

New York City VacScene

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New York City Department of Health and Mental Hygiene

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Get the message out:

It's not too late to vaccinate!
Flu activity usually peaks
in late January to March.
Continue to vaccinate your
high-risk patients.

RECOMMENDED ADULT IMMUNIZATION SCHEDULE – UNITED STATES, 2004-2005

The robust childhood immunization program in the United States has led to a marked reduction in the burden of vaccine-preventable diseases in children. Now, nearly all (greater than 99%) of the burden of vaccine-preventable disease is in adults.

- Influenza results in over 200,000 excess hospitalizations¹ each year in the United States. More than 36,000 deaths each year are attributable to complications from influenza infection.^{2,3}
- There are approximately 500,000 cases of invasive pneumococcal disease in the United States annually resulting in more than 40,000 deaths. More than half of those deaths are preventable with adequate vaccination. Fatality rates are highest among persons 70 years and older.⁴
- There are an estimated 200-300 million chronic carriers of Hepatitis B virus (HBV) worldwide. An estimated 1-1.25 million persons in the United States are chronically infected with HBV, and an additional 5,000-8,000 persons become chronically infected each year.⁵ High rates of disease are found in adults, particularly males 25-39 years of age, with a large proportion of cases occurring among persons in identified risk groups.⁶
- Adults who have never had varicella are at risk for this potentially life-threatening disease. Although adults account for only 5% of reported cases of varicella, the risk of complication and death from varicella increases with increasing age.⁵

The Advisory Committee on Immunization Practices (ACIP) has released the annual Recommended Adult Immunization Schedule. This schedule provides an up-to-date tool for family physicians, family nurse practitioners, gynecologists, internists, and other health care practitioners to assess the vaccine needs of patients during office visits and to direct the administration of appropriate vaccines. This Recommended Adult Immunization Schedule defines the standard of practice for adult immunizations.

This schedule presents a tabular, color-coded summary of vaccines by age group (Figure 1) and by indication (Figure 2). Footnotes included are summaries of the most recent ACIP recommendations for specific vaccines.

This current schedule has two important changes from previous schedules:

- Health care workers have been included as a particular risk group for whom specific vaccinations are recommended (Figure 2). Vaccination rates in this group are very low; in 2002 only 38.4% of health care workers reported receiving influenza vaccine, and 62.3% reported having completed the hepatitis B vaccination series.⁷
- The ACIP now recommends that all pregnant women receive influenza vaccine.

The 2004-2005 Recommended Adult Immunization Schedule has been approved by the American Academy of Family Physicians and the American College of Obstetricians and Gynecologists.

References:

1. Thompson WW, Shay DK, Weintraub E, et al. Influenza-associated hospitalizations in the United States. *JAMA*. 2004;292:1333-1340.
2. Thompson WW, Shay DK, Weintraub E, et al. Mortality associated with influenza and respiratory syncytial virus in the United States. *JAMA*. 2003;289:179-186.
3. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. 2004;53 (RR-6).
4. Centers for Disease Control and Prevention. Prevention of pneumococcal disease. Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. 1997;46(RR-8).
5. Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases, 8th edition, January, 2004.
6. Centers for Disease Control and Prevention. Hepatitis Surveillance Report No. 59. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2004. www.cdc.gov/ncidod/diseases/hepatitis/resource/PDFs/hep_surveillance_59.pdf.
7. Centers for Disease Control and Prevention. Recommended Adult Immunization Schedule – United States, October 2004-September 2005. *MMWR*. 2004;53:Q1-4.

Vaccine Adverse Event Reporting System (VAERS)

Report all clinically significant post-vaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). VAERS is a national vaccine safety surveillance program established in 1990 under the joint administration of the CDC and the Food and Drug Administration (FDA) to accept reports of suspected adverse events after administration of any vaccine licensed in the United States. VAERS collects, investigates and analyzes information from reports of adverse events following immunization. By monitoring reports of adverse events which may range from mild to severe, VAERS helps to identify important new safety concerns and assists in ensuring that the benefits of vaccines continues to far outweigh any risks.

