

# New York State Immunization Requirements for School Entrance/Attendance<sup>1</sup>

Vaccines	Pre-kindergarten (Day Care, Nursery, Head Start, or Pre-K) <sup>2</sup>	School (k-12)
Diphtheria Toxoid-Containing Vaccine	3 doses (New York City Schools – 4 doses) <sup>3</sup>	3 doses (New York City schools – 4 doses – required for kindergarten only)
Tetanus Toxoid-Containing Vaccine and Pertussis Vaccine (DTaP, DTP) <sup>4</sup>	3 doses if born on or after 1/1/2005	3 doses if born on or after 1/1/2005
Tetanus, Diphtheria, and Pertussis Booster (Tdap)	Not applicable	Born on or after 1/1/1994 and enrolling in grades 6 through 11 for the 2012-2013 school year <sup>5</sup> 1 dose
Polio (IPV or OPV)	3 doses <sup>3</sup>	3 doses
Measles, Mumps and Rubella (MMR) <sup>6</sup>	1 dose	2 doses of measles-containing vaccine and 1 dose each of mumps and rubella (preferably as MMR)
Hepatitis B	3 doses	3 doses <sup>7</sup>
Haemophilus influenzae type b (Hib)	3 doses if less than 15 months of age or 1 dose administered on or after 15 months of age <sup>8</sup>	Not applicable
Pneumococcal Conjugate Vaccine (PCV)	Born on or after 1/1/2008 4 doses by 15 months of age, given at age-appropriate times and intervals <sup>9</sup>	Not applicable
Varicella (Chickenpox) <sup>6</sup>	Born on or after 1/1/2000 1 dose	Born on or after 1/1/1998 or born on or after 1/1/1994 and enrolling in grades 6 through 12 for the 2012-2013 school year <sup>10</sup> 1 dose

- 1 Demonstrated serologic evidence of either measles, mumps, rubella, hepatitis B or varicella antibodies is acceptable proof of immunity to these diseases. Diagnosis by a physician, physician assistant or nurse practitioner that a child/student has had measles, mumps, or varicella diseases is acceptable proof of immunity to those diseases.
- 2 Children in a Pre-kindergarten setting should be age appropriately immunized. The number of doses depends on the schedule recommended by the Advisory Committee on Immunization Practices (ACIP).
- 3 Please note at this time that New York State requires 3 doses of diphtheria toxoid-containing vaccine (New York City requires 4 doses for pre-kindergarten and kindergarten only) and three doses of polio vaccine for entry into kindergarten and for any student entering a school in New York State for the first time. However, ACIP recommends 4 doses of diphtheria toxoid-containing vaccine by age 18 months and 5 doses by age 4-6 years of age. Children 4-6 years of age should receive 4 doses of polio vaccine unless the 3rd dose is given after 4 years of age.
- 4 DTaP is the vaccine currently recommended for diphtheria, tetanus and pertussis.
- 5 Students enrolling in grades 6 through 11 includes students who are entering, repeating or transferring into grades 6 through 11 and students who are enrolling in gradeless classes and are the age equivalent of grades 6 through 11. Children ages 7-10 who have not been adequately vaccinated with DTP/DTaP, and for whom no contraindications exist, should receive a single dose of Tdap.
- 6 The New York State Department of Health Immunization Program concurs with the ACIP which recommends that vaccine doses administered up to 4 days before the minimum interval or 12 months of age for measles, mumps, rubella and varicella be counted as valid.
- 7 Hepatitis B – For students in grades 7-12, 3 doses of Recombivax HB or Engerix-B are required, except for those students who received 2 doses of adult hepatitis B vaccine (Recombivax) which are recommended for children 11-15 years old.
- 8 Four doses of Haemophilus influenzae type b (Hib) are recommended by 15 months or more of age, however only 3 doses are required for day-care entry. If a child enters a day care on or after 15 months of age, and has not received 3 doses of Hib vaccine, only one dose on or after 15 months of age is required.
- 9 Unvaccinated children 7-11 months of age should receive 2 doses, at least 4 weeks apart, followed by a 3rd dose at age 12-15 months. Unvaccinated children 12-23 months of age should receive 2 doses of vaccine at least 8 weeks apart. Previously unvaccinated children 24-59 months of age should receive only 1 dose. PCV13 is the preferred vaccine for use in healthy unvaccinated/partially vaccinated children 2-71 months of age. A single supplemental dose of PCV13 is recommended for children 14-59 months who have already completed the age appropriate series of PCV7.
- 10 Students enrolling in grades 6 through 12 includes students who are entering, repeating or transferring into grades 6 through 12 and students who are enrolling in gradeless classes and are the age equivalent of grades 6 through 12. Two (2) doses of varicella vaccine are recommended for all students, but not required for school entry.

