



# THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County

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## New Influenza Recommendations Target Children & Adolescents

### BACKGROUND

Influenza (flu) is a common and deadly contagious viral disease. In the United States every year, an average of approximately 36,000 deaths and 226,000 hospitalizations are associated with influenza epidemics. Typically, flu epidemics occur during the late fall through early spring seasons but influenza activity can occur as late as April or May. Rates of serious illness and death are highest among persons aged >65 years, children aged <2 years, pregnant women, and persons of any age who have medical conditions that place them at increased risk for complications from influenza.

Influenza illness is characterized by abrupt onset of respiratory signs and symptoms (e.g., fever, myalgia, headache, malaise, nonproductive cough, sore throat, and rhinitis). Among children, otitis media, nausea, and vomiting also are commonly reported with influenza illness. Influenza infections may lead to viral pneumonia; exacerbate underlying medical conditions (e.g., pulmonary or cardiac disease); lead to secondary bacterial (pneumococcal) pneumonia, sinusitis, or otitis media.

Influenza viruses are spread from person to person primarily through large-particle respiratory droplet transmission (e.g. when an infected person coughs or sneezes). Contact with respiratory-droplet contaminated surfaces is another possible source of transmission. The typical incubation period for influenza is 1-4 days (average: 2 days). Adults shed influenza virus from the day before symptoms begin through 5-10 days after illness onset. Young children also might shed virus several days before illness onset, and children can be infectious for >10 days after onset of symptoms. Severely immunocompromised persons can shed virus for weeks or months. School-age children play a big role in the spread of flu in communities. For this reason the Advisory Committee on Immunization Practices (ACIP) voted to expand the routine vaccination recommendations to all children aged 5-18 years.

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**Beginning this flu season, providers are encouraged to vaccinate all children 5-18 years of age.**

## Adult Immunizations

September 21-27, 2008 is National Adult Immunization Awareness Week. Health care providers are key to not only making their patients aware of the vaccines they need but in decreasing barriers to immunizations by providing the vaccines to their patients. Studies show that patients are likely to accept vaccinations if their provider recommends them. Each year in the United States between 46,000 and 60,000 adults die from vaccine-preventable diseases (VPDs) or their complications compared to about 200 to 300 children. In addition, VPDs result in excess hospitalizations, lowered quality of life, and missed work. Vaccination saves healthcare dollars by keeping people healthy and enabling them to avoid many of the expensive therapies and hospitalizations needed to treat infectious diseases.

Two VPDs that cause the great majority of illness and death in adults are pneumococcal infections and influenza.

Five percent to 20% of the population develops influenza illness each year. Especially in the elderly, influenza can cause serious complications or death from exacerbations of chronic underlying medical conditions, including chronic obstructive pulmonary disease (COPD), heart failure, and diabetes. Influenza vaccination reduces the risk for pneumonia hospitalization of any kind. Annual influenza vaccination is recommended for all adults aged 50 years and older and for other adults with chronic underlying medical conditions. Since the elderly and persons with chronic medical conditions are still vulnerable to influenza in spite of vaccination, vaccinating people who have contact with these high-risk groups is also needed to provide a barrier to transmission.

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# THE PUBLIC'S HEALTH



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## New Influenza Recommendations...from page 1

### VACCINE RECOMMENDATIONS

Beginning this flu season, providers are encouraged to vaccinate all children aged 5-18 years. If feasible, annual vaccination of all children aged 5-18 years should begin in September or as soon as vaccine is available for the 2008-09 influenza season. However, annual vaccination of all children aged 5-18 years should begin no later than during the 2009-10 influenza season.

As a reminder, annual vaccination of all children aged 6-59 months and older children with conditions that place them at increased risk for complications from influenza should continue. Children and adolescents at high risk for influenza complications should continue to be a focus of vaccination efforts as providers and programs transition to routinely vaccinating all children.

Children with possible reactive airways disease, persons at higher risk for influenza complications because of underlying medical conditions, children aged 6-23 months, and persons aged >49 years should receive trivalent inactivated influenza vaccine (TIV). Both TIV and live, attenuated influenza vaccine (LAIV) can be used when vaccinating healthy persons aged 2-49 years. Children aged 6 months-8 years should receive 2 doses of vaccine if they have not been vaccinated previously at any time with either LAIV or TIV (doses separated by >4 weeks); two doses are required for protection in these children. Children aged 6 months-8 years who received only 1 dose in their first year of vaccination should receive 2 doses the following year. LAIV should not be administered to children aged <5 years with possible reactive airways disease, such as those who have had recurrent wheezing or a recent wheezing episode. In addition, LAIV should not be administered to persons of any age with asthma.

