

The VacScene

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Abbreviations: Public Health - Seattle & King County (PHSKC), Centers for Disease Control and Prevention (CDC), Advisory Committee on Immunization Practices (ACIP), Food and Drug Administration (FDA), Health Care Workers (HCWs), Trivalent Inactivated Influenza Vaccine (TIV), Live Attenuated Influenza Vaccine (LAIV), Pneumococcal Polysaccharide Vaccine (PPV)

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Five Principal Changes in 2005 ACIP Influenza Vaccine Recommendations:

- Recommendation for persons with any condition that can compromise respiratory function or increase the risk for aspiration (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) to be vaccinated against influenza
- Recommendation for vaccinating all HCWs against influenza
- Recommendation to encourage use of intranasal live attenuated influenza vaccine (LAIV or FluMist) for eligible persons, especially when there is a shortage of trivalent inactivated influenza vaccine (TIV)
- The introduction of a new formulation to include protection against A/California/7/2004 (H3N2)-like, A/New Caledonia/20/99 (H1N1)-like and B/Shanghai/361/2002-like antigens. The A/California strain was the most prevalent strain arriving later in last year's flu season.
- Development of a high-risk priority tier system for TIV

Priority for High Risk Persons Established by Tier System

This year, manufacturers plan to deliver between 71 and 97 million doses of TIV, and 3 million doses of LAIV. Due to influenza production uncertainties, the exact number of available doses and timing of vaccine distribution remains unknown. Between 18 and 26 million doses from Chiron may not be available until late October pending FDA approval of changes made to rectify problems at the supplier's manufacturing plant.

To manage this season's supply, the CDC set prioritization guidelines for the use of TIV. Eligible people may receive LAIV as soon as it is available because the prioritization applies only to TIV. (See page 2 for additional information about LAIV.)

CDC Recommends Limiting TIV to High-Risk Groups* Until October 24th:

- ◆ Persons aged ≥65 years
- ◆ Persons aged 2 - 64 years with comorbid conditions (see below)
- ◆ Residents of long term care facilities
- ◆ Pregnant women
- ◆ Health-care personnel who provide direct patient care
- ◆ Children aged 6 - 23 months
- ◆ Household contacts and out-of-home caregivers of children aged <6 months

* These groups correspond to tiers 1A through 1C published in the MMWR, August 5, 2005 (www.cdc.gov/mmwr/preview/mmwrhtml/mm5430a4.htm).

Comorbid Conditions:

- **Chronic pulmonary or cardiovascular system disorders**, including asthma (hypertension is not considered a high-risk condition)
- **Chronic metabolic diseases** which have required regular medical follow-up or hospitalization during the preceding year (e.g., diabetes mellitus)
- **Renal dysfunction, hemoglobinopathies, or immunosuppression** (i.e., caused by medications or by human immunodeficiency virus)
- **Any condition that can compromise respiratory function** or increase the risk for aspiration (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders), children on long-term aspirin therapy and may be at risk for Reye syndrome after influenza infection

(NOTE: Beginning October 24, **all** persons will be eligible for influenza vaccination.)

King County VFC News

-Vaccines for Children Program-

*Please remember that **no one 19 years or older should receive VFC flu vaccine.***

The VFC Program has begun distributing the first shipments of Fluzone in pediatric pre-filled syringes (preservative free), and multidose vials. Neither Fluvirin (Chiron) or LAIV (FluMist) will be offered by VFC.

Health care practitioners may receive their flu vaccine request in multiple shipments. As in previous years, this could change abruptly depending on vaccine availability.

VFC supports the CDC's tiered approach to flu vaccine prioritization. Please notice the different eligibility requirements for household contacts in Tiers 1 and 2.

