I. DEFINITION:

The process whereby a person is made immune or resistant to an infectious disease. This term is often used interchangeably with vaccination or inoculation.

II. CLINICAL FEATURES: (ACTIVE IMMUNITY)

A. Results when exposure to a disease organism triggers the immune system to produce antibodies to that disease.

B. Exposure to the disease organism can occur through infection with the actual disease (resulting in natural immunity), or introduction of a killed or weakened form of the disease organism through vaccination (vaccine-induced immunity).

C. Active immunity is long-lasting, and sometimes life-long.

III. MANAGEMENT PLAN:

A. Administer immunizations provided by the health department per the most current recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Centers for Disease and Control (CDC).

B. The PHN is to administer all immunizations due at the visit. If this does not occur, the PHN is to document the reason in the client record. The parent is to be educated on the safety concerns and issues raised by not immunizing their child as recommended.

C. For Mass Clinic Administration:

Do NOT prefill syringes or pre-open syringes/needles. This compromises sterility and vaccine competency.

D. Immunization for International Travelers:

Information concerning the specific recommendations and requirements for immunization of international travelers can be found in the Centers for Disease Control and Prevention (CDC) publication Health Information for International Travel, the “Yellow Book”. This publication may be accessed online at http://www.cdc.gov/travel/yb/index.htm. For the most current information, travelers may be referred to CDC’s website at www.cdc.gov/travel. CDC’s toll free Traveler’s Health hotline number is 1-800-232-4636. See APPENDIX 1 for a list of clinics in Oklahoma that routinely administer vaccines for travel outside the United States.

E. Assessment for Contraindications:

A contraindication is a condition in a person which increases the risk for a serious adverse reaction.

1. A vaccine should not be administered when a contraindication is present.

2. Assessment for contraindications must be made prior to administration of vaccines at each vaccination visit.
3. If contraindications exist, the RN must make the determination using the guidance listed on the back of the screening checklist as to whether or not the vaccination may be administered. The RN is to document the refusal using the contraindication tab in Oklahoma’s State Immunization System (OSIIS) and document in SOAP format on the OSIIS Progress Note the reason behind the decision to vaccinate or to withhold that vaccination. The corresponding screening checklist is then placed in the client’s chart.


5. If a significant reaction occurs the client's record must be marked in OSIIS under the “view immunizations” page.

6. If the client or their parent refuses an ACIP recommended vaccination, the refusal must be documented in OSIIS

IV. CLIENT EDUCATION:

A. Make sure individuals/parents know that they or their children will not be fully protected until the primary immunization series has been completed.

B. Prior to administration of any vaccine, "Vaccine Information Statements" describing the risks and benefits of each vaccine must be reviewed with the client or guardian and a copy offered to them for their records.

C. Advisory Committee on Immunization Practices (ACIP) no longer recommends prophylactic use of acetaminophen or other analgesics BEFORE or AT THE TIME of vaccinations. They may continue to be used after immunization, if fever of 101°F or higher occurs.

D. “After the Shots...” parent information sheet from the Immunization Action Coalition website - http://www.immunize.org/catg.d/p4015.pdf in English and Spanish; (http://www.immunize.org/catg.d/p4015 or d/p4014-01.pdf) may be provided to clients for help in dealing with discomfort after immunizations. Note: the new version of “After the Shots” does not recommend a rectal temperature.

V. REFERRAL:

A. Report severe reactions on Vaccine Adverse Event Reporting System (VAERS) on line at: http://www.vaers.hhs.gov/ and to District Nurse Manager and mark the “Reaction” field in the client’s record in OSIIS.

B. Report inadvertent administration of Tdap vaccine to pregnant women of less than 20 weeks gestation to the appropriate registry: for BOOSTRIX® report to GlaxoSmithKline biologicals at 1-888-825-5249 and for ADACEL report to Sanofi Pasteur at to Sanofi Pasteur at 1-800-822-2463 (1-800-VACCINE).

Determine tracking priority utilizing professional judgment. Document follow-up using the PHOCIS Tracking System.

VII. TRANSPORTATING/TRANSFERRING OF VACCINE:

For instructions regarding transferring vaccine between clinic sites or an off-site clinic see NURSING SERVICE PROCEDURE MANUAL.

VIII. SPECIAL CONSIDERATION:

A. The public health nurse must ensure that another employee, preferably CPR certified, is present who can assist if an emergency occurs before any vaccinations can be administered.

B. Immunocompromised:

1. Public health nurses are not to administer live virus vaccines to immunocompromised clients.

2. A specific order from an immunocompromised client’s PCP that is consistent with the ACIP guidelines is required before inactivated vaccines may be administered. For additional assistance in identifying conditions recognized as being immunocompromising or immune deficiencies and the vaccination recommendations for person with those diagnoses, refer to appendix A, 26 “Vaccination of Person with Primary and Secondary Immune Deficiencies” from the Epidemiology and Prevention of Vaccine-Preventable Diseases 13th Edition.

3. Minors who have an immunosuppressed diagnoses should be referred to their PCP or the specialist treating their immunosuppressed condition for their vaccinations.

C. Household contacts and other close contacts of person with altered immunocompetence should be encouraged to receive all age-appropriate vaccines except for smallpox.

D. Persons receiving large doses of corticosteroids should not receive live vaccines. This would include persons: receiving 20 milligrams or more of prednisone daily or 2 or more milligrams of prednisone per kilogram of body weight per day for 14 or more days. Aerosolized steroids such as inhalers for asthma, are not contraindicated to vaccination, nor are alternate-day, rapidly tapering, and short (less than 14 days) high-dose schedules; topical formulations, and physiologic replacement schedules.

E. Diluents:

Diluents are not just for dissolving vaccines and in most cases are not interchangeable. Diluents are designed to meet an individual vaccine’s specific requirements in terms of volume, sterility, pH and chemical balance. Certain vaccine diluents include some of the antigens that are components of the vaccines.

1. To minimize loss of vaccine potency, do not reconstitute a vaccine until just before administering it.

2. If the wrong diluent is used the vaccination will always need to be repeated. If the diluent error occurred with an inactivated vaccine which was administered, that dose is invalid and should be repeated ASAP.
3. If a live vaccine is reconstituted with the wrong diluent and the vaccine was administered, the dose is invalid and will need to be repeated. If the live vaccine cannot be repeated on the same day as the error, they must wait a minimum of 4 weeks before being revaccinated with the live virus.

F. If delay occurs between doses, regardless of the length, the series does not have to be re-started. Pick up the schedule where it was left off, maintaining age appropriateness.