For further information contact: **New York State Department of Health, Bureau of Immunization,**  
Room 649, Corning Tower ESP, Albany, NY 12237, (518) 473-4437.

**New York City Department of Health and Mental Hygiene, Program Support Unit, Bureau of Immunization,**  
42-09 28th Street, 5th floor, Long Island City, NY 11101, (347) 396-2433, fax (347) 396-2559.

**FIGURE 1: Recommended immunization schedule for persons aged 0 through 6 years—United States, 2012** (for those who fall behind or start late, see the catch-up schedule [Figure 3])

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	9 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years	
Hepatitis B <sup>1</sup>		Hep B	HepB			HepB		HepB						Range of recommended ages for all children
Rotavirus <sup>2</sup>			RV	RV	RV	RV <sup>2</sup>								
Diphtheria, tetanus, pertussis <sup>3</sup>			DTaP	DTaP	DTaP		see footnote <sup>9</sup>	DTaP					DTaP	
<i>Haemophilus influenzae</i> type b <sup>4</sup>			Hib	Hib	Hib <sup>4</sup>			Hib						Range of recommended ages for certain high-risk groups
Pneumococcal <sup>5</sup>			PCV	PCV	PCV			PCV				PPSV		
Inactivated poliovirus <sup>6</sup>			IPV	IPV				IPV					IPV	
Influenza <sup>7</sup>								Influenza (Yearly)						
Measles, mumps, rubella <sup>8</sup>								MMR		see footnote <sup>9</sup>			MMR	Range of recommended ages for all children and certain high-risk groups
Varicella <sup>9</sup>								Varicella		see footnote <sup>9</sup>			Varicella	
Hepatitis A <sup>10</sup>								Dose 1 <sup>10</sup>				HepA Series		
Meningococcal <sup>11</sup>								MCV4 — see footnote <sup>11</sup>						

This schedule includes recommendations in effect as of December 23, 2011. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/pubs/acip-list.htm>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967).

