

Improving the Health of Children and Adults through Vaccines: Updates and Recommendations for Clinicians

Clinician Outreach and Communication Activity (COCA) Conference Call August 13, 2013

Objectives

At the conclusion of this session, the participant will be able to accomplish the following:

- ❑ Describe two recent vaccine recommendations made by the Advisory Committee on Immunization Practices (ACIP)**
- ❑ Understand how and where to access immunization resources.**

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TODAY'S PRESENTER



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Improving the Health of Children and Adults through Vaccines: Updates and Recommendations for Clinicians

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COCA Conference Call

National Center Immunization and Respiratory Diseases



Objectives

- ❑ **Increase provider knowledge regarding immunizations and the importance of promoting immunizations in the community.**
- ❑ **Explain at least two recent changes to immunization recommendations coming from the Advisory Committee for Immunization Practices.**
- ❑ **Understand how and where to access immunization resources.**

Disclosures

- Dr. Beysolow has no financial conflict or interest with the manufacturer of any product named during this course
- I will not discuss the use of vaccines in a manner that differs from the product insert with the exception of HPV and Tdap vaccines
- I will not discuss vaccines not licensed by the FDA
- URL addresses listed are current as of the date of this presentation

Demographic polling questions

- ❑ Who is in the audience?
- ❑ What is your profession?
- ❑ Primary work setting?
- ❑ Administer vaccines to what age group(s)?

Outline

- ❑ Immunization Schedules
- ❑ HPV disease and HPV vaccine
- ❑ Flu Vaccine 2013-14
- ❑ Vaccine Administration
- ❑ Resources
- ❑ Questions

**ACIP 2013 IMMUNIZATION
SCHEDULES
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Advisory Committee on Immunization Practices (ACIP) Recommended Immunization Schedules for Persons Aged 0 Through 18 Years and Adults Aged 19 Years and Older — United States, 2013



Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – 2013.

(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE [FIGURE 2]).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are in bold.

Vaccines	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2–3 yrs	4–6 yrs	7–10 yrs	11–12 yrs	13–15 yrs	16–18 yrs
Hepatitis B ¹ (HepB)	←1 st dose→	←2 nd dose→														
Rotavirus ² (RV) RV-1 (2-dose series); RV-5 (3-dose series)			←1 st dose→	←2 nd dose→	See footnote 2											
Diphtheria, tetanus, & acellular pertussis ³ (DTaP; <7 yrs)			←1 st dose→	←2 nd dose→	←3 rd dose→				←4 th dose→			←5 th dose→				
Tetanus, diphtheria, & acellular pertussis ⁴ (Tdap; ≥7 yrs)														(Tdap)		
<i>Haemophilus influenzae</i> type b ⁵ (Hib)			←1 st dose→	←2 nd dose→	See footnote 5			←3 rd or 4 th dose, see footnote 5→								
Pneumococcal conjugate ^{6a,c} (PCV13)			←1 st dose→	←2 nd dose→	←3 rd dose→			←4 th dose→								
Pneumococcal polysaccharide ^{6b,c} (PPSV23)																
Inactivated Poliovirus ⁷ (IPV) (<18 years)			←1 st dose→	←2 nd dose→					←3 rd dose→			←4 th dose→				
Influenza ⁸ (IIV; LAIV) 2 doses for some: see footnote 8									Annual vaccination (IIV only)			Annual vaccination (IIV or LAIV)				
Measles, mumps, rubella ⁹ (MMR)									←1 st dose→			←2 nd dose→				
Varicella ¹⁰ (VAR)									←1 st dose→			←2 nd dose→				
Hepatitis A ¹¹ (HepA)										←2 dose series, see footnote 11→						
Human papillomavirus ¹² (HPV2: females only; HPV4: males and females)															(3-dose series)	
Meningococcal ¹³ (Hib-MenCY ≥ 6 weeks; MCV4-D ≥ 9 mos; MCV4-CRM ≥ 2 yrs.)															←1 st dose→	booster

 Range of recommended ages for all children

 Range of recommended ages for catch-up immunization

 Range of recommended ages for certain high-risk groups

 Range of recommended ages during which catch-up is encouraged and for certain high-risk groups

 Not routinely recommended

This schedule includes recommendations in effect as of January 1, 2013. 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). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (<http://www.cdc.gov/vaccines>) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/acip/index.html>), the American Academy of Pediatrics (<http://www.aap.org>), the American Academy of Family Physicians (<http://www.aafp.org>), and the American College of Obstetricians and Gynecologists (<http://www.acog.org>).

NOTE: The above recommendations must be read along with the footnotes of this schedule.

FIGURE 2. Catch-up Immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind — United States, 2013

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Persons aged 4 months through 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
Hepatitis B ¹	Birth	4 weeks	8 weeks and at least 16 weeks after first dose; minimum age for the final dose is 24 weeks		
Rotavirus ²	6 weeks	4 weeks	4 weeks ²		
Diphtheria, tetanus, pertussis ³	6 weeks	4 weeks	4 weeks	6 months	6 months ³
<i>Haemophilus influenzae</i> type b ⁴	6 weeks	4 weeks if first dose administered at younger than age 12 months 8 weeks (as final dose) if first dose administered at age 12–14 months No further doses needed if first dose administered at age 15 months or older	4 weeks ⁴ if current age is younger than 12 months 8 weeks (as final dose) ⁴ if current age is 12 months or older and first dose administered at younger than age 12 months and second dose administered at younger than 15 months No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months	
Pneumococcal ⁵	6 weeks	4 weeks if first dose administered at younger than age 12 months 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older or current age 24 through 59 months No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age is younger than 12 months 8 weeks (as final dose for healthy children) if current age is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age	
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks	6 months ⁷ minimum age 4 years for final dose	
Meningococcal ¹²	6 weeks	8 weeks ¹²	see footnote 13	see footnote 13	
Measles, mumps, rubella ⁹	12 months	4 weeks			
Varicella ¹⁰	12 months	3 months			
Hepatitis A ¹¹	12 months	6 months			
Persons aged 7 through 18 years					
Tetanus, diphtheria; tetanus, diphtheria, pertussis ⁴	7 years ⁴	4 weeks	4 weeks if first dose administered at younger than age 12 months 6 months if first dose administered at 12 months or older	6 months if first dose administered at younger than age 12 months	
Human papillomavirus ¹²	9 years	Routine dosing intervals are recommended ¹²			
Hepatitis A ¹¹	12 months	6 months			
Hepatitis B ¹	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks ⁷	6 months ⁷	
Meningococcal ¹²	6 weeks	8 weeks ¹²			
Measles, mumps, rubella ⁹	12 months	4 weeks			
Varicella ¹⁰	12 months	3 months if person is younger than age 13 years 4 weeks if person is aged 13 years or older			

NOTE: The above recommendations must be read along with the footnotes on pages 6–8.

Footnotes — Recommended immunization schedule for persons aged 0 through 18 years—United States, 2013

For further guidance on the use of the vaccines mentioned below, see: <http://www.cdc.gov/vaccines/pubs/acip-list.htm>.

1. Hepatitis B (HepB) vaccine. (Minimum age: birth)

Routine vaccination:

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 the HepB series, at age 9 through 18 months (preferably at the next well-child visit).
- If mother's HBsAg status is unknown, within 12 hours of birth administer HepB vaccine to all infants regardless of birth weight. For infants weighing <2,000 grams, administer HBIG in addition to HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if she is HBsAg-positive, also administer HBIG for infants weighing ≥2,000 grams (no later than age 1 week).

Doses following the birth dose

- The second dose should be administered at age 1 or 2 months. Monovalent HepB vaccine should be used for doses administered before age 6 weeks.
- Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine on a schedule of 0, 1 to 2 months, and 6 months starting as soon as feasible. See Figure 2.
- 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.
- Administration of a total of 4 doses of HepB vaccine is recommended when a combination vaccine containing HepB is administered after the birth dose.

Catch-up vaccination:

- Unvaccinated persons should complete a 3-dose series.
- 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.
- For other catch-up issues, see Figure 2.

2. Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV-1 [Rotarix] and RV-5 [RotaTeq]).

Routine vaccination:

- Administer a series of RV vaccine to all infants as follows:
 1. If RV-1 is used, administer a 2-dose series at 2 and 4 months of age.
 2. If RV-5 is used, administer a 3-dose series at ages 2, 4, and 6 months.
 3. If any dose in series was RV-5 or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.

Catch-up vaccination:

- The maximum age for the first dose in the series is 14 weeks, 6 days.
- Vaccination should not be initiated for infants aged 15 weeks 0 days or older.
- The maximum age for the final dose in the series is 8 months, 0 days.
- If RV-1 (Rotarix) is administered for the first and second doses, a third dose is not indicated.
- For other catch-up issues, see Figure 2.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks)

Routine vaccination:

- Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15–18 months, and 4 through 6 years. The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose.

Catch-up vaccination:

- The fifth (booster) dose of DTaP vaccine is not necessary if the fourth dose was administered at age 4 years or older.
- For other catch-up issues, see Figure 2.

4. Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. (Minimum age: 10 years for Boostrix, 11 years for Adacel).

Routine vaccination:

- Administer 1 dose of Tdap vaccine to all adolescents aged 11 through 12 years.
- Tdap can be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
- Administer one dose of Tdap vaccine to pregnant adolescents during each pregnancy (preferred during 27 through 36 weeks gestation) regardless of number of years from prior Td or Tdap vaccination.

Catch-up vaccination:

- Persons aged 7 through 10 years who are not fully immunized with the childhood DTaP vaccine series, should receive Tdap vaccine as the first dose in the catch-up series; if additional doses are needed, use Td vaccine. For these children, an adolescent Tdap vaccine should not be given.
- 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.
- An inadvertent dose of DTaP vaccine administered to children aged 7 through 10 years can count as part of the catch-up series. This dose can count as the adolescent Tdap dose, or the child can later receive a Tdap booster dose at age 11–12 years.
- For other catch-up issues, see Figure 2.

5. *Haemophilus influenzae* type b (Hib) conjugate vaccine. (Minimum age: 6 weeks)

Routine vaccination:

- Administer a Hib vaccine primary series and a booster dose to all infants. The primary series doses should be administered at 2, 4, and 6 months of age; however, if PRP-OMP (PedvaxHib or Comvax) is administered at 2 and 4 months of age, a dose at age 6 months is not indicated. One booster dose should be administered at age 12 through 15 months.
- Hiberix (PRP-T) should only be used for the booster (final) dose in children aged 12 months through 4 years, who have received at least 1 dose of Hib.

Catch-up vaccination:

- If dose 1 was administered at ages 12–14 months, administer booster (as final dose) at least 8 weeks after dose 1.
- If the first 2 doses were PRP-OMP (PedvaxHIB or Comvax), and were administered at age 11 months or younger, the third (and final) dose should be administered at age 12 through 15 months and at least 8 weeks after the second dose.
- If the first dose was administered at age 7 through 11 months, administer the second dose at least 4 weeks later and a final dose at age 12 through 15 months, regardless of Hib vaccine (PRP-T or PRP-OMP) used for first dose.
- For unvaccinated children aged 15 months or older, administer only 1 dose.