G. TB skin testing is not a prerequisite to measles or varicella vaccines. If needed, a TB skin test can be given before or the same day as measles (or MMR) or varicella vaccine. If a booster TB skin test is indicated, delay the measles (or MMR) or varicella until the booster is administered and read.

H. Provide parent/guardian/caregiver with a record of all immunizations including full dates and any contraindications identified or ongoing using approved ODH procedure.

I. If live virus vaccines (MMR, Varicella, LAIV, and yellow fever) are NOT given on the same day, they should be given no less than 28 days apart. The 4-day grace period does not apply to this 4-week interval.

J. Document all doses of vaccine in OSIIS at the time of administration. Add all history immunizations to child’s OSIIS record with proof of immunizations.

K. Children receiving expired vaccine should receive a repeat dose of the vaccine. Doses of expired vaccines that are administered inadvertently generally should not be counted as valid and should be repeated. Inactivated vaccines should be repeated as soon as possible. Live vaccines should be repeated after a 28-day interval from the invalid dose to reduce the risk for interference from interferon on the subsequent doses.

L. Invalid doses of vaccine (given too early) should be repeated. The repeat dose should be spaced after the invalid dose by the recommended minimum interval established by the ACIP.

M. Varicella virus vaccine is very fragile and must be stored frozen at an average temperature of 5º F. Once reconstituted, the vaccine must be used within 30 minutes or discarded and should not be refrozen.

N. Route, site, and dosage:

Recommendations regarding route, site, and dosage of vaccine are derived from data from clinical trials, from practical experience, and from theoretical considerations. ACIP strongly discourages variations from the recommended route, site, volume, or number of doses of any vaccine. Variation from the recommended route and site can result in inadequate protection.

1. Incomplete doses of vaccine may be repeated immediately. This includes incomplete doses of live virus vaccines as long as they are administered that same day. For example if the patient moves while the vaccine is being injected and the vaccine runs down the arm or leg, the nurse should decide if the quantity of vaccine injected constituted a dose. If it did not constitute a dose, the dose should be repeated immediately.

2. Selecting the appropriate needle size depends on the age and body mass of the person receiving the vaccinations. A decision on needle size and site of injection should be made for each person on the basis of the size of the muscle, the thickness of adipose tissue at the injection site, the volume of the material being administered, injection technique, and the depth below the muscle surface into which the material is
to be injected. See attachment “Administering Vaccines: Dose, Route, Site, and Needle Size”.

3. Any vaccination using less than the standard dose should not be counted, and the person should be revaccinated according to age and minimum interval, unless serologic testing indicates that an adequate response has been achieved. Administering doses smaller than the recommended might result in inadequate protection.

4. Vaccine doses administered no more than 4 days or less before the minimum interval or minimum age listed for that vaccine will be counted as a valid dose except for doses of Daptacel and Infanrix (DTaP) given before the child’s first birthday (12 month of age).

5. ACIP prefers doses of vaccine in a series come from the same manufacturer; however, if this is not possible or if the doses given previously is unknown, administer the vaccine that is available.

O. There is no contraindication to the simultaneous administration of any vaccines. Simultaneous administration of the most widely used live and inactivated vaccines does not result in decreased antibody responses or increased rates of reactions.

P. The STD Service Division provides Hepatitis A & B vaccine (Twinrix) for clients that have been diagnosed with Hepatitis C. When these clients are identified:

1. The clinic should notify the STD Service Division of the need for the vaccine.
2. Place the order for the vaccine through OSIIS for Twinrix.
3. Place “CDN” in the comment section of the ordering screen.

Q. In order to protect the integrity and sterility of the needles and syringes, do not remove sterile packaging from needles and syringes prior to drawing up the vaccine for administration.

R. If an allergy to a vaccine component is not anaphylactic or is not severe, it is not a contraindication to that vaccine.

S. Administration with Antimicrobials/Antivirals:

1. Live attenuated influenza vaccine should not be administered until 48 hours after cessation of therapy using antiviral drugs against influenza (amandadine, rimatadine, zanamivir, oseltamivir).
2. Antiviral drugs active against herpes viruses (acyclovir, famciclovir) should be discontinued 24 hours before administration of a varicella-containing vaccine, if possible.
3. Do not withhold vaccination if a person is taking antibiotics.

REFERENCES:

Institute for Vaccine Safety, Johns Hopkins University. www.vaccinesafety.edu
Nursing Service Procedure Manual, Oklahoma State Department of Health.
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### Administering Vaccines:

**Dose, Route, Site, and Needle Size**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria, Tetanus, Pertussis (DTaP, DT, Tdap, Td)</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td><strong>Haemophilus influenzae type b</strong> (Hib)</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td>≤18 yrs: 0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td>≥19 yrs: 1.0 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td>≤19 yrs: 0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td>≥20 yrs: 1.0 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Influenza, live attenuated (LAIV)</td>
<td>0.2 mL (0.1 mL in each nostril)</td>
<td>Intranasal spray</td>
</tr>
<tr>
<td>Influenza, inactivated (IIV); for ages 6–35 months</td>
<td>Fluzone: 0.25 mL</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td>FluLaval: 0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Influenza, inactivated (IIV); for ages 3 years &amp; older; recombinant (RIV); for ages 18 years and older</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Influenza (IIV) Fluzone Intradermal, for ages 18 through 64 years</td>
<td>0.1 mL</td>
<td>ID</td>
</tr>
<tr>
<td>Measles, Mumps, Rubella (MMR)</td>
<td>0.5 mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>Meningococcal conjugate (MVC4 [MenACWY])</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Meningococcal serogroup B (MenB)</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV)</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV)</td>
<td>0.5 mL</td>
<td>IM or Subcut</td>
</tr>
<tr>
<td>Polio, inactivated (IPV)</td>
<td>0.5 mL</td>
<td>IM or Subcut</td>
</tr>
<tr>
<td>Rotavirus (RV)</td>
<td>Rotarix: 1.0 mL</td>
<td>Oral</td>
</tr>
<tr>
<td></td>
<td>Rotateq: 2.0 mL</td>
<td>Oral</td>
</tr>
<tr>
<td>Varicella (Var)</td>
<td>0.5 mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>Zoster (Zos)</td>
<td>0.65 mL</td>
<td>Subcut</td>
</tr>
</tbody>
</table>

**Combination Vaccines**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTaP-HepB-IPV (Pediarix)</td>
<td>0.5 mL</td>
<td>IM</td>
</tr>
<tr>
<td>DTaP-IPV/Hib (Pentacel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTaP-IPV (Kinrix; Quadracel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMRV (ProQuad)</td>
<td>≤12 yrs: 0.5 mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>HepA-HepB (Twinrix)</td>
<td>≥18 yrs: 1.0 mL</td>
<td>IM</td>
</tr>
</tbody>
</table>

#### Injection Site and Needle Size

**Subcutaneous (Subcut) injection**

Use a 23–25 gauge needle. Choose the injection site that is appropriate to the person’s age and body mass.