Tier #1 (through October 23rd):

- Children aged 6 to 23 months
- Persons aged 2 to 18 years with comorbid conditions (chronic illness, i.e. chronic pulmonary or cardiovascular conditions including asthma, metabolic diseases, renal dysfunction, hemoglobinopathies, any condition that compromises respiratory function; children receiving chronic aspirin therapy or immunosuppression therapy)
- Long-term care facility residents less than 19 years of age
- Pregnant women < 19 years
- <19 year-old **household contacts (or out-of-home caregivers) of children aged <6 months**

Tier #2 (October 24th and after)—continue to vaccinate children in all of the above categories, and add:

- <19 year-old **household contacts of any age at increased risk for flu complications.** This includes children who live with people >65 years, adults with comorbid conditions, pregnant women, etc.

Dosing for Fluzone (TIV) for Eligible Children

2 doses required if < 9 years and not previously vaccinated

6 - 35 months old (pre-filled syringe)	0.25 ml
3 - 19 years old (multidose vial)	0.5 ml

Fluvirin (Chiron) is licensed for children 4 years and older.

Public Health Offers Influenza Immunizations Starting October 10th

Public Health clinics plan to start administering influenza immunizations on October 10th, if the vaccine is delivered as planned. If vaccine shipments are delayed, or unanticipated supply problems occur, this start date may be revised. October and November are the optimal months for people to receive influenza vaccine, and vaccination efforts will continue through December and into January, as long as vaccine supplies are available. People should get flu vaccine even after influenza is detected in the community.

Staff Vaccinations Decrease Influenza Related Deaths

Influenza spreads very efficiently in health care settings, facilitated by the tendency of HCWs to work while harboring the virus. These asymptomatic carriers can unknowingly transmit the virus to high risk patients. Influenza vaccination of HCWs **reduces morbidity (a forty-three percent reduction in influenza-like illness) and mortality (a forty-four percent reduction)** among geriatric patients in long-term care facilities.^{1,2}

This year the CDC strengthened its recommendation for influenza vaccination for all HCWs, stressing that immunization is the primary method for preventing severe complications of influenza. As few as 36 percent of HCWs receive an annual flu shot, and the resulting absenteeism lessens the quality and continuity of care.³ Conversely, HCWs who receive influenza vaccinations have resulted in up to 44 percent fewer physician visits, and up to 45 percent fewer lost workdays.¹ Recently, the Immunization Action Coalition of Washington supported the CDC recommendation by passing a resolution promoting influenza immunization for all HCWs.

1. Lundstrom T., Pugliese, G., Bartleyk J., Cox, J., Guither, C., Organizational and environmental factors that affect worker health and safety and patient outcomes. *Am J Infect Control.* 2002;30:93-106.

2. Mast, E.E., Harmon, M.W., Gravenstein, S., et al. Emergence and possible transmission of amantadine-resistant viruses during nursing home outbreaks of influenza (AH3N2). *Am J Epidemiol.* 1991;134:986-97.

3. Nichol, K.L., Mallon, K.P., Mendelman, P.M. Cost benefit of influenza vaccination in healthy, working adults: An economic analysis based on the results of a clinical trial of trivalent live attenuated virus vaccine. *Vaccine.* 2003;21:2207-2217.

Live Attenuated Influenza Vaccine (LAIV) Encouraged for Health Care Workers

LAIV (FluMist) is an excellent choice for HCWs and other *immune competent* people to prevent transmission of influenza to high risk people. **LAIV is indicated for people 5-49 years who are:**

- Healthy and not pregnant
- Health care workers
- Household contacts or caregivers of people in high-risk groups

Advantages of LAIV

LAIV is advantageous because of its simple and needleless intranasal administration. Also, unlike the injectable vaccine, local administration of LAIV may promote a stronger immune response. Both serum antibody production and a surface membrane immune response (with formation of secretory antibodies) occur after LAIV administration. HCWs who receive LAIV are unlikely to pose a risk to the majority of patients. Only HCWs who work with severely immune compromised patients **in a protective environment** (e.g. hematopoietic stem cell transplant recipients) should refrain from care of these patients for 7 days after receipt of LAIV.