Anyone can report to VAERS. Many different types of events occur after vaccination; these may or may not have been caused by an immunization. Any significant reaction following vaccination should be reported to VAERS regardless of whether or not one can be certain the vaccine caused the reaction. Reports of adverse events can be voluntarily submitted by health care providers, vaccine manufacturers, vaccine recipients or their parents/guardians at www.vaers.org or 800-822-7967.

Report all suspected cases of vaccine-preventable disease to the Bureau of Immunization at 212-676-2284/2288.

FLU SEASON, 2004-2005

This flu season has been characterized by a shortage of vaccine and the need to redirect flu vaccine for high-risk populations. On December 17, 2004, ACIP issued updated interim influenza vaccination recommendations for the 2004-2005 flu season (*MMWR* 2004;53:1183-1184). NYC DOHMH has also updated influenza vaccine recommendations.

For information about influenza, ordering influenza vaccine, and current vaccination guidelines, please go to www.nyc.gov/health/flu

Influenza vaccine is recommended for:

- All adults 50 years of age and older; particularly those age 65 and over;
- All children 6-23 months of age;
- All persons 6 months and older with chronic medical conditions;
- All pregnant women (at any gestational age);
- All residents of nursing homes and chronic care facilities who are 6 months and older;
- All children and adolescents, age 6 months to 18 years, receiving long-term aspirin therapy;
- Health care workers involved in direct patient care*;
- Out-of-home caregivers and household contacts of persons in high-risk groups (e.g., persons B 65 years; persons with chronic conditions such as diabetes, heart or lung disease or weakened immune systems because of illness or medication; and contacts of children < 2 years)*.

* FluMist® (LAIV) may be administered to healthy contacts of infants and young children, persons with chronic disease, and health care workers (see box below).

Providers are asked to identify and recall for vaccination their patients in these priority groups.

Effective December 17, 2004, Vaccines for Children (VFC) supply may be used for all eligible children 2-18 years of age who are contacts of those at high-risk.

Additional recommendations:

- LAIV is still available and can be ordered at www.flumist.com or by calling 877-flumist. For more information, visit: www.cdc.gov/flu/about/qa/nasalspray.htm
- Vaccinate all eligible patients with pneumococcal polysaccharide vaccine (PPV23).
- Guidance on the use of antiviral medication is available at: www.cdc.gov/flu/professionals/treatment/0405antiviralguid.htm
- Updates on influenza activity in NYC can be found at www.nyc.gov/html/doh/html/imm/imminfo.html

FluMist® (LAIV) use in health care workers

Non-pregnant, healthy, health care workers under 50 years of age should receive FluMist (LAIV). LAIV is contraindicated only for health care workers with direct, face-to-face contact with severely immunocompromised individuals who require protective isolation. LAIV can be used in health care workers who care for all other patients.

The use of brand names does not imply endorsement of any product by the NYC Department of Health and Mental Hygiene

FIGURE 1: RECOMMENDED ADULT IMMUNIZATION SCHEDULE, BY VACCINE AND AGE GROUP — UNITED STATES, OCTOBER 2004–SEPTEMBER 2005

Vaccine	Age group (yrs)		
	19–49	50–64	≥65
Tetanus, Diphtheria (Td)*	1 booster dose every 10 years ¹		
Influenza	1 dose annually ²	1 dose annually	
Pneumococcal (polysaccharide)	1 dose ^{3,4}		1 dose ⁴
Hepatitis B*	3 doses (0, 1–2, 4–6 mos) ⁵		
Hepatitis A*	2 doses (0, 6–12 mos) ⁶		
Measles, Mumps, Rubella (MMR)*	1 or 2 doses (0, 4–8 wks) ⁷		
Varicella*	2 doses (0, 4–8 wks) ⁸		
Meningococcal (polysaccharide)	1 dose ⁹		

 For all persons in this group

 For persons lacking documentation of vaccination, reliable history or serologic evidence of disease

 For persons at risk (i.e., with medical/exposure indications)

* Covered by the Vaccine Injury Compensation Program.

