

## NYCVACSCENE

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## THE RECOMMENDED CHILDHOOD AND ADOLESCENT IMMUNIZATION SCHEDULE

The Advisory Committee on Immunization Practices (ACIP) along with the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAFP) released the Recommended Childhood and Adolescent Immunization Schedule for 2006 earlier this year. This harmonized schedule is updated periodically to ensure that it reflects revised recommendations for the use of licensed vaccines, especially those that are newly licensed.

### The 2006 schedule reflects these following changes:

#### The importance of the birth dose of Hepatitis B (HepB) vaccine is emphasized.

- All infants should receive a birth dose of HepB vaccine. Vaccination of infants born to Hepatitis B surface antigen HBsAg-negative mothers can be delayed in rare circumstances, and only if a physician's patient specific order to withhold vaccine and a copy of the mother's original HBsAg-negative laboratory report are documented in the infant's medical record.
- Administering four doses of HepB vaccine is not contraindicated (e.g., with the use of combination vaccines after the birth dose). The HepB series should be completed observing all recommended intervals and is not considered complete until the final dose is given at or after 24 weeks of age.
- For infants born to HBsAg-positive mothers, testing should be done for both HBsAg and antibody to HBsAg after completion of the vaccine series, preferably at 9 months of age.

**Tetanus-diphtheria-acellular pertussis vaccine (Tdap) is recommended for use in adolescents.**

- Two brands of Tdap have been licensed for use in adolescents. Tdap replaces Td as the routine dose for adolescents aged 11–12 who have completed the recommended childhood diphtheria-tetanus-pertussis (DTP) or diphtheria-tetanus-acellular pertussis (DTaP) vaccination series but have not received a tetanus-diphtheria (Td) booster dose. Adolescents aged 13–18 years who missed the 11–12 year Td/Tdap booster should receive a single dose of Tdap if they have completed the recommended childhood DTP/DTaP vaccination series. The Vaccine Information Statement (VIS) is available at [www.cdc.gov/nip/publications/VIS/vis-tdap.pdf](http://www.cdc.gov/nip/publications/VIS/vis-tdap.pdf)
- The Td catch-up schedule for persons aged 7–18 years has been changed: Tdap may be substituted for (1) any dose in the primary catch-up series or (2) as a booster dose if age appropriate.
- Adolescents aged 11–18 years who received a Td booster, but not Tdap, are encouraged to receive a single dose of Tdap to provide protection against pertussis.

**Meningococcal conjugate vaccine (MCV4) should be administered to all children at 11–12 years\* of age, as well as to unvaccinated adolescents at age 15 years or high school entry. Other adolescents who wish to decrease their risk for meningococcal disease may also be vaccinated. All college freshmen living in dormitories should also be vaccinated with MCV4.**

- For protection against invasive meningococcal disease among high-risk children and teens, vaccination with meningococcal polysaccharide vaccine (MPSV4) for children ages of 2–10 years and with MCV4 for those 11 and older is recommended.
- \* Important notice:** Demand for MCV4 has outpaced the supply. On May 19, 2006, ACIP recommended that the routine administration of MCV4 to adolescents 11–12 years of age be deferred ([www.cdc.gov/mmwr/preview/mmwrhtml/mm55d520a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm55d520a1.htm)). Providers should identify these patients through tracking systems and recall them when supply improves. Vaccination should continue for adolescents at age 15 or high school entry and for college freshman living in dormitories. Supplies of MPSV4 are also limited. For periodic updates of supply and information about resuming routine vaccination see [www.cdc.gov/nip/news/shortages/default.htm](http://www.cdc.gov/nip/news/shortages/default.htm)

