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Newsletter for Medical Professionals in Los Angeles County

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Vaccinating Adults – What's the Problem?

For the past several years, the last week in September has been designated "Adult Immunization Week," with national media attention reminding health care providers, and the populations they serve, the importance of adult immunizations. However, the low percentage of adults who have received all of the recommended vaccines indicates that one week is not enough.

Since the 2000 Institute of Medicine's report "Calling the Shots" noted the failure of adults to achieve the benefits of immunizations, there has been little progress on adult immunizations. The 2005 Los Angeles County Health Survey found that only 61.6% of adults (aged 65 years and older) received a flu shot and only 57.7% of adults (aged 65 years and older) reported ever receiving a pneumococcal vaccination. The federal "Healthy People" 2010 goal for each of these indicators is 90%.

Los Angeles County Health Survey found that only 61.6% of adults (aged 65 years and older) received a flu shot and only 57.7% of adults (aged 65 years and older) reported ever receiving a pneumococcal vaccination.

Why the low immunization coverage for adults?

Many experts feel that an inadequate infrastructure for delivery of adult immunizations, historically poor reimbursement rates for adult vaccines and the perception that immunizations are primarily a prevention strategy for children are major contributors to the problem.

Recent improvements in reimbursement rates by major insurers, as well as new regulations in some states (California included) requiring the offering of influenza and pneumococcal vaccinations to residents of long-term care facilities, are

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Increased Use of Non-injection Methamphetamine Among Men (2000 to 2004)

Methamphetamine use is not only associated with high-risk sexual behaviors and increased HIV transmission risk^{1,2}, but also with adverse neurobehavioral effects and its use can undermine HIV treatment³. Data are presented on trends in methamphetamine use among 683 men diagnosed with AIDS in the county from 2000 to 2004.

The data were collected as part of the CDC-funded

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Supplement to HIV/AIDS Surveillance Project (SHAS), a cross-sectional survey of persons diagnosed with AIDS. Based on self-identified sexual orientation and sexual behavior in the previous 12 months, the study group was classified into men who have sex with men (MSM) and men who do not have sex with men (non-MSM). Women were not included due to small numbers reporting methamphetamine use.

Trends in the percentage of male participants who reported lifetime methamphetamine use by midyear time periods were examined using a chi square linear trend analysis stratified by race/ethnicity and sexual orientation.

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just some of the changes that have the potential to change “past practices” regarding adult immunizations. New health-care worker and child-care worker immunization mandates and recommendations should also contribute to better adult immunization coverage levels.

What are the adult immunization recommendations?

All adults should receive the following immunizations:

- **Tetanus-Diphtheria (Td)** -- every 10 years with one of the doses given as the new Tetanus-Diphtheria-Pertussis (Tdap) vaccine. Health care workers providing direct patient care and child care workers, teachers and family members with regular contact with children under one year of age should get their Tdap as soon as possible to prevent transmission of pertussis (whooping cough) to infants who often die from this disease.
- **Measles-Mumps-Rubella (MMR)** -- if no documented history or serologic evidence of having these diseases. (For persons who are not healthcare workers, women not contemplating pregnancy or others who do not work in sensitive settings where disease transmission is more likely to occur, birth before 1957 is considered presumptive evidence of immunity). These diseases still circulate in many parts of the world and travel-related exposures are very common.
- **Varicella** -- if no documented history or serologic evidence of disease. (For persons who are not health care workers, not pregnant, not immunocompromised or others who do not work in sensitive settings where disease transmission is more likely to occur, birth before 1980 is considered presumptive evidence of immunity.)
- **Influenza vaccine** -- every year for anyone who wants to reduce their chance of getting the flu or its complications and especially for all adults over 49 years of age and people under 50 years of age with high-risk medical conditions (see Adult Immunization Schedule, included with this article, which lists all high risk factors or conditions for receipt of this vaccine).

What are the immunizations recommended for adults of certain age groups and with certain health conditions or risk factors?

Adults in these categories should receive the following immunizations (see Adult Immunization Schedule):

- Influenza vaccine annually for adults with high-risk conditions.
- Pneumococcal vaccine once if aged 65 years and older (unless two life-time doses already received because of a high-risk condition).
- Varicella zoster vaccine (Zostavax®) for everyone aged 60 years and older, even if the person had the disease chickenpox or received the chickenpox vaccine.
- Hepatitis A vaccine for adults at risk or anyone who wants to protect him/herself from this disease.
- Hepatitis B vaccine for adults at risk or anyone who wants to protect him/herself from this disease.
- Meningococcal vaccine for adults at risk.
- Human Papilloma Virus (HPV) vaccine for adult women through age 26 years.
- Polio vaccine only for adults who have never been vaccinated against polio and who are traveling to parts of the world where exposure to wild-type polio is likely.