Storage of LAIV

The manufacturer-supplied freezer box is no longer required to*Continued on page 3*

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store LAIV in a frost-free freezer. The vaccine must be stored at 5° F or colder, and prior to use it may be kept at 36° F (in a refrigerator) for ≤ 60 hours. Once thawed, LAIV should not be refrozen.

LAIV (FluMist) Guidelines for Health Care Workers	
HCWs who are severely immune compromised*	Should not administer LAIV
HCWs who are at high risk for influenza complications (pregnant women, asthmatics or are ≥ 50 years)	May administer LAIV
HCWs who receive LAIV	Should refrain from care of severely immune compromised* patients for 7 days
HCWs with lesser degrees of immunosuppression (caused by diabetes, corticosteroid use for asthma, or HIV infection)	May be vaccinated with TIV or LAIV
* Severely immune compromised: For example, recent hematopoietic stem cell transplant recipient requiring protective environment.	

Who Should Not Receive LAIV?

- Age < 5 or > 50 years
- Reactive airway disease, asthma, or other disorders of the pulmonary or cardiovascular systems
- Underlying medical conditions such as diabetes, renal dysfunction, hemoglobinopathies
- Weakened immune system from disease or therapy
- Age < 18 years and taking aspirin or other salicylates
- History of Guillain-Barre Syndrome
- Currently pregnant
- History of hypersensitivity including anaphylaxis to eggs or LAIV components
- Close contacts of severely immune suppressed people

LAIV Administration	Previously Vaccinated?	Doses
Children age 5-8 yrs	No	2 (6 weeks apart)
Children age 5-8 years	Yes	1
Persons aged 9-49	N/A	1

Providers can order LAIV from MedImmune or through their pharmacy distributor. Public Health clinics will have a limited supply of LAIV.

Thimerosal Update*

- ◆ Thimerosal Content of 2005 Influenza Vaccines:
 - LAIV – No thimerosal
 - TIV Multidose vial – Contains 0.01% thimerosal
 - TIV Prefilled syringes (0.25 & 0.5 ml formulas) – Trace amount of thimerosal (<0.3 mcg mercury) and is considered “preservative-free”
- ◆ **Infanrix (DTaP)** from GlaxoSmithKline, is now offered by Washington’s VFC Program, and **does not contain thimerosal.**

(*Refer to July/Aug VacScene for full report.)

Cases of Tetanus & Measles Underscore Necessity for Adult Immunization

Man Infected with Tetanus Hospitalized in King Co.

Recently, a local man developed jaw/neck muscle spasms, dysphagia, and difficulty speaking. Within 24 hours, he was hospitalized, and treated for systemic tetanus infection. As the severity of muscle tetany progressed, intubation and induced paralysis became necessary. The patient endured a week of mechanical ventilation, and when several extubation attempts failed, a tracheotomy was performed. After at least a month-long stay in ICU, a slow recovery is expected.

Clostridium tetani, the bacterium that causes tetanus infection, is ubiquitous in soil, and typically enters the bloodstream through a wound. Two suspicious injuries occurred within this patient’s incubation period: a cut sustained during fish evisceration, and a puncture by a splinter acquired while gardening. The man had not sought medical attention for either injury. He had a regular source of health care, but it is unknown whether he had ever been vaccinated against tetanus.

In the US from 1980 through 2000, 70 percent of reported cases were among persons 40 years of age or older. Prevention, through appropriate immunization, is vitally important, because most people do not seek medical care for seemingly uncomplicated minor wounds. Almost all cases of tetanus infection occur in people whose immunizations are not up-to-date.

Thirty-five People in King Co. Exposed to Measles

Fourteen days after returning to the US from France, an adult sought treatment for a febrile illness consistent with measles (facial rash, mild cough, conjunctivitis, slight coryza, sore throat, photophobia and Koplik’s spots). The King County resident was born outside the US, with unknown measles infection or vaccination history.