- Hepatitis B (HepB) vaccine.** (Minimum age: birth)
  - At birth:**
    - Administer monovalent HepB vaccine to all newborns before hospital discharge.
    - For infants born to hepatitis B surface antigen (HBsAg)-positive mothers, administer HepB vaccine and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) 1 to 2 months after completion of at least 3 doses of the HepB series, at age 9 through 18 months (generally at the next well-child visit).
    - If mother's HBsAg status is unknown, within 12 hours of birth administer HepB vaccine for infants weighing  $\geq 2,000$  grams, and HepB vaccine plus HBIG for infants weighing  $< 2,000$  grams. Determine mother's HBsAg status as soon as possible and, if she is HBsAg-positive, administer HBIG for infants weighing  $\geq 2,000$  grams (no later than age 1 week).
  - Doses after the birth dose:**
    - The second dose should be administered at age 1 to 2 months. Monovalent HepB vaccine should be used for doses administered before age 6 weeks.
    - Administration of a total of 4 doses of HepB vaccine is permissible when a combination vaccine containing HepB is administered after the birth dose.
    - Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine starting as soon as feasible (Figure 3).
    - The minimum interval between dose 1 and dose 2 is 4 weeks, and between dose 2 and 3 is 8 weeks. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks and at least 16 weeks after the first dose.
- Rotavirus (RV) vaccines.** (Minimum age: 6 weeks for both RV-1 [Rotarix] and RV-5 [Rota Teq])
  - The maximum age for the first dose in the series is 14 weeks, 6 days; and 8 months, 0 days for the final dose in the series. Vaccination should not be initiated for infants aged 15 weeks, 0 days or older.
  - If RV-1 (Rotarix) is administered at ages 2 and 4 months, a dose at 6 months is not indicated.
- Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine.** (Minimum age: 6 weeks)
  - The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose.
- Haemophilus influenzae* type b (Hib) conjugate vaccine.** (Minimum age: 6 weeks)
  - If PRP-OMP (PedvaxHIB or Comvax [HepB-Hib]) is administered at ages 2 and 4 months, a dose at age 6 months is not indicated.
  - Hiberix should only be used for the booster (final) dose in children aged 12 months through 4 years.
- Pneumococcal vaccines.** (Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV])
  - Administer 1 dose of PCV to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
  - For children who have received an age-appropriate series of 7-valent PCV (PCV7), a single supplemental dose of 13-valent PCV (PCV13) is recommended for:
    - All children aged 14 through 59 months
    - Children aged 60 through 71 months with underlying medical conditions.
  - Administer PPSV at least 8 weeks after last dose of PCV to children aged 2 years or older with certain underlying medical conditions, including a cochlear implant. See *MMWR* 2010;59(No. RR-11), available at <http://www.cdc.gov/mmwr/pdf/rr/rr5911.pdf>.
- Inactivated poliovirus vaccine (IPV).** (Minimum age: 6 weeks)
  - If 4 or more doses are administered before age 4 years, an additional dose should be administered at age 4 through 6 years.
  - The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.
- Influenza vaccines.** (Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV])
  - For most healthy children aged 2 years and older, either LAIV or TIV may be used. However, LAIV should not be administered to some children, including 1) children with asthma, 2) children 2 through 4 years who had wheezing in the past 12 months, or 3) children who have any other underlying medical conditions that predispose them to influenza complications. For all other contraindications to use of LAIV, see *MMWR* 2010;59(No. RR-8), available at <http://www.cdc.gov/mmwr/pdf/rr/rr5908.pdf>.
  - For children aged 6 months through 8 years:
    - For the 2011–12 season, administer 2 doses (separated by at least 4 weeks) to those who did not receive at least 1 dose of the 2010–11 vaccine. Those who received at least 1 dose of the 2010–11 vaccine require 1 dose for the 2011–12 season.
    - For the 2012–13 season, follow dosing guidelines in the 2012 ACIP influenza vaccine recommendations.
- Measles, mumps, and rubella (MMR) vaccine.** (Minimum age: 12 months)
  - The second dose may be administered before age 4 years, provided at least 4 weeks have elapsed since the first dose.
  - Administer MMR vaccine to infants aged 6 through 11 months who are traveling internationally. These children should be revaccinated with 2 doses of MMR vaccine, the first at ages 12 through 15 months and at least 4 weeks after the previous dose, and the second at ages 4 through 6 years.
- Varicella (VAR) vaccine.** (Minimum age: 12 months)
  - The second dose may be administered before age 4 years, provided at least 3 months have elapsed since the first dose.
  - For children aged 12 months through 12 years, the recommended minimum interval between doses is 3 months. However, if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.
- Hepatitis A (HepA) vaccine.** (Minimum age: 12 months)
  - Administer the second (final) dose 6 to 18 months after the first.
  - Unvaccinated children 24 months and older at high risk should be vaccinated. See *MMWR* 2006;55(No. RR-7), available at <http://www.cdc.gov/mmwr/pdf/rr/rr5507.pdf>.
  - A 2-dose HepA vaccine series is recommended for anyone aged 24 months and older, previously unvaccinated, for whom immunity against hepatitis A virus infection is desired.
- Meningococcal conjugate vaccines, quadrivalent (MCV4).** (Minimum age: 9 months for Menactra [MCV4-D], 2 years for Menveo [MCV4-CRM])
  - For children aged 9 through 23 months 1) with persistent complement component deficiency; 2) who are residents of or travelers to countries with hyperendemic or epidemic disease; or 3) who are present during outbreaks caused by a vaccine serogroup, administer 2 primary doses of MCV4-D, ideally at ages 9 months and 12 months or at least 8 weeks apart.
  - For children aged 24 months and older with 1) persistent complement component deficiency who have not been previously vaccinated; or 2) anatomic/functional asplenia, administer 2 primary doses of either MCV4 at least 8 weeks apart.
  - For children with anatomic/functional asplenia, if MCV4-D (Menactra) is used, administer at a minimum age of 2 years and at least 4 weeks after completion of all PCV doses.
  - See *MMWR* 2011;60:72–6, available at <http://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf>, and Vaccines for Children Program resolution No. 6/11-1, available at <http://www.cdc.gov/vaccines/programs/vfc/downloads/resolutions/06-11mening-mcv.pdf>, and *MMWR* 2011;60:1391–2, available at <http://www.cdc.gov/mmwr/pdf/wk/mm6040.pdf>, for further guidance, including revaccination guidelines.

**FIGURE 2: Recommended immunization schedule for persons aged 7 through 18 years—United States, 2012** (for those who fall behind or start late, see the schedule below and the catch-up schedule [Figure 3])

Vaccine ▼	Age ►	7–10 years	11–12 years	13–18 years	
Tetanus, diphtheria, pertussis <sup>1</sup>		1 dose (if indicated)	1 dose	1 dose (if indicated)	Range of recommended ages for all children
Human papillomavirus <sup>2</sup>		see footnote <sup>2</sup>	3 doses	Complete 3-dose series	
Meningococcal <sup>3</sup>		See footnote <sup>3</sup>	Dose 1	Booster at 16 years old	Range of recommended ages for catch-up immunization
Influenza <sup>4</sup>		Influenza (yearly)			
Pneumococcal <sup>5</sup>		See footnote <sup>5</sup>			Range of recommended ages for certain high-risk groups
Hepatitis A <sup>6</sup>		Complete 2-dose series			
Hepatitis B <sup>7</sup>		Complete 3-dose series			
Inactivated poliovirus <sup>8</sup>		Complete 3-dose series			
Measles, mumps, rubella <sup>9</sup>		Complete 2-dose series			
Varicella <sup>10</sup>		Complete 2-dose series			

This schedule includes recommendations in effect as of December 23, 2011. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/pubs/acip-list.htm>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967).

- Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine.** (Minimum age: 10 years for Boostrix and 11 years for Adacel)
  - Persons aged 11 through 18 years who have not received Tdap vaccine should receive a dose followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter.
  - Tdap vaccine should be substituted for a single dose of Td in the catch-up series for children aged 7 through 10 years. Refer to the catch-up schedule if additional doses of tetanus and diphtheria toxoid-containing vaccine are needed.
  - Tdap vaccine can be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
- Human papillomavirus (HPV) vaccines (HPV4 [Gardasil] and HPV2 [Cervarix]).** (Minimum age: 9 years)
  - Either HPV4 or HPV2 is recommended in a 3-dose series for females aged 11 or 12 years. HPV4 is recommended in a 3-dose series for males aged 11 or 12 years.
  - The vaccine series can be started beginning at age 9 years.
  - Administer the second dose 1 to 2 months after the first dose and the third dose 6 months after the first dose (at least 24 weeks after the first dose).
  - See *MMWR* 2010;59:626–32, available at <http://www.cdc.gov/mmwr/pdf/wk/mm5920.pdf>.
- Meningococcal conjugate vaccines, quadrivalent (MCV4).**
  - Administer MCV4 at age 11 through 12 years with a booster dose at age 16 years.
  - Administer MCV4 at age 13 through 18 years if patient is not previously vaccinated.
  - If the first dose is administered at age 13 through 15 years, a booster dose should be administered at age 16 through 18 years with a minimum interval of at least 8 weeks after the preceding dose.
  - If the first dose is administered at age 16 years or older, a booster dose is not needed.
  - Administer 2 primary doses at least 8 weeks apart to previously unvaccinated persons with persistent complement component deficiency or anatomic/functional asplenia, and 1 dose every 5 years thereafter.
  - Adolescents aged 11 through 18 years with human immunodeficiency virus (HIV) infection should receive a 2-dose primary series of MCV4, at least 8 weeks apart.
  - See *MMWR* 2011;60:72–76, available at <http://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf>, and Vaccines for Children Program resolution No. 6/11-1, available at <http://www.cdc.gov/vaccines/programs/vfc/downloads/resolutions/06-11mening-mcv.pdf>, for further guidelines.
- Influenza vaccines (trivalent inactivated influenza vaccine [TIV] and live, attenuated influenza vaccine [LAIV]).**
  - For most healthy, nonpregnant persons, either LAIV or TIV may be used, except LAIV should not be used for some persons, including those with asthma or any other underlying medical conditions that predispose them to influenza complications. For all other contraindications to use of LAIV, see *MMWR* 2010;59(No. RR-8), available at <http://www.cdc.gov/mmwr/pdf/rr/rr5908.pdf>.
  - Administer 1 dose to persons aged 9 years and older.
  - For children aged 6 months through 8 years:
    - For the 2011–12 season, administer 2 doses (separated by at least 4 weeks) to those who did not receive at least 1 dose of the 2010–11 vaccine. Those who received at least 1 dose of the 2010–11 vaccine require 1 dose for the 2011–12 season.
    - For the 2012–13 season, follow dosing guidelines in the 2012 ACIP influenza vaccine recommendations.
- Pneumococcal vaccines (pneumococcal conjugate vaccine [PCV] and pneumococcal polysaccharide vaccine [PPSV]).**
  - A single dose of PCV may be administered to children aged 6 through 18 years who have anatomic/functional asplenia, HIV infection or other immunocompromising condition, cochlear implant, or cerebral spinal fluid leak. See *MMWR* 2010;59(No. RR-11), available at <http://www.cdc.gov/mmwr/pdf/rr/rr5911.pdf>.
  - Administer PPSV at least 8 weeks after the last dose of PCV to children aged 2 years or older with certain underlying medical conditions, including a cochlear implant. A single revaccination should be administered after 5 years to children with anatomic/functional asplenia or an immunocompromising condition.
- Hepatitis A (HepA) vaccine.**
  - HepA vaccine is recommended for children older than 23 months who are at increased risk for infection, or for whom immunity against hepatitis A virus infection is desired. See *MMWR* 2006;55(No. RR-7), available at <http://www.cdc.gov/mmwr/pdf/rr/rr5507.pdf>.
  - Administer 2 doses at least 6 months apart to unvaccinated persons.
- Hepatitis B (HepB) vaccine.**
  - Administer the 3-dose series to those not previously vaccinated.
  - For those with incomplete vaccination, follow the catch-up recommendations (Figure 3).
  - A 2-dose series (doses separated by at least 4 months) of adult formulation Recombivax HB is licensed for use in children aged 11 through 15 years.
- Inactivated poliovirus vaccine (IPV).**
  - The final dose in the series should be administered at least 6 months after the previous dose.
  - If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered, regardless of the child's current age.
  - IPV is not routinely recommended for U.S. residents aged 18 years or older.
- Measles, mumps, and rubella (MMR) vaccine.**
  - The minimum interval between the 2 doses of MMR vaccine is 4 weeks.
- Varicella (VAR) vaccine.**
  - For persons without evidence of immunity (see *MMWR* 2007;56[No. RR-4], available at <http://www.cdc.gov/mmwr/pdf/rr/rr5604.pdf>), administer 2 doses if not previously vaccinated or the second dose if only 1 dose has been administered.
  - For persons aged 7 through 12 years, the recommended minimum interval between doses is 3 months. However, if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.
  - For persons aged 13 years and older, the minimum interval between doses is 4 weeks.