Annual recommendations for adults remain unchanged. Adults who wish to reduce their risk for becoming ill with influenza or transmitting it to others are encouraged to receive an influenza vaccination. Vaccination also is recommended for all adults in the following groups because these persons are either at high-risk for influenza complications or are close contacts of persons at higher risk:

- Persons aged > 50 years;
- Women who will be pregnant during the influenza season;
- Persons who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological or metabolic disorders (including diabetes mellitus);
- Persons who have immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus);
- Persons who have any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that increase the risk for aspiration;
- Residents of nursing homes and other chronic-care facilities;
- Health-Care Personnel;
- Household contacts and caregivers of children aged <5 years and adults aged >50 years, with particular emphasis on vaccinating contacts of children aged <6 months; and,
- Household contacts and caregivers of persons with medical conditions that put them at high-risk of severe complications from influenza.

## New Influenza Recommendations...from page 2

Approved influenza vaccines for different age groups--- United States, 2008-2009 season

Vaccine	Trade Name	Manufacturer	Presentation	Preservative Free	Age Group	No. of Doses	Route
TIV	Fluzone	Sanofi Pasteur	0.25 mL pre-filled syringe	Yes §	6-23 mos	1 or 2*	Intramuscular (IM)
			0.5 mL pre-filled syringe	Yes §	≥36 mos	1 or 2*	Intramuscular (IM)
			0.5 mL vial	Yes §	≥36 mos	1 or 2*	Intramuscular (IM)
			5.0 mL multi-dose vial	No	≥6 mos	1 or 2*	Intramuscular (IM)
TIV	Fluvirin	Novartis Vaccine	5.0 mL multi-dose vial	No	≥4 yrs	1 or 2*	Intramuscular (IM)
			0.5 mL pre-filled syringe	Yes	≥4 yrs	1 or 2*	Intramuscular (IM)
TIV	Fluarix	GlaxoSmithKline	0.5 mL pre-filled syringe	Yes	≥18 yrs	1	Intramuscular (IM)
TIV	FluLaval	GlaxoSmithKline	5.0 mL multi-dose vial	No	≥18 yrs	1	Intramuscular (IM)
TIV	Afluria	CSL Biotherapies	0.5 mL pre-filled syringe	Yes§	≥18 yrs	1	Intramuscular (IM)
			5.0 mL multi-dose vial	No	≥18 yrs	1	Intramuscular (IM)
LAIV	FluMist	MedImmune	0.2 mL sprayer	Yes§§	2-49 yrs	1 or 2**	Intranasal

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

\*\*Two doses administered at least 4 weeks apart are recommended for children aged 2-8 years who are receiving LAIV for the first time and those who only received 1 dose in their first year of vaccination should receive 2 doses in the following year.

§Effective July 1, 2006, the State of California required that children less than 3 years of age and women who are pregnant, be immunized with vaccines containing restricted amounts of thimerosal, a preservative in some vaccines.

§§Not recommended for use in pregnant women or persons with chronic medical conditions.

### EFFECTIVENESS

Remember, influenza vaccine provides the best protection available from flu. In years when the vaccine closely matches circulating flu strains, protection ranges from 70-90%. Even when the vaccine does not prevent the flu it can significantly lessen the severity of the infection. This is particularly important for people at high risk for serious flu-related complications and close-contacts of high-risk people. The 2008-09 strains, A/Brisbane/59/2007 (H1N1)-like, A/Brisbane/10/2007 (H3N2)-like, and B/Florida/4/2006-like antigens, are expected to match viruses circulating this year.

For additional information regarding influenza vaccination please visit: LA County Immunization Program website: [www.publichealth.lacounty.gov/ip](http://www.publichealth.lacounty.gov/ip) or call 213.351.7800.

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### References:

1. CDC. Prevention and Control of Influenza Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2008. MMWR July 17, 2008/ 57 (Early Release) 1-60.
2. CDC. Seasonal Flu Information for Schools and Childcare Providers. Atlanta, GA: National Center for Immunization and Respiratory Diseases, CDC; 2007. Available at <http://www.cdc.gov/flu/school/index.htm>.

# Immunization Coalition of Los Angeles County

*Next Meeting: October 20, 2008*

The Immunization Coalition of Los Angeles County (ICLAC) is a public/private partnership of immunization providers. ICLAC's mission is to foster collaborative efforts between diverse organizational sectors to prevent vaccine preventable diseases among the residents of LA County.

ICLAC convenes quarterly information-sharing meetings including special presentations on a variety of immunization-related topics, such as groups at risk for Vaccine Preventable Diseases (VPD), risk-benefit communication, provider/patient education outreach strategies, and immunization advocacy.

ICLAC also convenes member-supported workgroups that focus on planning and implementing a variety of community-based projects to close the gaps on immunization disparities. Please join us for the next meeting on October 20, 2008 from 10:00 a.m. to 12:00 p.m. at the California Endowment's Center for Healthy Communities, 1000 N. Alameda, Street, LA, CA 90012. For more information about ICLAC, please contact Wendy Berger, Coordinator at 213-351-7499.

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## National Adult Immunization Awareness Week September 21-27, 2008

This fall marks the 21st consecutive observance of National Adult Immunization Awareness Week (NAIAW). NAIAW is a great time for health care providers and organizations to promote the importance of adult and adolescent immunizations. A growing array of vaccines protect adults and adolescents against shingles, pertussis, human papillomavirus, influenza, meningococcal disease and hepatitis.