**Hepatitis A vaccine is now universally recommended for all children at 1 year of age (12–23 months of age). The two doses in the series should be separated by a minimum interval of 6 months. Hepatitis A vaccine continues to be recommended for high-risk individuals at least 12 months of age including those traveling to hepatitis A endemic areas (see [www.nyc.gov/html/doh/downloads/pdf/imm/imm-alert-20051222.pdf](http://www.nyc.gov/html/doh/downloads/pdf/imm/imm-alert-20051222.pdf)). An updated VIS is available at [www.cdc.gov/nip/publications/VIS/vis-hep-a.pdf](http://www.cdc.gov/nip/publications/VIS/vis-hep-a.pdf)**

## VACCINE ACCOUNTABILITY REPORTING

Effective September 1, 2006, the amount of publicly purchased vaccine shipped to any provider through the Vaccines for Children (VFC) Program will be based on the number of VFC vaccine doses that have been reported to the Citywide Immunization Registry (CIR). All providers are currently required to report all vaccine doses administered to patients from birth through 18 years of age (birth to <19 years) to the CIR within 14 days of administration, in accordance with the New York City Health Code, Section 11.04 (a) (1).

Reporting to the CIR may be accomplished

- (a) on-line, through the Online CIR website,
- (b) electronically, by sending electronic files extracted from your own billing, encounter or clinical information system, and/or
- (c) on paper, by completing the CIR reporting forms and mailing them.

Use of on-line or electronic reporting, rather than hard copy paper forms, is strongly encouraged to prevent transcriptional errors and reduce manual processing.

Failure to report to the CIR all of the vaccine doses administered may result in either reduction or discontinuation of vaccine shipped by the VFC program.

The Bureau of Immunization is available to work with any provider who needs help in establishing a routine for reporting to the CIR so that all providers will continue to receive the VFC vaccines they need for their VFC-eligible children. For questions or assistance, please call the CIR at (212) 676-2323.

### 2-Dose Varicella Series

At its meeting in June 2006, the Advisory Committee on Immunization Practices (ACIP) voted to recommend that all children receive two doses of varicella-containing vaccine. The first dose of varicella (chickenpox) vaccine is recommended at 12-15 months of age; a second dose of varicella vaccine is now recommended for all children at four to six years of age. ACIP also recommends that children and adolescents who had previously received only one dose of varicella vaccine should receive a second dose (catch-up). Individuals who have already received two doses of varicella do not need additional doses. For additional information see [www.cdc.gov/nip/vaccine/varicella/varicella\\_acip\\_recs\\_prov\\_june\\_2006.pdf](http://www.cdc.gov/nip/vaccine/varicella/varicella_acip_recs_prov_june_2006.pdf)

## PREVENTING PERINATAL TRANSMISSION OF HEPATITIS B: VACCINATION AND POST-VACCINATION TESTING RECOMMENDATIONS

### Universal Birth Dose

The Bureau of Immunization of the New York City Department of Health and Mental Hygiene (NYC DOHMH) supports the Advisory Committee on Immunization Practices (ACIP) recommendation that birthing hospitals adopt a universal hepatitis B birth dose policy to prevent early childhood hepatitis B transmission. This recommendation has been adopted as the standard of care in New York State, however, there are still birthing hospitals in NYC without such a policy. Infants who acquire hepatitis B infection have a 95% risk of developing chronic infection and its complications including hepatocellular carcinoma and cirrhosis. Given this risk, it is incumbent upon all birthing hospitals to adopt the best known methods to protect infants born to hepatitis B surface antigen (HBsAg)-positive mothers. Specifically, the universal birth dose ensures a safety net for those infants whose mothers' chronic status is unknown at the time of birth and improves outcomes in the event of a medical record or treatment error. The three-dose hepatitis B series initiated with a dose at birth is 70%–90% effective in preventing transmission after exposure; the addition of hepatitis B immune globulin (HBIG) increases the effectiveness of treatment to 95%.

In December 2003, a survey of hospitals in New York State revealed that the decision not to adopt a universal birth dose policy is primarily due to: a) widespread physician preference to administer the first dose in the office to maximize financial benefit; b) a misconception that, when combination vaccines are used, administration of more than three doses of hepatitis B vaccine poses a health risk; and c) lack of understanding of the importance of the birth dose as a “safety net”. None of these reasons are valid and only serve as a liability for the hospital and the physician.