<table>
<thead>
<tr>
<th>AGE</th>
<th>NEEDLE LENGTH</th>
<th>INJECTION SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants (1–12 mos)</td>
<td>½“</td>
<td>Fatty tissue over anterolateral thigh muscle</td>
</tr>
<tr>
<td>Children 12 mos or older, adolescents, and adults</td>
<td>½“</td>
<td>Fatty tissue over anterolateral thigh muscle or fatty tissue over triceps</td>
</tr>
</tbody>
</table>

**Intramuscular (IM) injection**

Use a 22–25 gauge needle. Choose the injection site and needle length that is appropriate to the person’s age and body mass.

<table>
<thead>
<tr>
<th>AGE</th>
<th>NEEDLE LENGTH</th>
<th>INJECTION SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborns (1st 28 days)</td>
<td>½“</td>
<td>Anterolateral thigh muscle</td>
</tr>
<tr>
<td>Infants (1–12 mos)</td>
<td>1”</td>
<td>Anterolateral thigh muscle</td>
</tr>
<tr>
<td>Toddlers (1–2 years)</td>
<td>1–1⅛“</td>
<td>Anterolateral thigh muscle</td>
</tr>
<tr>
<td>Adults 19 years or older</td>
<td>½“–1⅛“</td>
<td>Anterolateral thigh muscle</td>
</tr>
<tr>
<td>Female or male &lt;130 lbs</td>
<td>½“–1⅛“</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Female or male 130–152 lbs</td>
<td>1”</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Female 200+ lbs Male 260+ lbs</td>
<td>1½“</td>
<td>Deltoid muscle of arm</td>
</tr>
</tbody>
</table>

* A ½“ needle may be used for patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin stretched tight, the subcutaneous tissue is not bunched, and the injection is made at a 90-degree angle.

**Note:** Always refer to the package insert included with each biologic for complete vaccine administration information. CDC’s Advisory Committee on Immunization Practices (ACIP) recommendations for the particular vaccine should be reviewed as well. Access the ACIP recommendations at www.immunize.org/acip.

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**Administering Intramuscular (IM) injection**

90° angle

- Skin
- Subcutaneous tissue
- Muscle

**Administering Subcutaneous (Subcut) injection**

45° angle

- Skin
- Subcutaneous tissue
- Muscle

**Administering Intradermal (ID) administration of Fluzone ID vaccine**

90° angle

- Administer in area of deltoid

**Administering Intranasal (NAS) administration of Flumist (LAIV) vaccine**

90° angle

- Administer in area of nasal mucosa

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Immunization Action Coalition
Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

www.immunize.org/catg.d/p3085.pdf • Item #P3085 (10/17)
For Parents - Vaccines Required to Attend School in Oklahoma 2017-18 School Year

This table shows the total number of doses a child must receive and have on their record to attend school for the grades indicated. The doses do not have to be repeated every year. These are the requirements for school. Requirements for child care attendance are different. Refer to this web page for the requirements for child care: [http://www.ok.gov/health/Disease_Prevention_Preparedness/Immunizations/Vaccines_for_Childcare/index.html](http://www.ok.gov/health/Disease_Prevention_Preparedness/Immunizations/Vaccines_for_Childcare/index.html).

<table>
<thead>
<tr>
<th>VACCINES</th>
<th>PRE-SCHOOL/ PRE-K</th>
<th>KG – 6th</th>
<th>7th – 12th</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTaP (diphtheria, tetanus, pertussis)</td>
<td>4 DTaP</td>
<td>5 DTaP</td>
<td>5 DTaP &amp; 1 Tdap</td>
</tr>
<tr>
<td>IPV/OPV (inactivated polio/oral polio)</td>
<td>3 IPV/OPV</td>
<td></td>
<td>4 IPV/OPV*</td>
</tr>
<tr>
<td>MMR (measles, mumps, rubella)</td>
<td>1 MMR</td>
<td></td>
<td>2 MMR</td>
</tr>
<tr>
<td>HepB (hepatitis B)</td>
<td></td>
<td></td>
<td>3 HepB</td>
</tr>
<tr>
<td>HepA (hepatitis A)</td>
<td></td>
<td></td>
<td>2 HepA</td>
</tr>
<tr>
<td>Varicella (chickenpox)</td>
<td></td>
<td></td>
<td>1 Varicella</td>
</tr>
</tbody>
</table>

★ If the 4th dose of DTaP is given on or after the child’s 4th birthday, then the 5th dose of DTP/DTaP is not required.

◆ If the 3rd dose of IPV/OPV is given on or after the child’s 4th birthday and at least 6 months from the previous dose, then the 4th dose of IPV/OPV is not required.

■ If a child reaches age 11 and has not yet started the HepB vaccine series, he or she may receive a 2-dose series of Merck® Adult Hepatitis B vaccine instead of the 3-dose series of Pediatric HepB vaccine. The 2-dose series must be completed before the 16th birthday or the child must receive a total of 3 doses of HepB vaccine. If you have any questions about the 2-dose series of HepB vaccine, talk to your healthcare provider. All other children (younger or older) must have 3 doses of hepatitis B vaccine.

Vaccines Recommended for All Children but Not Required by Oklahoma School Law

A 2nd dose of varicella (chickenpox) vaccine is recommended at 4-6 years of age and at any age after that if it is missed at 4-6 years. One dose of MCV4 (meningococcal vaccine) is recommended at age 11-12 years and a booster dose at 16 years of age.

If an adolescent misses MCV4 at 11-12 years, they should still receive it. This vaccine is routinely recommended up to 18 years and through age 21 years for first year college students living in dormitories or on-campus student housing because of their risk of catching the disease.

If an adolescent receives the first dose of MCV4 late at 13 through 15 years, they still need a booster dose at age 16 through 18 years. Oklahoma law requires a dose of MCV4 for all students who are first-time enrollees in any public or private postsecondary educational institution in this state and who reside in on-campus student housing. It is recommended they receive a dose on or after the 16th birthday.

Two doses of HPV (human papillomavirus) vaccine are recommended for all pre-teens starting at 11-12 years of age.

If the series is started on or after the 15th birthday, 3 doses are recommended.