Each year in the United States, more than 46,000 adults die from vaccine-preventable diseases (VPDs) or their complications. Take this opportunity to remind your patients that adult immunizations are safe and the best way to protect themselves, their families, and their communities from VPDs.

### **Suggested NAIAW Activities**

- Hold an after-hours or weekend adult immunization clinic.
- Use a grand rounds or CME exercise to catch up on adult immunization recommendations.
- Post adult immunization materials in your office.
- Provide a staff in-service on adult immunizations.
- Implement a new evidence-based strategy for improving immunization rates in your office, such as patient reminder/recall, standardized nursing procedures, provider prompts, or the LINK immunization registry ([www.immunizelink.org](http://www.immunizelink.org)).
- Stay healthy and avoid missing work by getting up-to-date with your own vaccinations, including an annual flu vaccine and a Tdap (tetanus-diphtheria-acellular pertussis) booster.

To view and download adult and adolescent immunization schedules, visit [www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm](http://www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm)

For NAIAW campaign toolkits and free educational materials, visit [www.immunize.org](http://www.immunize.org), [www.nfid.org](http://www.nfid.org) or [www.immunizeseniors.org](http://www.immunizeseniors.org).



# Vaccine Storage and Handling:

## What's Changing and What You Need to Know

It is common knowledge that inactivated vaccines must be stored in the refrigerator and live vaccines (Varicella and MMR) must be stored in the freezer, and for a long time, it's been acceptable to use any household refrigerator to store vaccines. However, in recent years the number of vaccine doses that providers are using has dramatically increased, thus decreasing the amount of usable space providers have in their refrigerators. This increase is due to new vaccines, expanded immunization recommendations, and pre-filled syringes which occupy significantly more space than vials. With the increase in vaccine usage there has also been an increase in the number of vaccine losses due to improperly stored vaccines. The average provider typically has tens of thousands of dollars worth of vaccine in their refrigerator at any given time.

Proper vaccine storage and handling of vaccines is a priority for the California Vaccines for Children (VFC) Program and the Los Angeles County Immunization Program (LACIP). Correct storage and handling of vaccines maintains the integrity and stability of vaccines administered to patients; prevents inadvertent administration of improperly stored vaccines, and prevents unnecessary vaccine wastage. Vaccine potency and effectiveness is diminished when exposed to temperatures outside the manufacturer's recommended range. All inactivated liquid vaccines are irreversibly damaged when exposed to freezing temperatures (32° Fahrenheit and below) and live vaccines can be compromised by sustained elevated temperatures.

Some of the common refrigerator problems LACIP has encountered that have resulted in damaged or wasted vaccines are:

- ◇ Insufficient usable space to safely store vaccines. A typical combination refrigerator-freezer has only 30% of its space acceptable for vaccine storage ("useable vaccine storage space").
- ◇ Significant temperature variations from shelf to shelf in the units.
- ◇ Improper use of inside space including:
  - Shelves directly beneath the air vent
  - Vaccines stored in vegetable bins or deli crispers
  - Vaccines touching wall surfaces that are vulnerable to freezing temperatures

### New CA VFC Vaccine Storage Equipment Guidelines

To ensure ongoing vaccine integrity, the VFC Program has developed new specifications for the types of vaccine storage units that are acceptable for the storage of vaccines supplied through the VFC Program.

Refrigerator-only units, also known as "freezer-less refrigerators" will become the required storage units for all refrigerated vaccines distributed through the VFC Program.

All providers enrolling in the VFC program or providers who experience any vaccine loss due to failure of their current unit (regardless of volume) will be expected to comply with recommendations listed below.

- **Super high volume** providers receiving more than 10,000 doses per year will be required to store VFC supplied vaccines in "pharmacy-grade or biologic grade freezer-less refrigerator" and "pharmacy-grade or biologic grade freezer-only" units. These units are designed for optimum cooling capacity and stable temperature control over the recommended range.
- **High volume** providers receiving between 2,000 and 10,000 vaccine doses per year will be required to store VFC supplied vaccines in refrigerator-only and stand alone freezer units.
- **Medium volume** providers receiving between 500 and 2,000 vaccine doses per year should strongly consider purchasing refrigerator-only and stand alone freezer units. However, providers will be allowed to keep an existing household refrigerator/freezer combination unit as long as it meets all of the following specifications:

- 1) Has adequate useable vaccine storage space to store largest anticipated vaccine supply, e.g. during seasonal peaks, such as back-to-school or flu season. Providers will be required to purchase separate units in instances where unit does not have adequate vaccine storage capacity.
- 2) Has dual thermostats for refrigerator and freezer.
- 3) Maintains required vaccine storage temperatures without significant fluctuations.
- 4) Is frost-free, and free of any visible water or coolant leaks.
- 5) Has not required repairs within the past two years.
- 6) Has doors that seal tightly and close properly.
- 7) Has at least 3 inches of free space between vaccine and internal walls, and vaccines are stored away from cold air vent.
- 8) Has no vaccine being stored in the units' vegetable bins, deli crispers, doors, or shelves directly underneath air vents.
- 9) Is NOT a "dorm-style" or "under-the-counter" unit. These have poor temperature controls and are considered unacceptable for vaccine storage.

