

# SHOT TALK

Visit [www.sanantonio.gov/health/immunizations.html](http://www.sanantonio.gov/health/immunizations.html) for news about the control and prevention of vaccine-preventable diseases.

## 2011 Recommended Immunization Schedule

The Centers for Disease Control and Prevention’s (CDC’s) Advisory Committee on Immunization Practices (ACIP) discussed and approved the following changes in the 2011 immunization schedules for both children and adolescents:

- Guidance has been added for the hepatitis B vaccine schedule for children who did not receive a birth dose.
- Information on the use of 13-valent pneumococcal conjugate vaccine has been added.
- Guidance has been added for administration of 1 or 2 doses of seasonal influenza vaccine based upon the child’s history of monovalent 2009 H1N1 vaccination.
- Use of tetanus and diphtheria toxoids, and acellular pertussis (Tdap) vaccine among children aged 7 through 10 years who are incompletely vaccinated against pertussis is addressed, and reference to a specified interval between tetanus and diphtheria toxoids (Td) and Tdap vaccination has been removed.
- Footnotes for the use of human papillomavirus (HPV) vaccine have been condensed.
- A routine 2-dose schedule of quadrivalent meningococcal conjugate vaccine (MCV4) for certain persons at high risk for meningococcal disease, and recommendations for a booster dose of MCV4 have been added.
- Guidance for use of *Haemophilus influenzae* type b (Hib) vaccine in persons aged 5 years and older in the catch-up schedule has been condensed. CDC will publish the annually updated Recommended Immunization Schedule for Children and Adolescents in *MMWR* on February 11, 2011. Copies of the 2011 ACIP Recommended Immunization Schedule for Children and Adolescents are attached to this quarters Shot Talk Issue.

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## New VFC Team Members

The Vaccines for Children (VFC) Program is pleased to introduce Sarah Alecozay-Borrego and Justin Callis, M.A.A. who recently joined the Immunization Division. Sarah is the Health Educator for the VFC Program and Justin is the Health Program Specialist conducting feedback sessions for the QA/AFIX Program.

Sarah and Justin are rapidly learning the details of the VFC & AFIX Programs and are eager to begin working with VFC provider offices. To schedule a VFC Education session, call Sarah Alecozay-Borrego at 207-8875.



## Revised Guidelines for the Use of Tdap Vaccine

In October, the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC) voted to revise the use of tetanus, diphtheria and pertussis vaccine (Tdap) to help reduce the number of cases of pertussis. Despite sustained high coverage with childhood pertussis vaccination, the disease remains poorly controlled in the United States (nearly 17,000 cases nationwide and 12 infant deaths).

These revisions incorporate new recommendations regarding the interval between Tdap and last dose of Td for children aged 11 through 18 years and update recommendations for certain children between the ages of 7 and 10 years. The two currently licensed vaccine products are: BOOSTRIX® (GSK, for ages 10 through 64 years) and ADACEL™ (Sanofi Pasteur, for ages 11 through 64 years), which are licensed as a single dose booster.

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The following is a brief synopsis of the ACIP recommendations:

## General Recommendations for Tdap

For routine use, adolescents aged 11 through 18 years who have completed the recommended childhood diphtheria tetanus toxoid and pertussis/diphtheria tetanus toxoid and acellular pertussis (DTP/DTaP) vaccination series and adults aged 19 through 64 years should receive a single dose of Tdap. Adolescents should preferably receive Tdap at the 11 to 12 year-old preventive health-care visit. Although not specifically addressed in the October meeting, pregnant women who were not vaccinated previously with Tdap should receive Tdap in the immediate postpartum period before discharge from hospital or birthing center, or receive Td during pregnancy for tetanus and diphtheria protection when indicated. All Vaccines for Children (VFC) providers should have received this information in a December 15th Blast Fax.

## Timing of Tdap

- Can be administered regardless of interval since the last tetanus- or diphtheria-toxoid containing vaccine.

## Adults Aged 65 years and Older

- Those who have or anticipate having close contact with an infant aged less than 12 months should receive a single dose of Tdap.
- Other adults aged 65 years and older may be given a single dose of Tdap.

## Children Aged 7 Through 10 Years

- Those not fully vaccinated against pertussis\* and for whom no contraindication to pertussis vaccine exists should receive a single dose of Tdap.
- Those never vaccinated against tetanus, diphtheria, or pertussis or who have unknown vaccination status should receive a series of three vaccinations containing tetanus and diphtheria toxoid. The first of these three doses should be Tdap.