# Recommended Adult Immunization Schedule—United States - 2012

**Note:** These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

**Figure 1. Recommended adult immunization schedule, by vaccine and age group<sup>1</sup>**

VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years	
Influenza <sup>2</sup>		1 dose annually						
Tetanus, diphtheria, pertussis (Td/Tdap) <sup>3,*</sup>		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs						Td/Tdap <sup>3</sup>
Varicella <sup>4,*</sup>		2 Doses						
Human papillomavirus (HPV) Female <sup>5,*</sup>		3 doses						
Human papillomavirus (HPV) Male <sup>5,*</sup>		3 doses						
Zoster <sup>6</sup>						1 dose		
Measles, mumps, rubella (MMR) <sup>7,*</sup>		1 or 2 doses			1 dose			
Pneumococcal (polysaccharide) <sup>8,9</sup>		1 or 2 doses					1 dose	
Meningococcal <sup>10,*</sup>		1 or more doses						
Hepatitis A <sup>11,*</sup>		2 doses						
Hepatitis B <sup>12,*</sup>		3 doses						

\*Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection	Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)	Tdap recommended for ≥65 if contact with <12 month old child. Either Td or Tdap can be used if no infant contact	No recommendation
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Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at [www.vaers.hhs.gov](http://www.vaers.hhs.gov) or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at [www.hrsa.gov/vaccinecompensation](http://www.hrsa.gov/vaccinecompensation) or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines) or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. - 8:00 p.m. Eastern Time, Monday - Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.



**Figure 2. Vaccines that might be indicated for adults based on medical and other indications<sup>1</sup>**

VACCINE ▼	INDICATION ►	Pregnancy	Immunocompromising conditions (excluding human immunodeficiency virus [HIV]) <sup>4,6,7,14</sup>	HIV infection <sup>4,7,13,14</sup> CD4+ T lymphocyte count		Men who have sex with men (MSM)	Heart disease, chronic lung disease, chronic alcoholism	Asplenia <sup>13</sup> (including elective splenectomy and persistent complement component deficiencies)	Chronic liver disease	Diabetes, kidney failure, end-stage renal disease, receipt of hemodialysis	Health-care personnel	
				< 200 cells/ $\mu$ L	$\geq$ 200 cells/ $\mu$ L							
Influenza <sup>2</sup>			1 dose TIV annually			1 dose TIV or LAIV annually	1 dose TIV annually			1 dose TIV or LAIV annually		
Tetanus, diphtheria, pertussis (Td/Tdap) <sup>3,*</sup>	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs											
Varicella <sup>4,*</sup>		Contraindicated		2 doses								
Human papillomavirus (HPV) Female <sup>5,*</sup>		3 doses through age 26 yrs		3 doses through age 26 yrs								
Human papillomavirus (HPV) Male <sup>5,*</sup>		3 doses through age 26 yrs		3 doses through age 21 yrs								
Zoster <sup>6</sup>		Contraindicated		1 dose								
Measles, mumps, rubella (MMR) <sup>7,*</sup>		Contraindicated		1 or 2 doses								
Pneumococcal (polysaccharide) <sup>8,9</sup>		1 or 2 doses										
Meningococcal <sup>10,*</sup>		1 or more doses										
Hepatitis A <sup>11,*</sup>				2 doses								
Hepatitis B <sup>12,*</sup>				3 doses								

\*Covered by the Vaccine Injury Compensation Program

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG) and American College of Nurse-Midwives (ACNM).

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection
  Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)
  Contraindicated
  No recommendation

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of January 1, 2012. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices ([www.cdc.gov/vaccines/pubs/acip-list.htm](http://www.cdc.gov/vaccines/pubs/acip-list.htm)). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.



# Footnotes — Recommended Adult Immunization Schedule—United States - 2012

## 1. Additional information

- Advisory Committee on Immunization Practices (ACIP) vaccine recommendations and additional information are available at: <http://www.cdc.gov/vaccines/pubs/acip-list.htm>.
- Information on travel vaccine requirements and recommendations (e.g., for hepatitis A and B, meningococcal, and other vaccines) available at <http://wwwnc.cdc.gov/travel/page/vaccinations.htm>.