Recommended Adult Immunization Schedule—United States - 2013

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

VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years
Influenza ^{2,*}		1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					
Varicella ^{4,*}		2 doses					
Human papillomavirus (HPV) Female ^{5,*}		3 doses					
Human papillomavirus (HPV) Male ^{5,*}		3 doses					
Zoster ⁶						1 dose	
Measles, mumps, rubella (MMR) ^{7,*}		1 or 2 doses					
Pneumococcal polysaccharide (PPSV23) ^{8,9}		1 or 2 doses					1 dose
Pneumococcal 13-valent conjugate (PCV13) ¹⁰		1 dose					
Meningococcal ^{11,*}		1 or more doses					
Hepatitis A ^{12,*}		2 doses					
Hepatitis B ^{13,*}		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; zoster vaccine recommended regardless of prior episode of zoster

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indication)

No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

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

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at 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.

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).

VACCINE ▼	INDICATION ►	Pregnancy	Immuno-compromising conditions (excluding human immunodeficiency virus [HIV]) ^{4,6,7,10,15}	HIV infection CD4+ T lymphocyte count ^{4,6,7,10,14,15}		Men who have sex with men (MSM)	Heart disease, chronic lung disease, chronic alcoholism	Asplenia (including elective splenectomy and persistent complement deficiencies) ^{10,14}	Chronic liver disease	Kidney failure, end-stage renal disease, receipt of hemodialysis	Diabetes	Healthcare personnel
				< 200 cells/ μ L	\geq 200 cells/ μ L							
Influenza ^{2,*}				1 dose IIV annually		1 dose IIV or LAIV annually		1 dose IIV annually				1 dose IIV or LAIV annually
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}		1 dose Tdap each pregnancy	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs									
Varicella ^{4,*}			Contraindicated	2 doses								
Human papillomavirus (HPV) Female ^{5,*}			3 doses through age 26 yrs				3 doses through age 26 yrs					
Human papillomavirus (HPV) Male ^{5,*}			3 doses through age 26 yrs				3 doses through age 21 yrs					
Zoster ⁶			Contraindicated	1 dose								
Measles, mumps, rubella (MMR) ^{7,*}			Contraindicated	1 or 2 doses								
Pneumococcal polysaccharide (PPSV23) ^{8,9}							1 or 2 doses					
Pneumococcal 13-valent conjugate (PCV13) ¹⁰							1 dose					
Meningococcal ^{11,*}							1 or more doses					
Hepatitis A ^{12,*}							2 doses					
Hepatitis B ^{13,*}							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; zoster vaccine recommended regardless of prior episode of zoster
- Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)
- 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, 2013. 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). 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.



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Footnotes — Recommended Immunization Schedule for Adults Aged 19 Years and Older—United States, 2013

1. Additional information

- Additional guidance for the use of the vaccines described in this supplement is available at <http://www.cdc.gov/vaccines/pubs/acip-list.htm>.
- Information on vaccination recommendations when vaccination status is unknown and other general immunization information can be found in the General Recommendations on Immunization at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6002a1.htm>.
- Information on travel vaccine requirements and recommendations (e.g., for hepatitis A and B, meningococcal, and other vaccines) are available at <http://wwwnc.cdc.gov/travel/page/vaccinations.htm>.

2. Influenza vaccination

- Annual vaccination against influenza is recommended for all persons aged 6 months and older.
- Persons aged 6 months and older, including pregnant women, can receive the inactivated influenza vaccine (IIV).
- Healthy, nonpregnant persons aged 2–49 years without high-risk medical conditions can receive either intranasally administered live, attenuated influenza vaccine (LAIV) (FluMist), or IIV. Health-care personnel who care for severely immunocompromised persons (i.e., those who require care in a protected environment) should receive IIV rather than LAIV.
- The intramuscularly or intradermally administered IIV are options for adults aged 18–64 years.
- Adults aged 65 years and older can receive the standard dose IIV or the high-dose IIV (Fluzone High-Dose).

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

- Administer one dose of Tdap vaccine to pregnant women during each pregnancy (preferred during 27–36 weeks' gestation), regardless of number of years since prior Td or Tdap vaccination.
- Administer Tdap to all other adults who have not previously received Tdap or for whom vaccine status is unknown. Tdap can be administered regardless of interval since the most recent tetanus or diphtheria-toxoid containing vaccine.
- Adults with an unknown or incomplete history of completing a 3-dose primary vaccination series with Td-containing vaccines should begin or complete a primary vaccination series including a Tdap dose.
- For unvaccinated adults, administer the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second.
- For incompletely vaccinated (i.e., less than 3 doses) adults, administer remaining doses.
- Refer to the Advisory Committee on Immunization Practices (ACIP) statement for recommendations for administering Td/Tdap as prophylaxis in wound manage-

- HPV4 is recommended for men who have sex with men (MSM) through age 26 years for those who did not get any or all doses when they were younger.
- Vaccination is recommended for immunocompromised persons (including those with HIV infection) through age 26 years for those who did not get any or all doses when they were younger.
- 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).
- HPV vaccines are not recommended for use in pregnant women. However, pregnancy testing is not needed before vaccination. If a woman is found to be pregnant after initiating the vaccination series, no intervention is needed; the remainder of the 3-dose series should be delayed until completion of pregnancy.
- Although HPV vaccination is not specifically recommended for health-care personnel (HCP) based on their occupation, HCP should receive the HPV vaccine as recommended (see above).

6. Zoster vaccination

- A single dose of zoster vaccine is recommended for adults aged 60 years 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 aged 50 years and older, ACIP recommends that vaccination begins at age 60 years.
- Persons aged 60 years and older 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 HCP, they 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, or laboratory evidence of immunity to each of the three diseases. Documentation of provider-diagnosed disease is not considered acceptable evidence of immunity for measles, mumps, or rubella.

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

TABLE 1. Contraindications and precautions ¹ to commonly used vaccines in adults.**		
Vaccine	Contraindications	Precautions
Influenza, Injectable trivalent (TIV)	Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine or to a vaccine component, including egg protein.	Moderate or severe acute illness with or without fever. History of Guillian-Barré syndrome (GBS) within 6 weeks of previous influenza vaccination.
Influenza, Live attenuated (LAIV) ²	Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine or to a vaccine component, including egg protein. Immune suppression. Certain chronic medical conditions such as asthma, diabetes, heart or kidney disease. ³ Pregnancy.	Moderate or severe acute illness with or without fever. History of GBS within 6 weeks of previous influenza vaccination. Receipt of specific antivirals (i.e., amantadine, rimantadine, zanamivir, or oseltamivir) 48 hours before vaccination. Avoid use of these antiviral drugs for 14 days after vaccination.
Tetanus, diphtheria, pertussis (Tdap) Tetanus, diphtheria (Td)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component. For Tdap only: Encephalopathy (e.g., coma, decreased level of consciousness, or prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP, or Tdap.	Moderate or severe acute illness with or without fever. GBS within 6 weeks after a previous dose of tetanus toxoid-containing vaccine. History of arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus toxoid-containing vaccine. For Tdap only: Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized.
Varicella (Var) ²	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component. Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy ⁴ or patients with HIV infection who are severely immunocompromised). Pregnancy.	Recent (≤ 11 months) receipt of antibody-containing blood product (specific interval depends on product). ^{5, 6} Moderate or severe acute illness with or without fever. Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; if possible, delay resumption of these antiviral drugs for 14 days after vaccination.
Human papillomavirus (HPV)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever. Pregnancy.
Zoster (Zos)	Severe allergic reaction (e.g., anaphylaxis) to a vaccine component. Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, or long-term immunosuppressive therapy ⁴ or patients with HIV infection who are severely immunocompromised). Pregnancy.	Moderate or severe acute illness with or without fever. Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; if possible, avoid use of these antiviral drugs for 14 days after vaccination.
Measles, mumps, rubella (MMR) ²	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component. Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy ⁴ or patients with HIV infection who are severely immunocompromised). Pregnancy.	Moderate or severe acute illness with or without fever. Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product). ^{5, 6} History of thrombocytopenia or thrombocytopenic purpura. Need for tuberculin skin testing. ⁷
Pneumococcal polysaccharide (PPSV)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever.
Meningococcal, conjugate (MCV4) Meningococcal, polysaccharide (MPSV4)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever.
Hepatitis A (HepA)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever. Pregnancy.
Hepatitis B (HepB)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component.	Moderate or severe acute illness with or without fever.

1. Vaccine package inserts and the full ACIP recommendations for these vaccines should be consulted for additional information on vaccine-related contraindications and precautions and for more information on vaccine excipients. Events or conditions listed as precautions should be reviewed carefully. Benefits of and risks for administering a specific vaccine to a person under these circumstances should be considered. If the risk from the vaccine is believed to outweigh the benefit, the vaccine should not be administered. If the benefit of vaccination is believed to outweigh the risk, the vaccine should be administered.

2. LAIV, MMR, and varicella vaccines can be administered on the same day. If not administered on the same day, these live vaccines should be separated by at least 28 days.

3. See CDC. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010. MMWR 2010;59(No. RR-8) at www.cdc.gov/vaccines/pubs/acip-list.htm.

4. Substantially immunosuppressive steroid dose is considered to be ≥ 2 weeks of daily receipt of 20 mg or 2 mg/kg body weight of prednisone or equivalent.

5. Vaccine should be deferred for the appropriate interval if replacement immune globulin products are being administered.

6. See Table 5 in CDC. General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices [ACIP] at www.cdc.gov/vaccines/pubs/acip-list.htm.

7. Measles vaccination might suppress tuberculin reactivity temporarily. Measles-containing vaccine can be administered on the same day as tuberculin skin testing. If testing cannot be performed until after the day of MMR vaccination, the test should be postponed for ≥ 4 weeks after the vaccination. If an urgent need exists to skin test, do so with the understanding that reactivity might be reduced by the vaccine.

*Adapted from "Table 6. Contraindications and Precautions to Commonly Used Vaccines," found in: "General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices" MMWR 2011; 60(No. RR-2), p.40-41 and Appendix A in "The Pink Book" Epidemiology and Prevention of Vaccine Preventable Diseases, 12th Edition 2011 at <http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm>.

† Latex allergy: some types of prefilled syringes contain natural rubber latex or dry natural latex rubber. Consult the package insert for any vaccine administered.

More information on vaccine components, contraindications and precautions is also available from specific vaccine package inserts, the ACIP recommendations for specific vaccines, and is summarized in "The Pink Book" Epidemiology and Prevention of Vaccine Preventable Diseases, 12th Edition 2011 at <http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm>.

<http://www.cdc.gov/vaccines/schedules/index.html>

Immunization Schedules

Vaccines Home
Vaccines & Immunization

Schedules

For Health Care Professionals

For Everyone: Easy-to-read Schedules

Display Schedules on Your Website

Web Buttons

Past Immunization Schedules

Related Links

Vaccine Information Statements

ACIP Vaccination Recommendations

Why Immunize?