\* Fully vaccinated is defined as 5 doses of DTaP or 4 doses of DTaP if the fourth dose was administered on or after the fourth birthday.

For more detailed information on this subject go to the following CDC webpage:

[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6001a4.htm?s\\_cid=mm6001a4\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6001a4.htm?s_cid=mm6001a4_w)

If you have questions about this information please contact Kenya Wilson at 207-3974, Dina Guillen, RN, at 207-8804, or Tom Finke at 207-2870.

## Pneumococcal Conjugate Vaccine (PCV13)

The San Antonio Metropolitan Health District's Immunization Program has received calls recently from many community health-care providers regarding use of PCV13 with those children who have either already completed the 4-dose PCV7 series, who have severe underlying medical conditions (regardless of age), or whose patients are otherwise considered older healthy children. The brief information outlined below is based on guidance from the CDC ACIP.

### Children that have already completed the 4-dose PCV7 series

The CDC's Advisory Committee on Immunization Practices (ACIP) recommends that a single supplemental dose of PCV13 is recommended for all children 14 through 59 months who have received the complete 4-dose series of PCV7 or another age-appropriate, complete PCV7 schedule.

### Children with severe underlying medical conditions (all ages)

A single supplemental PCV13 dose is recommended for children with severe medical conditions through age 71 months. This also includes children who have previously received pneumococcal polysaccharide vaccine (PPSV23). Give the single supplemental dose of PCV13 no sooner than 8 weeks after the last dose of PCV7 or PPSV23 was given. In addition, a single dose of PCV13 can be administered to children ages 6 through 18 years who are at increased risk for invasive pneumococcal disease because of sickle cell disease, HIV infection or other immunocompromising condition, cochlear implant, functional or anatomical asplenia, or cerebrospinal fluid leak, even if they have previously received PCV7, PPSV23, or both vaccines. A table that details the underlying medical conditions that are indications for pneumococcal vaccination among children is available on page 260 of the related ACIP recommendations at [www.cdc.gov/mmwr/PDF/wk/mm5909.pdf](http://www.cdc.gov/mmwr/PDF/wk/mm5909.pdf). This link will provide more in-depth information as well.

### Older healthy children

Neither ACIP nor AAP recommend routine vaccination with PCV13 for healthy children 5 years of age or older. Examples of age exceptions appear above.

Additional information can be found in the CDC link above or the March 2010 Blast Fax for all enrolled VFC providers. Should you have any questions regarding this information please contact Kenya Wilson at 207-3974, Dina Guillen, RN at 207-8804, or Tom Finke at 207-2870.

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## Meningococcal Vaccine Clinical Trial

The San Antonio Metropolitan Health District (Metro Health) is conducting an investigational research study of a meningococcal vaccine. Meningitis is a serious infection which can cause inflammation of the membranes covering the brain and spinal cord leading to deafness, limb loss, and mental retardation. The most common causes of meningitis are viral infections that usually resolve without treatment; however, bacterial infections of the meninges are extremely serious illnesses, and may result in death or brain damage even if treated. Every year up to 4,000 people in the United States become infected with meningitis. Infants under 2 years of age are at the highest risk for infection.

The objective of this study is to evaluate the safety and immune response of an investigational meningococcal vaccine when administered with routine infant vaccinations to healthy infants beginning at 2 months through 13 months of age.

Currently, this vaccine is approved by the United States Food and Drug Administration (FDA) for use in healthy adults and adolescents (11-55 years old). This study consists of 6 to 7 visits over a 12-month period. All study participants are currently receiving immunizations at no cost and are compensated for their time and travel. For more information please contact the SAMHD at (210)-207-3968 or (210)-207-3965.

## Immunize San Antonio! (IZSA)- Immunization Collaborative

Immunize San Antonio! (IZSA) is Bexar County's Immunization Collaborative to promote immunizations across the life span of all residents and members of the community. IZSA's goals are to increase: collaboration between community stakeholders and immunization providers; education, awareness and outreach; accessibility; and immunization rates.

