

New York City VacScene

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**Get the message out:
you, your staff, all of your
high-risk patients and
their families
NEED
the flu shot!**

RECOMMENDED CHILDHOOD AND ADOLESCENT IMMUNIZATION SCHEDULE:

Each year, the annual recommended childhood and adolescent immunization schedule is published by the Advisory Committee on Immunization Practices (ACIP) and endorsed by the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAFP). This immunization schedule comprises the standard of care for immunizations.

This year's schedule has some important changes and clarifications:

- Influenza vaccine is now recommended for ALL children aged 6 months to 23 months. Children in this age range have the highest rates of hospitalizations for influenza infection, exceeding that for persons 65 and older. Patients who require vaccination and who do not have regularly scheduled appointments should be recalled to receive their flu shots.
- The last dose in the hepatitis B vaccination schedule should not be administered before age 24 weeks. (The previous recommendation had been that the last dose of hepatitis B vaccine should not be administered before 6 months of age.) This change should reduce the number of children who need to be re-immunized as a result of the final dose being a few days before the 6-month birthday.
- The adolescent Td vaccine dose is recommended to be given at 11-12 years of age.
- The final dose of the DTaP series of vaccines should be given at age ≥ 4 years.
- The final dose in the Hib series of vaccines should be given at age ≥ 12 months.
- The final dose in the PCV7 series of vaccines should be given at age ≥ 12 months.

The 2004 schedule continues to emphasize that:

- All newborns should receive the first dose of hepatitis B vaccine before hospital discharge in order to:
 - safeguard against maternal hepatitis B testing errors,
 - safeguard against maternal hepatitis B reporting failures,
 - minimize risk for infection by exposure to persons with chronic hepatitis B virus infection in the household,
 - enhance the completion of the childhood immunization schedule.
- Any child through 18 years of age who has not received the hepatitis B vaccine series should be vaccinated.

- Any child who is over 12 months of age and who has not had varicella vaccine or a documented case of varicella disease and for whom it is not medically contraindicated should be immunized; children 13 years of age and older require 2 doses of vaccine given at least 4 weeks apart.

The detailed catch-up schedule provides guidance for children and adolescents who started their vaccine series late or for those children who are more than one month behind schedule. These catch-up schedules indicate minimum ages and intervals between doses.

Pneumococcal Conjugate Vaccine Shortage

There are continuing significant shortages of pneumococcal conjugate vaccine, PCV7 (Prevnar®). Healthcare providers, regardless of the amount of PCV7 in their inventories, should continue to temporarily withhold the administration of the third and fourth doses of PCV7 for all healthy children. Every child should receive two doses of PCV7 at ages 2 and 4 months. The third (6 month) and fourth (≥12 months) dose should be delayed, except for those at high risk for severe disease.* Unvaccinated, healthy children aged 12-23 months of age should receive only a single dose of PCV7. For children ≥2 years, PCV7 is not routinely recommended. The four-dose series should be restricted to children at increased risk for severe disease.*

Pneumococcal polysaccharide vaccine (PPV23) is not licensed for use in children <2 years of age. It is recommended only for use for those children who are at the highest risk of invasive pneumococcal disease.*

A tracking or reminder-recall system should be used so that all patients whose 3rd and 4th doses are delayed can be recalled for age-appropriate catch-up vaccination once vaccine supply is available. Successful systems have included the use of a file card system, log books or rosters, electronic reminders, or sticky notes or other flag systems on the medical record.

For the most up-to-date information about vaccine supply and recommendations due to shortages, please go to www.cdc.gov/nip/news/shortages/default.htm.

** Includes children with sickle cell disease and other hemoglobinopathies, anatomic asplenia, chronic diseases (e.g., chronic cardiac and pulmonary disease and diabetes), cerebrospinal fluid leak, human immunodeficiency virus infection and other immunocompromising conditions, immunosuppressive chemotherapy or long-term systemic corticosteroid use; children who have undergone solid organ transplantation; and children who either have received or will receive cochlear implants. All these children have been identified as being at either "high risk" or "presumed high risk" for severe invasive pneumococcal disease and should receive 4 doses of PCV7.*

**Report all cases of suspected vaccine-preventable disease:
call 212-676-2284/88
(after hours: 212-POISONS)**

Universal Hepatitis B Birth Dose Policy Promotion

To promote the administration of hepatitis B vaccine to all infants at birth, the Bureau of Immunization is providing the vaccine free to all birthing facilities that implement a policy of vaccinating all newborns. Applications and materials were sent to all hospitals in October 2003. To date, 18 hospitals have accepted the offer and have been enrolled in the program. For more information call Dr. Jane R. Zucker at 212-676-2248.