Vaccines: The Basics

[Vaccines Home](#)

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Immunization Schedules

For Health Care Professionals



NEW 2013 SCHEDULES

Schedules and Tools

Schedules to order or print, recommendations to consult, and tools to download.

- **Birth-18 Years and Catch-up Versions**
Find printable versions in various formats: regular paper, pocket size, MMWR, and laminated; load on your smartphone; check the binational resource...

For Everyone



Easy-to-read Schedules for All Ages

Easy-to-read formats to print, tools to download, and ways to prepare for your office visit.

- **Infants and Children (birth through 6 years old)**
Find easy-to-read formats to print, create an instant schedule for your child, determine missed or skipped vaccines, and prepare for your office visit...

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Contact Us:

Centers for Disease Control and Prevention
1600 Clifton Rd
Atlanta, GA 30333
 800-CDC-INFO
(800-232-4636)
TTY: (888) 232-6342
[Contact CDC-INFO](#)

Outline

- ❑ Immunization Schedules
- ❑ **HPV disease and HPV vaccine**
- ❑ Flu Vaccine 2013-14
- ❑ Vaccine Administration
- ❑ Resources
- ❑ Questions

HPV Types Differ in their Disease Associations

~40 Types

Mucosal/Genital sites of infection

Cutaneous sites of infection

~ 80 Types

**High risk (oncogenic)
HPV 16, 18**

**Low risk (non-oncogenic)
HPV 6, 11**

**Cervical cancer other
anogenital & oropharyngeal
cancers and cancer precursors
Low grade cervical disease**

**Genital warts
Laryngeal papillomas
Low grade cervical disease**

"Common" hand
and foot warts

Prevalence in the U.S.

- ❑ **Nearly all sexually active men and women acquire genital HPV at some point in their lives.**
- ❑ **An estimated 79 million females aged 14–59 years are infected with HPV infection.**

HPV related cancers

- Although > 90% of cervical cancers are caused by HPV, cancer in some other areas of the body are often, but not always, caused by HPV. In general, HPV is thought to be responsible for about—
 - > 90% of anal cancers.
 - > 50% of vaginal, vulvar and penile cancers.
- Recent studies show that about 60 - 70% of oropharyngeal cancers (cancers of the back of the throat, including the base of the tongue and tonsils) maybe linked to HPV.

ACIP HPV Vaccine Recommendations

	HPV 4 (Gardasil)	HPV2 (Cervarix)
Types	Types 6, 11, 16, 18	Types 16, 18
Recommendations for Females	Routine: 11-12 yrs Catch-up: 13-26 yrs	Routine: 11-12 yrs Catch-up: 13-26 yrs
Recommendations for Males	Routine: 11-12 yrs Catch-up: 13-21 yrs Immunocompromised: 11-26 yrs MSM: 11-26 yrs	Do NOT administer to males
Route	Intramuscular (IM)	
Schedule	0, 1-2*, 6 months	

HPV Vaccination Schedule

- ❑ **ACIP recommended schedule is 0, 1-2, 6 months**
 - Following the recommended schedule is preferred
- ❑ **Minimum intervals**
 - 4 weeks between doses 1 and 2*
 - 12 weeks between doses 2 and 3
 - 24 weeks between doses 1 and 3
- ❑ **The vaccination series can be started as young as 9 years of age at the clinician's discretion**

* Off-label ACIP recommendation- HPV4 only

HPV Vaccine Intervals

- ❑ There is no **MAXIMUM** interval between HPV vaccine doses
- ❑ If the interval between doses is longer than recommended the series should be continued where it was interrupted
 - Do not re-start a valid, documented series

CLINICAL QUESTION #4- POLLING HPV

Answer

- ❑ **A: The series should be completed-**
 - even if this means that the series is completed after the person turns 27*
 - If the series was begun before 26 years of age

*Off-label ACIP recommendation

HPV Vaccine “Special Situations”

- ❑ **Administer vaccine to females with:**
 - equivocal or abnormal Pap test
 - positive HPV DNA test
 - genital warts
 - Breastfeeding
 - Immunosuppression (and males up to 26 years old)

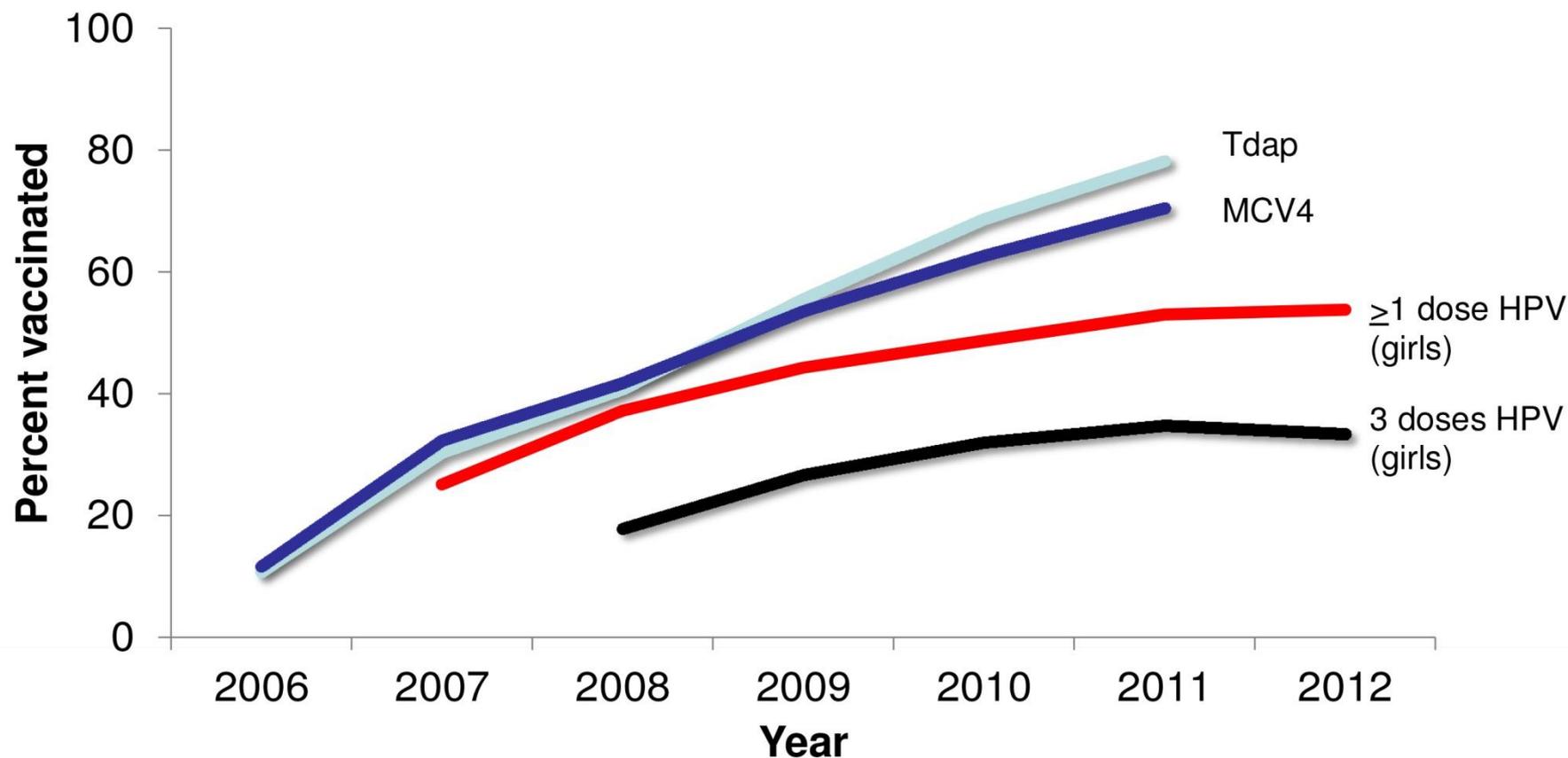
Tdap, MenACWY, and HPV vaccination estimates among adolescents, 13-17 years, NIS-Teen, United States, 2006-2011



NIS Teen, CDC

MMWR Aug 31, 2012

National Estimated Vaccination Coverage Levels among Adolescents 13-17 Years, National Immunization Survey-Teen, 2006-2012

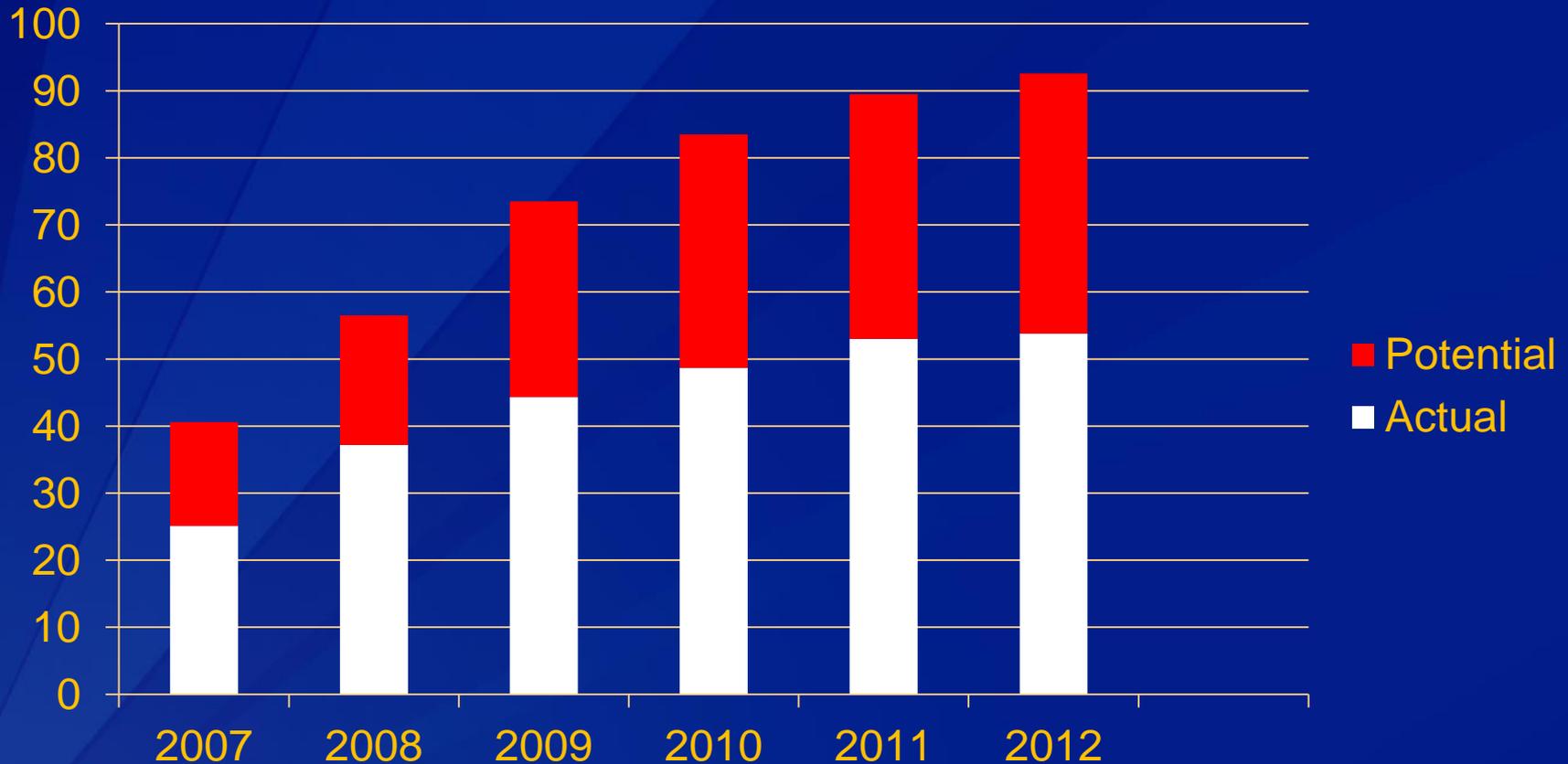


Tdap: tetanus, diphtheria, acellular pertussis vaccine.