IZSA is a volunteer organization comprised of agencies from various disciplines that are concerned about low immunization rates. This coalition provides leadership and education to increase immunization rates, evaluates possible initiatives, and selects those that have the biggest impact on the issues. The organization consists of not-for-profit agencies, cooperating organizations, supporting agencies, City departments, State agencies, vaccine companies, pharmacies, health-care providers, educators, and insurance providers. IZSA is ALWAYS seeking and welcoming new members to join the collaboration.

Benefits of becoming a member include: opportunity for involvement in the IZSA decision-making processes, free immunization updates/training/educational materials, networking opportunities with health and child-care providers, and access to an arena to voice immunization concerns.

Anyone interested in joining the collaborative is welcome to contact Abigail Hernandez at 210-207-8867, or email [IZSA@sanantonio.gov](mailto:IZSA@sanantonio.gov) to receive information on future meetings. Meetings are held every 2nd Thursday of each month from 1:00 p.m. – 3:30 p.m., at Pathways, 4243 Piedras Drive East Suite 100 San Antonio, TX 78228.

## Another Impressive Year for Immunization Rates

The QA/AFIX team finished 2010 exceeding the program's goals and expectations for the year. A record total of 209 visits were completed with 188 facilities participating in the CoCASA record review process. At this time, we would like to thank the team members of the QA/AFIX for all their hard work. GREAT JOB Ladies!

The QA/AFIX Team is always willing to assist you in arranging an appointment for a site visit to benefit your facility. Each visit is designed to provide assistance with identifying possible barriers to immunization that may result in low vaccination coverage or missed opportunities. The primary role of the QA/AFIX Team is to assist providers in finding practical solutions to immunization related dilemmas within their facilities.

Please feel free to contact Maria Torres, QA/AFIX Supervisor at (210) 207-6916 or Kenya Wilson, MA Vaccines for Children Program Coordinator at (210) 207-3974 should you need additional information.

The members of the QA/AFIX Team would like to thank the following providers and their staff for participating in the QA/AFIX site review visit process during this past quarter: Gruesbeck Medical Clinic, Northeast Pediatric Associates, Meridian Care Center, La Mision Family Healthcare, Dr. Xavier R. Cortada, Family Clinics of San Antonio, Faith Family Clinic, Kellum Medical Group-Marbach, Por Vida Academy, Family Care and Minor Emergency Center, A thru Z Pediatrics-Stone Oak, Shavano Family Practice, Trevino Family Clinics, Health Texas Southwest, Lopez Family Practice, Dr. Robert K. Johnson, Viva Pediatrics, Dr. Joseph H. Luna, Dr. Josephine Ruiz-Healy, San Antonio Pediatric Associates-Culebra, Krier-Southton J.D.C., Jefferson Family Practice, CommuniCare Health Center-Frank Bryant Health Center, Dr. Shantha Kesavulu, Toepperwein Family Practice, South Central Texas Primary Care, Garcia Medical Group, Dr. Harry Hernandez, Little Buddies Pediatric Clinic,

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Hill Country Family Medical Clinic, Dr. Federico Padua, B.C.J.D.C.-Mission Rd., Dr. Graciela Moreno, St. Mary's University, Gruesbeck Medical Clinic-N.W. 24th St., Dr. Hugo E. Muzza, Priority Pediatrics, South Central Texas Primary Care, UHS-South Flores Clinic, University Physician Group-Family Health Center, Southwest General Hospital, Step By Step Pediatrics, Christus Santa Rosa Healthcare, UT Community Health Partners-Avance Clinic, UHS-Westend Multi-Service Center, UHS- Ricardo Salinas Clinic, UHS-Zarzamora Clinic, Dr. Julian R. Cantu, CentroMed Somerset Family Clinic, Southwest Children's Center, Tejas Pediatrics, Stone Oak Urgent Care Family Practice, UHS-Naco Perrin Clinic, Gruesbeck Family Medicine, UHS-Kenwood Clinic, Dr. Abigail Barrera, Dr. Mallaiah Shiva, Dr. Lucina Trevino-Seton Home, UHS-Eastside Branch Clinic, UHS-Old Hwy 90 Clinic, Barlite Medical Clinic, Trinity Family Medicine, South Alamo Medical Group-Dr. Sanchez, Dr. Federico Ng, Howard H. Galarneau, Jr., San Antonio Institute of Medicine, Dr. Francisco Barrera, and Las Palmas Minor Emergency Clinic.