### HBIG and the Hepatitis B Vaccination Schedule

The recommended hepatitis B vaccine schedule for infants born to HBsAg-positive mothers is birth, 1–2 and 6 months. Both HBIG and the first dose of hepatitis B vaccine should be administered within 12 hours of birth. Women whose HBsAg status is unknown at delivery should be tested for HBsAg prior to hospital discharge. Infants born to women whose HBsAg status is unknown should receive the first dose of hepatitis B vaccine within 12 hours of birth; if the mother is found to be HBsAg-positive, the HBIG should be administered as soon as possible, but no later than 7 days after birth.

The second dose of hepatitis B vaccine is recommended to be administered at 1–2 months of age; however, it is prudent to administer the second dose promptly at 1 month of age to infants born to HBsAg-positive mothers, as this provides the earliest possible protection given the infant's continuous household exposure. Similarly, these infants should receive the third dose at 6 months of age (as early as 24 weeks).

### Use of Hepatitis B-Containing Combination Vaccines

Only monovalent hepatitis B vaccine, either as Engerix-B® (GSK) or Recombivax HB® (Merck), should be used for the birth and 1-month dose; hepatitis B-containing combination vaccines are not licensed for use prior to 6 weeks of age. The hepatitis B component in combination vaccines (DTaP-IPV-HepB [Pediarix®, GSK] or HepB-Hib [Comvax®, Merck] is immunologically equivalent to that of monovalent vaccine. Either of these combination vaccines may be used to complete the hepatitis B series; the preferred schedule should still be followed for an infant born to a HBsAg-positive mother – the final dose of the hepatitis B series should be given at age 6 months (as early as 24 weeks). ACIP has emphasized that it is permissible to administer a three-dose series of a hepatitis B-containing vaccine following the birth dose of monovalent hepatitis B vaccine. There is no increased risk of adverse reactions associated with additional doses of hepatitis B vaccine.

### Post-Vaccination Testing for Infants Born to HBsAg-positive Mothers.

The recommended post-vaccination serology (PVS) testing protocol for infants born to HBsAg-positive mothers is testing for both hepatitis B surface antibody (anti-HBs) and hepatitis B surface antigen (HBsAg). These combined results are needed to accurately interpret the child's status. If the amount of blood drawn is insufficient to test for both markers, providers are advised to recall the infant and repeat testing.

The anti-HBs test should be either a quantitative test or a qualitative test for which a positive result is set at a threshold of 10 mIU/ml or greater. A “reactive” qualitative test is not necessarily indicative of immunity. Providers are advised to verify that the threshold for the qualitative test is 10 mIU/ml or greater.

HBsAg-negative infants with anti-HBs levels  $\geq 10$  mIU/mL are protected and need no further medical management. Infected (HBsAg-positive) infants should be referred for medical follow-up. HBsAg-negative infants with anti-HBs concentrations less than 10 mIU/ml are susceptible and should be revaccinated with three additional doses in a 0-, 1-, and 6- month schedule and retested 1–2 months after the last dose of vaccine.

ACIP recommends that PVS testing be completed for infants born to HBsAg-positive mothers after completion of the vaccine

series at age 6 months. Testing should be completed no sooner than at 9 months of age to avoid detection of anti-HBs from HBIG administered during infancy and to maximize the likelihood of detecting late-onset hepatitis B virus (HBV) infection. Though the ACIP recommendation allows for completing PVS testing between 9–18 months, NYC DOHMH recommends that testing not be delayed: to minimize the duration of time that susceptible infants are subject to potential household exposures, providers are advised to test infants promptly at or after 9 months of age.