MCV4: meningococcal conjugate vaccine

HPV: human papillomavirus vaccine

Potential coverage with ≥ 1 dose of HPV vaccine if no missed opportunity* (Adolescent females 13-17 years of age)



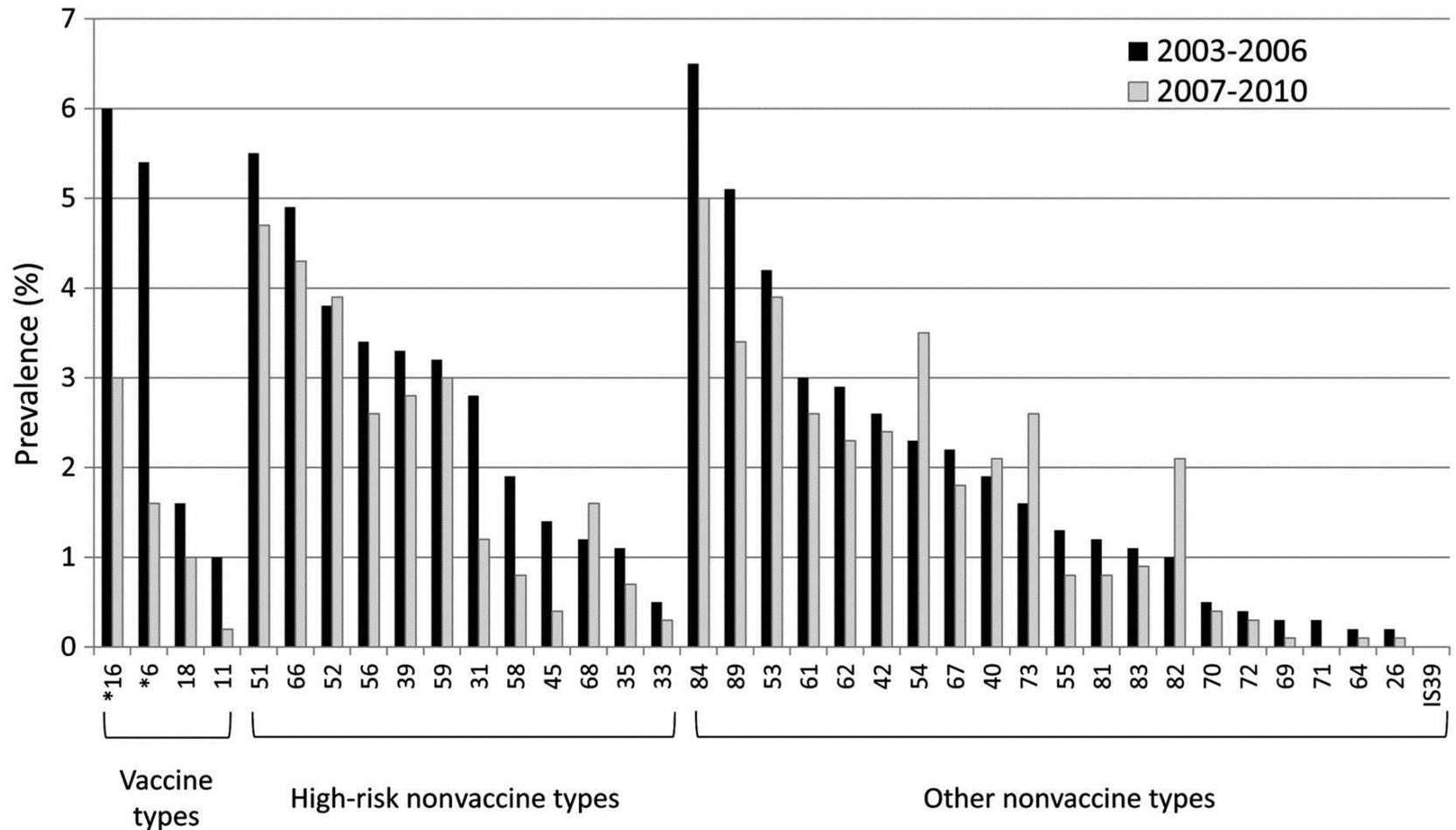
* Missed opportunity: health-care encounter occurring on or after a girl's 11th birthday and on/after March 23, 2007, during which a girl received at least one vaccine but did not receive HPV vaccine. **MMWR: July 26, 2013 / 62(29);591-595**

Reasons that parents had for not intending to vaccinate daughters in next 12 months, for HPV, NIS –Teen 2012

%	Reason
19.1%	Vaccine not needed
14.2%	Vaccine not recommended
13.1%	Vaccine safety concerns
12.6%	Lack of knowledge about vaccine/disease
10.1%	Daughter not sexually active

- ❑ **Disease prevalence /vaccine efficacy**
- ❑ **Duration of immunity**
- ❑ **Vaccine safety**

Prevalence of individual human papillomavirus (HPV) types among females aged 14–19 years, 2003–2006 and 2007–2010.



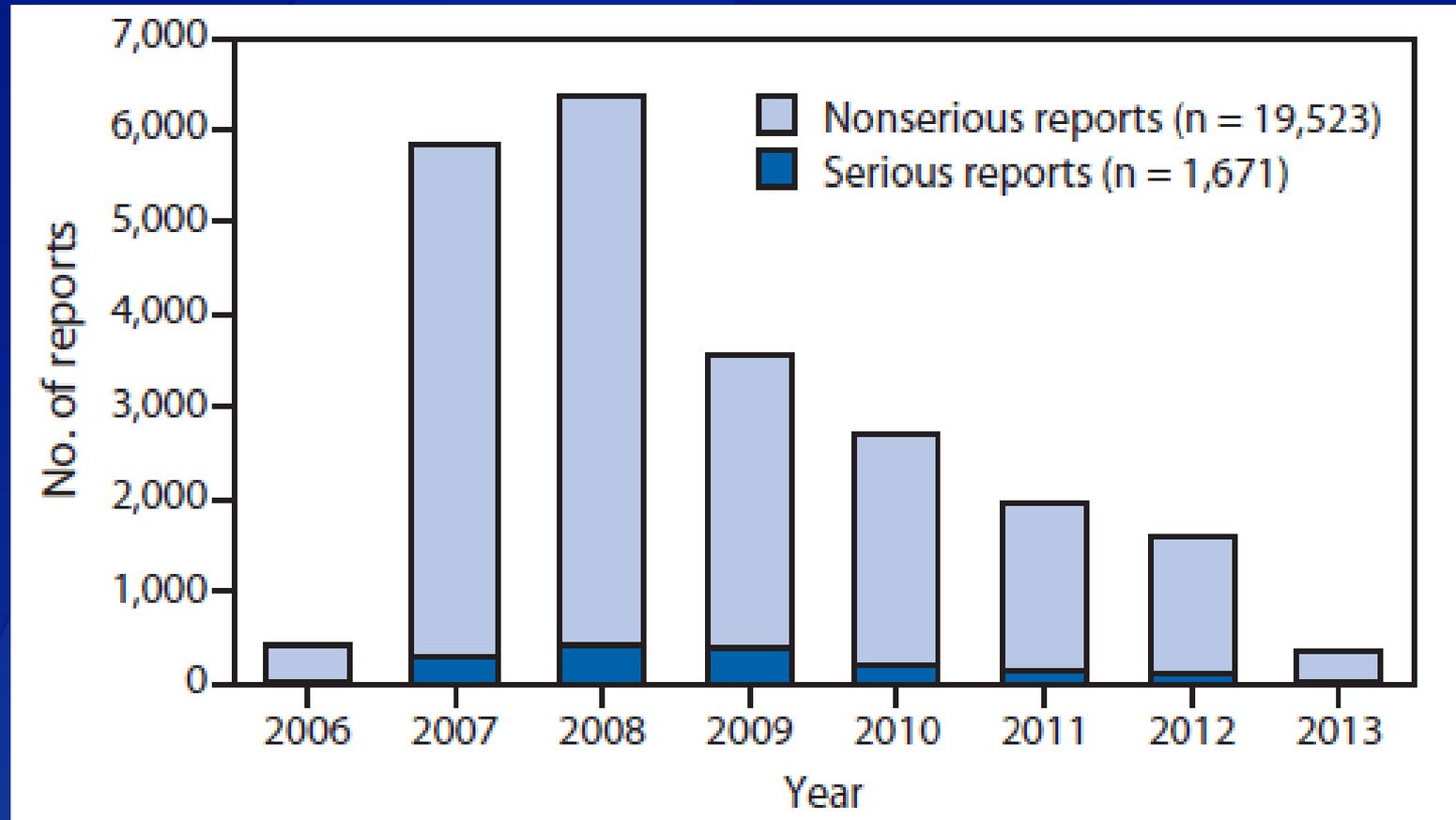
Markowitz L E et al. *J Infect Dis.* 2013;infdis.jit192

HPV Vaccine

Duration of Immunity

- ❑ **The duration of immunity after a complete 3-dose schedule is not known**
 - **Available evidence indicates protection for at least 6 years**
 - **Multiple cohort studies are in progress to monitor the duration of immunity**

HPV Vaccine Safety



Number of serious and nonserious reports of adverse events after administration of quadrivalent human papillomavirus (HPV4) vaccine in females, by year — Vaccine Adverse Event Reporting System, United States, June 2006–March 2013*. MMWR: July 26, 2013 / 62(29):591-595

Strategies for Increasing HPV Vaccination Rates in Clinical Practices

- ❑ **Recommend HPV vaccine!**
 - Include HPV vaccine when discussing other needed vaccines
- ❑ **Integrate standard procedures supporting vaccination**
 - Assess for needed vaccines at every clinical encounter
 - Immunize at every opportunity
 - Standing orders
- ❑ **Reminder and recall**
- ❑ **AFIX: assessment, feedback, incentive, and eXchange**

Tools for improving uptake of HPV: www.cdc.gov/vaccines/teens



#PRETEENVAXNEWS

CDC ADOLESCENT IMMUNIZATION CAMPAIGN

MAY 2013

IN THIS NEWSLETTER

- [Clinician Tip Sheet](#)→
- [Partner Spotlight](#) →
- [New Digital Ads](#) →
- [Help Nurses Make Strong Vaccine Recommendations](#) →
- [Spread the Word](#)→

Clinician Tip Sheet

CDC's new [Tip Sheet for Talking about HPV Vaccine](#) provides clinicians with straightforward messages for discussing the HPV vaccine with parents. These easy-to-deliver tips will help address parents' potential concerns, provide effective responses to questions, and save time. Each question and answer pair is based upon research with both parents and providers to best understand parents' questions, share information, and offer clinicians the kind of phrasing that helps make answers meaningful and relevant.