**Congratulations go out to the following providers who achieved outstanding immunization coverage rates during the past quarter:** Northeast Pediatric Associates (96%), La Mision Family Healthcare (88%) Dr. Xavier R. Cortada (100%), Faith Family Clinic (100%), Kellum Medical Group-Marbach (83%), Family Care and Minor Emergency Center (100%), A thru Z Pediatrics-Stone Oak (100%), Trevino Family Clinics (85%), Health Texas Southwest (100%), Lopez Family Practice (83%), Dr. Robert K. Johnson (100%), Viva Pediatrics (100%), Dr. Josephine Ruiz-Healy (96%), San Antonio Pediatric Associates-Culebra (90%), Krier-Southton J.D.C. (98%), Jefferson Family Practice (80%), CommuniCare Health Center-Frank Bryant Health Center (100%), South Central Texas Primary Care (86%), Garcia Medical Group (100%), Little Buddies Pediatric Clinic (100%), Hill Country Family Medical Clinic (80%), St. Mary's University (100%), Gruesbeck Medical Clinic-N.W. 24th St. (80%), Dr. Hugo E. Muzza (100%), Priority Pediatrics (100%), South Central Texas Primary Care (95%), UHS-South Flores Clinic (92%), University Physician Group-Family Health Center (100%), Step By Step Pediatrics (80%), UT Community Health Partners-Avance Clinic (96%), UHS-Ricardo Salinas Clinic (100%), UHS-Zarzamora Clinic (92%), Southwest Children's Center (100%), Tejas Pediatrics (100%), Stone Oak Urgent Care Family Practice (91%), UHS-Naco Perrin Clinic (100%), Gruesbeck Family Medicine (100%), UHS-Kenwood Clinic (100%), Dr. Abigail Barrera (86%), Dr. Lucina Trevino-Seton Home (100%), Barlite Medical Clinic (92%), Trinity Family Medicine (85%) and San Antonio Institute of Medicine (100%)

**Special Congratulations go out to these "Hot Shot" Offices:** Dr. Xavier R. Cortada, Faith Family Clinic,

Family Care and Minor Emergency Center, A thru Z Pediatrics- Stone Oak, Health Texas Southwest, Dr. Robert K. Johnson, Viva Pediatrics, CommuniCare Health Center-Frank Bryant Health Center, Garcia Medical Group, Little Buddies Pediatric Clinic, St. Mary's University, Dr. Hugo E. Muzza, Priority Pediatrics, University Physician Group-Family Health Center, UHS-Ricardo Salinas Clinic, Southwest Children's Center, Tejas Pediatrics, UHS-Naco Perrin Clinic, Gruesbeck Family Medicine, UHS-Kenwood Clinic, Dr. Lucina Trevino-Seton Home and San Antonio Institute of Medicine.

All these facilities continue to invest substantial efforts toward improving children's immunization coverage levels thus surpassing the National Immunization Program (NIP) goal of 90% immunization coverage for the 4:3:1:3:3:1:4 series. WAY TO GO!!! Keep up the great work.

## Immunization Division Contacts

<b>Interim Director of Health:</b> John Nava, MD	207-8730
<b>Immunization Program Manager:</b> Vivian B. Flores, MA	207-8794
<b>CDC Public Health Advisor:</b> Thomas Finke, MPA	207-2870
<b>Clinical Operations Supervisor:</b> Dina Guillen, RN, BSN	207-8804
<b>Vaccines for Children Coordinator:</b> Kenya Wilson, MA	207-3974
<b>Vaccine Management Supervisor:</b> Anthony Johnson	207-4015
<b>QA/AFIX Program Supervisor:</b> Maria Torres	207-9616
<b>Outreach &amp; Education Coordinator:</b> Clark Petty	207-2869
<b>Adult/Influenza Program Supervisor:</b> Sandra Hermosa, LMSW	207-2084
<b>Infant/Childhood Education &amp; Outreach Supervisor:</b> Audrey Munoz, LVN, AAHA	207-6917
<b>Vaccines Studies Coordinator:</b> Marcela Martinez	207-3968
<b>Registry Project Coordinator:</b> Walter Widish, MS	207-8792

### Need Forms??

**VFC Reports, Blast Fax, and In-Service Materials:**

[www.sanantonio.gov/health/immunizations-VFCResources.html](http://www.sanantonio.gov/health/immunizations-VFCResources.html)

**Consent Forms:**

[www.sanantonio.gov/health/immunizations-SAIRS.html](http://www.sanantonio.gov/health/immunizations-SAIRS.html)