- **Low volume** providers receiving less than 500 vaccine

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## Vaccine Storage and Handling...from page 5

doses per year will be allowed to have a combination unit if it meets required specifications (see above conditions).

### Purchasing Your New Equipment: Refrigerator

#### Specifications

Refrigerator-only units are quite common and often found in food, beverage and floral industries where products must be stored strictly at +40°F. The cost of purchasing a refrigerator-only unit can range from \$400 to \$4,000 for a refrigerator-only unit sold at a major appliance retailer, and from \$4,000 to \$9,000 dollars for a biologic or pharmacy grade unit sold by specialty distributors. Compared to the annual dollar amount of VFC vaccines stored by a medium volume provider, which may be up to \$50,000, the purchase of a refrigerator-only unit can prove to be quite an investment for providers and prevent costly vaccine losses that providers may be held financially responsible for.

#### Tips for Purchasing a New Refrigerator-Only Unit:

##### *Optimal Refrigerator Features*

- Unit must maintain uniform temperatures between 35-46°. Units that have a preset temperature at 40°F (5°C) are preferable.
- Unit must have adequate usable space.
- Unit must have an automatic defrost cycle.
- Unit must have an NSF certified temperature gauge
- “Negative pressure self-closing doors” (doors that close automatically) and built-in thermometers are highly desirable.
- Security locks, wire racks, and visible temperature displays are ideal.

##### *Unacceptable Refrigerator Features*

- Units with visible cooling plates or open coiling located in the back wall of the unit.
- Exposed internal coiling or exposed cooling plates.

#### Other Storage and Handling Recommendations:

- The refrigerator temperature is maintained between 35-46° F (2-8°C), (Aim for 40°F)
- The freezer temperature is maintained below 5° F (-15°C), (Aim for 0°F)
- Use only certified thermometers. If your thermometer uses batteries, replace them every 6 months.
- Place thermometers in the center of both the refrigerator and freezer. Post a temperature log on the doors.

- Check and record refrigerator and freezer temperatures twice a day, first thing in the morning and last thing at the close of business. Check to make sure that the door is shut. If the temperature is out of range, immediately contact LACIP.
- Post “Do Not Un-plug” warning signs on the refrigerator and freezer doors, electrical outlets, and circuit breakers.
- Rotate vaccine stock by placing shorter expiration dates in front. Call LACIP if you have any vaccine that will expire within 3 months.
- Keep vaccine in original packaging until using it.
- Designate one staff member to be the primary vaccine coordinator and at least one person to be back up.
- Have an emergency plan for extended power outages and freezer or refrigerator malfunctions.

#### Wendi Cate, MA

Director of Field Services

Los Angeles County Immunization Program

# Recommended Adult Immunization Schedule

Note: These recommendations must be read with the footnotes that follow.

Figure 1. Recommended adult immunization schedule, by vaccine and age group United States, October 2007 – September 2008

VACCINE ▼	AGE GROUP ▶	19–49 years	50–64 years	≥65 years
Tetanus, diphtheria, pertussis (Td/Tdap) <sup>1,*</sup>		1 dose Td booster every 10 yrs		
		Substitute 1 dose of Tdap for Td		
Human papillomavirus (HPV) <sup>2,*</sup>		3 doses females (0, 2, 6 mos)		
Measles, mumps, rubella (MMR) <sup>3,*</sup>		1 or 2 doses	1 dose	
Varicella <sup>4,*</sup>			2 doses (0, 4–8 wks)	
Influenza <sup>5,*</sup>			1 dose annually	
Pneumococcal (polysaccharide) <sup>6,7</sup>			1–2 doses	1 dose
Hepatitis A <sup>8,*</sup>			2 doses (0, 6–12 mos or 0, 6–18 mos)	
Hepatitis B <sup>9,*</sup>			3 doses (0, 1–2, 4–6 mos)	
Meningococcal <sup>10,*</sup>			1 or more doses	
Zoster <sup>11</sup>				1 dose

\*Covered by the Vaccine Injury Compensation Program.

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection)

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

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](http://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](http://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](http://www.cdc.gov/vaccines) or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 24 hours a day, 7 days a week.

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.