## 2. Influenza vaccination

- Annual vaccination against influenza is recommended for all persons 6 months of age and older.
- Persons 6 months of age and older, including pregnant women, can receive the trivalent inactivated vaccine (TIV).
- Healthy, nonpregnant adults younger than age 50 years without high-risk medical conditions can receive either intranasally administered live, attenuated influenza vaccine (LAIV) (FluMist), or TIV. Health-care personnel who care for severely immunocompromised persons (i.e., those who require care in a protected environment) should receive TIV rather than LAIV. Other persons should receive TIV.
- The intramuscular or intradermal administered TIV are options for adults aged 18–64 years.
- Adults aged 65 years and older can receive the standard dose TIV or the high-dose TIV (Fluzone High-Dose).

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

- Administer a one-time dose of Tdap to adults younger than age 65 years who have not received Tdap previously or for whom vaccine status is unknown to replace one of the 10-year Td boosters.
- Tdap is specifically recommended for the following persons:
  - pregnant women more than 20 weeks' gestation,
  - adults, regardless of age, who are close contacts of infants younger than age 12 months (e.g., parents, grandparents, or child care providers), and
  - health-care personnel.
- Tdap can be administered regardless of interval since the most recent tetanus or diphtheria-containing vaccine.
- Pregnant women not vaccinated during pregnancy should receive Tdap immediately postpartum.
- Adults 65 years and older may receive Tdap.
- Adults with unknown or incomplete history of completing a 3-dose primary vaccination series with Td-containing vaccines should begin or complete a primary vaccination series. Tdap should be substituted for a single dose of Td in the vaccination series with Tdap preferred as the first dose.
- For unvaccinated adults, administer the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second.
- If incompletely vaccinated (i.e., less than 3 doses), administer remaining doses.

Refer to the ACIP statement for recommendations for administering Td/Tdap as prophylaxis in wound management (See footnote 1).

## 4. Varicella vaccination

- All adults without evidence of immunity to varicella (as defined below) should receive 2 doses of single-antigen varicella vaccine or a second dose if they have received only 1 dose.
- Special consideration for vaccination should be given to those who
  - have close contact with persons at high risk for severe disease (e.g., health-care personnel and family contacts of persons with immunocompromising conditions) or
  - are at high risk for exposure or transmission (e.g., teachers; child care employees; residents and staff members of institutional settings, including correctional institutions; college students; military personnel; adolescents and adults living in households with children; nonpregnant women of childbearing age; and international travelers).
- Pregnant women should be assessed for evidence of varicella immunity. Women who do not have evidence of immunity should receive the first dose of varicella vaccine upon completion or termination of pregnancy and before discharge from the health-care facility. The second dose should be administered 4–8 weeks after the first dose.
- Evidence of immunity to varicella in adults includes any of the following:
  - documentation of 2 doses of varicella vaccine at least 4 weeks apart;
  - U.S.-born before 1980 (although for health-care personnel and pregnant women, birth before 1980 should not be considered evidence of immunity);
  - history of varicella based on diagnosis or verification of varicella by a health-care provider (for a patient reporting a history of or having an atypical case, a mild case, or both, health-care providers should seek either an epidemiologic link to a typical varicella case or to a

## 7. Measles, mumps, rubella (MMR) vaccination (cont'd)

Rubella component:

- For women of childbearing age, regardless of birth year, rubella immunity should be determined. If there is no evidence of immunity, women who are not pregnant should be vaccinated. Pregnant women who do not have evidence of immunity should receive MMR vaccine upon completion or termination of pregnancy and before discharge from the health-care facility.

Health-care personnel born before 1957:

- For unvaccinated health-care personnel born before 1957 who lack laboratory evidence of measles, mumps, and/or rubella immunity or laboratory confirmation of disease, health-care facilities should consider routinely vaccinating personnel with 2 doses of MMR vaccine at the appropriate interval for measles and mumps or 1 dose of MMR vaccine for rubella.