**VISs:**

<http://www.cdc.gov/vaccines/pubs/vis/default.htm>

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## Immunization Resource Sites

**DSHS:** [www.dshs.state.tx.us/immune](http://www.dshs.state.tx.us/immune)  
**CDC:** [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)  
**IAC:** [www.immunize.org](http://www.immunize.org)  
**Vaccine Education Center:** <http://vaccine.chop.edu>  
**American Academy of Pediatrics:** [www.aap.org](http://www.aap.org)  
**Vaccine Information for the Public & Health Professionals:** [www.vaccineinformation.org](http://www.vaccineinformation.org)  
**Healthy People 2010:** [www.healthypeople.gov](http://www.healthypeople.gov)



**Family Care and Minor  
Emergency Center**



## VFC Stars



**San Antonio Pediatric Associates-  
Stone Oak**



**CentroMed Haven for Hope**



**CentroMed Children's Shelter**



**Dr. Xavier Cortada**



## Immunization Updates

The use of most **Vaccine Information Statements (VIS)** is mandated by federal law. Listed below are the dates of the most current VISs. Check your stock of VISs. If you have outdated VISs, print current ones from one of these sources: CDC's website at [www.cdc.gov/vaccines/pubs/vis](http://www.cdc.gov/vaccines/pubs/vis) (has VISs in English) or IAC's website at [www.immunize.org/vis](http://www.immunize.org/vis) (has VISs in more than 30 languages).

**DTaP/DT/DTP.....5/17/07 PCV.....4/16/10 Hepatitis A.....3/21/06 PPSV.....10/6/09 Hepatitis B.....7/18/07 Polio.....1/1/00 Hib.....12/16/98**  
**HPV (H. papillomavirus).....3/30/10 Rotavirus.....12/6/10 Meningococcal.....1/28/08 Varicella.....3/13/08 MMR.....3/13/08**  
**Influenza (LAIV).....8/10/10 Influenza (TIV).....8/10/10 Td/Tdap...11/18/08**

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**Viva Pediatrics**



**Kellum Pediatric Wellness Clinic**



**CommuniCare-Dr. Frank Bryant Health Center**



**South Alamo Pediatric Clinic**



**South Alamo Pediatric Clinic**



**A Thru Z Pediatrics-Stone Oak Pkwy.**



**Pediatric Care**

# Recommended Immunization Schedule for Persons Aged 0 Through 6 Years—United States • 2011

For those who fall behind or start late, see the catch-up schedule

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B <sup>1</sup>	HepB	HepB	HepB			HepB						
Rotavirus <sup>2</sup>				RV	RV	RV <sup>2</sup>						
Diphtheria, Tetanus, Pertussis <sup>3</sup>				DTaP	DTaP	DTaP	<sup>see footnote 5</sup>	DTaP				DTaP
Haemophilus influenzae type b <sup>4</sup>				Hib	Hib	Hib <sup>4</sup>		Hib				
Pneumococcal <sup>5</sup>				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		<sup>see footnote 9</sup>			MMR
Varicella <sup>9</sup>							Varicella		<sup>see footnote 9</sup>			Varicella
Hepatitis A <sup>10</sup>							HepA (2 doses)				HepA Series	
Meningococcal <sup>11</sup>												MCV4

Range of recommended ages for all children

Range of recommended ages for certain high-risk groups

This schedule includes recommendations in effect as of December 21, 2010. 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. Considerations should include provider assessment, patient preference, and the potential for adverse events. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations: <http://www.cdc.gov/vaccines/adcp-list.htm>. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS) at <http://www.vaers.hhs.gov> or by telephone, 800-822-7967.