**Figure 2. Vaccines that might be indicated for adults based on medical and other indications United States, October 2007 – September 2008**

VACCINE ▼	INDICATION ▶	Pregnancy	Immuno-compromising conditions (excluding human immunodeficiency virus [HIV]), medications, radiation <sup>13</sup>	HIV infection <sup>13,14,15</sup> CD4+ T lymphocyte count <table border="1"> <tr> <td>&lt;200 cells/μL</td> <td>≥200 cells/μL</td> </tr> </table>	<200 cells/μL	≥200 cells/μL	Diabetes, heart disease, chronic pulmonary disease, chronic alcoholism	Asplenia <sup>12</sup> (including splenectomy and terminal complement deficiencies)	Chronic liver disease	Kidney failure, end-stage renal disease, receipt of hemodialysis	Health-care personnel
<200 cells/μL	≥200 cells/μL										
Tetanus, diphtheria, pertussis (Td/Tdap) <sup>1,16</sup> *											
Human papillomavirus (HPV) <sup>2,*</sup>											
Measles, mumps, rubella (MMR) <sup>3,*</sup>		Contraindicated				1 or 2 doses					
Varicella <sup>4,*</sup>		Contraindicated				2 doses (0, 4–8 wks)					
Influenza <sup>5,*</sup>						1 dose TIV annually			1 dose TIV or LAIV annually		
Pneumococcal (polysaccharide) <sup>6,7</sup>						1–2 doses					
Hepatitis A <sup>8,*</sup>						2 doses (0, 6–12 mos, or 0, 6–18 mos)					
Hepatitis B <sup>9,*</sup>						3 doses (0, 1–2, 4–6 mos)					
Meningococcal <sup>10,*</sup>						1 or more doses					
Zoster <sup>11</sup>		Contraindicated							1 dose		

\*Covered by the Vaccine Injury Compensation Program.

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection)

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

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 October 1, 2007. 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/pubs/acip-list.htm](http://www.cdc.gov/vaccines/pubs/acip-list.htm)).

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 Obstetricians and Gynecologists (ACOG), and the American College of Physicians (ACP).



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
CENTERS FOR DISEASE CONTROL AND PREVENTION





## Footnotes

### Recommended Adult Immunization Schedule · United States, October 2007 – September 2008

For complete statements by the Advisory Committee on Immunization Practices (ACIP), visit [www.cdc.gov/vaccines/pubs/ACIP-list.htm](http://www.cdc.gov/vaccines/pubs/ACIP-list.htm).

#### 1. Tetanus, diphtheria, and acellular pertussis (Td/Tdap) vaccination

Tdap should replace a single dose of Td for adults aged <65 years who have not previously received a dose of Tdap. Only one of two Tdap products (Adacel<sup>®</sup>[sanofi pasteur]) is licensed for use in adults.

Adults with uncertain histories of a complete primary vaccination series with tetanus and diphtheria toxoid-containing vaccines should begin or complete a primary vaccination series. A primary series for adults is 3 doses of tetanus and diphtheria toxoid-containing vaccines; administer the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second. However, Tdap can substitute for any one of the doses of Td in the 3-dose primary series. The booster dose of tetanus and diphtheria toxoid-containing vaccine should be administered to adults who have completed a primary series and if the last vaccination was received  $\geq 10$  years previously. Tdap or Td vaccine may be used, as indicated.

If the person is pregnant and received the last Td vaccination  $\geq 10$  years previously, administer Td during the second or third trimester; if the person received the last Td vaccination in <10 years, administer Tdap during the immediate postpartum period. A one-time administration of 1 dose of Tdap with an interval as short as 2 years from a previous Td vaccination is recommended for postpartum women, close contacts of infants aged <12 months, and all health-care workers with direct patient contact. In certain situations, Td can be deferred during pregnancy and Tdap substituted in the immediate postpartum period, or Tdap can be administered instead of Td to a pregnant woman after an informed discussion with the woman.

Consult the ACIP statement for recommendations for administering Td as prophylaxis in wound management.

#### 2. Human papillomavirus (HPV) vaccination

HPV vaccination is recommended for all females aged  $\leq 26$  years who have not completed the vaccine series. History of genital warts, abnormal Papanicolaou test, or positive HPV DNA test is not evidence of prior infection with all vaccine HPV types; HPV vaccination is still recommended for these persons.

Ideally, vaccine should be administered before potential exposure to HPV through sexual activity; however, females who are sexually active should still be vaccinated. Sexually active females who have not been infected with any of the HPV vaccine types receive the full benefit of the vaccination. Vaccination is less beneficial for females who have already been infected with one or more of the HPV vaccine types.

A complete series consists of 3 doses. The second dose should be administered 2 months after the first dose; the third dose should be administered 6 months after the first dose.

Although HPV vaccination is not specifically recommended for females with the medical indications described in Figure 2, "Vaccines that might be indicated for adults based on medical and other indications," it is not a live-virus vaccine and can be administered. However, immune response and vaccine efficacy might be less than in persons who do not have the medical indications described or who are immunocompetent.

#### 3. Measles, mumps, rubella (MMR) vaccination

*Measles component:* Adults born before 1957 can be considered immune to measles. Adults born during or after 1957 should receive  $\geq 1$  dose of MMR unless they have a medical contraindication, documentation of  $\geq 1$  dose, history of measles based on health-care provider diagnosis, or laboratory evidence of immunity.

A second dose of MMR is recommended for adults who 1) have been recently exposed to measles or are in an outbreak setting; 2) have been previously vaccinated with killed measles vaccine; 3) have been vaccinated with an unknown type of measles vaccine during 1963–1967; 4) are students in postsecondary educational institutions; 5) work in a health-care facility; or 6) plan to travel internationally.