MENINGOCOCCAL DISEASE AND PUBLIC HEALTH LAW 2167

New York State Legislation

On July 22, 2003, the New York State Public Health Law (NYS PHL) was amended to include section 2167 which specifies the requirement for (1) colleges and universities, (2) residential secondary schools (boarding schools), and (3) children's overnight camps where campers remain overnight for seven or more nights, to inform students, parents or guardians about meningococcal meningitis (also called meningococcal disease) and to collect a completed response form. The law does not require that a student/child receive meningococcal vaccination, only that the required form is completed and returned to the school or camp (the form indicates that the student/child either received vaccine or that the individual/family did not wish such vaccine). Vaccination is not required to attend school or camp.

College/University Students:

The law applies to all students attending any college or university in New York State and who are enrolled for at least 6 semester hours per semester or 4 semester hours per quarter, regardless of the student's age and whether living on or off campus. Students must be informed about the risks of meningococcal disease in college students and be informed about the availability and cost of meningococcal vaccine. The student must provide the school with documentation as to whether the student has received such vaccine within the preceding ten years or does not wish such vaccine.

Colleges and universities have been provided with information from the New York State Department of Health (see www.health.state.ny.us/nysdoh/immun/meningococcal/index.htm) that includes sources of information about meningococcal disease risk for college students.

College freshmen, particularly those who live in dormitories, are at modestly increased risk for meningococcal disease relative to other persons their age (1.4 cases/100,000 persons for individuals 18-23 years of age vs. 4.6 cases/100,000 persons for freshmen living in college dormitories). Vaccination with the currently available quadrivalent meningococcal polysaccharide vaccine (includes serogroups A, C, Y, and W-135) will decrease

the risk for meningococcal disease among such persons. Vaccination does not eliminate risk entirely because the vaccine confers no protection against serogroup B disease and the efficacy is <100% for included serogroups. (*MMWR* 2000;49 [RR-7]:1-22).

It is important to note that there is no suggestion that students who are commuters are at any increased risk of meningococcal disease.

Secondary Residential Schools (Boarding Schools)

As part of this same law, all secondary residential schools are also required to distribute information about meningococcal meningitis to and collect information from parents or guardians of students in grades 7-12 about vaccination. All secondary residential schools have been provided with information from the New York State Department of Health (see www.health.state.ny.us/nysdoh/immun/meningococcal/letter_to_residential_schools.htm) that includes information about this section of the law.

Overnight Campers

Similarly, PHL §2167 requires that parents or guardians of campers attending children's overnight camps for seven or more nights be provided with information that includes a description of meningococcal disease and its transmission, the benefits, risks and effectiveness of immunization, and the availability and estimated cost of immunization (and if the camp itself offers the vaccine). The parent/guardian must return a form to the camp. There is no evidence that suggests that attending summer camp places children at any increased risk of meningococcal disease.

Additional information is available at:

- New York City Department of Health and Mental Hygiene at: www.nyc.gov/html/doh/html/cd/cdmen.html
- Centers for Disease Control and Prevention at: www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm
www.cdc.gov/nip/publications/pink/mening.pdf
- Meningococcal Disease and College Students: Recommendations of the Advisory Committee on Immunization Practices (ACIP), *MMWR* 2000;49(RR-7): 1-22, available at www.cdc.gov/mmwr/PDF/rr/rr4907.pdf
- American College Health Association at: www.acha.org/projects_programs/men.cfm

Meningococcal vaccine is not provided at the New York City Department of Health and Mental Hygiene Immunization Clinics nor is it available through the Vaccines For Children Program. Physicians who wish to obtain vaccine should contact the manufacturer, Aventis Pasteur, at 1-800-822-2463.

Spreading Immunization Best Practices

The New York City Department of Health and Mental Hygiene (DOHMH) Bureau of Immunization is partnering with the National Initiative for Children's Healthcare Quality (NICHQ) to assist all New York City primary care practices serving children in implementing practical, sustainable, and evidence-based strategies to ensure the delivery of immunizations – and, ultimately, to improve immunization rates. NICHQ, a not-for-profit organization, works in partnership with the American Academy of Pediatrics, the American Board of Pediatrics, and the Institute for Healthcare Improvement to eliminate the gap between what is and what could be in healthcare for all children.