**In summary, the following measures can prevent perinatal hepatitis B transmission:**

- A universal hepatitis B birth dose
- Adhering to the 0, 1, 6 month schedule for infants born to HBsAg-positive mothers (even if it means administering additional doses of hepatitis B vaccine), and
- Following the recommendations for post-vaccination testing infants born to HBsAg-positive mothers:
  - Testing for both anti-HBs and HBsAg at 9 months of age
  - Using an anti-HBs test with a positive result equivalent to  $\geq 10$  mIU/ml

**The Bureau of Immunization's Perinatal Hepatitis B Prevention Unit is the case management program at NYC DOHMH responsible for ensuring all pregnant women are tested for HBsAg and that the infants of HBsAg-positive women receive proper follow-up care. Please fax all prenatal and postnatal HBsAg-positive reports to 718-520-6246. If you have any questions, please call 718-520-8245.**

For additional information see:  
[www.cdc.gov/mmwr/PDF/rr/rr5416.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5416.pdf) and  
[www.cdc.gov/ncidod/diseases/hepatitis/b/](http://www.cdc.gov/ncidod/diseases/hepatitis/b/)

## HEPATITIS B VACCINE AVAILABLE FOR THE BIRTH DOSE

All hospitals in the five boroughs of NYC which have a universal birth dose policy can receive free hepatitis B vaccine from DOHMH by enrolling in the Hepatitis B Universal Birth Dose Program. To obtain an application for the Hepatitis B Universal Birth Dose Program, please contact Julie Lazaroff, MPH, Unit Chief, Perinatal Hepatitis B Prevention Unit at 718-268-2732.

## HUMAN PAPILLOMA VIRUS VACCINE

At its June meeting, the Advisory Committee on Immunization Practices (ACIP) voted to recommend that a newly licensed vaccine designed to protect against human papilloma virus (HPV) be routinely given to girls at age 11–12. The recommendation also allows for vaccination of girls beginning at nine years of age and encourages vaccination of teens and young women 13–26 years old. HPV is the leading cause of cervical cancer in women. For more information see [www.cdc.gov/nip/vaccine/hpv/default.htm](http://www.cdc.gov/nip/vaccine/hpv/default.htm) and [www.cdc.gov/nip/recs/provisional\\_rec/hpv.pdf](http://www.cdc.gov/nip/recs/provisional_rec/hpv.pdf)

## CHANGES TO MUMPS VACCINATION RECOMMENDATIONS

**As a result of the recent mumps outbreak, (see [www.cdc.gov/nip/diseases/mumps/default.htm](http://www.cdc.gov/nip/diseases/mumps/default.htm)), the following changes were made on May 17, 2006 to the ACIP recommendations on mumps vaccination:**

### Acceptable Presumptive Evidence of Immunity

- Documentation of adequate vaccination is now 2 doses of a live mumps virus vaccine instead of 1 dose for:
  - school-aged children (K–12)
  - students at post-high school educational institutions
  - adults at high-risk (e.g. persons who work in health care facilities, international travelers)

### Routine Vaccination for Health Care Workers

- Persons born during or after 1957 without other evidence of immunity: 2 doses of a live mumps virus vaccine
- Persons born before 1957 without other evidence of immunity: consider recommending 1 dose of a live mumps virus vaccine

### For Outbreak Settings

- Children aged 1–4 years and adults at low risk: if affected by the outbreak, consider a second dose of live mumps vaccine, observing a minimum interval of 28 days
- Health care workers born before 1957 without other evidence of immunity: strongly consider recommending 2 doses of live mumps virus vaccine.