*Mumps component:* Adults born before 1957 can generally be considered immune to mumps. Adults born during or after 1957 should receive 1 dose of MMR unless they have a medical contraindication, history of mumps based on health-care provider diagnosis, or laboratory evidence of immunity.

A second dose of MMR is recommended for adults who 1) are in an age group that is affected during a mumps outbreak; 2) are students in postsecondary educational institutions; 3) work in a health-care facility; or 4) plan to travel internationally. For unvaccinated health-care workers born before 1957 who do not have other evidence of mumps immunity, consider administering 1 dose on a routine basis and strongly consider administering a second dose during an outbreak.

*Rubella component:* Administer 1 dose of MMR vaccine to women whose rubella vaccination history is unreliable or who lack laboratory evidence of immunity. For women of childbearing age, regardless of birth year, routinely determine rubella immunity and counsel women regarding congenital rubella syndrome. Women who do not have evidence of immunity should receive MMR vaccine upon completion or termination of pregnancy and before discharge from the health-care facility.

#### 4. Varicella vaccination

All adults without evidence of immunity to varicella should receive 2 doses of single-antigen varicella vaccine unless they have a medical contraindication. Special consideration should be given to those who 1) have close contact with persons at high risk for severe disease (e.g., health-care personnel and family contacts of immunocompromised persons) or 2) are at high risk for exposure or transmission (e.g., teachers; child care employees; residents and staff members of institutional settings, including correctional institutions; college students; military personnel; adolescents and adults living in households with children; nonpregnant women of childbearing age; and international travelers).

Evidence of immunity to varicella in adults includes any of the following: 1) documentation of 2 doses of varicella vaccine at least 4 weeks apart; 2) U.S.-born before 1980 (although for health-care personnel and pregnant women birth before 1980 should not be considered evidence of immunity); 3) history of varicella based on diagnosis or verification of varicella by a health-care provider (for a patient reporting a history of or presenting with an atypical case, a mild case, or both, health-care providers should seek either an epidemiologic link with a typical varicella case or to a laboratory-confirmed case or evidence of laboratory confirmation, if it was performed at the time of acute disease); 4) history of herpes zoster based on health-care provider diagnosis; or 5) laboratory evidence of immunity or laboratory confirmation of disease.

Assess pregnant women for evidence of varicella immunity. Women who do not have evidence of immunity should receive the first dose of varicella vaccine upon completion or termination of pregnancy and before discharge from the health-care facility. The second dose should be administered 4–8 weeks after the first dose.

## 5. Influenza vaccination

*Medical indications:* Chronic disorders of the cardiovascular or pulmonary systems, including asthma; chronic metabolic diseases, including diabetes mellitus, renal or hepatic dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or human immunodeficiency virus [HIV]); any condition that compromises respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injury, or seizure disorder or other neuromuscular disorder); and pregnancy during the influenza season. No data exist on the risk for severe or complicated influenza disease among persons with asplenia; however, influenza is a risk factor for secondary bacterial infections that can cause severe disease among persons with asplenia.

*Occupational indications:* Health-care personnel and employees of long-term care and assisted-living facilities.

*Other indications:* Residents of nursing homes and other long-term care and assisted-living facilities; persons likely to transmit influenza to persons at high risk (e.g., in-home household contacts and caregivers of children aged 0–59 months, or persons of all ages with high-risk conditions); and anyone who would like to be vaccinated. Healthy, nonpregnant adults aged ≤49 years without high-risk medical conditions who are not contacts of severely immunocompromised persons in special care units can receive either intranasally administered live, attenuated influenza vaccine (FluMist®) or inactivated vaccine. Other persons should receive the inactivated vaccine.

## 6. Pneumococcal polysaccharide vaccination

*Medical indications:* Chronic pulmonary disease (excluding asthma); chronic cardiovascular diseases; diabetes mellitus; chronic liver diseases, including liver disease as a result of alcohol abuse (e.g., cirrhosis); chronic alcoholism, chronic renal failure or nephrotic syndrome; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy [if elective splenectomy is planned, vaccinate at least 2 weeks before surgery]); immunosuppressive conditions; and cochlear implants and cerebrospinal fluid leaks. Vaccinate as close to HIV diagnosis as possible.

*Other indications:* Alaska Natives and certain American Indian populations and residents of nursing homes or other long-term care facilities.

## 7. Revaccination with pneumococcal polysaccharide vaccine

One-time revaccination after 5 years for persons with chronic renal failure or nephrotic syndrome; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy); or immunosuppressive conditions. For persons aged ≥65 years, one-time revaccination if they were vaccinated ≥5 years previously and were aged <65 years at the time of primary vaccination.

## 8. Hepatitis A vaccination

*Medical indications:* Persons with chronic liver disease and persons who receive clotting factor concentrates.

*Behavioral indications:* Men who have sex with men and persons who use illegal drugs.

*Occupational indications:* Persons working with hepatitis A virus (HAV)–infected primates or with HAV in a research laboratory setting.