Although immunizations are a top priority for primary care clinicians, many are surprised to find out that not all children in their practices have received all age-appropriate vaccines. Impediments to accomplishing this goal include the large number of recommended services, the fast pace of practices, the volume of acutely ill patients, rapidity of patient turnover, and the difficulty of taking care of “extra” issues, such as preventive services at sick-child visits. Under these circumstances, clinicians may, and often do, overlook opportunities for immunizations.

The challenges of achieving more reliable immunization delivery systems highlight the need for more systematic approaches, and DOHMH is committed to supporting practices in making such improvements.

The Citywide Immunization Registry (CIR) will be a major part of this Immunization Improvement Spread Project. A “Toolkit,” providing the information needed to improve immunization rates at the practice level will be distributed to providers of childhood immunizations; rates of immunization coverage of 18-24 month-olds will be monitored using CIR data.

The project is comprised of DOHMH staff, local healthcare providers who are active in various Bureau of Immunization improvement and networking efforts, and NICHQ staff.

To discuss participating in the initial phases of the Immunization Improvement Spread Project, please contact Dr. Denise H. Benkel of the Bureau of Immunization at 212-676-1447 or dbenkel@health.nyc.gov.

Remember: Report all immunizations given to children < 8 years of age to the Citywide Immunization Registry (CIR) within 14 days of administration (NYC Health Code Section 11.04). Immunizations given to children ages 8-18 may be reported with written consent from the parent/guardian documented in your record. Report on paper forms, electronically from your data system, or via the Internet using the Online Registry at www.nyc.gov/health/cir. Call the CIR at 212-676-2323 for information, assistance or for your patients' immunization and lead test results.

Recommended Childhood and Adolescent Immunization Schedule United States, 2004

Age ► Vaccine ▼	Range of recommended ages				Catch-up vaccination				Preadolescent assessment			
	Birth	1 mo	2 mo	4 mo	6 mo	12 mo	15 mo	18 mo	24 mo	4-6 y	11-12 y	12-18 y
Hepatitis B ¹	Hep B #1 only if mother HBsAg(-)		Hep B #2		Hep B #3				Hep B series			
Diphtheria, Tetanus, Pertussis ²		DTaP	DTaP	DTaP		DTaP			DTaP	Td	Td	
<i>Haemophilus influenzae</i> type b ³		Hib	Hib	Hib ³	Hib							
Inactivated Polio		IPV	IPV	IPV					IPV			
Measles, Mumps, Rubella ⁴					MMR #1				MMR #2	MMR #2		
Varicella ⁵					Varicella				Varicella			
Pneumococcal ⁶		PCV	PCV	PCV	PCV				PCV	PPV		
Influenza ⁷				Influenza (yearly)				Influenza (yearly)				
Hepatitis A ⁸	Vaccines below this line are for selected populations								Hepatitis A series			

Indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of April 1, 2004, for children through age 18 years. Any dose not given at the recommended age should be given at any subsequent visit when indicated and feasible. ■ Indicates age groups that warrant special effort to administer those vaccines not given previously. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting Systems (VAERS). Guidance about how to obtain and complete a VAERS form is available at www.vaers.org or by telephone at 800-822-7967.

1. **Hepatitis B vaccine (HepB).** All infants should receive the first dose of hepatitis B vaccine soon after birth and before hospital discharge; the first dose may also be given by age 2 months if the infant's mother is HBsAg-negative. Only monovalent hepatitis B vaccine can be used for the birth dose. Monovalent or combination vaccine containing HepB may be used to complete the series; four doses of vaccine may be administered if a birth dose is given. The second dose should be given at least 4 weeks after the first dose, except for combination vaccines which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 24 weeks. Infants born to HBsAg-positive mothers should receive HepB vaccine and 0.5mL hepatitis B immune globulin (HBIG) within 12 hours of birth at separate sites. The second dose of HepB vaccine is recommended at age 1-2 months. The last dose in the vaccination series should not be administered before age 24 weeks. These infants should be tested for HBsAg and anti-HBs at age 9-15 months. Infants born to mothers whose HBsAg status is unknown should receive the first dose of the HepB vaccine series within 12 hours of birth. Maternal blood should be drawn as soon as possible to determine the mother's HbsAg status; if the HbsAg test is positive, the infant should receive HBIG as soon as possible (no later than age 1 week). The second dose is recommended at age 1-2 months. The last dose in the vaccination series should not be administered before age 24 weeks.
Children and adolescents who have not been vaccinated against hepatitis B in infancy may begin the series during any childhood visit. The 2nd dose should be administered at least 1 month after the 1st dose and the third dose should be administered at least 4 months after the 1st dose and at least 2 months after the 2nd dose. This vaccine is required for day care, preschool and school attendance in New York State.
2. **Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).** The fourth dose of DTaP may be administered as early as age 12 months provided that 6 months have elapsed since the third dose and the child is unlikely to return at age 15-18 months. The final dose in the series should be given at age ≥4 years. **Tetanus and diphtheria toxoids (Td)** is recommended at age 11-12 years if at least 5 years have elapsed since the last dose of tetanus and tetanus and diphtheria toxoid-containing vaccine. Subsequent routine Td boosters are recommended every 10 years.
3. ***Haemophilus influenzae* type b (Hib) conjugate vaccine.** Three Hib conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required. DTaP/Hib combination products should not be used for primary vaccination in infants at ages 2, 4, or 6 months but can