# RECOMMENDED CHILDHOOD AND ADOLESCENT IMMUNIZATION SCHEDULE – UNITED STATES, 2006

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	24 months	4–6 years	11–12 years	13–14 years	15 years	16–18 years
Hepatitis B <sup>1</sup>	HepB		HepB	HepB <sup>1</sup>	HepB			HepB Series							
Diphtheria, Tetanus, Pertussis <sup>2</sup>			DTaP	DTaP	DTaP		DTaP			DTaP	Tdap			Tdap	
<i>Haemophilus influenzae</i> type b <sup>3</sup>			Hib	Hib	Hib <sup>3</sup>	Hib									
Inactivated Poliovirus			IPV	IPV	IPV					IPV					
Measles, Mumps, Rubella <sup>4</sup>						MMR				MMR	MMR				
Varicella <sup>5</sup>						Varicella				Varicella	Varicella				
Meningococcal <sup>6</sup>												MCV4		MCV4	
Pneumococcal <sup>7</sup>			PCV	PCV	PCV	PCV				PCV	PPV				
Influenza <sup>8</sup>					Influenza (Yearly)*					Influenza (Yearly)					
Hepatitis A <sup>9</sup>										HepA Series					

This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2005, for children through age 18 years. Any dose not administered at the recommended age should be administered at any subsequent visit when indicated and feasible. ■ Indicates age groups that warrant special effort to administer those vaccines not previously administered. 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 other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. Providers should consult the respective ACIP statement for detailed recommendations. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available at [www.vaers.hhs.gov](http://www.vaers.hhs.gov) or by telephone, 800-822-7967.

■ Range of recommended ages ■ Catch-up immunization ■ 11–12 year old assessment

\* For the 2006–2007 influenza season, all children 6–59 months of age are recommended to receive an annual flu shot ([www.cdc.gov/mmwr/PDF/rr/rr55e628.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr55e628.pdf)).

- Hepatitis B vaccine (HepB).** **AT BIRTH:** All newborns should receive monovalent HepB soon after birth and before hospital discharge. **Infants born to mothers who are HBsAg-positive** should receive HepB and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth. **Infants born to mothers whose HBsAg status is unknown** should receive HepB within 12 hours of birth. The mother should have blood drawn as soon as possible to determine her HBsAg status; if HBsAg-positive, the infant should receive HBIG as soon as possible (no later than age 1 week). **For infants born to HBsAg-negative mothers,** the birth dose can be delayed in rare circumstances but only if a physician's order to withhold the vaccine and a copy of the mother's original HBsAg-negative laboratory report are documented in the infant's medical record. **FOLLOWING THE BIRTH DOSE:** The HepB series should be completed with either monovalent HepB or a combination vaccine containing HepB. The second dose should be administered at age 1–2 months. The final dose should be administered at age 24 weeks. It is permissible to administer 4 doses of HepB (e.g., when combination vaccines are given after the birth dose); however, if monovalent HepB is used, a dose at age 4 months is not needed. **Infants born to HBsAg-positive mothers** should be tested for HBsAg and antibody to HBsAg after completion of the HepB series at age 9 months (generally at the next well-child visit after completion of the vaccine series).
- Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).** The fourth dose of DTaP may be administered as early as age 12 months, provided 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 4 to 6 years. **Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap adolescent preparation)** is recommended at age 11–12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus-diphtheria (Td) booster dose. Adolescents 13–18 years who missed the 11–12-year Td/Tdap booster dose should also receive a single dose of Tdap if they have completed the recommended childhood DTP/DTaP vaccination series. Subsequent tetanus and diphtheria toxoids (Td) are recommended every 10 years.
- Haemophilus influenzae* type b conjugate vaccine (Hib).** 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 immunization 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 administered at age ≥12 months.
- 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 beginning at or after age 12 months. Those who have not previously received the second dose should complete the schedule by age 11–12 years. New York State Regulation requires the second dose of MMR on or after 15 months of age to meet requirements for school attendance.
- Varicella vaccine.** Varicella vaccine is recommended at 12–15 months of age; the second dose is recommended routinely at age 4–6 years for susceptible