Keep a copy of your child’s vaccination record, you may need it later.
Vaccine-Preventable Diseases and the Vaccines that Prevent Them

Diphtheria (Can be prevented by DTaP & Tdap vaccines)  
Diphtheria is a very contagious bacterial disease that affects the respiratory system, including the lungs. Diphtheria bacteria can be passed from person to person by direct contact with droplets when an infected person coughs or sneezes. When people are infected, the diphtheria bacteria produce a toxin (poison) in the body that can cause weakness, sore throat, low-grade fever, and swollen glands in the neck. Effects from this toxin can also lead to swelling of the heart muscle and, in some cases, heart failure. In severe cases, diphtheria can cause coma, paralysis, and even death.

Hepatitis A (Can be prevented by HepA vaccine)  
Hepatitis A is an infection of the liver caused by hepatitis A virus. The virus is usually spread person-to-person through the fecal-oral route. In other words, the virus is taken in by mouth from contact with objects, food, or drinks contaminated by the feces (stool) of an infected person. Symptoms include fever, tiredness, loss of appetite, nausea, abdominal discomfort, dark urine, and jaundice (yellowing of the skin and eyes). An infected person may have no symptoms, may have mild illness for a week or two, or may have severe illness for several months that requires hospitalization. In the U.S., about 100 people a year die from hepatitis A.

Hepatitis B (Can be prevented by HepB vaccine)  
Hepatitis B is an infection of the liver caused by hepatitis B virus. The virus spreads through exposure to blood or other body fluids, for example, from sharing personal items, such as razors or during sex. Hepatitis B causes a flu-like illness with loss of appetite, nausea, vomiting, rashes, joint pain, and jaundice. The virus stays in the liver of some people for the rest of their lives and can result in severe liver diseases, including fatal cancer.

Human Papillomavirus (Can be prevented by HPV vaccine)  
Human Papillomavirus also known as HPV, is a very common virus that is spread by skin-to-skin contact during any type of sexual activity with another person. About 79 million Americans, most in their late teens and early 20s, are infected with HPV. HPV is so common that nearly all sexually active men and women get it at some point in their lives. It is a major cause of cervical cancer in women and genital warts in women and men. Every year in the U.S., about 4,000 women die from cervical cancer caused by HPV and about 8,000 men get cancers caused by HPV.

Measles (Can be prevented by MMR vaccine)  
Measles is one of the most contagious viral diseases. Measles virus is spread by direct contact with the airborne respiratory droplets of an infected person. Measles is so contagious that just being in the same room after a person who has measles has already left can result in infection. Symptoms usually include a rash, fever, cough, and red, watery eyes. Fever and rash can last for up to a week, and the coughing lasts about 10 days. Measles can lead to pneumonia, seizures, brain damage, and death.

Meningococcal Disease (Can be prevented by MCV Vaccine)  
Meningococcal disease is caused by bacteria and is a leading cause of bacterial meningitis (infection around the brain and spinal cord) in children, teens and young adults. The bacteria are spread by droplets from the nose and throat through coughing, sneezing or kissing. Symptoms include nausea, vomiting, sensitivity to light, confusion and sleepiness. Meningococcal disease also causes blood infections. About one of every ten people who get the disease dies from it. Survivors of meningococcal disease may lose their arms or legs, become deaf, have problems with their nervous systems, become developmentally disabled, or suffer seizures or strokes.

Mumps (Can be prevented by MMR vaccine)  
Mumps is an infectious disease caused by the mumps virus, which is spread in the air by a cough or sneeze from an infected person. A child can also get infected with mumps by coming in contact with a contaminated object, like a toy. The mumps virus causes fever, headaches, painful swelling of the salivary glands under the jaw, muscle aches, tiredness, and loss of appetite. Severe complications for children who get mumps are not common, but can include meningitis (infection of the covering of the brain and spinal cord), encephalitis (inflammation of the brain), permanent hearing loss, or swelling of the testes, which can lead to sterility in men, although this is rare.

Tetanus (Lockjaw) (Can be prevented by Tdap vaccine)  
Tetanus is caused by bacteria found in soil. The bacteria enter the body through a wound, such as a deep cut. When people are infected, the bacteria produce a toxin (poison) in the body that causes serious, painful spasms and stiffness of all muscles in the body. This can lead to “locking” of the jaw so a person cannot open his or her mouth, swallow, or breathe. Complete recovery from tetanus can take months. Three of ten people who get tetanus die from the disease.

Varicella (Chickenpox) (Can be prevented by varicella vaccine)  
Chickenpox is caused by the varicella zoster virus. Chickenpox is very contagious and spreads very easily from infected people. The virus can spread from either a cough or a sneeze. It can also spread from the blisters on the skin, either by touching them or by breathing in the viral particles. Typical symptoms of chickenpox include an itchy rash with blisters, tiredness, headache and fever. Chickenpox is usually mild, but it can lead to severe skin infections, pneumonia, encephalitis (brain swelling), and even death.

Polio (Can be prevented by IPV vaccine)  
Polio is caused by a virus that lives in an infected person’s throat and intestines. It spreads through contact with the feces (stool) of an infected person and through droplets from a sneeze or cough. Symptoms typically include sudden fever, sore throat, headache, muscle weakness, and pain. In about 1% of cases, polio can cause paralysis. Among those who are paralyzed, up to 5% of children die because they become unable to breathe.

Rubella (German Measles) (Can be prevented by MMR vaccine)  
Rubella is caused by a virus that is spread through coughing and sneezing. In children rubella usually causes a mild illness with fever, swollen glands, and a rash that lasts about 3 days. Rubella rarely causes serious illness or complications in children, but can be very serious to a baby in the womb. If a pregnant woman is infected, the result to the baby can be devastating, including miscarriage and serious birth defects.

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8-3-17 Immunization Service Oklahoma State Department of Oklahoma (405) 271-4073
Instructions for the Use of Vaccine Information Statements

Required Use

1. Provide a Vaccine Information Statement (VIS) when a vaccination is given.

As required under the National Childhood Vaccine Injury Act (42 U.S.C. §300aa-26), all health care providers in the United States who administer, to any child or adult, any of the following vaccines — diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis A, hepatitis B, Haemophilus influenzae type b (Hib), influenza, pneumococcal conjugate, meningococcal, rotavirus, human papillomavirus (HPV), or varicella (chickenpox) — shall, prior to administration of each dose of the vaccine, provide a copy to keep of the relevant current edition vaccine information materials that have been produced by the Centers for Disease Control and Prevention (CDC):

• to the parent or legal representative¹ of any child to whom the provider intends to administer such vaccine,

or

• to any adult² to whom the provider intends to administer such vaccine.

If there is not a single VIS for a combination vaccine, use the VISs for all component vaccines.

VISs should be supplemented with visual presentations or oral explanations as appropriate.