## 8. Pneumococcal polysaccharide (PPSV) vaccination

- Vaccinate all persons with the following indications:
  - age 65 years and older without a history of PPSV vaccination;
  - adults younger than 65 years with chronic lung disease (including chronic obstructive pulmonary disease, emphysema, and asthma); chronic cardiovascular diseases; diabetes mellitus; chronic liver disease (including cirrhosis); alcoholism; cochlear implants; cerebrospinal fluid leaks; immunocompromising conditions; and functional or anatomic asplenia (e.g., sickle cell disease and other hemoglobinopathies, congenital or acquired asplenia, splenic dysfunction, or splenectomy [if elective splenectomy is planned, vaccinate at least 2 weeks before surgery]);
  - residents of nursing homes or long-term care facilities; and
  - adults who smoke cigarettes.
- Persons with asymptomatic or symptomatic HIV infection should be vaccinated as soon as possible after their diagnosis.
- When cancer chemotherapy or other immunosuppressive therapy is being considered, the interval between vaccination and initiation of immunosuppressive therapy should be at least 2 weeks. Vaccination during chemotherapy or radiation therapy should be avoided.
- Routine use of PPSV is not recommended for American Indians/Alaska Natives or other persons younger than 65 years of age unless they have underlying medical conditions that are PPSV indications. However, public health authorities may consider recommending PPSV for American Indians/Alaska Natives who are living in areas where the risk for invasive pneumococcal disease is increased.

## 9. Revaccination with PPSV

- One-time revaccination 5 years after the first dose is recommended for persons 19 through 64 years of age with chronic renal failure or nephrotic syndrome; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy); and for persons with immunocompromising conditions.
- Persons who received PPSV before age 65 years for any indication should receive another dose of the vaccine at age 65 years or later if at least 5 years have passed since their previous dose.
- No further doses are needed for persons vaccinated with PPSV at or after age 65 years.

## 10. Meningococcal vaccination

- Administer 2 doses of meningococcal conjugate vaccine quadrivalent (MCV4) at least 2 months apart to adults with functional asplenia or persistent complement component deficiencies.
- HIV-infected persons who are vaccinated should also receive 2 doses.
- Administer a single dose of meningococcal vaccine to microbiologists 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.
- First-year college students up through age 21 years who are living in residence halls should be vaccinated if they have not received a dose on or after their 16th birthday.
- MCV4 is preferred for adults with any of the preceding indications who are 55 years old and younger; meningococcal polysaccharide vaccine (MPSV4) is preferred for adults 56 years and older.
- Revaccination with MCV4 every 5 years is recommended for adults previously vaccinated with MCV4 or MPSV4 who remain at increased risk for infection (e.g., adults with anatomic or functional asplenia or persistent complement component deficiencies).

## 11. Hepatitis A vaccination

- Vaccinate any person seeking protection from hepatitis A virus (HAV) infection and persons with any of the following indications:
  - men who have sex with men and persons who use injection drugs;

laboratory-confirmed case or evidence of laboratory confirmation, if it was performed at the time of acute disease);

- history of herpes zoster based on diagnosis or verification of herpes zoster by a health-care provider; or
- laboratory evidence of immunity or laboratory confirmation of disease.

## 5. Human papillomavirus (HPV) vaccination

- Two vaccines are licensed for use in females, bivalent HPV vaccine (HPV2) and quadrivalent HPV vaccine (HPV4), and one HPV vaccine for use in males (HPV4).
- For females, either HPV4 or HPV2 is recommended in a 3-dose series for routine vaccination at 11 or 12 years of age, and for those 13 through 26 years of age, if not previously vaccinated.
- For males, HPV4 is recommended in a 3-dose series for routine vaccination at 11 or 12 years of age, and for those 13 through 21 years of age, if not previously vaccinated. Males 22 through 26 years of age may be vaccinated.
- HPV vaccines are not live vaccines and can be administered to persons who are immunocompromised as a result of infection (including HIV infection), disease, or medications. Vaccine is recommended for immunocompromised persons through age 26 years who did not get any or all doses when they were younger. The immune response and vaccine efficacy might be less than that in immunocompetent persons.
- Men who have sex with men (MSM) might especially benefit from vaccination to prevent condyloma and anal cancer. HPV4 is recommended for MSM through age 26 years who did not get any or all doses when they were younger.
- Ideally, vaccine should be administered before potential exposure to HPV through sexual activity; however, persons who are sexually active should still be vaccinated consistent with age-based recommendations. HPV vaccine can be administered to persons with a history of genital warts, abnormal Papanicolaou test, or positive HPV DNA test.
- A complete series for either HPV4 or HPV2 consists of 3 doses. The second dose should be administered 1–2 months after the first dose; the third dose should be administered 6 months after the first dose (at least 24 weeks after the first dose).
- Although HPV vaccination is not specifically recommended for health-care personnel (HCP) based on their occupation, HCP should receive the HPV vaccine if they are in the recommended age group.

## 6. Zoster vaccination

- A single dose of zoster vaccine is recommended for adults 60 years of age and older regardless of whether they report a prior episode of herpes zoster. Although the vaccine is licensed by the Food and Drug Administration (FDA) for use among and can be administered to persons 50 years and older, ACIP recommends that vaccination begins at 60 years of age.
- Persons with chronic medical conditions may be vaccinated unless their condition constitutes a contraindication, such as pregnancy or severe immunodeficiency.
- Although zoster vaccination is not specifically recommended for health-care personnel (HCP), HCP should receive the vaccine if they are in the recommended age group.