1. Tetanus and diphtheria (Td). Adults, including pregnant women with uncertain history of a complete primary vaccination series, should receive a primary series of Td. A primary series for adults is 3 doses; administer the first 2 doses at least 4 weeks apart and the 3rd dose 6–12 months after the second. Administer 1 dose if the person received the primary series and if the last vaccination was received ≥10 years previously. Consult recommendations for administering Td as prophylaxis in wound management (see *MMWR* 1991;40[RR-10]). The American College of Physicians Task Force on Adult Immunization supports a second option for Td use in adults: a single Td booster at age 50 years for persons who have completed the full pediatric series, including the teenage/young adult booster.

2. Influenza vaccination. The Advisory Committee on Immunization Practices (ACIP) recommends inactivated influenza vaccination for the following indications, when vaccine is available (see *MMWR* 2004;53:1183-84). *Medical indications:* chronic disorders of the cardiovascular or pulmonary systems, including asthma; chronic metabolic diseases, including diabetes mellitus; renal dysfunction; hemoglobinopathies; immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]); and pregnancy during the influenza season. *Occupational indications:* health care workers and employees of long-term care and assisted living facilities. *Other indications:* residents of nursing homes and other long-term care facilities; persons likely to transmit influenza to persons at high risk (i.e., in-home caregivers to persons with medical indications, household/close contacts and out-of-home caregivers of children aged 0–23 months, household members and caregivers of elderly persons and adults with high-risk conditions); and anyone who wishes to be vaccinated. For healthy persons aged 5–49 years without high-risk conditions who are not contacts of

severely immunocompromised persons in special care units, use either the inactivated vaccine or the intranasally administered influenza vaccine (FluMist®)(see *MMWR* 2004;53[RR-6] and *MMWR* 2004 53:923-4).

3. 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); immunosuppressive conditions (e.g., congenital immunodeficiency, HIV infection, leukemia, lymphoma, multiple myeloma, Hodgkins disease, generalized malignancy, or organ or bone marrow transplantation); chemotherapy with alkylating agents, antimetabolites, or long-term systemic corticosteroids; or cochlear implants. *Other indications:* Alaska Natives and certain American Indian populations, and residents of nursing homes and other long-term care facilities (see *MMWR* 1997;46[RR-8] and *MMWR* 2003;52:739–40).

4. 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, Hodgkins disease, generalized malignancy, or organ or bone marrow transplantation); or chemotherapy with alkylating agents, antimetabolites, or long-term systemic 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 (see *MMWR* 1997;46[RR-8]).

continued on page 5

FIGURE 2: RECOMMENDED ADULT IMMUNIZATION SCHEDULE, BY VACCINE AND MEDICAL AND OTHER INDICATIONS — UNITED STATES, OCTOBER 2004–SEPTEMBER 2005

Vaccine	Indication						
	Pregnancy	Diabetes, heart disease, chronic pulmonary disease, chronic liver disease (including chronic alcoholism)	Congenital immunodeficiency, cochlear implants, leukemia, lymphoma, generalized malignancy, therapy with alkylating agents, antimetabolites, CSF [†] leaks, radiation, or large amounts of corticosteroids	Renal failure/ end-stage renal disease, recipients of hemodialysis or clotting factor concentrates	Asplenia (including elective splenectomy) and terminal complement component deficiencies	HIV [§] infection	Health care workers
Tetanus, Diphtheria (Td)* ¹	For all persons in this group						For persons lacking documentation of vaccination, reliable history or serologic evidence of disease
Influenza ²	For all persons in this group		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease		For persons at risk (i.e., with medical/exposure indications)	For persons lacking documentation of vaccination, reliable history or serologic evidence of disease	
Pneumococcal (polysaccharide) ^{3,4}	For persons lacking documentation of vaccination, reliable history or serologic evidence of disease		For persons at risk (i.e., with medical/exposure indications)		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease		For persons at risk (i.e., with medical/exposure indications)
Hepatitis B* ⁵	For persons at risk (i.e., with medical/exposure indications)			For persons at risk (i.e., with medical/exposure indications)	For persons lacking documentation of vaccination, reliable history or serologic evidence of disease		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease
Hepatitis A* ⁶	For persons at risk (i.e., with medical/exposure indications)						
Measles, Mumps, Rubella (MMR)* ⁷	Contraindicated		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease
Varicella* ⁸	Contraindicated		Contraindicated		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease		For persons lacking documentation of vaccination, reliable history or serologic evidence of disease