2. Record information for each VIS provided.

Health care providers shall make a notation in each patient’s permanent medical record at the time vaccine information materials are provided, indicating:

(1) the edition date of the Vaccine Information Statement distributed, and

(2) the date the VIS was provided.

This recordkeeping requirement supplements the requirement of 42 U.S.C. §300aa-25 that all health care providers administering these vaccines must record in the patient’s permanent medical record (or in a permanent office log):

(3) the name, address and title of the individual who administers the vaccine,

(4) the date of administration, and

(5) the vaccine manufacturer and lot number of the vaccine used.

¹ “Legal representative” is defined as a parent or other individual who is qualified under State law to consent to the immunization of a minor child or incompetent adult.

² In the case of an incompetent adult, relevant VISs shall be provided to the individual’s legal representative. If the incompetent adult is living in a long-term care facility, all relevant VISs may be provided at the time of admission, or at the time of consent if later than admission, rather than prior to each vaccination.

Applicability of State Law

Health care providers should consult their legal counsel to determine additional State requirements pertaining to immunization. The Federal requirement to provide the vaccine information materials supplements any applicable State laws.

Availability of Copies

Copies are available in English and many other languages from CDC’s website at www.cdc.gov/vaccines/pubs/vis. Single camera-ready copies may also be available from State health departments.

Current VIS Editions

DTaP/DT: 5/17/07
Hib: 4/2/15
Hepatitis A: 7/20/16
Hepatitis B: 7/20/16
HPV (Gardasil-9): 12/2/16
Influenza (inactivated): 8/7/15
Influenza (live): 8/7/15
MMR: 4/20/12¹
MMRV: 5/21/10¹
Meningococcal ACWY: 3/31/16
Serogroup B Meningococcal (MenB): 8/9/16
Pneumococcal (PCV13): 11/5/15
Polio: 7/20/16
Rotavirus: 4/15/15
Td: 4/11/17
Tdap: 2/24/15
Varicella: 3/13/08¹
Multi-Vaccine*: 11/5/15

¹ An optional alternative when two or more routine childhood vaccines (i.e., DTaP, hepatitis B, Hib, pneumococcal, or polio) are administered at the same visit.

† Interim

May 8, 2017
Reference 42 U.S.C. §300aa-26

U.S. Department of Health and Human Services Centers for Disease Control and Prevention
Vaccines with Diluents: How to Use Them

Be sure to reconstitute the following vaccines correctly before administering them! Reconstitution means that the lyophilized (freeze-dried) vaccine powder or wafer in one vial must be reconstituted (mixed) with the diluent (liquid) in another.

- Only use the diluent provided by the manufacturer for that vaccine as indicated on the chart.
- ALWAYS check the expiration date on the diluent and vaccine. NEVER use expired diluent or vaccine.

<table>
<thead>
<tr>
<th>Vaccine product name</th>
<th>Manufacturer</th>
<th>Lyophilized vaccine (powder)</th>
<th>Liquid diluent (may contain vaccine)</th>
<th>Time allowed between reconstitution and use, as stated in package insert*</th>
<th>Diluent storage environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ActHIB (Hib)</td>
<td>Sanofi Pasteur</td>
<td>Hib</td>
<td>0.4% sodium chloride</td>
<td>24 hrs</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>Hiberix (Hib)</td>
<td>GlaxoSmithKline</td>
<td>Hib</td>
<td>0.9% sodium chloride</td>
<td>24 hrs</td>
<td>Refrigerator or room temp</td>
</tr>
<tr>
<td>Imovax (RABHDCV)</td>
<td>Sanofi Pasteur</td>
<td>Rabies virus</td>
<td>Sterile water</td>
<td>Immediately†</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>M-M-R II (MMR)</td>
<td>Merck</td>
<td>MMR</td>
<td>Sterile water</td>
<td>8 hrs</td>
<td>Refrigerator or room temp</td>
</tr>
<tr>
<td>MenHibrix (Hib-MenCY)</td>
<td>GlaxoSmithKline</td>
<td>Hib-MenCY</td>
<td>0.9% sodium chloride</td>
<td>Immediately†</td>
<td>Refrigerator or room temp</td>
</tr>
<tr>
<td>Menomune (MPSV4)</td>
<td>Sanofi Pasteur</td>
<td>MPSV4</td>
<td>Distilled water</td>
<td>Single-dose vial: Immediately† Multidose vial: 35 days</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>Menveo (MenACWY)</td>
<td>GlaxoSmithKline</td>
<td>MenA</td>
<td>MenCWY</td>
<td>8 hrs</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>Pentacel (DTaP-IPV/Hib)</td>
<td>Sanofi Pasteur</td>
<td>Hib</td>
<td>DTaP-IPV</td>
<td>Immediately†</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>ProQuad (MMRV)</td>
<td>Merck</td>
<td>MMRV</td>
<td>Sterile water</td>
<td>30 min</td>
<td>Refrigerator or room temp</td>
</tr>
<tr>
<td>RabAvert (RABPCECV)</td>
<td>GlaxoSmithKline</td>
<td>Rabies virus</td>
<td>Sterile water</td>
<td>Immediately†</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>Rotarix (RV1)</td>
<td>GlaxoSmithKline</td>
<td>RV1</td>
<td>Sterile water, calcium carbonate, and xanthan</td>
<td>24 hrs</td>
<td>Refrigerator or room temp</td>
</tr>
<tr>
<td>Varivax (VAR)</td>
<td>Merck</td>
<td>VAR</td>
<td>Sterile water</td>
<td>30 min</td>
<td>Refrigerator or room temp</td>
</tr>
<tr>
<td>YF-VAX (YF)</td>
<td>Sanofi Pasteur</td>
<td>YF</td>
<td>0.9% sodium chloride</td>
<td>60 min</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>Zostavax (HZV)</td>
<td>Merck</td>
<td>HZV</td>
<td>Sterile water</td>
<td>30 min</td>
<td>Refrigerator or room temp</td>
</tr>
</tbody>
</table>

Always refer to package inserts for detailed instructions on reconstituting specific vaccines. In general, follow the steps below.

1 For single-dose vaccine products (exception is Rotarix!), select a syringe and needle of proper length to be used for both reconstitution and administration of the vaccine. Following reconstitution, Menomune in a multidose vial will require a new needle and syringe for each dose of vaccine to be administered. For Rotarix, see the package insert.†

2 Before reconstituting, check labels on both the lyophilized vaccine vial and the diluent to verify that
   - they are the correct two products to mix together,
   - the diluent is the correct volume (especially for Menomune in the multidose vial), and
   - neither the vaccine nor the diluent has expired.