- be used as boosters after any Hib vaccine. The final dose in the series should be given at age ≥12 months.
4. **Measles, mumps, and rubella vaccine (MMR).** The second dose of MMR is recommended routinely at age 4-6 years but may be administered during any visit, provided at least 4 weeks have elapsed since the first dose and both doses are administered no sooner than age 12 months. New York State Regulation requires the second dose of MMR on or after 15 months of age to meet requirements for school attendance.
5. **Varicella vaccine (VAR).** Varicella vaccine is recommended at any visit at or after age 12 months for susceptible children (i.e., those who lack a reliable history of chickenpox). Susceptible persons aged ≥13 years should receive 2 doses given at least 4 weeks apart. This vaccine is required in New York State for day care, preschool and school attendance.
6. **Pneumococcal vaccine.** The heptavalent pneumococcal conjugate vaccine (PCV) is recommended for all children age 2-23 months and for certain children aged 24-59 months. The final dose in the series should be given at age ≥12 months. **Pneumococcal polysaccharide vaccine (PPV)** is recommended in addition to PCV for certain high-risk groups. See *MMWR* 2000;49(RR-9):1-35.
7. **Influenza vaccine.** Influenza vaccine is recommended annually for children aged ≥6 months with certain risk factors (including but not limited to asthma, cardiac disease, sickle cell disease, HIV, and diabetes), healthcare workers, and other persons (including household members) in close contact with persons in groups at high risk (see *MMWR* 2004;53[RR-6]:1-40) and can be administered to all others wishing to obtain immunity. All healthy children aged 6-23 months and close contacts of all children aged 0-23 months are recommended to receive influenza vaccine because children in this age group are at substantially increased risk for influenza-related hospitalizations. For healthy persons aged 5-49 years, the intranasally administered live attenuated influenza vaccine (LAIV) is an acceptable alternative to the intramuscular trivalent inactivated influenza vaccine (TIV). See *MMWR* 2004;53[RR-6]:1-40. Children receiving TIV should be administered a dosage appropriate for their age (0.25mL if 6-35 months or 0.5mL if ≥3 years). Children aged ≤8 years who are receiving influenza vaccine for the first time should receive 2 doses (separated by at least 4 weeks for TIV and at least 6 weeks for LAIV).
8. **Hepatitis A vaccine.** Hepatitis A vaccine is recommended for children and adolescents in selected states and regions and for certain high risk groups. See *MMWR* 1999;48(RR-12):1-37. Children and adolescents in these states, regions, and high risk groups who have not been immunized against hepatitis A can begin the hepatitis A vaccination series during any visit. The 2 doses in the series should be administered at least 6 months apart.