- children (i.e., those who lack a reliable history of chickenpox). All children are now recommended to receive 2 doses of varicella-containing vaccine with the second dose routinely administered at 4–6 years. Susceptible persons aged 13 years should receive 2 doses administered at least 4 weeks apart. (see [www.cdc.gov/nip/vaccine/varicella/varicella\\_acip\\_recs\\_prov\\_june\\_2006.pdf](http://www.cdc.gov/nip/vaccine/varicella/varicella_acip_recs_prov_june_2006.pdf)).
- Meningococcal vaccine (MCV4).** Meningococcal conjugate vaccine (MCV4) should be given to all children at the 11–12 year old visit as well as to unvaccinated adolescents at high school entry (15 years of age). Other adolescents who wish to decrease their risk for meningococcal disease may also be vaccinated. All college freshmen living in dormitories should also be vaccinated, preferably with MCV4, although **meningococcal polysaccharide vaccine (MPSV4)** is an acceptable alternative. Vaccination against invasive meningococcal disease is recommended for children and adolescents aged 2 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high risk groups (see MMWR 2005;54 [RR-7]); use MPSV4 for children aged 2–10 years and MCV4 for older children, although MPSV4 is an acceptable alternative. Supply of meningococcal may be limited; see [www.cdc.gov/nip/news/shortages/default.htm](http://www.cdc.gov/nip/news/shortages/default.htm)
  - Pneumococcal vaccine.** The heptavalent pneumococcal conjugate vaccine (PCV) is recommended for all children aged 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).
  - Influenza vaccine.** Influenza vaccine is recommended annually for all children 6–59 months of age and all close contacts of all children aged 0–59 months because children in this age group are at substantially increased risk for influenza-related hospitalizations. Influenza vaccine is recommended annually for children 5 years and older with certain risk factors (including but not limited to, asthma, cardiac disease, sickle cell disease, human immunodeficiency virus [HIV], diabetes, and conditions that can compromise respiratory function or handling of respiratory secretions or that can increase the risk for aspiration), health care workers, and other persons (including household members) in close contact with persons in groups at high risk (see MMWR 2006;55[RR-10]). For healthy persons aged 5–49 years, the intranasally administered, live, attenuated influenza vaccine (LAIV) can be used. See MMWR 2006;55[RR-10]. Children receiving TIV should be administered a dosage appropriate for their age (0.25 mL if aged 6–35 months or 0.5 mL if aged 3 years). Children aged 8 years and younger 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).
  - Hepatitis A vaccine (HepA).** HepA is recommended for all children at 1 year of age (i.e., 12–23 months). The 2 doses in the series should be administered at least 6 months apart. Children aged 24–59 months of age living in communities identified with high rates of hepatitis A infection (see [www.nyc.gov/html/doh/downloads/pdf/imm/imm-alert-20060515.pdf](http://www.nyc.gov/html/doh/downloads/pdf/imm/imm-alert-20060515.pdf)) should also be vaccinated. HepA is also recommended for certain high risk groups including those with underlying liver disorders and persons traveling to areas where Hepatitis A is endemic (see MMWR 1999; 48[RR-12]).

## RECOMMENDED IMMUNIZATION SCHEDULE FOR CHILDREN AND ADOLESCENTS WHO START LATE OR WHO ARE MORE THAN 1 MONTH BEHIND

The tables below give catch-up schedules and minimum intervals between doses for children who have delayed immunizations. There is no need to restart a vaccine series regardless of the time that has elapsed between doses. Use the chart appropriate for the child's age.