3 Reconstitute (i.e., mix) vaccine just prior to use by
   - removing the protective caps and wiping each stopper with an alcohol swab,
   - inserting needle of syringe into diluent vial and withdrawing entire contents, and
   - injecting diluent into lyophilized vaccine vial and rotating or agitating to thoroughly dissolve the lyophilized powder.

4 Check the appearance of the reconstituted vaccine.
   - Reconstituted vaccine may be used if the color and appearance match the description on the package insert.
   - If there is discoloration, extraneous particulate matter, obvious lack of resuspension, or the vaccine cannot be thoroughly mixed, mark the vial as “DO NOT USE,” return it to proper storage conditions, and contact your state or local health department immunization program or the vaccine manufacturer.

5 If reconstituted vaccine is not used immediately or comes in a multidose vial (i.e., multi-dose Menomune), be sure to
   - clearly mark the vial with the date and time the vaccine was reconstituted,
   - maintain the product at 2°–8°C (36°–46°F); do not freeze, and
   - use only within the time indicated on chart above.

† If the reconstituted vaccine is not used within this time period, it must be discarded.
‡ For purposes of this guidance, IAC defines “immediately” as within 30 minutes or less.
§ Rotarix vaccine is administered by mouth using the applicator that contains the diluent. It is not administered as an injection.
<table>
<thead>
<tr>
<th>Vaccine and dose number</th>
<th>Recommended age for this dose</th>
<th>Minimum age for this dose</th>
<th>Recommended interval to next dose</th>
<th>Minimum interval to next dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria-tetanus-acellular pertussis (DTaP)-1&lt;sup&gt;5&lt;/sup&gt;</td>
<td>2 months</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>DTaP-2</td>
<td>4 months</td>
<td>10 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>DTaP-3</td>
<td>6 months</td>
<td>14 weeks</td>
<td>6-12 months&lt;sup&gt;6&lt;/sup&gt;</td>
<td>6 months&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
<tr>
<td>DTaP-4&lt;sup&gt;5&lt;/sup&gt;</td>
<td>15-18 months</td>
<td>15 months&lt;sup&gt;6&lt;/sup&gt;</td>
<td>3 years</td>
<td>6 months</td>
</tr>
<tr>
<td>DTaP-5</td>
<td>4-6 years</td>
<td>4 years</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib)-1&lt;sup&gt;7&lt;/sup&gt;</td>
<td>2 months</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Hib-2</td>
<td>4 months</td>
<td>10 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Hib-3&lt;sup&gt;3&lt;/sup&gt;</td>
<td>6 months</td>
<td>14 weeks</td>
<td>6-9 months</td>
<td>8 weeks</td>
</tr>
<tr>
<td>Hib-4</td>
<td>12-15 months</td>
<td>12 months</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Hepatitis A (HepA)-1&lt;sup&gt;5&lt;/sup&gt;</td>
<td>12-23 months</td>
<td>12 months</td>
<td>6-18 months</td>
<td>6 months</td>
</tr>
<tr>
<td>HepA-2</td>
<td>≥18 months</td>
<td>18 months</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Hepatitis B (HepB)-1</td>
<td>Birth</td>
<td>Birth</td>
<td>4 weeks-4 months</td>
<td>4 weeks</td>
</tr>
<tr>
<td>HepB-2</td>
<td>1-2 months</td>
<td>4 weeks</td>
<td>8 weeks-17 months</td>
<td>8 weeks</td>
</tr>
<tr>
<td>HepB-3&lt;sup&gt;9&lt;/sup&gt;</td>
<td>6-18 months</td>
<td>24 weeks</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Herpes zoster (HZV)&lt;sup&gt;10&lt;/sup&gt;</td>
<td>≥60 years</td>
<td>60 years</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)-1&lt;sup&gt;11&lt;/sup&gt;</td>
<td>11-12 years</td>
<td>9 years</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>HPV-2</td>
<td>11-12 years (+ 2 months)</td>
<td>9 years (+ 4 weeks)</td>
<td>4 months</td>
<td>12 weeks&lt;sup&gt;11&lt;/sup&gt;</td>
</tr>
<tr>
<td>HPV-3&lt;sup&gt;11,12&lt;/sup&gt;</td>
<td>11-12 years (+ 6 months)</td>
<td>9 years (+ 5 months)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Influenza, inactivated (IIV)&lt;sup&gt;13&lt;/sup&gt;</td>
<td>≥6 months</td>
<td>6 months&lt;sup&gt;14&lt;/sup&gt;</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Influenza, live attenuated (LAIV)&lt;sup&gt;13&lt;/sup&gt;</td>
<td>2-49 years</td>
<td>2 years</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Measles-mumps-rubella (MMR)-1&lt;sup&gt;15&lt;/sup&gt;</td>
<td>12-15 months</td>
<td>12 months</td>
<td>3-5 years</td>
<td>4 weeks</td>
</tr>
<tr>
<td>MMR-2&lt;sup&gt;15&lt;/sup&gt;</td>
<td>4-6 years</td>
<td>13 months</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Meningococcal conjugate (MenACWY)-1&lt;sup&gt;16&lt;/sup&gt;</td>
<td>11-12 years</td>
<td>6 weeks&lt;sup&gt;17&lt;/sup&gt;</td>
<td>4-5 years</td>
<td>8 weeks</td>
</tr>
<tr>
<td>MenACWY-2</td>
<td>16 years</td>
<td>11 years&lt;sup&gt;18&lt;/sup&gt; (+ 8 weeks)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Meningococcal polysaccharide (MPSV4)-1&lt;sup&gt;16&lt;/sup&gt;</td>
<td>—</td>
<td>2 years</td>
<td>5 years</td>
<td>5 years</td>
</tr>
<tr>
<td>MPSV4-2</td>
<td>—</td>
<td>7 years</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV13)-1&lt;sup&gt;17&lt;/sup&gt;</td>
<td>2 months</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>PCV-2</td>
<td>4 months</td>
<td>10 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>PCV-3</td>
<td>6 months</td>
<td>14 weeks</td>
<td>6 months</td>
<td>8 weeks</td>
</tr>
<tr>
<td>PCV-4</td>
<td>12-15 months</td>
<td>12 months</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV)-1</td>
<td>—</td>
<td>2 years</td>
<td>5 years</td>
<td>3 years</td>
</tr>
<tr>
<td>PPSV-2&lt;sup&gt;19&lt;/sup&gt;</td>
<td>—</td>
<td>7 years</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Poliovirus, Inactivated (IPV)-1&lt;sup&gt;5&lt;/sup&gt;</td>
<td>2 months</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>IPV-2</td>
<td>4 months</td>
<td>10 weeks</td>
<td>8 weeks-14 months</td>
<td>4 weeks</td>
</tr>
<tr>
<td>IPV-3</td>
<td>6-18 months</td>
<td>14 weeks</td>
<td>3-5 years</td>
<td>6 months</td>
</tr>
<tr>
<td>IPV-4&lt;sup&gt;20&lt;/sup&gt;</td>
<td>4-6 years</td>
<td>4 years</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Rotavirus (RV)-1&lt;sup&gt;21&lt;/sup&gt;</td>
<td>2 months</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>RV-2</td>
<td>4 months</td>
<td>10 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>RV-3&lt;sup&gt;21&lt;/sup&gt;</td>
<td>6 months</td>
<td>14 weeks</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Tetanus-diphtheria (Td)</td>
<td>11-12 years</td>
<td>7 years</td>
<td>10 years</td>
<td>5 years</td>
</tr>
<tr>
<td>Tetanus-diphtheria-acellular pertussis (Tdap)&lt;sup&gt;22&lt;/sup&gt;</td>
<td>≥11 years</td>
<td>7 years</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Varicella (Var)-1&lt;sup&gt;15&lt;/sup&gt;</td>
<td>12-15 months</td>
<td>12 months</td>
<td>3-5 years</td>
<td>12 weeks&lt;sup&gt;23&lt;/sup&gt;</td>
</tr>
<tr>
<td>Var-2&lt;sup&gt;15&lt;/sup&gt;</td>
<td>4-6 years</td>
<td>15 months&lt;sup&gt;24&lt;/sup&gt;</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
Combination vaccines are available. Use of licensed combination vaccines is generally preferred to separate injections of their equivalent component vaccines. When administering combination vaccines, the minimum age for administration is the oldest age for any of the individual components (exception: the minimum age for the first dose of MenHibrix is 6 weeks). The minimum interval between doses is equal to the greatest interval of any of the individual components.