It should be clear what we as health-care providers need to do: **educate and vaccinate!** So, what is the problem?

For information about strategies that can help providers improve immunization coverage levels for their adult patients, please visit the Los Angeles County Immunization Program's website and click on adult immunization: <http://lapublichealth.org/ip>.

A. Nelson El Amin, MD, MPH
Immunization Program

Recommended Adult Immunization Schedule, by Vaccine and Age Group UNITED STATES • OCTOBER 2006–SEPTEMBER 2007

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

*Covered by the Vaccine Injury Compensation Program. NOTE: These recommendations must be read with the footnotes (see reverse).

	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)
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This schedule indicates the recommended age groups and medical indications for routine administration of currently licensed vaccines for persons aged ≥19 years, as of October 1, 2006. 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/nip/publications/acip-list.htm).

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, 800-822-7957.

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 and contraindications for vaccination is also available at www.cdc.gov/nip 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.

Recommended Adult Immunization Schedule, by Vaccine and Medical and Other Indications UNITED STATES • OCTOBER 2006–SEPTEMBER 2007

Vaccine ▼	Indication ▶	Pregnancy	Congenital immunodeficiency, leukemia, ¹¹ lymphoma, generalized malignancy, cerebrospinal fluid leaks; therapy with alkylating agents, antimetabolites, radiation, or high-dose, long-term corticosteroids	Diabetes, heart disease, chronic pulmonary disease, chronic alcoholism	Asplenia ¹¹ (including elective splenectomy and terminal complement deficiencies)	Chronic liver disease, recipients of clotting factor concentrates	Kidney failure, end-stage renal disease, recipients of hemodialysis	Human immunodeficiency virus (HIV) infection ¹¹	Healthcare workers
Tetanus, diphtheria, pertussis (Td/Tdap) ^{1,*}		1-dose Td booster every 10 yrs							
		Substitute 1 dose of Tdap for Td							
Human papillomavirus (HPV) ²		3 doses for females through age 26 yrs (0, 2, 6 mos)							
Measles, mumps, rubella (MMR) ^{3,*}		1 or 2 doses							
Varicella ^{4,*}			2 doses (0, 4–8 wks)						2 doses
Influenza ^{5,*}		1 dose annually			1 dose annually	1 dose annually			
Pneumococcal (polysaccharide) ^{6,7}		1–2 doses	1–2 doses						1–2 doses
Hepatitis A ^{8,*}		2 doses (0, 6–12 mos, or 0, 6–18 mos)			2 doses	2 doses (0, 6–12 mos, or 0, 6–18 mos)			
Hepatitis B ^{9,*}		3 doses (0, 1–2, 4–6 mos)			3 doses (0, 1–2, 4–6 mos)				
Meningococcal ¹⁰		1 dose			1 dose	1 dose			

*Covered by the Vaccine Injury Compensation Program. NOTE: These recommendations must be read with the footnotes (see reverse).

	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)		Contraindicated
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Approved by
the Advisory Committee on Immunization Practices,
the American College of Obstetricians and Gynecologists,
the American Academy of Family Physicians,
and the American College of Physicians



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



Footnotes

Recommended Adult Immunization Schedule • UNITED STATES, OCTOBER 2006–SEPTEMBER 2007

1. Tetanus, diphtheria, and acellular pertussis (Td/Tdap) vaccination. Adults with uncertain histories of a complete primary vaccination series with diphtheria and tetanus toxoid-containing vaccines should begin or complete a primary vaccination series. A primary series for adults is 3 doses; administer the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second. Administer a booster dose to adults who have completed a primary series and if the last vaccination was received ≥ 10 years previously. Tdap or tetanus and diphtheria (Td) vaccine may be used; Tdap should replace a single dose of Td for adults aged < 65 years who have not previously received a dose of Tdap (either in the primary series, as a booster, or for wound management). Only one of two Tdap products (Adacel[®] [sanofi pasteur]) is licensed for use in adults. If the person is pregnant and received the last Td vaccination ≥ 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 healthcare 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 given instead of Td to a pregnant woman after an informed discussion with the woman (see www.cdc.gov/nip/publications/acip-list.htm). Consult the ACIP statement for recommendations for administering Td as prophylaxis in wound management (www.cdc.gov/mmwr/preview/mmwrhtml/00041645.htm).