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

- Adults born before 1957 generally are considered immune to measles and mumps. All adults born in 1957 or later should have documentation of 1 or more doses of MMR vaccine unless they have a medical contraindication to the vaccine, laboratory evidence of immunity to each of the three diseases, or documentation of provider-diagnosed measles or mumps disease. For rubella, documentation of provider-diagnosed disease is not considered acceptable evidence of immunity.

Measles component:

- A routine second dose of MMR vaccine, administered a minimum of 28 days after the first dose, is recommended for adults who
  - are students in postsecondary educational institutions;
  - work in a health-care facility; or
  - plan to travel internationally.
- Persons who received inactivated (killed) measles vaccine or measles vaccine of unknown type from 1963 to 1967 should be revaccinated with 2 doses of MMR vaccine.

Mumps component:

- A routine second dose of MMR vaccine, administered a minimum of 28 days after the first dose, is recommended for adults who
  - are students in postsecondary educational institutions;
  - work in a health-care facility; or
  - plan to travel internationally.
- Persons vaccinated before 1979 with either killed mumps vaccine or mumps vaccine of unknown type who are at high risk for mumps infection (e.g., persons who are working in a health-care facility) should be considered for revaccination with 2 doses of MMR vaccine.

- persons working with HAV-infected primates or with HAV in a research laboratory setting;
- persons with chronic liver disease and persons who receive clotting factor concentrates;
- persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A; and
- unvaccinated persons who anticipate close personal contact (e.g., household or regular babysitting) with an international adoptee during the first 60 days after arrival in the United States from a country with high or intermediate endemicity. (See footnote 1 for more information on travel recommendations). The first dose of the 2-dose hepatitis A vaccine series should be administered as soon as adoption is planned, ideally 2 or more weeks before the arrival of the adoptee.

- Single-antigen vaccine formulations should be administered in a 2-dose schedule at either 0 and 6–12 months (Havrix), or 0 and 6–18 months (Vaqta). If the combined hepatitis A and hepatitis B vaccine (Twinrix) is used, administer 3 doses at 0, 1, and 6 months; alternatively, a 4-dose schedule may be used, administered on days 0, 7, and 21–30 followed by a booster dose at month 12.

## 12. Hepatitis B vaccination

- Vaccinate persons with any of the following indications and any person seeking protection from hepatitis B virus (HBV) infection:
  - sexually active persons who are not in a long-term, mutually monogamous relationship (e.g., persons with more than one sex partner during the previous 6 months); persons seeking evaluation or treatment for a sexually transmitted disease (STD); current or recent injection-drug users; and men who have sex with men;
  - health-care personnel and public-safety workers who are exposed to blood or other potentially infectious body fluids;
  - persons with diabetes younger than 60 years as soon as feasible after diagnosis; persons with diabetes who are 60 years or older at the discretion of the treating clinician based on increased need for assisted blood glucose monitoring in long-term care facilities, likelihood of acquiring hepatitis B infection, its complications or chronic sequelae, and likelihood of immune response to vaccination;
  - persons with end-stage renal disease, including patients receiving hemodialysis; persons with HIV infection; and persons with chronic liver disease;
  - household contacts and sex partners of persons with chronic HBV infection; clients and staff members of institutions for persons with developmental disabilities; and international travelers to countries with high or intermediate prevalence of chronic HBV infection; and
  - all adults in the following settings: STD treatment facilities; HIV testing and treatment facilities; facilities providing drug-abuse treatment and prevention services; health-care settings targeting services to injection-drug users or men who have sex with men; correctional facilities; end-stage renal disease programs and facilities for chronic hemodialysis patients; and institutions and nonresidential daycare facilities for persons with developmental disabilities.
- Administer missing doses to complete a 3-dose series of hepatitis B vaccine to those persons not vaccinated or not completely vaccinated. The second dose should be administered 1 month after the first dose; the third dose should be given at least 2 months after the second dose (and at least 4 months after the first dose). If the combined hepatitis A and hepatitis B vaccine (Twinrix) is used, give 3 doses at 0, 1, and 6 months; alternatively, a 4-dose Twinrix schedule, administered on days 0, 7, and 21–30 followed by a booster dose at month 12 may be used.
- Adult patients receiving hemodialysis or with other immunocompromising conditions should receive 1 dose of 40 µg/mL (Recombivax HB) administered on a 3-dose schedule or 2 doses of 20 µg/mL (Engerix-B) administered simultaneously on a 4-dose schedule at 0, 1, 2, and 6 months.

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

- 1 dose of Hib vaccine should be considered for persons who have sickle cell disease, leukemia, or HIV infection, or who have anatomic or functional asplenia if they have not previously received Hib vaccine.

## 14. Immunocompromising conditions

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