For all persons in this group
 For persons lacking documentation of vaccination, reliable history or serologic evidence of disease
 For persons at risk (i.e., with medical/exposure indications)
 Contraindicated

* Covered by the Vaccine Injury Compensation Program.

† Cerebrospinal fluid.

§ Human immunodeficiency virus.

Special Notes for Medical and Other Indications

A. Although chronic liver disease and alcoholism are not indications for influenza vaccination, administer 1 dose annually if the patient is aged ≥50 years, has other indications for influenza vaccine, or requests vaccination.

B. Asthma is an indication for influenza vaccination but not for pneumococcal vaccination.

C. No data exist specifically on the risk for severe or complicated influenza infections among persons with asplenia. However, influenza is a risk factor for secondary bacterial infections that can cause severe disease among persons with asplenia.

D. For persons aged <65 years, revaccinate once after 5 years have elapsed since initial vaccination (see footnote 4).

E. Administer meningococcal vaccine and consider *Haemophilus influenzae* type b vaccine.

F. For persons undergoing elective splenectomy, vaccinate 2 weeks before surgery.

G. Vaccinate as soon after diagnosis as possible.

H. For hemodialysis patients, use special formulation of vaccine (40 µg/mL) or two 20 µg/mL doses administered at one body site. Vaccinate early in the course of renal disease. Assess antibody titers to hepatitis B surface antigen (anti-HB) levels annually. Administer additional doses if anti-HB levels decline to <10 mIU/mL.

I. For all persons with chronic liver disease.

J. Withhold MMR or other measles-containing vaccines from HIV-infected persons with evidence of severe immunosuppression (see *MMWR* 1998;47 [RR-8]:21–2 and *MMWR* 2002;51[RR-2]:22–4).

K. Persons with impaired humoral immunity but intact cellular immunity may be vaccinated (see *MMWR* 1999;48[RR-6]).

This schedule indicates the recommended groups for routine administration of currently licensed vaccines for persons aged ≥19 years. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated.

Report all clinically significant post-vaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.org or 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/osp/vicp or at 800-338-2382. To file a claim for vaccine injury, contact the US Court of Federal Claims, 717 Madison Place, NW, Washington DC 20005, telephone 202-219-9657.

For additional information about the vaccines, vaccine supply, and contraindications for immunization, please visit www.cdc.gov/nip or www.nyc.gov/health or call the New York City Department of Health and Mental Hygiene Bureau of Immunization at 212-676-2259.

Approved by the Advisory Committee on Immunization Practices (ACIP), the American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Family Physicians (AAFP).

5. Hepatitis B vaccination. *Medical indications:* hemodialysis patients or patients who receive clotting factor concentrates. *Occupational indications:* health care workers and public-safety workers who have exposure to blood in the workplace; and persons in training in schools of medicine, dentistry, nursing, laboratory technology, and other allied health professions. *Behavioral indications:* injection-drug users; persons with more than one sex partner during the previous 6 months; persons with a recently acquired sexually transmitted disease (STD); all clients in STD clinics; 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 the developmentally disabled; inmates of correctional facilities; or international travelers who will be in countries with high or intermediate prevalence of chronic HBV infection for >6 months (www.cdc.gov/travel/diseases/hbv.htm) (see *MMWR* 1991;40[RR-13]).