### CATCH-UP SCHEDULE FOR CHILDREN AGES 4 MONTHS – 6 YEARS

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Diphtheria, Tetanus, Pertussis	6 wks	4 weeks	4 weeks	6 months	6 months <sup>1</sup>
Inactivated Poliovirus	6 wks	4 weeks	4 weeks	4 weeks <sup>2</sup>	
Hepatitis B <sup>3</sup>	Birth	4 weeks	8 weeks (and 16 weeks after first dose)		
Measles, Mumps, Rubella	12 mo	4 weeks <sup>4</sup>			
Varicella <sup>10</sup>	12 mo	4 weeks <sup>10</sup>			
<i>Haemophilus influenzae</i> type b <sup>5</sup>	6 wks	4 weeks if first dose given at age <12 months  8 weeks (as final dose) if first dose given at age 12–14 months  No further doses needed if first dose given at age ≥15 months	4 weeks <sup>6</sup> if current age <12 months  8 weeks (as final dose) <sup>6</sup> if current age ≥12 months and second dose given at age <15 months  No further doses needed if first dose given at age ≥15 months	8 weeks (as final dose) This dose only necessary for children aged 12 months < 5 years who received 3 doses before age 12 months	
Pneumococcal <sup>7</sup>	6 wks	4 weeks if first dose given at age <12 months and current age <24 months  8 weeks (as final dose) if first dose given at age ≥12 months or current age 24–59 months  No further doses needed for healthy children if first dose given at age ≥24 months	4 weeks if current age <12 months  8 weeks (as final dose) if current age ≥12 months  No further doses needed for healthy children if first dose given at age ≥24 months	8 weeks (as final dose) This dose only necessary for children aged 12 months < 5 years who received 3 doses before age 12 months	

### CATCH-UP SCHEDULE FOR CHILDREN AGES 7 YEARS THROUGH 18 YEARS

Vaccine	Minimum Interval Between Doses		
	Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Booster Dose
Tetanus, Diphtheria <sup>8</sup>	4 weeks	6 months	6 months if first dose given at age <12 months and current age <11 years: otherwise 5 years
Inactivated Poliovirus <sup>9</sup>	4 weeks	4 weeks	IPV <sup>2,9</sup>
Hepatitis B	4 weeks	8 weeks (and 16 weeks after first dose)	
Measles, Mumps, Rubella	4 weeks		
Varicella <sup>10</sup>	4 weeks		

- DTaP.** The fifth dose is not necessary if the fourth dose was administered after the fourth birthday.
- IPV.** For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if the third dose was administered at age ≥4 years. If both OPV and IPV were administered as part of a series, a total of 4 doses should be given, regardless of the child's current age.
- HepB.** Administer the 3-dose series to all children and adolescents <19 years of age if they were not previously vaccinated.
- MMR.** The second dose of MMR is recommended routinely at age 4–6 years but may be administered 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.
- Hib.** Vaccine is not generally recommended for children aged ≥5 years.

- Hib.** If current age <12 months and the first 2 doses were PRP-OMP (PedvaxHIB® or ComVax® [Merck]), the third (and final) dose should be administered at age 12–15 months and at least 8 weeks after the second dose.
- PCV.** Vaccine is not generally recommended for children aged ≥5 years.
- Td.** Adolescent tetanus, diphtheria, and pertussis vaccine (Tdap) may be substituted for any dose in a primary catch-up series or as a booster if age appropriate for Tdap. A five year interval from the last Td dose is encouraged when Tdap is used as a booster dose. See ACIP recommendations for further information.
- IPV.** Vaccine is not generally recommended for persons aged ≥18 years.
- Varicella.** The second dose of varicella is recommended routinely at age 4–6 years but may be administered earlier if desired. Children and adolescents who have previously received only one dose of varicella vaccine should receive a second dose (catch-up) no sooner than 4 weeks after the first dose (see [www.cdc.gov/nip/vaccine/varicella/varicella\\_acip\\_recs\\_prov\\_june\\_2006.pdf](http://www.cdc.gov/nip/vaccine/varicella/varicella_acip_recs_prov_june_2006.pdf)). Administer the 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.hhs.org](http://www.vaers.hhs.org) or 800-822-7967 or call the NYC DOHMH at 212-676-2284/88.