Partner Spotlight

We are excited to welcome [The Foundation for Women's Cancer](#) to our list of partners. Known also as F4WC, this organization dedicated to ensuring education and public awareness of gynecologic cancer prevention, early detection, and optimal treatment. Founded by the [Society of Gynecologic Oncology \(SGO\)](#), F4WC focuses

Tips and Time-savers for Talking with Parents about HPV Vaccine



Recommend the HPV vaccine series the same way you recommend the other adolescent vaccines. For example, you can say “Your child needs these shots today,” and name the all of the vaccines recommended for the child’s age. Parents may be interested in vaccinating, yet still have questions. Taking the time to listen to parents’ questions helps you save time and give an effective response. CDC research shows these straightforward messages work with parents when discussing HPV vaccine—and are easy for you or your staff to deliver.

- CDC RESEARCH SHOWS:** The “HPV vaccine is cancer prevention” message resonates strongly with parents. In addition, studies show that a strong recommendation from you is the single best predictor of vaccination.
- TRY SAYING:** HPV vaccine is very important because it prevents cancer. I want your child to be protected from cancer, and I know you want that too. That’s why I’m recommending that your daughter/son receive the first dose of HPV vaccine today.
- CDC RESEARCH SHOWS:** Disease prevalence is not understood, and parents are unclear about what the vaccine actually protects against.
- TRY SAYING:** HPV can cause cancers of the cervix, vagina, and vulva in women, cancer of the penis in men, and cancers of the anus and the mouth or throat in both women and men. There are about 36,000 of these cancers each year—and most could be prevented with HPV vaccine.
- CDC RESEARCH SHOWS:** Parents want a concrete reason to understand the recommendation that 11–12 year olds receive HPV vaccine.
- TRY SAYING:** We’re vaccinating today so your child will have the best protection possible well before the start of any kind of sexual activity. This vaccine can’t wait.
- CDC RESEARCH SHOWS:** Parents may be concerned that vaccinating may be perceived by the child as permission to have sex.

❑ **CDC RESEARCH SHOWS:**

- ❑ **Emphasizing your personal belief in the importance of HPV vaccine helps parents feel secure in their decision.**

❑ **TRY SAYING:**

- ❑ **I strongly believe in the importance of this cancer-preventing vaccine, and I have given HPV vaccine to my son/daughter/grandchild/niece/nephew/friend's children. Experts (like the American Academy of Pediatrics, cancer doctors, and the CDC) also agree that this vaccine is very important for your child.**

❑ **CDC RESEARCH SHOWS:**

- ❑ Many parents do not know that the full vaccine series requires 3 shots. Your reminder will help them to complete the series.

❑ **TRY SAYING:**

- ❑ I want to make sure that your son/daughter receives all 3 shots of HPV vaccine to give them the best possible protection from cancer caused by HPV. Please make sure to make appointments on the way out, and put those appointments on your calendar before you leave the office today!

Summary of Resources

- ❑ **Tips and timesavers** for talking with parents about HPV vaccine.
- ❑ **Provider fact sheets** about adolescent vaccines.
- ❑ The 2013 Advisory Committee on Immunization Practices (ACIP) **adolescent immunization schedule**.
- ❑ What can you do to help spread the word?
- ❑ **Syndicate content to your website** and add our **web button**.
- ❑ Download a **matte article** to include in your publication.
- ❑ Provide **fact sheets** to parents and clinicians.
- ❑ **Collaborate** with us to help expand the campaign reach.

Outline

- ❑ Immunization Schedules
- ❑ HPV disease and HPV vaccine
- ❑ **Flu Vaccine 2013-14**
- ❑ Vaccine Administration
- ❑ Resources
- ❑ Questions

Influenza Vaccine Components 2013-2014

- ❑ Influenza strains for the vaccine are selected each year by the Food and Drug Administration
- ❑ The 2013-2014 trivalent seasonal influenza vaccine will include
 - A/California/7/2009 (H1N1)
 - A/Victoria/361/2011 (H3N2)
 - B/Massachusetts/2/2012-like (Yamagata lineage) **NEW**
- ❑ The 2013-2014 quadrivalent seasonal influenza vaccine will contain the same three strains plus the **NEW** B/Brisbane/33/2008 (Victoria lineage)

Influenza Vaccine Presentations 2013-2014

Name	Manufacturer	Age Range	# Antigens	Presentation	Route	Type/Abbrev.
Afluria	CSL	5 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
				Multi-Dose Vial		
Agriflu	Novartis	18 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
Fluarix	GSK	3 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
			Quadrivalent	Pre-Filled Syringe	IM	Inactivated IIV4
FluBlok†	Protein Sciences	18 - 49	Trivalent	Single-Dose Vial	IM	Recombinant RIV3
Flucelvax§	Novartis	18 and older	Trivalent	Pre-Filled Syringe	IM	Cell Culture cclIV3
FluLaval	GSK	18 and older	Trivalent	Multi-Dose Vial	IM	Inactivated IIV3
FluMist	Medimmune	2 - 49	Quadrivalent	Pre-Filled Sprayer	Intranasal (IN)	Live Attenuated LAIV4
Fluvirin	Novartis	4 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
				Multi-dose Vial		
Fluzone	Sanofi Pasteur	6 months and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
				Single-Dose Vial		
				Multi-Dose Vial		
Fluzone High-Dose	Sanofi Pasteur	65 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
Fluzone Intradermal	Sanofi Pasteur	18 - 64	Trivalent	Pre-Filled Microinjection System	Intradermal (ID)	Inactivated IIV3

<http://www.cdc.gov/flu/professionals/acip/2013-interim-recommendations.htm#table1>

Influenza Vaccine Abbreviations

- ❑ **TIV (Trivalent Inactivated Influenza Vaccine) replaced with IIV (Inactivated Influenza Vaccine):**
 - IIV refers to inactivated vaccines (egg and cell-culture based)
 - Includes trivalent (IIV3) and quadrivalent (IIV4) vaccines;
 - Where necessary, cell-culture-based IIV is referred to as cIIV/cIIV3;

- ❑ **RIV refers to recombinant HA influenza vaccine**
 - Trivalent (RIV3) for 2013-14;

- ❑ **LAIV refers to Live Attenuated Influenza Vaccine**
 - Quadrivalent (LAIV4), for 2013-14

Influenza Vaccines recently approved

Quadrivalent influenza vaccine, live attenuated (LAIV4):

- Flumist[®] Quadrivalent (MedImmune)

Quadrivalent influenza vaccines, inactivated (IIV4):

- Fluarix[®] Quadrivalent (GSK)
- Fluzone[®] Quadrivalent (Sanofi Pasteur)

Cell culture-based influenza vaccine (ccIIV3):

- Flucelvax[®] (Novartis)

Recombinant hemagglutinin (HA) vaccine (RIV3):

- FluBlok[®] (Protein Sciences)

Flucelvax[®] (cclIV3)

- **Novartis**
- **Approved for persons aged 18 and older**
- **Vaccine virus propagated in Madin Darby Canine Kidney cells**
- **Available in 0.5mL prefilled syringes for IM injection**
- **Vaccine viruses for cclIV are not propagated in eggs; however, initial reference strains have been passaged in eggs**
 - **Cannot be considered egg-free, though expected to contain less egg protein than other IIVs**
- **Acceptable alternative to other licensed products used within indications and recommendations**

FluBlok[®] (RIV3)

- **Protein Sciences**
- **Approved for persons aged 18 through 49 years**
- **Vaccine contains recombinant influenza virus hemagglutinin**
 - **Protein is produced in insect cell line**
 - **No eggs or influenza viruses used in production**
- **Available in 0.5mL single-dose vials for IM injection**
- **Egg-free**
- **Acceptable alternative to other licensed products used within indications and recommendations**

Fluzone Intradermal

- ❑ Licensed by FDA in May 2011
- ❑ Approved only for persons 18 through 64 years of age
- ❑ Dose is 0.1 mL administered in the deltoid area by a specially designed micro-needle and injector system
- ❑ Formulated to contain more HA (27 mcg) than a 0.1 mL dose of regular Fluzone formulation (9 mcg)

Influenza Vaccine Presentations 2013-2014

Name	Manufacturer	Age Range	# Antigens	Presentation	Route	Type/Abbrev.
Afluria	CSL	5 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
				Multi-Dose Vial		
Agriflu	Novartis	18 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
Fluarix	GSK	3 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
			Quadrivalent	Pre-Filled Syringe	IM	Inactivated IIV4
FluBlok†	Protein Sciences	18 - 49	Trivalent	Single-Dose Vial	IM	Recombinant RIV3
Flucelvax§	Novartis	18 and older	Trivalent	Pre-Filled Syringe	IM	Cell Culture cclIV3
FluLaval	GSK	18 and older	Trivalent	Multi-Dose Vial	IM	Inactivated IIV3
FluMist	Medimmune	2 - 49	Quadrivalent	Pre-Filled Sprayer	Intranasal (IN)	Live Attenuated LAIV4
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				Multi-dose Vial		
Fluzone	Sanofi Pasteur	6 months and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
				Single-Dose Vial		
				Multi-Dose Vial		
Fluzone High-Dose	Sanofi Pasteur	65 and older	Trivalent	Pre-Filled Syringe	IM	Inactivated IIV3
Fluzone Intradermal	Sanofi Pasteur	18 - 64	Trivalent	Pre-Filled Microinjection System	Intradermal (ID)	Inactivated IIV3

<http://www.cdc.gov/flu/professionals/acip/2013-interim-recommendations.htm#table1>

Choice of Influenza Vaccine

- ❑ The choice should primarily be driven by the age-indication and contraindications and precautions
- ❑ No current preference for quadrivalent vs trivalent
- ❑ No current preference for high-dose vs standard dose
- ❑ No current preference for IIV vs LAIV in any age group for whom either is indicated

Inactivated Influenza Vaccine Schedule

Group Age	Dose	No. Doses
6-35 mos	0.25 mL	1 or 2
3-8 yrs	0.50 mL	1 or 2
9 yrs and older	0.50 mL	1

Influenza Vaccination Recommendation

- Annual influenza vaccination is now recommended for every person in the United States 6 months of age and older

CLINICAL QUESTION #5— POLLING INFLUENZA

Outline

- ❑ Immunization Schedules
- ❑ HPV disease and HPV vaccine
- ❑ Flu Vaccine 2013-14
- ❑ **Vaccine Administration**
- ❑ Resources
- ❑ Questions

Knowledgeable Staff is Key



Skills Checklist for Immunization

The Skills Checklist is a self-assessment tool for health care staff who administer immunizations. To complete it, review the competency areas below and the clinical skills, techniques, and procedures outlined for each of them. Score yourself in the Self-Assessment column. If you check **Need to Improve**, you indicate further study, practice, or change is needed. When you check **Meets or Exceeds**, you indicate you believe you are performing at the expected level of competence, or higher.