Information on travel vaccines including typhoid, Japanese encephalitis, and yellow fever, is available at [www.cdc.gov/travel](http://www.cdc.gov/travel). Information on other vaccines that are licensed in the US but not distributed, including anthrax and smallpox, is available at [https://emergency.cdc.gov/bioterrorism/](https://emergency.cdc.gov/bioterrorism/).

“Months” refers to calendar months.

A hyphen used to express a range (as in “12-15 months”) means “through.”

Combination vaccines containing a hepatitis B component (Pediarix and Twinrix) are available. These vaccines should not be administered to infants younger than 6 weeks because of the other components (i.e., Hib, DTaP, HepA, and IPV).

The minimum recommended interval between DTaP-3 and DTaP-4 is 6 months. However, DTaP-4 need not be repeated if administered at least 4 months after DTaP-3. This is a special grace period of 2 months, which can be used when evaluating records retrospectively. An additional 4 days should not be added to this grace period.

Children receiving the first dose of Hib or PCV13 vaccine at age 7 months or older require fewer doses to complete the series.

If PedvaxHib is administered at ages 2 and 4 months, a dose at age 6 months is not required. The minimum age for the final dose is 12 months.

HepB-3 should be administered at least 8 weeks after HepB-2 and at least 16 weeks after HepB-1, and should not be administered before 24 weeks of age.

Herpes zoster vaccine is recommended as a single dose for persons 60 years of age and older.

Gardasil and Gardasil 9 are approved for males and females 9 through 26 years of age. The minimum age for HPV-3 is based on the baseline minimum age for the first dose (i.e., 9 years) and the minimum interval of 5 months between the first and third dose. Dose 3 need not be repeated if it is administered at least 5 months after the first dose, and if the intervals between doses 1 and 2, and doses 2 and 3, are 4 weeks and 12 weeks, respectively.

A two-dose HPV vaccine schedule is recommended for most persons who begin the series before the 15th birthday. See [www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf](http://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf) for details.

One dose of influenza vaccine per season is recommended for most people. Some children younger than 9 years of age should receive 2 doses in a single season. See current influenza recommendations for details.

The minimum age for inactivated influenza vaccine varies by vaccine manufacturer. See package inserts for vaccine-specific minimum ages.

Combination MMRV vaccine can be used for children 12 months through 12 years of age. See [www.cdc.gov/mmwr/pdf/rr/rr5903.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5903.pdf) for details.

Revaccination with meningococcal vaccine is recommended for previously vaccinated persons who remain at high risk for meningococcal disease. See [www.cdc.gov/mmwr/pdf/rr/rr6202.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf) for details.

High-risk children can receive Menactra as young as 9 months and Menevo as young as 2 months. MenHibrix is given as a four-dose series at 2, 4, 6, and 12-18 months. It can be given as young as 6 weeks for high-risk children.

For Routine, non-high risk adolescent vaccination, the minimum age for the booster dose is 16 years.

A second dose of PPSV23 5 years after the first dose is recommended for persons <65 years of age at highest risk for serious pneumococcal infection, and for those who are likely to have a rapid decline in pneumococcal antibody concentration. See [www.cdc.gov/mmwr/PDF/rr/rr4608.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr4608.pdf) for details.

A fourth dose is not needed if the third dose was administered on or after the 4th birthday and at least 6 months after the previous dose.

The first dose of rotavirus must be administered no earlier than 6 weeks and no later than 14 weeks 6 days. The vaccine series should not be started for infants 15 weeks 0 days or older. Rotavirus vaccine should not be administered to children older than 8 months 0 days, regardless of the number of doses received before that age. If two doses of Rotarix are administered as age appropriate, a third dose is not necessary.

Only one dose of Tdap is recommended. Subsequent doses should be given as Td. For management of a tetanus-prone wound in a person who has received a primary series of a tetanus-toxoid containing vaccine, the minimum interval after a previous dose of any tetanus-containing vaccine is 5 years.

A special grace period of 2 months, based on expert opinion, can be applied to the minimum interval of 3 months, when evaluating records retrospectively, which results in an acceptable minimum interval of 4 weeks. An additional 4 days should not be added to this grace period.

A special grace period of 2 months, based on expert opinion, can be applied to the minimum age of 15 months when evaluating records retrospectively, which will result in an acceptable minimum age of 13 months. An additional 4 days should not be added to this grace period.

Adapted from Table 3-1, ACIP General Best Practice Guidelines for Immunization. 