- Hepatitis B vaccine (HepB).** (Minimum age: birth)
  - At birth:**
    - Administer monovalent HepB to all newborns before hospital discharge.
    - If mother is hepatitis B surface antigen (HBsAg)-positive, administer HepB and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth.
    - If mother's HBsAg status is unknown, administer HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if HBsAg-positive, administer HBIG (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 should be used for doses administered before age 6 weeks.
    - Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg 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).
    - Administration of 4 doses of HepB to infants 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 HepB on a schedule of 0, 1, and 6 months.
    - The final (3rd or 4th) dose in the HepB series should be administered no earlier than age 24 weeks.
- Rotavirus vaccine (RV).** (Minimum age: 6 weeks)
  - Administer the first dose at age 6 through 14 weeks (maximum age: 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 Rotarix is administered at ages 2 and 4 months, a dose at 6 months is not indicated.
- Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).** (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 conjugate vaccine (Hib).** (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.
  - Hibertix should not be used for doses at ages 2, 4, or 6 months for the primary series but can be used as the final dose in children aged 12 months through 4 years.
- Pneumococcal vaccine.** (Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV])
  - PCV is recommended for all children aged younger than 5 years. Administer 1 dose of PCV to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
  - A PCV series begun with 7-valent PCV (PCV7) should be completed with 13-valent PCV (PCV13).
  - A single supplemental dose of PCV13 is recommended for all children aged 14 through 59 months who have received an age-appropriate series of PCV7.
  - A single supplemental dose of PCV13 is recommended for all children aged 60 through 71 months with underlying medical conditions who have received an age-appropriate series of PCV7.
- The supplemental dose of PCV13 should be administered at least 8 weeks after the previous dose of PCV7. See MMWR 2010;59(No. RR-11).**
- 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.**
- Inactivated poliovirus vaccine (IPV).** (Minimum age: 6 weeks)
  - If 4 or more doses are administered prior to 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 following the previous dose.
- Influenza vaccine (seasonal).** (Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV])
  - For healthy children aged 2 years and older (i.e., those who do not have underlying medical conditions that predispose them to influenza complications), either LAIV or TIV may be used, except LAIV should not be given to children aged 2 through 4 years who have had wheezing in the past 12 months.
  - Administer 2 doses (separated by at least 4 weeks) to children aged 6 months through 8 years who are receiving seasonal influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
  - Children aged 6 months through 8 years who received no doses of monovalent 2009 H1N1 vaccine should receive 2 doses of 2010–2011 seasonal influenza vaccine. See MMWR 2010;59(No. RR-8):33–34.
- Measles, mumps, and rubella vaccine (MMR).** (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.
- Varicella 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 vaccine (HepA).** (Minimum age: 12 months)
  - Administer 2 doses at least 6 months apart.
  - HepA is recommended for children aged older than 23 months who live in areas where vaccination programs target older children, who are at increased risk for infection, or for whom immunity against hepatitis A is desired.
- Meningococcal conjugate vaccine, quadrivalent (MCV4).** (Minimum age: 2 years)
  - Administer 2 doses of MCV4 at least 8 weeks apart to children aged 2 through 10 years with persistent complement component deficiency and anatomic or functional asplenia, and 1 dose every 5 years thereafter.
  - Persons with human immunodeficiency virus (HIV) infection who are vaccinated with MCV4 should receive 2 doses at least 8 weeks apart.
  - Administer 1 dose of MCV4 to children aged 2 through 10 years who travel to countries with highly endemic or epidemic disease and during outbreaks caused by a vaccine serogroup.
  - Administer MCV4 to children at continued risk for meningococcal disease who were previously vaccinated with MCV4 or meningococcal polysaccharide vaccine after 3 years if the first dose was administered at age 2 through 6 years.

## Recommended Immunization Schedule for Persons Aged 7 Through 18 Years—United States • 2011

For those who fall behind or start late, see the schedule below and the catch-up schedule

Vaccine ▼	Age ►	7–10 years	11–12 years	13–18 years	
Tetanus, Diphtheria, Pertussis <sup>1</sup>			Tdap	Tdap	Range of recommended ages for all children
Human Papillomavirus <sup>2</sup>	see footnote <sup>2</sup>		HPV (3 doses)(females)	HPV series	
Meningococcal <sup>2</sup>		MCV4	MCV4	MCV4	Range of recommended ages for catch-up immunization
Influenza <sup>4</sup>		Influenza (Yearly)			
Pneumococcal <sup>5</sup>		Pneumococcal			Range of recommended ages for certain high-risk groups
Hepatitis A <sup>6</sup>		HepA Series			
Hepatitis B <sup>7</sup>		Hep B Series			
Inactivated Poliovirus <sup>8</sup>		IPV Series			
Measles, Mumps, Rubella <sup>9</sup>		MMR Series			
Varicella <sup>10</sup>		Varicella Series			

This schedule includes recommendations in effect as of December 21, 2010. 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. Considerations should include provider assessment, patient preference, and the potential for adverse events. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations: <http://www.cdc.gov/vaccines/pubs/acip-1st.htm>. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS) at <http://www.vaers.hhs.gov> or by telephone, 800-822-7967.

- Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap).** (Minimum age: 10 years for Boostrix and 11 years for Adacel)
  - Persons aged 11 through 18 years who have not received Tdap should receive a dose followed by Td booster doses every 10 years thereafter.
  - Persons aged 7 through 10 years who are not fully immunized against pertussis (including those never vaccinated or with unknown pertussis vaccination status) should receive a single dose of Tdap. Refer to the catch-up schedule if additional doses of tetanus and diphtheria toxoid-containing vaccine are needed.
  - Tdap can be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
- Human papillomavirus vaccine (HPV).** (Minimum age: 9 years)
  - Quadrivalent HPV vaccine (HPV4) or bivalent HPV vaccine (HPV2) is recommended for the prevention of cervical precancers and cancers in females.
  - HPV4 is recommended for prevention of cervical precancers, cancers, and genital warts in females.
  - HPV4 may be administered in a 3-dose series to males aged 9 through 18 years to reduce their likelihood of genital warts.
  - 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).
- Meningococcal conjugate vaccine, quadrivalent (MCV4).** (Minimum age: 2 years)
  - Administer MCV4 at age 11 through 12 years with a booster dose at age 16 years.
  - Administer 1 dose at age 13 through 18 years if not previously vaccinated.
  - Persons who received their first dose at age 13 through 15 years should receive a booster dose at age 16 through 18 years.
  - Administer 1 dose to previously unvaccinated college freshmen living in a dormitory.
  - Administer 2 doses at least 8 weeks apart to children aged 2 through 10 years with persistent complement component deficiency and anatomic or functional asplenia, and 1 dose every 5 years thereafter.
  - Persons with HIV infection who are vaccinated with MCV4 should receive 2 doses at least 8 weeks apart.
  - Administer 1 dose of MCV4 to children aged 2 through 10 years who travel to countries with highly endemic or epidemic disease and during outbreaks caused by a vaccine serogroup.
  - Administer MCV4 to children at continued risk for meningococcal disease who were previously vaccinated with MCV4 or meningococcal polysaccharide vaccine after 3 years (if first dose administered at age 2 through 6 years) or after 5 years (if first dose administered at age 7 years or older).
- Influenza vaccine (seasonal).**
  - For healthy nonpregnant persons aged 7 through 18 years (i.e., those who do not have underlying medical conditions that predispose them to influenza complications), either LAIV or TIV may be used.
  - Administer 2 doses (separated by at least 4 weeks) to children aged 6 months through 8 years who are receiving seasonal influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
  - Children 6 months through 8 years of age who received no doses of monovalent 2009 H1N1 vaccine should receive 2 doses of 2010–2011 seasonal influenza vaccine. See *MMWR* 2010;59(No. RR-8):33–34.
- Pneumococcal vaccines.**
  - A single dose of 13-valent pneumococcal conjugate vaccine (PCV13) may be administered to children aged 6 through 18 years who have functional or anatomic asplenia, HIV infection or other immunocompromising condition, cochlear implant or CSF leak. See *MMWR* 2010;59(No. RR-11).
  - The dose of PCV13 should be administered at least 8 weeks after the previous dose of PCV7.
  - Administer pneumococcal polysaccharide vaccine 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 functional or anatomic asplenia or an immunocompromising condition.
- Hepatitis A vaccine (HepA).**
  - Administer 2 doses at least 6 months apart.
  - HepA is recommended for children aged older than 23 months who live in areas where vaccination programs target older children, or who are at increased risk for infection, or for whom immunity against hepatitis A is desired.
- Hepatitis B vaccine (HepB).**
  - Administer the 3-dose series to those not previously vaccinated. For those with incomplete vaccination, follow the catch-up schedule.
  - A 2-dose series (separated by at least 4 months) of adult formulation Recombivax HB is licensed for children aged 11 through 15 years.
- Inactivated poliovirus vaccine (IPV).**
  - The final dose in the series should be administered on or after the fourth birthday and at least 6 months following 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.
- Measles, mumps, and rubella vaccine (MMR).**
  - The minimum interval between the 2 doses of MMR is 4 weeks.
- Varicella vaccine.**
  - For persons aged 7 through 18 years without evidence of immunity (see *MMWR* 2007;56(No. RR-4)), 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.