*Other indications:* Persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A (a list of countries is available at [www.cdc.gov/travel/content/diseases.aspx](http://www.cdc.gov/travel/content/diseases.aspx)) and any person seeking protection from HAV infection.

Single-antigen vaccine formulations should be administered in a 2-dose schedule at either 0 and 6–12 months (Havrix®), or 0 and 6–18 months (Vaqta®). If the combined hepatitis A and hepatitis B vaccine (Twinrix®) is used, administer 3 doses at 0, 1, and 6 months.

## 9. Hepatitis B vaccination

*Medical indications:* Persons with end-stage renal disease, including patients receiving hemodialysis; persons seeking evaluation or treatment for a sexually transmitted disease (STD); persons with HIV infection; and persons with chronic liver disease.

*Occupational indications:* Health-care personnel and public-safety workers who are exposed to blood or other potentially infectious body fluids.

*Behavioral indications:* Sexually active persons who are not in a long-term, mutually monogamous relationship (e.g., persons with more than 1 sex partner during the previous 6 months); current or recent injection-drug users; and men who have sex with men.

*Other indications:* Household contacts and sex partners of persons with chronic hepatitis B virus (HBV) infection; clients and staff members of institutions for persons with developmental disabilities; international travelers to countries with high or intermediate prevalence of chronic HBV infection (a list of countries is available at [www.cdc.gov/travel/content/diseases.aspx](http://www.cdc.gov/travel/content/diseases.aspx)); and any adult seeking protection from HBV infection.

Settings where hepatitis B vaccination is recommended for all adults: STD treatment facilities; HIV testing and treatment facilities; facilities providing drug-abuse treatment and prevention services; health-care settings targeting services to injection-drug users or men who have sex with men; correctional facilities; end-stage renal disease programs and facilities for chronic hemodialysis patients; and institutions and nonresidential daycare facilities for persons with developmental disabilities.

*Special formulation indications:* For adult patients receiving hemodialysis and other immunocompromised adults, 1 dose of 40 µg/mL (Recombivax HB®), or 2 doses of 20 µg/mL (Engerix-B®) administered simultaneously.

## 10. Meningococcal vaccination

*Medical indications:* Adults with anatomic or functional asplenia, or terminal complement component deficiencies.

*Other indications:* First-year college students living in dormitories; microbiologists who are routinely exposed to isolates of *Neisseria meningitidis*; military recruits; and persons who travel to or live in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the “meningitis belt” of sub-Saharan Africa during the dry season [December–June]), particularly if their contact with local populations will be prolonged. Vaccination is required by the government of Saudi Arabia for all travelers to Mecca during the annual Hajj.

Meningococcal conjugate vaccine is preferred for adults with any of the preceding indications who are aged ≤55 years, although meningococcal polysaccharide vaccine (MPSV4) is an acceptable alternative. Revaccination after 3–5 years might be indicated for adults previously vaccinated with MPSV4 who remain at increased risk for infection (e.g., persons residing in areas in which disease is epidemic).

## 11. Herpes zoster vaccination

A single dose of zoster vaccine is recommended for adults aged ≥60 years regardless of whether they report a prior episode of herpes zoster. Persons with chronic medical conditions may be vaccinated unless a contraindication or precaution exists for their condition.

## 12. Selected conditions for which *Haemophilus influenzae* type b (Hib) vaccine may be used

Hib conjugate vaccines are licensed for children aged 6 weeks–71 months. No efficacy data are available on which to base a recommendation concerning use of Hib vaccine for older children and adults with the chronic conditions associated with an increased risk for Hib disease. However, studies suggest good immunogenicity in patients who have sickle cell disease, leukemia, or HIV infection or who have had splenectomies; administering vaccine to these patients is not contraindicated.

## 13. Immunocompromising conditions

Inactivated vaccines are generally acceptable (e.g., pneumococcal, meningococcal, and influenza [trivalent inactivated influenza vaccine]), and live vaccines generally are avoided in persons with immune deficiencies or immune suppressive conditions. Information on specific conditions is available at [www.cdc.gov/vaccines/pubs/acip-list.htm](http://www.cdc.gov/vaccines/pubs/acip-list.htm).

## Adult Immunizations...from page 1

According to the CDC, nearly one million adults aged 65 years and older are diagnosed with pneumonia each year and about one-third will be hospitalized. The risk of pneumococcal infections and complications can be reduced with the pneumococcal vaccine. Pneumococcal vaccine is recommended once for adults 65 years old or older and it is recommended for younger persons with chronic medical conditions that increase the risk for pneumococcal complications. If a person was vaccinated before age 65, a one-time revaccination is recommended after they reach age 65 if it has been at least 5 years since the first vaccination.

Tdap is a relatively new vaccine that is recommended for adults through the age of 64 years. A single dose of Tdap is recommended to replace one Td booster dose or in previously unvaccinated persons to replace one of the three primary series doses. Tdap is recommended for adults that will have contact with infants and for health care workers. In these cases, immunization may be administered at an interval as short as 2 years since the last Td. The Advisory Committee on Immunization Practices (ACIP) states that the primary objective of replacing a dose of Td with Tdap is to protect the vaccinated adult against pertussis. The secondary objective of adult Tdap vaccination is to reduce the reservoir of pertussis, and thereby potentially decrease exposure of persons at increased risk for complicated infection (e.g., infants), and to reduce the cost and disruption of pertussis in health-care facilities and other institutional settings.