CATCH-UP IMMUNIZATION SCHEDULE FOR CHILDREN AND ADOLESCENTS WHO START LATE OR WHO ARE >1 MONTH BEHIND

Catch-up schedule for children age 4 months – 6 years

Dose One (Minimum Age)	Minimum Interval Between Doses			
	Dose One to Dose Two	Dose Two to Dose Three	Dose Three to Dose Four	Dose Four to Dose Five
DTaP (6 wk)	4 wk	4 wk	6 mo	6 mo ¹
IPV (6 wk)	4 wk	4 wk	4 wk ²	
HepB ³ (birth)	4 wk	8 wk (and 16 wk after first dose)		
MMR (12 mo)	4 wk ⁴			
Varicella (12 mo)				
Hib ⁵ (6 wk)	4 wk: if 1 st dose given at age <12 mo 8 wk (as final dose): if 1 st dose given at age 12-14 mo No further doses needed: if first dose given at age ≥15 mo	4 wk ⁶ : if current age <12 mo 8 wk (as final dose) ⁶ : if current age ≥12 mo and 2 nd dose given at age <15 mo No further doses needed: if previous dose given at age ≥15 mo	8 wk (as final dose): this dose only necessary for children age 12 mo - 5 y who received 3 doses before age 12 mo	
PCV ⁷ (6 wk)	4 wk: if 1 st dose given at age <12 mo and current age < 24 mo 8 wk (as final dose): if 1 st dose given at age ≥12 mo or current age 24-59 mo No further doses needed: for healthy children if 1 st dose given at age ≥24 mo	4 wk: if current age <12 mo 8 wk (as final dose): if current age ≥12mo No further doses needed: for healthy children if previous dose given at age ≥ 24 mo	8 wk (as final dose): this dose only necessary for children age 12 mo - 5 y who received 3 doses before age 12 mo	

Catch-up schedule for children age 7–18 years

Minimum Interval Between Doses		
Dose One to Dose Two	Dose Two to Dose Three	Dose Three to Booster Dose
Td: 4 wk	Td: 6 mo	Td ⁸ : 6 mo: if 1 st dose given at age <12 mo and current age <11 y 5 y: if 1 st dose given at age ≥12 mo and 3 rd dose given at age <7 y and current age ≥11 y 10 y: if 3 rd dose given at age ≥7 y
IPV ⁹ : 4 wk	IPV ⁹ : 4 wk	IPV ^{2,9}
HepB: 4 wk	HepB: 8 wk (and 16 wk after first dose)	
MMR: 4 wk		
Varicella ¹⁰ : 4 wk		

Note: A vaccine series does not require restarting, regardless of the time that has elapsed between doses.

- Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP):** The fifth dose is not necessary if the fourth dose was given after the fourth birthday.
- Inactivated polio vaccine (IPV):** For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if third dose was given at age ≥4 years. If both OPV and IPV were given as part of a series, a total of 4 doses should be given, regardless of the child's current age.
- Hepatitis B vaccine (HepB):** All children and adolescents who have not been vaccinated against hepatitis B should begin the hepatitis B vaccination series during any visit.
- Measles, mumps, and rubella vaccine (MMR):** The second dose of MMR is recommended routinely at age 4–6 years, but may be given earlier if desired. New York State Regulation requires the second dose of MMR on or after 15 months of age to meet requirements for school attendance.

- Haemophilus influenzae type b (Hib) conjugate vaccine:** Vaccine generally is not recommended for children aged ≥5 years.
- Hib:** If current age is <12 months and the first 2 doses were PRP-OMP (PedvaxHIB® or ComVax® [Merck]), the third (and final) dose should be given at age 12-15 months and at least 8 weeks after the second dose.
- Pneumococcal conjugate vaccine (PCV):** Vaccine generally is not recommended for children aged ≥5 years.
- Tetanus and diphtheria toxoids (Td):** For children aged 7-10 years, the interval between the third and booster dose is determined by the age when the first dose was given. For adolescents aged 11-18 years, the interval is determined by the age when the third dose was given.
- IPV:** Vaccine generally is not recommended for persons aged ≥18 years.
- Varicella vaccine (VAR):** Give 2-dose series to all susceptible adolescents aged ≥13 years.

Reporting Adverse Reactions

Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Events Reporting System (VAERS) at www.vaers.org or 800-822-7967.

Disease Reporting

Report suspected cases of vaccine-preventable disease to the NYC DOHMH Surveillance Unit at 212-676-2284/88 or 212-POISONS after hours.

**NYC DEPARTMENT OF HEALTH AND
MENTAL HYGIENE BUREAU OF IMMUNIZATION**

Citywide Immunization Registry (CIR)212-676-2323
or www.nyc.gov/health/cir

Vaccines for Children Program (VFC).....212-447-8175

Immunization Disease (Case) Reporting212-676-2284/88
after hours.....212-POISONS

Vaccine Adverse Event Reporting212-676-2284/88
or 1-800-822-7967
or www.vaers.org

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Bureau of Immunization Hotline212-676-2273

Bureau of Immunization – all other inquiries212-676-2259

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