2. Human papillomavirus (HPV) vaccination. HPV vaccination is recommended for all women aged ≤ 26 years who have not completed the vaccine series. Ideally, vaccine should be administered before potential exposure to HPV through sexual activity; however, women who are sexually active should still be vaccinated. Sexually active women who have not been infected with any of the HPV vaccine types receive the full benefit of the vaccination. Vaccination is less beneficial for women who have already been infected with one or more of the four 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. Vaccination is not recommended during pregnancy. If a woman is found to be pregnant after initiating the vaccination series, the remainder of the 3-dose regimen should be delayed until after completion of the pregnancy.

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 ≥ 1 dose of MMR unless they have a medical contraindication, documentation of ≥ 1 dose, history of measles based on healthcare 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 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 healthcare facility; or 6) plan to travel internationally. Withhold MMR or other measles-containing vaccines from HIV-infected persons with severe immunosuppression.

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 healthcare 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 healthcare facility; or 4) plan to travel internationally. For unvaccinated healthcare workers born before 1957 who do not have other evidence of mumps immunity, consider giving 1 dose on a routine basis and strongly consider giving 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. Do not vaccinate women who are pregnant or who might become pregnant within 4 weeks of receiving vaccine. Women who do not have evidence of immunity should receive MMR vaccine upon completion or termination of pregnancy and before discharge from the healthcare facility.

4. Varicella vaccination. All adults without evidence of immunity to varicella should receive 2 doses of varicella vaccine. Special consideration should be given to those who 1) have close contact with persons at high risk for severe disease (e.g., healthcare workers and family contacts of immunocompromised persons) or 2) are at high risk for exposure or transmission (e.g., teachers of young children; 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 healthcare workers 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 healthcare provider (for a patient reporting a history of or presenting with an atypical case, a mild case, or both, healthcare providers should seek either an epidemiologic link with a typical varicella case or evidence of laboratory confirmation, if it was performed at the time of acute disease); 4) history of herpes zoster based on healthcare provider diagnosis; or 5) laboratory evidence of immunity or laboratory confirmation of disease. Do not vaccinate women who are pregnant or might become pregnant within 4 weeks of receiving the vaccine. Assess pregnant women for evidence of varicella immunity. Women who do not have evidence of immunity should receive dose 1 of varicella vaccine upon completion or termination of pregnancy and before discharge from the healthcare facility. Dose 2 should be administered 4–8 weeks after dose 1.

5. Influenza vaccination. *Medical indications:* chronic disorders of the cardiovascular or pulmonary systems, including asthma; chronic metabolic diseases, including diabetes mellitus, renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or 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:* healthcare workers 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 persons aged 5–49 years without high-risk medical conditions who are not contacts of severely immunocompromised persons in special care units can receive either intranasally administered influenza vaccine (FluMist[®]) or inactivated vaccine. Other persons should receive the inactivated vaccine.

6. Pneumococcal polysaccharide vaccination. *Medical indications:* chronic disorders of the pulmonary system (excluding asthma); cardiovascular diseases; diabetes mellitus; chronic liver diseases, including liver disease as a result of alcohol abuse (e.g., cirrhosis); 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 (e.g., congenital immunodeficiency, HIV infection [vaccinate as close to diagnosis as possible when CD4 cell counts are highest], leukemia, lymphoma, multiple myeloma, Hodgkin disease, generalized malignancy, or organ or bone marrow transplantation); chemotherapy with alkylating agents, antimetabolites, or high-dose, long-term corticosteroids; and cochlear implants. *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); immunosuppressive conditions (e.g., congenital immunodeficiency, HIV infection, leukemia, lymphoma, multiple myeloma, Hodgkin disease, generalized malignancy, or organ or bone marrow transplantation); or chemotherapy with alkylating agents, antimetabolites, or high-dose, long-term corticosteroids. 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/diseases.htm) and any person who would like to obtain immunity. Current vaccines should be administered

in a 2-dose schedule at either 0 and 6–12 months, or 0 and 6–18 months. If the combined hepatitis A and hepatitis B vaccine 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; persons with chronic liver disease; and persons who receive clotting factor concentrates. *Occupational indications:* healthcare workers 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 (i.e., persons with > 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; all clients of STD clinics; international travelers to countries with high or intermediate prevalence of chronic HBV infection (a list of countries is available at www.cdc.gov/travel/diseases.htm); 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; healthcare settings providing services for 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 μ g/mL (Recombivax HB[®]) or 2 doses of 20 μ g/mL (Engerix-B[®]).

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 5 years might be indicated for adults previously vaccinated with MPSV4 who remain at high risk for infection (e.g., persons residing in areas in which disease is epidemic).

11. 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.