#### Disease Reporting

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

## EXPANSION OF RECOMMENDED AGES FOR PEDIATRIC INFLUENZA VACCINATION

For the 2006-2007 influenza season, all children 6 months to 5 years of age should receive flu vaccine. Similarly, all household contacts and out-of-home caregivers of all children 0 months to 59 months old should receive the influenza vaccine. All children with certain chronic medical conditions should also receive influenza vaccine. For additional information and details about flu recommendations for the 2006–2007 season, please see [www.cdc.gov/mmwr/PDF/rr/rr55e628.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr55e628.pdf) and [www.nyc.gov/health/flu](http://www.nyc.gov/health/flu)

## ROTAVIRUS VACCINE

A new rotavirus vaccine, RotaTeq® (Merck), was approved by the Food and Drug Administration (FDA). This live attenuated reassortant vaccine was recommended in June by the Advisory Committee on Immunization Practices (ACIP) to provide protection against gastroenteritis caused by rotavirus; infants should receive the first dose of vaccine by 12 weeks of age and the complete 3-dose series by 32 weeks of age. Information is available at [www.cdc.gov/nip/pr/pr\\_rotavirus\\_feb2006.pdf](http://www.cdc.gov/nip/pr/pr_rotavirus_feb2006.pdf) and [www.cdc.gov/nip/recs/provisional\\_rec/rotavirus-child.pdf](http://www.cdc.gov/nip/recs/provisional_rec/rotavirus-child.pdf). The Vaccine Information Statement (VIS) is available at [www.cdc.gov/nip/publications/VIS/vis-rotavirus.pdf](http://www.cdc.gov/nip/publications/VIS/vis-rotavirus.pdf)

## SUMMARY OF RECOMMENDATIONS FOR USE OF Tdap VACCINE IN ADOLESCENTS

### Routine Tdap vaccination for adolescents aged 11–18 years:

- All adolescents 11–18 years should receive a single dose of Tdap in lieu of Td for booster immunization if they have completed the recommended DTP/DTaP vaccination series and have not received Td or Tdap. The preferred age for Tdap vaccination is 11–12 years. Routinely administering Tdap to young adolescents will reduce the morbidity associated with pertussis in adolescents.
- Adolescents aged 11–18 years who have completed the recommended DTP/DTaP vaccination series and have received Td but not Tdap are encouraged to receive a single dose of Tdap to provide protection against pertussis.
- Adolescents with a history of incomplete pediatric DTP/DTaP/DT or Td vaccination should complete a series of three tetanus-diphtheria containing vaccinations in accordance with the catch-up schedule. A single dose of Tdap should be used to substitute for any one of the Td doses in the series.
- Tdap and MCV4 vaccine should be administered to adolescents 11–18 years of age during the same visit, if both vaccines are indicated and available.
- Tdap is preferred for adolescents who were vaccinated against tetanus >5 years earlier and who require a tetanus-containing vaccine as part of wound management and have not previously received Tdap.
- Adolescents 11–18 years of age who have a history of pertussis should receive a Tdap according to routine recommendations.
- Adolescents aged 11–18 years, including those who are breastfeeding, should receive a single dose of Tdap as soon as feasible in the post-partum period, according to routine Tdap recommendations.

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

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

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

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

Vaccine Adverse Event Reporting ..... 212-676-2284/88  
or 1-800-822-7967  
or [www.vaers.org](http://www.vaers.org)

Immunization Medical Consultation ..... 212-676-2259

Perinatal Hepatitis B Program ..... 718-520-8245

Adult Immunization Initiatives ..... 212-676-2283

Public Health Education and Training ..... 212-368-9600

Bureau of Immunization Hotline ..... 212-676-2273

Bureau of Immunization – all other inquiries ..... 212-676-2259

Immunization Home Page  
[www.nyc.gov/html/doh/html/imm/immprog.shtml](http://www.nyc.gov/html/doh/html/imm/immprog.shtml)

For all other DOHMH inquiries:  
Providers should call ..... 866-NYC-DOH1

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New York, NY 10007  
Fax: 212-442-8091

To order free childhood immunization cards (providers only)  
call the NYC Department of Health and Mental Hygiene  
Provider Access Line at 1-866-NYC-DOH1.



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Bureau of Immunization  
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New York, NY 10007  
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