Supervisors: Use the Skills Checklist to clarify responsibilities and expectations for staff who administer vaccines. When you use it for performance reviews, give staff the opportunity to score themselves in advance. Next, observe their performance as they provide immunizations to several patients and score in the Supervisor Review columns. If improvement is needed, meet with them to develop a Plan of Action (p. 2) that will help them achieve the level of competence you expect, circle desired actions or write. In others, The DVD "Immunization Techniques: Best Practices with Infants, Children, and Adults" ensures that staff administer vaccines correctly. Order online at www.immunize.org/dvd

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Competency	Clinical Skills, Techniques, and Procedures	Self-Assessment		Supervisor Review		Plan of Action*
		Need to Improve	Meets or Exceeds	Need to Improve	Meets or Exceeds	
A. Patient/Parent Education	1. Welcomes patient/family, establishes rapport, and answers any questions.					
	2. Explains what vaccines will be given and which type(s) of injection will be done.					
	3. Accommodates language or literacy barriers and special needs of patient/parents to help make them feel comfortable and informed about the procedure.					
	4. Verifies patient/parents received the Vaccine Information Statements for indicated vaccines and had time to read them and ask questions.					
	5. Screens for contraindications. (MA score NA; not applicable if this is MD function.)					
	6. Reviews comfort measures and after care instructions with patient/parents, inviting questions.					
B. Medical Protocols	1. Identifies the location of the medical protocols (i.e. immunization protocol, emergency protocol, referral material).					
	2. Identifies the location of the epinephrine, its administration technique, and clinical situations where its use would be indicated.					
	3. Maintains up-to-date CPR certification.					
	4. Understands the need to report any needlestick injury and to maintain a sharp injury log.					
C. Vaccine Handling	1. Checks expiration date. Double-checks vial label and contents prior to drawing up.					
	2. Maintains aseptic technique throughout.					
	3. Selects the correct needle size for IM and SC.					
	4. Shakes vaccine vial and/or reconstitutes and mixes using the diluent supplied. Inverts vial and draws up correct dose of vaccine. Rechecks vial label.					
	5. Labels each filled syringe or uses labeled tray to keep them identified.					
	6. Demonstrates knowledge of proper vaccine handling, e.g. protects MMR from light, logs refrigerator temperature.					

Adapted from California Department of Public Health - Immunization Division

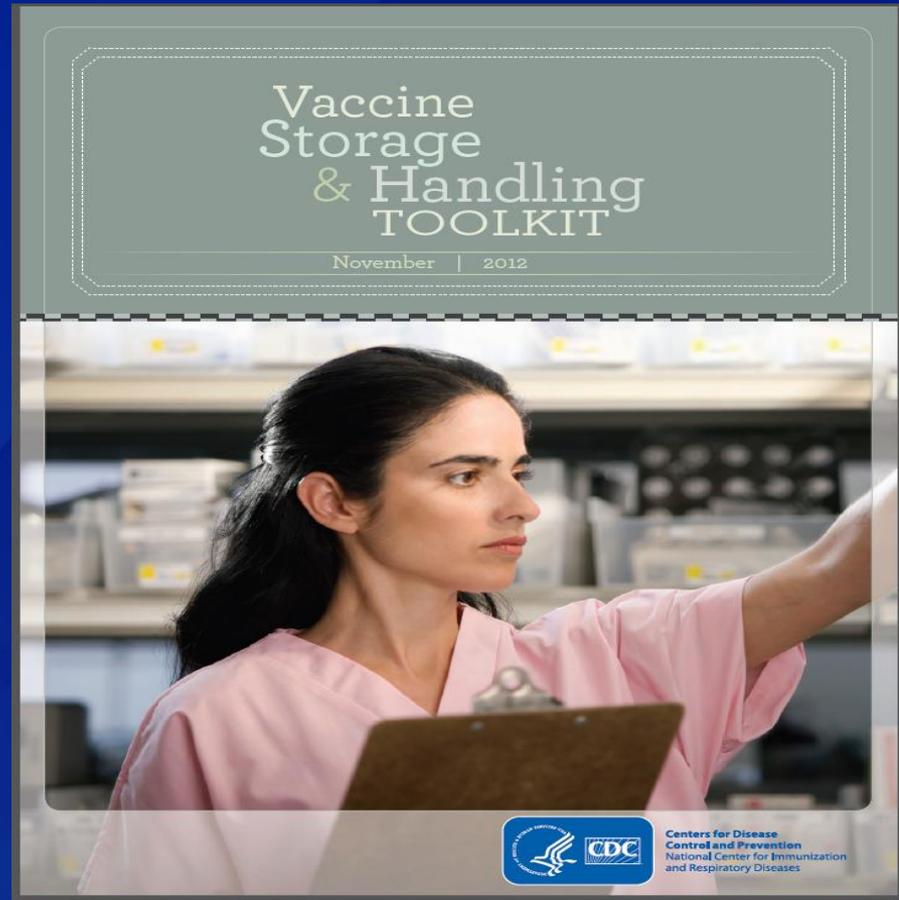
- ❑ All staff- permanent and temporary- who will be administering vaccines should receive competency-based training BEFORE giving vaccines to patients.
- ❑ Ongoing training is strongly recommended

<http://www.eziz.org/assets/docs/IMM-694.pdf>

Rights of Medication Administration

- ❑ Right patient**
- ❑ Right vaccine or diluent**
- ❑ Right time (including the correct age, appropriate interval, and before the vaccine or diluent expires)**
- ❑ Right dosage**
- ❑ Right route, needle length, and technique**
- ❑ Right site**
- ❑ Right documentation**

Vaccine Storage and Handling Toolkit



<http://www.cdc.gov/vaccines/recs/storage/toolkit/default.htm>

CLINICAL QUESTION #6- POLLING ADMINISTRATION

IMMUNIZATION RESOURCES



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Are you and your family protected?

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In the Spotlight

- [Human Papillomavirus Vaccination Coverage Among Adolescent Girls, 2007–2012, and Postlicensure Vaccine Safety Monitoring, 2006–2013 — United States](#) (Jul 25)
- Check out the redesigned [ACIP Vaccine Recommendations website](#) (Jul 11)
- List of [vaccine acronyms and abbreviations](#) updated (Jul 11)
- [View all...](#)

Vaccines & Immunizations Topics

Immunization Schedules

Schedules for providers, easy-to-read schedules, instant scheduler for children up to 6 years old, catch-up immunization scheduler tool, adolescent & adult quiz (11 yrs & up), adult immunization scheduler tool ...more

Vaccines in the United States

Vaccine shortages and delays, questions answered about vaccines, who should not be vaccinated, potential new vaccines, vaccine basics, education and training, ...more

Basic & Common Questions

Common questions, why immunize, how vaccines prevent disease, immunity types, common misconceptions, risks of not vaccinating, ...more

Recommendations

Advisory Committee on Immunization Practices (ACIP), [ACIP vaccination recommendations published in MMWR](#), Vaccine Information Statements (VIS), ...more

Vaccines & Preventable Diseases

What diseases are vaccine preventable, questions answered about specific diseases, photos of diseases, ...more

Vaccine Side Effects & Safety

Possible vaccine side effects, concerns about the safety of vaccines, vaccine safety research, vaccine safety datalink project, report a vaccine adverse reaction, ...more

Protect Babies from Whooping Cough

Whooping cough is deadly for babies

Learn more in words and pictures about...

- Getting a Tdap shot if you are pregnant;
- Creating a circle of protection around infants; and
- Making sure your baby gets DTaP vaccines on time.

[See the infographic](#)
NEW FEB 2013

THE JOURNEY of YOUR CHILD'S VACCINE

Learn in words and pictures...

- How a new vaccine is developed, approved and manufactured;
- How a vaccine is added to the US recommended schedule; and
- How a vaccine's safety continues to be monitored.

[See the infographic](#)
NEW JAN 2013

Vaccine Information for Parents



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Program Managers home page





Vaccine Recommendations of the ACIP

Advisory Committee for Immunization Practices (ACIP)



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Recs Listed by Date

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ACIP Vaccine Recommendations

Vaccine-Specific ACIP Recommendations

Anthrax	Meningococcal
BCG	Pneumococcal UPDATED
DTaP	Polio
Hepatitis A	Rabies
Hepatitis B	Rotavirus
Hib	Smallpox (Vaccinia)
Hib and DTP	Tdap/Td
HPV	Typhoid
Influenza	Varicella (Chickenpox) UPDATED
Japanese Encephalitis	Yellow Fever
Measles, Mumps and Rubella UPDATED	Zoster (Shingles)
MMRV	

Provisional Recommendations are Obsolete

Provisional recommendations are no longer being prepared. All previous provisional recommendations have been incorporated into *MMWR* published recommendations.

ACIP Abbreviations for Vaccines

These **abbreviations** provide a uniform approach to vaccine references used in ACIP Recommendations that are published in the *MMWR*, the *Pink Book*, and the *AAP Red Book*; and in the U.S. immunization schedules for children, adolescents, and adults.