The investigation by Public Health revealed 35 people in King County known to have had close contact with the patient, who had contracted the disease in Paris while attending an international conference. Those exposed were evaluated for evidence of immunity; nonimmune contacts were referred for vaccination, and told to watch for symptoms of measles for 21 days after possible exposure. After approximately a month of surveillance, no further cases were identified by Public Health.

A measles case reported from Michigan (an import from Yemen) occurred the same week, and shared the same sequence (genotype D4) as the King Co. case, and has led investigators to believe the two may have originated from a common source. Although D4 is not unusual, the sequence of these two differed from numerous other D4 sequences.

Measles is rare in the US; however, it is only an airport away. Of the 30 cases reported nationally in 2004, 14 were indigenous and 16 were imported from another country.

Return Services Requested

→ Look for the insert: Influenza Vaccine Screening Tool

Is It Really A Pneumonia Shot?

Pneumococcal polysaccharide vaccine (PPV) is recommended for people who are immune compromised to prevent severe complications and death following pneumococcal infection. The primary reason to use PPV is to prevent invasive disease (most commonly bacteremia and meningitis) for which the vaccine is 60-70% effective. It has not been demonstrated to provide protection against pneumococcal pneumonia, and for this reason, CDC is advising health care practitioners to *avoid* referring to PPV as a pneumonia vaccine.

More than 50,000 cases of pneumococcal bacteremia occur each year in the US. PPV protects against 23 serotypes that cause 88% of bacteremic pneumococcal disease. Before the routine use of the childhood conjugate pneumococcal vaccine (PCV), an estimated 17,000 annual cases of invasive disease caused approximately 200 deaths each year among children under five.

While high risk patients are seeking influenza vaccinations, it's an excellent opportunity to determine if PPV may also be indicated. The US Department of Health and Human Services "Healthy People 2010" goal is to achieve at least 90% coverage for persons ≥ 65 years. Immunizing high risk groups could have a significant impact on reducing complications and death associated with pneumococcal disease.

Who Should Get PPV?

- All adults >65 years
- Anyone >2 yrs with: Cardiovascular or pulmonary disease (excluding asthma), sickle cell disease, alcoholism, CSF leaks, diabetes, cirrhosis
- Anyone >2 yrs with immunosuppressive conditions such as: Hodgkin's disease, kidney failure, nephrotic syndrome, asplenia, lymphoma, leukemia, multiple myeloma, organ transplant, HIV/AIDS, immunosuppressive treatment (steroid or cancer)
- Anyone >2 yrs: who has cochlear implants *or* who is an Alaska native, Navajo or Apache

Highlights

New Vaccine Information Statements (VIS)

Patients must receive the most current VIS when getting a flu shot. They are available online at www.immunize.org/vis/liveflu.pdf for TIV, and www.immunize.org/vis/2flu.pdf for LAIV. Also, a VIS is now available for the new **Tdap** vaccine at: www.cdc.gov/nip/publications/VIS/vis-tdap.pdf.

PHSKC Vaccinations: \$25 for TIV, \$30 for LAIV & \$37 for PPV

For information on the flu season and vaccine availability, visit: www.metrokc.gov/health/immunization/fluseason.htm or call the hotline at 205-296-1100.

Additional Sites Offering Flu Shots:

- GetAFluShot.com 877-358-7468 or www.getaflushot.com
- Fred Meyer Pharmacies www.fredmeyer.com
- Maxim Healthcare Services 877-962-9358 or www.findaflushot.com
- Prevention MD 425-739-0700 or www.preventionmd.com
- US HealthWorks Clinics 253-852-1824 or www.ushealthworks.com
- Valley Medical Center 425-228-3440 ext. 3901
- Visiting Nurse Services 800-449-2221 or www.vnsnw.com
- Safeway Pharmacies www.safeway.com
- Walgreen Pharmacies www.walgreens.com

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