storage: Off-site Clinics (2)

- Do not place in vehicle trunk
- Deliver directly to facility or site
- When clinic starts only remove one box of vaccine at a time
- Place vaccine back in unit when not being used
- Check temperatures minimally hourly

Refrigerator Recommendations (3)

- Stand-Alone refrigerator unit



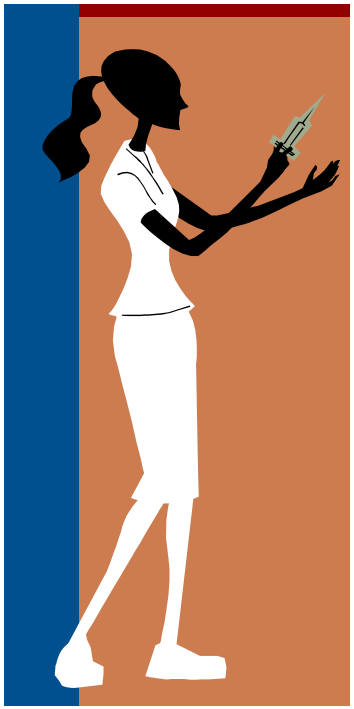


- Maintain required storage temperatures between 35°F and 46°F - Know how to read min / max and current temps
- Do not store vaccine near visible cooling plates
- Provide enough space to store all vaccine properly
- Ensure the storage unit doors seal tightly and close

Resources and other valuable Immunization Information

Immunization Resources

- Immunization Program - www.publichealth.lacounty.gov/ip/
  - General Information and Handouts
  - Vaccine Fact Sheets
    - B71 Recommendations (Info for Healthcare Providers)
  - Download forms (e.g. VIS, VAERs, etc.)
- EZIZ - www.eziz.org
- CDC - www.cdc.gov/vaccines/
- ACIP Recommendations- www.cdc.gov/vaccines/recs/acip/
- CA Dept. of Public Health www.cdph.ca.gov/programs/immunize/Pages/default.aspx
- Merck Vaccines - www.merckhelps.com
- Needy Meds - www.needymeds.com
- Epidemiology & Prevention of VPDs "Pink Book" www.cdc.gov/vaccines/pubs/pinkbook/genrec.html



Questions?

Please complete your Post-test & Evaluation……

Thank you for promoting "Flu Vaccinations Across the LifeSpan!"

IMMUNIZATION PROGRAM

www.publichealth.lacounty.gov/ip

(213) 351-7800 phone

*

2014-2015 Influenza (flu) Vaccination Recommendations Training Materials

http://publichealth.lacounty.gov/ip/trainconf.htm

2014-2015 CEU Post-Test: Flu Immunization Recommendations

Date:		AM or PM	Training Location:	

Your profession: ☐ Nurse (NP, RN, LVN) ☐ MA ☐ Physician ☐ Other _____

For each question, please check only one answer

1. **ACIP recommends the following age group receives LAIV (Flumist):** *(Please check one answer only)*
   - ☐ Persons 6 months of age and older
   - ☐ Healthy children 2-8 years of age
   - ☐ Adults age 50 years and older
   - ☐ All of the above

2. **Which of the following groups should not receive a Flu vaccination?** *(Please check one answer only)*
   - ☐ Healthcare Personnel (HCP)
   - ☐ Persons 65 years and older
   - ☐ Infants less than 6 months of age
   - ☐ Post-partum women who are breastfeeding

3. **If a person reports an allergy to eggs, they can be administered the influenza (flu) vaccine if they:** *(Please check one answer only)*
   - ☐ Eat scrambled eggs and experience hypotension
   - ☐ Experience respiratory distress after eating a boiled egg
   - ☐ Experience a reaction requiring epinephrine
   - ☐ Experience hives only after eating eggs or egg-containing foods then observed for 30 minutes

4. **For which of the following persons will you recommend Pneumococcal Polysaccharide (PPSV23):** *(Please check one answer only)*
   - ☐ An 18 month old toddler with asthma
   - ☐ A healthy 32 year-old man without a spleen
   - ☐ A 3 year-old boy in preschool with no history of chronic disease
   - ☐ A 54 year-old woman diagnosed with depression

5. **Children 6 months through 8 years of age who received at least one dose of flu vaccine last season should receive only 1 dose this season:** *(Please check one answer only)*
   - ☐ True
   - ☐ False

Thank you for your time. Please return this form to the Presenter.

After you have turned-in your **post-test** along with the **evaluation** we can review the post-test.

Thank you!