Comprehensive ACIP Recommendations

- [General Recommendations on Immunization](#)
- [Health Care Personnel](#)
"Immunization of health care workers"
 - See also: [Influenza Vaccination of Health Care Personnel](#)
- See also:
 - [Vaccine guidelines for emergency situations](#)
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The Pink Book

Epidemiology and Prevention of Vaccine-Preventable Diseases



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

12 th EDITION
SECOND PRINTING

The Pink Book

❑ Chapters

- Alphabetized by Vaccine Preventable Disease
- Principles of Vaccination
- General Recommendations on Immunization

❑ Downloadable Slides

❑ Appendices

- Schedules and Recommendations
- Vaccines – excipients, latex, foreign language terms
- Storage and Handling, Vaccine Administration
- VIS

Table 5: Interval between antibody-containing products and measles- and varicella-containing vaccines

TABLE 5. Recommended intervals between administration of antibody-containing products and measles- or varicella-containing vaccine, by product and indication for vaccination

Product/Indication	Dose (mg IgG/kg) and route*	Recommended interval before measles- or varicella-containing vaccine [†] administration (months)
Tetanus IG	250 units (10 mg IgG/kg) IM	3
Hepatitis A IG		
Contact prophylaxis	0.02 mL/kg (3.3 mg IgG/kg) IM	3
International travel	0.06 mL/kg (10 mg IgG/kg) IM	3
Hepatitis B IG	0.06 mL/kg (10 mg IgG/kg) IM	3
Rabies IG	20 IU/kg (22 mg IgG/kg) IM	4
Varicella IG	125 units/10 kg (60–200 mg IgG/kg) IM, maximum 625 units	5
Measles prophylaxis IG		
Standard (i.e., nonimmunocompromised) contact	0.25 mL/kg (40 mg IgG/kg) IM	5
Immunocompromised contact	0.50 mL/kg (80 mg IgG/kg) IM	6
Blood transfusion		
RBCs, washed	10 mL/kg, negligible IgG/kg IV	None
RBCs, adenine-saline added	10 mL/kg (10 mg IgG/kg) IV	3
Packed RBCs (hematocrit 65%) [§]	10 mL/kg (60 mg IgG/kg) IV	6
Whole blood (hematocrit 35%–50%) [§]	10 mL/kg (80–100 mg IgG/kg) IV	6
Plasma/platelet products	10 mL/kg (160 mg IgG/kg) IV	7
Cytomegalovirus IGIV	150 mg/kg maximum	6
IGIV		
Replacement therapy for immune deficiencies [¶]	300–400 mg/kg IV [¶]	8
Immune thrombocytopenic purpura treatment	400 mg/kg IV	8
Postexposure varicella prophylaxis**	400 mg/kg IV	8
Immune thrombocytopenic purpura treatment	1000 mg/kg IV	10
Kawasaki disease	2 g/kg IV	11
Monoclonal antibody to respiratory syncytial virus F protein (Synagis [MedImmune])^{††}	15 mg/kg IM	None

Included in Pink Book Appendix A

Recommendations and Reports
MMWR / January 28, 2011 / Vol. 60 / No. 2

TABLE 6. Contraindications and precautions* to commonly used vaccines

Vaccine	Contraindications	Precautions
DTaP	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Encephalopathy (e.g., coma, decreased level of consciousness, or prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP or DTaP	Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized Temperature of $\geq 105^{\circ}\text{F}$ ($\geq 40.5^{\circ}\text{C}$) within 48 hours after vaccination with a previous dose of DTP or DTaP Collapse or shock-like state (i.e., hypotonic hyporesponsive episode) within 48 hours after receiving a previous dose of DTP/DTaP Seizure ≤ 3 days after receiving a previous dose of DTP/DTaP Persistent, inconsolable crying lasting ≥ 3 hours within 48 hours after receiving a previous dose of DTP/DTaP GBS < 6 weeks after previous dose of tetanus toxoid-containing vaccine History of arthus-type hypersensitivity reactions after a previous dose of tetanus toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus toxoid-containing vaccine Moderate or severe acute illness with or without fever
DT, Td	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	GBS < 6 weeks after previous dose of tetanus toxoid-containing vaccine History of arthus-type hypersensitivity reactions after a previous dose of tetanus toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid-containing vaccine Moderate or severe acute illness with or without fever
Tdap	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Encephalopathy (e.g., coma, decreased level of consciousness, or prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP, or Tdap	GBS < 6 weeks after a previous dose of tetanus toxoid-containing vaccine Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized History of arthus-type hypersensitivity reactions after a previous dose of tetanus toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus toxoid-containing vaccine Moderate or severe acute illness with or without fever
IPV	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	Pregnancy Moderate or severe acute illness with or without fever
MMR ^{†,5}	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Pregnancy Known severe immunodeficiency (e.g., from hematologic	Recent (≤ 11 months) receipt of antibody-containing blood product (specific interval depends on product)** History of thrombocytopenia or thrombocytopenic purpura Need for tuberculin skin testing ^{††}

Included in Pink Book Appendix A

Screening Questionnaire for Child and Teen Immunization

For parents/guardians: The following questions will help us determine who to be given today. If you answer "yes" to any question, it does not necessarily mean your child will be vaccinated. It just means additional questions must be asked. If a question is unclear, please ask your healthcare provider to explain it.

1. Is the child sick today?
2. Does the child have allergies to medications, food, a vaccine component, or latex?
3. Has the child had a serious reaction to a vaccine in the past?
4. Has the child had a health problem with lung, heart, kidney or metabolic disease (e.g., diabetes), asthma, or a blood disorder? Is he/she on long-term aspirin therapy?
5. If the child to be vaccinated is between the ages of 2 and 4 years, has a health care provider told you that the child had wheezing or asthma in the past 12 months?
6. Has the child, a sibling, or a parent had a seizure; has the child had brain or central nervous system problems?
7. Does the child have cancer, leukemia, AIDS, or any other immune system problem?
8. In the past 3 months, has the child taken cortisone, prednisone, other steroid, or anticancer drugs, or had radiation treatments?
9. In the past year, has the child received a transfusion of blood or blood product or been given immune (gamma) globulin or an antiviral drug?
10. Is the child/teen pregnant or is there a chance she could become pregnant during the next month?
11. Has the child received vaccinations in the past 4 weeks?

Form completed by: _____

Form reviewed by: _____

Did you bring your child's immunization record card with you?

It is important to have a personal record of your child's vaccinations. If you don't have a record, please bring your child's immunization record card with you to your healthcare provider to give you one with all your child's vaccinations on it. Keep this record with you every time you seek medical care for your child. Your child will need this important record to enter day care or school, for employment, or for international travel.

Technical content reviewed by the Centers for Disease Control and Prevention, October 2010

www.cdc.gov

Immunization Action Coalition • 1573 Selby Ave. • St. Paul, MN 55114 • (651) 647-9009 • www.imz.org

Information for Health Professionals about the Screening Questionnaire for Child & Teen Immunization

Are you interested in knowing why we included a certain question on the Screening Questionnaire? If so, read the information below. If you want to find out even more, consult the references listed at the bottom of this page.

1. Is the child sick today? (all vaccines)

There is no evidence that acute illness reduces vaccine efficacy or increases vaccine adverse events (1, 2). However, as a precaution with moderate or severe acute illness, all vaccines should be delayed until the illness has improved. Mild illnesses (such as otitis media, upper respiratory infections, and diarrhea) are NOT contraindications to vaccination. Do not withhold vaccination if a person is taking antibiotics.

2. Does the child have allergies to medications, food, a vaccine component, or latex? (all vaccines)

History of anaphylactic reaction such as hives (urticaria), wheezing or difficulty breathing, or circulatory collapse or shock (not fainting) to a vaccine component or latex is a contraindication to some vaccines. For example, if a person experiences anaphylaxis after eating eggs, do not administer influenza vaccine, or if a person has anaphylaxis after eating gelatin, do not administer measles-mumps-rubella (MMR), MMR-2, varicella (VAR), or varicella (VAR) vaccine. A local reaction is not a contraindication. For a table of vaccines supplied in vials or syringes that contain latex, go to www.cdc.gov/nczod/zod/pubs/pridbook/downloads/appendix06/latex-table.pdf for an extensive table of vaccine components; see reference 3.

3. Has the child had a serious reaction to a vaccine in the past? (all vaccines)

History of anaphylactic reaction (see question 2) to a previous dose of vaccine or vaccine component is a contraindication for subsequent doses (1). History of encephalopathy within 7 days following DTP/DTPa is a contraindication for further doses of pertussis-containing vaccine. Precautions to DTPa (not Tdap) include the following: (a) seizure within 3 days of a dose, (b) pale or limp episode or collapse within 48 hours of a dose, (c) continuous crying for 3 or more hours within 48 hours of a dose, and (d) fever of 103°F (40°C) within 48 hours of a previous dose. There are other adverse events that might have occurred following vaccination that constitute contraindications or precautions to future doses. Under normal circumstances, vaccines are deferred when a precaution is present. However, situations may arise when the benefit outweighs the risk (e.g., during a community pertussis outbreak).

4. Has the child had a health problem with lung, heart, kidney, or metabolic disease (e.g., diabetes), asthma, or a blood disorder? Is he/she on long-term aspirin therapy? (IAV)

Children with any of the health conditions listed above should not be given the intranasal, live attenuated influenza vaccine (IAV). These children should be vaccinated with the injectable influenza vaccine.

5. If the child to be vaccinated is between the ages of 2 and 4 years, has a healthcare provider told you that the child had wheezing or asthma in the past 12 months? (IAV)

Children who have had a wheezing episode within the past 12 months should not be given the live attenuated influenza vaccine. Instead, these children should be given the inactivated influenza vaccine.

6. Has the child, a sibling, or a parent had a seizure; has the child had brain or other nervous system problems? (DTP, Td, Tdap, MMR, MMR2, DTPa, and Tdap are contraindicated in children who have a history of encephalopathy within 7 days following DTP/DTPa. An unstable progressive neurologic problem is a precaution to the use of DTPa and Tdap, and a progressive neurologic disorder in a teen is a precaution to the use of Td. For children with stable neurologic disorders (including seizures) unrelated to vaccination, or for children with a family history of seizures, vaccines as usual (exceptions: children with a personal or family [i.e., parent or sibling] history of seizures generally should not be vaccinated with MMRV; they should receive separate MMR and VAR vaccines). A history of Guillain-Barré syndrome (GBS) is a consideration with the following: 1) Td/Tdap; if GBS has occurred within 6 weeks of a tetanus-containing vaccine and decision is made to continue vaccination, give age-appropriate Tdap instead of Td if no history of prior Tdap; 2) influenza vaccine (IV or IAV); if GBS has occurred within 6 weeks of a prior influenza vaccination, vaccinate with IV at high risk for severe influenza complications.

7. Does the child have cancer, leukemia, AIDS, or any other immune system problem? (IAV, MMR, MMR2, VAR)

Live virus vaccines (e.g., MMR, MMRV, varicella, rotavirus, and the intranasal live, attenuated influenza vaccine [IAV]) are usually contraindicated in immunocompromised children. However, there are exceptions. For example, MMR is recommended for asymptomatic HIV-infected children who do not have evidence of severe immunosuppression. Likewise, varicella vaccine should be considered for HIV-infected children with age-specific CD4+ T-lymphocyte percentage at 15% or greater and may be considered for children age 8 years and older with CD4+ T-lymphocyte counts of greater than or equal to 200 cells/μL. Immunosuppressed children should not receive IAV. Infants who have been diagnosed with severe combined immunodeficiency (SCID) should not be given a live virus vaccine, including rotavirus (RV) vaccine. For details, consult the ACP recommendations (4, 5, 6).

8. In the past 3 months, has the child taken cortisone, prednisone, other steroids, or anticancer drugs, or had radiation treatments? (IAV, MMR, MMR2, VAR)

Live virus vaccines (e.g., MMR, MMRV, varicella, IAV) should be postponed until after chemotherapy or long-term high-dose steroid therapy has ended. For details and length of time to postpone, consult the ACP statement (1). To find specific vaccination schedules for stem cell transplant (bone marrow transplant) patients, see reference 7. IAV can be given only to healthy non-pregnant individuals age 2–49 years.