Pertussis is endemic in the U.S. despite decades of routine childhood pertussis vaccination. Immunity against pertussis wanes five to ten years after the last childhood vaccination. Since the 1980s, the number of reported pertussis cases has steadily increased, especially among adolescents and adults. However, it is infants under 12 months that are more likely to suffer severe pertussis and pertussis-related deaths. Infants accounted for approximately 19% of nationally reported pertussis cases and 92% of the pertussis deaths in the U.S. during 2000-2004. Parents, grandparents and other adult close-contacts are common sources of the infection in infants.

There are an estimated 40 to 50 cases of tetanus reported each year with approximately 5 deaths in the U.S. In the 1990s the highest risk for tetanus was in people over the age of 65 years. Thirty-eight percent of tetanus cases were in the elderly and the elderly tended to have more severe disease. Almost all reported cases of tetanus occur in persons who either have never been vaccinated or who completed their primary series but have not had a booster vaccination in the past 10 years.

Diphtheria is rare in the U.S., but it is still common in the developing world. Former Soviet Union countries have reported over 150,000 cases since 1990. Myocarditis, polyneuritis, and airway obstruction are common

complications of respiratory diphtheria. Nearly one of every 10 people who get diphtheria will die from it.

Zoster vaccine, which is given as a single dose and is recommended for adults aged 60 years and older. Although zoster rarely causes death, it does cause a great deal of morbidity. There are approximately one million new cases of zoster every year in the U.S., and over half of the cases are in persons age 60 and older. Older individuals are at high risk for getting herpes zoster and they are at much higher risk for complications, especially for post herpetic neuralgia (PHN). The vaccine reduces the incidence of zoster by about 50%, and in those who do develop zoster, it reduces the severity and duration of pain and discomfort associated with zoster by 61 %. In addition, the incidence of PHN was reduced by two thirds.

For adult immunization recommendations, the ACIP annually publishes the Recommended Adult Immunization Schedule. The schedule is approved by the ACIP, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, and the American College of Physicians. The revised schedule for October 2008–September 2009 will be published in mid-October. The current schedule is available in this edition and can be viewed with the revised schedule (when released) at the CDC's website at: <http://cdc.gov/vaccines/recs/schedules/adult-schedule.htm#chart>. You can also visit the Los Angeles County Immunization Program's website at: <http://www.publichealth.lacounty.gov/ip/IZschedule.htm> for a link to the schedule and for other adult immunization information.

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# Physician Registry

## Become a Member of the Health Alert Network

The Los Angeles County Department of Public Health urges all local physicians to register with the Health Alert Network (HAN). By joining, you will receive periodic email updates alerting you to the latest significant local public health information including emerging threats such as pandemic influenza. Membership is free. All physician information remains private and will not be distributed or used for commercial purposes.

Registration can be completed online at [www.lahealthalert.org](http://www.lahealthalert.org) or by calling (323) 890-8377.

**Be aware of public health emergencies! Enroll now!**

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# THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County



COUNTY OF LOS ANGELES

**Public Health**

313 North Figueroa Street, Room 806  
Los Angeles, CA 90012

## Selected Reportable Diseases (Cases)<sup>1</sup> — April 2008

Disease	THIS PERIOD April 2008	SAME PERIOD LAST YEAR April 2007	YEAR TO DATE –APRIL		YEAR END TOTALS		
			2008	2007	2007	2006	2005
AIDS <sup>1</sup>	152	140	579	482	1,438	1,381	1,506
Amebiasis	12	9	43	34	122	94	114
Campylobacteriosis	76	84	279	251	827	775	725
Chlamydial Infections	3,724	3,436	14,730	13,769	40,935	39,876	38,862
Encephalitis	0	5	4	9	65	46	72
Gonorrhea	670	740	2,891	3,198	9,320	10,430	10,494
Hepatitis Type A	7	10	25	36	78	364	480
Hepatitis Type B, acute	2	6	19	14	52	62	57
Hepatitis Type C, acute	0	0	0	0	6	4	3
Measles	0	0	1	0	0	1	0
Meningitis, viral/aseptic	22	24	82	81	395	373	527
Meningococcal Infect.	2	2	23	13	24	46	37
Mumps	0	0	4	2	5	10	10
Pertussis	3	4	20	27	69	150	439
Rubella	0	0	0	0	0	0	1
Salmonellosis	54	80	200	247	1,081	1,217	1,085
Shigellosis	24	18	72	63	463	524	710
Syphilis (prim. and sec.)	41	77	224	311	845	789	644
Syphilis Early latent	41	70	228	275	794	764	570
Tuberculosis	81	46	141	101	816	885	906
Typhoid fever, Acute	3	1	6	5	17	17	12

1. Case totals are provisional and may vary following periodic updates of the database.