6. Hepatitis A vaccination. *Medical indications:* persons with clotting factor disorders or chronic liver disease. *Behavioral indications:* men who have sex with men or users of 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. If the combined Hepatitis A and Hepatitis B vaccine is used, administer 3 doses at 0, 1, and 6 months (www.cdc.gov/travel/diseases/hav.htm) (see *MMWR* 1999;48[RR-12]).

7. 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 or 2 doses of MMR unless they have a medical contraindication, documentation of B1 dose, or other acceptable evidence of immunity. A second dose of MMR is recommended for adults who 1) were recently exposed to measles or in an outbreak setting, 2) were previously vaccinated with killed measles vaccine, 3) were vaccinated with an unknown vaccine during 1963–1967, 4) are students in post-secondary educational institutions, 5) work in health-care facilities, or 6) plan to travel internationally. *Mumps component:* 1 dose of MMR vaccine should be adequate for protection. *Rubella component:* administer 1 dose of MMR vaccine to women whose rubella vaccination history is unreliable and counsel women to avoid becoming pregnant for 4 weeks after vaccination. For women of childbearing age, regardless of birth year, routinely determine rubella immunity and counsel women regarding congenital rubella syndrome. Do not vaccinate pregnant women or those planning to become pregnant during the next 4 weeks. For women who are pregnant and susceptible, vaccinate as early in the postpartum period as possible (see *MMWR* 1998;47[RR-8] and *MMWR* 2001;50:1117).

8. Varicella vaccination. Recommended for all persons lacking a reliable clinical history of varicella infection or serologic evidence of varicella zoster virus (VZV) infection who might be at

high risk for exposure or transmission. This includes health care workers and family contacts of immunocompromised persons; persons who live or work in environments where transmission is likely (e.g., teachers of young children, child care employees, and residents and staff members in institutional settings); persons who live or work in environments where VZV transmission can occur (e.g., college students, inmates, and staff members of correctional institutions, and military personnel); adolescents aged 11–18 years and adults living in households with children; women who are not pregnant but who might become pregnant; and international travelers who are not immune to infection.

Note: Approximately 95% of U.S.-born adults are immune to VZV. If no reliable history of disease is available, serologic testing may be indicated. Do not vaccinate pregnant women or those planning to become pregnant during the next 4 weeks. For women who are pregnant and susceptible, vaccinate as early in the postpartum period as possible (see *MMWR* 1999;48 [RR-6]).

9. Meningococcal vaccine (quadrivalent polysaccharide for serogroups A, C, Y, and W 135). *Medical indications:* adults with terminal complement component deficiencies or those with anatomic or functional asplenia. *Other indications:* travelers to countries in which meningococcal disease is hyperendemic or epidemic (e.g., the “meningitis belt” of sub-Saharan Africa and Mecca, Saudi Arabia). Revaccination after 3–5 years might be indicated for persons at high risk for infection (e.g., persons residing in areas where disease is epidemic). Counsel college freshmen, especially those who live in dormitories, regarding meningococcal disease and availability of the vaccine to enable them to make an educated decision about receiving the vaccination (see *MMWR* 2000;49[RR-7]). The American Academy of Family Physicians recommends that colleges should take the lead on providing education on meningococcal infection and availability of vaccination and offer it to students who are interested. Physicians need not initiate discussion of meningococcal quadrivalent polysaccharide vaccine as part of routine medical care.

New York State (NYS) Public Health Law requires that all students attending college or university in NYS provide proof of immunization or serologic immunity to measles, mumps and rubella. Students are also required to return a form indicating that they have been informed about meningococcal disease, however this vaccine is not required by law to attend school. For additional information about meningococcal disease including information about the law, go to www.nyc.gov/html/doh/html/cd/cdmen.html or www.health.state.ny.us/nysdoh/immun/immunization.htm

SAVE THE DATES:

Epidemiology & Prevention of Vaccine-Preventable Disease
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