9. In the past year, has the child received a transfusion of blood or blood products, or been given immune (gamma) globulin or an antiviral drug? (IAV, MMR, MMR2, VAR)

Certain live virus vaccines (e.g., IAV, MMR, MMRV, varicella) may need to be deferred, depending on several variables. Consult the most current ACP recommendations or the current Red Book for the most current information on intervals between antiviral drugs, immune globulin or blood product administration, and live virus vaccines (1, 2).

10. Is the child/teen pregnant or is there a chance she could become pregnant during the next month? (IAV, MMR, MMR2, VAR)

Live virus vaccines (e.g., MMR, MMRV, varicella, IAV) are contraindicated one month before and during pregnancy because of the theoretical risk of virus transmission to the fetus (1, 6). Sexually active young women who receive a live virus vaccine should be instructed to practice careful contraception for one month following receipt of the vaccine (5, 8). On theoretical grounds, inactivated poliovirus vaccine should not be given during pregnancy; however, it may be given if risk of disease is imminent (e.g., travel to endemic areas) and immediate protection is needed. Use of Td or Tdap is not contraindicated in pregnancy. At the provider's discretion, either vaccine may be administered during the 2nd or 3rd trimester (9).

11. Has the child received vaccinations in the past 4 weeks? (IAV, MMR, MMR2, VAR, yellow fever)

If the child was given either live, attenuated influenza vaccine (IAV) or an injectable live virus vaccine (e.g., MMR, MMRV, varicella, yellow fever) in the past 4 weeks, they should wait 28 days before receiving another vaccination of this type. Inactivated vaccines may be given at the same time or at any spacing interval.

References

1. CDC. General recommendations on immunization. www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a.htm
2. AAP. Red Book: Report of the Committee on Infectious Diseases. www.aapublications.org
3. Table of Vaccine Components. www.cdc.gov/nczod/zod/pubs/pridbook/downloads/appendix06/latex-table.pdf
4. CDC. Measles, mumps, and rubella—vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps. [MMWR 2005; 54 \(RR-11\)](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5011a.htm)
5. CDC. Prevention of varicella. Recommendations of the Advisory Committee on Immunization Practices. [MMWR 2005; 54 \(RR-4\)](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5011a.htm)
6. CDC. Prevention and Control of Influenza—Recommendations of ACP. www.cdc.gov/flu/pdf/influenza-recommendations.pdf
7. CDC. Except from: Guidelines for preventing opportunistic infections among hematopoietic stem cell transplant recipients. [MMWR 2005; 54 \(RR-11\)](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5011a.htm)
8. CDC. Update to measles. General ACP recommendations for avoiding pregnancy after receiving a rubella-containing vaccine. [MMWR 2005; 54 \(RR-4\)](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5011a.htm)
9. CDC. Prevention of pertussis, tetanus, and diphtheria among pregnant and postpartum women and their infants. Recommendations of the ACP. [MMWR 2005; 54 \(RR-4\)](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5011a.htm)

Vaccine	Contains	Manufacturer's P.I. Dated
Adenovirus	sucrose, D-mannose, D-fructose, dextrose, potassium phosphate, plasdone C, anhydrous lactose, micro crystalline cellulose, polacrillin potassium, magnesium stearate, cellulose acetate phthalate, alcohol, acetone, castor oil, FD&C Yellow #6 aluminum lake dye, human serum albumin, fetal bovine serum, sodium bicarbonate, human-diploid fibroblast cell cultures (WI-38), Dulbecco's Modified Eagle's Medium	March, 2011
Anthrax (Biothrax)	aluminum hydroxide, benzethonium chloride, formaldehyde, amino acids, vitamins, inorganic salts and sugars	December, 2008
BCG (Tice)	glycerin, asparagine, citric acid, potassium phosphate, magnesium sulfate, Iron ammonium citrate, lactose	February, 2009
DT (Sanofi)	aluminum potassium sulfate, peptone, bovine extract, formaldehyde, thimerosal (trace), modified Mueller and Miller medium	December, 2005
DTaP (Daptacel)	aluminum phosphate, formaldehyde, glutaraldehyde, 2-Phenoxyethanol, Stainer-Scholte medium, modified Mueller's growth medium, modified Mueller-Miller casamino acid medium (without beef heart infusion)	July, 2011
DTaP (Infanrix)	formaldehyde, glutaraldehyde, aluminum hydroxide, polysorbate 80, Fenton medium (containing bovine extract), modified Latham medium (derived from bovine casein), modified Stainer-Scholte liquid medium	November, 2011
DTaP (Tripedia)	sodium phosphate, peptone, bovine extract (U.S. sourced), formaldehyde, ammonium sulfate, , aluminum potassium sulfate, thimerosal (trace), gelatin, polysorbate 80 (Tween 80), modified Mueller and Miller medium, modified Stainer-Scholte medium	December, 2005
DTaP-IPV (Kinrix)	formaldehyde, glutaraldehyde, aluminum hydroxide, Vero (monkey kidney) cells, calf serum, lactalbumin hydrolysate, polysorbate 80, neomycin sulfate, polymyxin B, Fenton medium (containing bovine extract), modified Latham medium (derived from bovine casein), modified Stainer-Scholte liquid medium	November, 2011
	formaldehyde, glutaraldehyde, aluminum hydroxide, aluminum	

Thank You!

- www.cdc.gov/vaccines
- www.cdc.gov/flu
- Email immunization related questions to:
nipinfo@cdc.gov or call
1-800-CDC-INFO

Stay Up to Date

- ❑ **Access accurate websites:**
 - CDC www.cdc.gov/vaccines
 - AAP www.aap.org and www2.aap.org/immunization
 - AAFP www.aafp.org
 - Immunization Action Coalition (IAC)
www.immunize.org
- ❑ **Subscribe to Morbidity and Mortality Weekly Review (MMWR)**
- ❑ **Additional resources: State and/or local health department immunization program**

Staying Current!



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At a glance:

CDC offers numerous education and training programs for health care professionals. A variety of topics and formats are available. All are based on recommendations made by the Advisory Committee on Immunization Practices (ACIP).

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QUESTIONS

02/26/2013

HPV – Vaccination Coverage Rates in Adults

	2009	2010	2011
Female 19-26 years \geq 1 dose	29.5	20.7	17.1
Male 19- 26 years \geq 1 dose	2.1%		

MMWR, February 1, 2013 / 62(04);66-72



Centers for Disease Control and Prevention Atlanta, Georgia

Accrediting Statements

CME: The Centers for Disease Control and Prevention is accredited by the Accreditation Council for Continuing Medical Education (ACCME®) to provide continuing medical education for physicians. The Centers for Disease Control and Prevention designates this electronic conference/web-on-demand educational activity for a maximum of 1 *AMA PRA Category 1 Credit™*. Physicians should only claim credit commensurate with the extent of their participation in the activity. Non-physicians will receive a certificate of participation.

CNE: The Centers for Disease Control and Prevention is accredited as a provider of Continuing Nursing Education by the American Nurses Credentialing Center's Commission on Accreditation. This activity provides 1 contact hour.

CEU: The CDC has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102. The CDC is authorized by IACET to offer 1 ANSI/IACET CEU for this program.

CECH: Sponsored by the *Centers for Disease Control and Prevention*, a designated provider of continuing education contact hours (CECH) in health education by the National Commission for Health Education Credentialing, Inc. This program is designed for Certified Health Education Specialists (CHES) to receive up to 1 Category I CECH in health education. CDC provider number GA0082.



CPE: The Centers for Disease Control and Prevention is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This program is a designated event for pharmacists to receive 1 Contact Hour in pharmacy education. The Universal Activity Number is 0387-0000-13-101-L04-P and enduring 0387-0000-13-101-H04-P. Course Category: This activity has been designated as knowledge based.

AAVSB/RACE: This program was reviewed and approved by the AAVSB RACE program for 1.2 hours of continuing education in the jurisdictions which recognize AAVSB RACE approval. Please contact the AAVSB Race Program at race@aavsb.org if you have any comments/concerns regarding this program's validity or relevancy to the veterinary profession.

Continuing Education Credit/Contact Hours for COCA Conference Calls

Continuing Education guidelines require that the attendance of all who participate in COCA Conference Calls be properly documented. All Continuing Education credits/contact hours (CME, CNE, CEU, CECH, and ACPE) for COCA Conference Calls are issued online through the CDC Training & Continuing Education Online system.

<http://www.cdc.gov/TCEOnline/>

Those who participate in the COCA Conference Calls and who wish to receive CE credit/contact hours and will complete the online evaluation by **September 14, 2013** will use the course code **EC1648**. Those who wish to receive CE credits/contact hours and will complete the online evaluation between **September 15, 2013** and **August 12, 2014** will use course code **WD1648**. CE certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CE's obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

Thank you for joining!
Please email us questions at
coca@cdc.gov

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Emergency Preparedness & Response

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Improving the Health of Children and Adults through Vaccines: Updates and Recommendations for Clinicians

CE = Continuing Education

Date: Tuesday, August 13, 2013

Time: 2:00 - 3:00 pm (Eastern Time)

Participate by Phone:

Dial: 888-233-9077

Passcode: 382654

Webinar link: <https://www.mymeetings.com/nc/join.php?i=PW2617244&p=3823654&t=c>

The webinar link will be live a few minutes before the call.

Presenter(s):

 **Iyabode (Yabo) Akinsanya-Beysolow, MD, MPH**
Medical Officer
Education, Information and Partnership Branch
Immunization Services Division
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention

Overview:

Vaccines prevent children and adults from potentially harmful or deadly diseases. To promote health and prevent disease, CDC publishes written recommendations for vaccinating children and adults. These recommendations are based on information from the Advisory Committee on Immunization Practices (ACIP). It is important for pediatric and adult providers to stay up to date on the most recent ACIP recommendations. During this webinar, a CDC subject matter expert will address recent vaccine recommendations along with available immunization resources.

<http://emergency.cdc.gov/coca>

Join Us on Facebook

CDC Facebook page for Health Partners! “Like” our page today to receive COCA updates, guidance, and situational awareness about preparing for and responding to public health emergencies.

The screenshot shows the Facebook interface for the CDC Health Partners Outreach page. At the top, there's a search bar and the page name 'CDC Health Partners Outreach' with a 'Home' link. Below the cover photo, the page name is repeated, along with '3,758 likes · 105 talking about this · 68 were here'. The 'About' section identifies it as a 'Government Organization' and provides a link to the CDC Emergency Risk Communication Branch. The 'Likes' section shows 3,758 likes. The main content area includes a status update with a search bar, a link to a CDC page, and a list of recent posts by Art Leather. On the right, there's an 'Ads Manager' section and an advertisement for CDC's H7N9 influenza blog.

<http://www.facebook.com/CDCHealthPartnersOutreach>