June 2017
# QUICK REFERENCE GUIDE PROPER USE OF COMBINATION VACCINES – IMM 701

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Antigens</th>
<th>Licensed for:</th>
<th>Recommended Schedule</th>
<th>Minimum &amp; Maximum Ages</th>
<th>Special Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediarix®</td>
<td>DTaP- Hep B - IPV</td>
<td>1st 3 doses of DTaP &amp; IPV series &amp; 3-dose HepB series</td>
<td>2, 4, &amp; 6 mos.</td>
<td>6 weeks through 6 years of age</td>
<td>Cannot be used for the birth dose of Hep B or 4th or 5th dose of DTaP series or 4th dose of IPV series Cannot be used for booster doses of DTaP and IPV after the 3-dose primary series</td>
</tr>
<tr>
<td>Pentacel®</td>
<td>DTaP-IPV/Hib</td>
<td>1st 4 doses of DTaP, IPV and Hib series</td>
<td>2, 4, &amp; 6, 15-18 mos of age.</td>
<td>6 weeks through 4 years of age</td>
<td>Do not administer to children age 5 years or older Do not use for the 5th dose of DTaP series</td>
</tr>
<tr>
<td>Kinrix®</td>
<td>DTaP-IPV</td>
<td>5th dose of DTaP series and 4th dose of polio series</td>
<td>4-6 yrs.</td>
<td>4 through 6 years of age</td>
<td>Not for use for the primary series at 2, 4, or 6 months of age or the 4th DTaP at 12 –18 months of age</td>
</tr>
<tr>
<td>ProQuad®</td>
<td>MMRV</td>
<td>1st &amp; 2nd doses of measles, mumps, rubella, and varicella</td>
<td>4-6 yrs.</td>
<td>12 months of age through 12 years of age</td>
<td>Do not administer to children, adolescents or adults age 13 years or older</td>
</tr>
</tbody>
</table>

**Notes:**

**Pediacel (DTaP-IPV/Hib)** Although Pentacel is licensed for the 1st four doses of the DTaP, IPV and Hib series, the 4th dose of polio is not recommended until age 4 through 6 years. Pentacel is not licensed for children age 5 years and older. Pink Book 13th Edition, Revised 2015, pg.130,272,305.

**ProQuad (MMRV)** - For the first dose of measles, mumps, rubella, and varicella vaccines at ages 12 through 47 months, either MMR and varicella vaccines or MMRV vaccine can be used. However:

- Compared with use of MMR and varicella vaccines at the same visit, use of MMRV vaccine results in one fewer injection but is associated with a higher risk for fever and febrile seizures 5 through 12 days after the first dose among children aged 12 through 23 months* (about one extra febrile seizure for every 2,300–2,600 MMRV vaccine doses). Use of MMR and varicella vaccines as two separate injections avoids this increased risk for fever and febrile seizures following MMRV vaccine.
- Providers who face barriers to clearly communicating these benefits and risks for any reason (e.g., language barriers) should administer separate MMR and varicella vaccines. Providers who are considering administering MMRV vaccine should discuss the benefits and risks of both vaccination options with the parents or caregivers. **Unless the parent or caregiver expresses a preference for MMRV vaccine, CDC recommends that MMR vaccine and varicella vaccine should be administered for the first dose for children aged 12 - 47 months. For the first dose of measles, mumps, rubella, and varicella vaccines at ages 48 months and older and for dose 2 at any age (15 months through 12 years), use of MMRV vaccine generally is preferred over separate injections of its equivalent component vaccines (i.e., MMR and varicella vaccines).** Pink Book 13th Edition, Revised 2015, pg.219
Precaution for MMRV Vaccine - A personal or family (i.e., sibling, parent) history of seizures is a precaution for MMRV vaccination for children of any age. Children with a personal or family history of seizures of any etiology generally should be vaccinated with MMR vaccine and varicella vaccine at separate sites because the risk for using MMRV vaccine in these children generally outweigh the benefits. Pink Book 13th Edition, 2015, pg.225

Updated 11-15-2017
IMM/NUR 701
This schedule includes recommendations in effect as of January 1, 2017. 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 [www.cdc.gov/vaccines/hcp/acip-recs/index.html](http://www.cdc.gov/vaccines/hcp/acip-recs/index.html). Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online ([www.vaers.hhs.gov](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 ([www.cdc.gov/vaccines/hcp/admin/contraindications.html](http://www.cdc.gov/vaccines/hcp/admin/contraindications.html)) or by telephone (800-CDC-INFO [800-232-4636]).
Figure 1. Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger—United States, 2017.

(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 shaded in gray.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Birth</th>
<th>1 mo</th>
<th>2 mos</th>
<th>4 mos</th>
<th>6 mos</th>
<th>9 mos</th>
<th>12 mos</th>
<th>15 mos</th>
<th>18 mos</th>
<th>19-23 mos</th>
<th>2-3 yrs</th>
<th>4-6 yrs</th>
<th>7-10 yrs</th>
<th>11-12 yrs</th>
<th>13-15 yrs</th>
<th>16 yrs</th>
<th>17-18 yrs</th>
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<tbody>
<tr>
<td>Hepatitis B1 (HepB)</td>
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<td>1st dose</td>
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<td>3rd dose</td>
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<td>4th dose</td>
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<td>Rotavirus1 (RV) RV1 (2-dose series); RV5 (3-dose series)</td>
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<td>2nd dose</td>
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<td>See footnote 2</td>
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<td>Diphtheria, tetanus, &amp; acellular pertussis1 (DTaP: &lt;7 yrs)</td>
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<td>1st dose</td>
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<td>4th dose</td>
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<td>1st dose</td>
<td>2nd dose</td>
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<td>See footnote 4</td>
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<td>3rd or 4th dose</td>
<td>See footnote 4</td>
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<td>Pneumococcal conjugate1 (PCV13)</td>
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<td>1st dose</td>
<td>2nd dose</td>
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<td>Inactivated poliovirus1 (IPV; &lt;18 yrs)</td>
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<tr>
<td>Influenza2 (IIV)</td>
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<td>Annual vaccination (IIV) 1 or 2 doses</td>
<td>Annual vaccination (IIV) 1 dose only</td>
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<td>Measles, mumps, rubella1 (MMR)</td>
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<td>1st dose</td>
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<td>Hepatitis A1/2 (HepA)</td>
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<td>Meningococcal1/2 (Hib-MenCY ≥6 weeks; MenACWY-D ≥9 mos; MenACWY-CRM ≥2 mos)</td>
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<td>See footnote 10</td>
<td>2nd dose</td>
<td>See footnote 11</td>
<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td>Tetanus, diphtheria, &amp; acellular pertussis1 (Tdap: ≥7 yrs)</td>
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<td>Tdap</td>
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<td>Human papillomavirus1/2 (HPV)</td>
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<tr>
<td>Meningococcal B1/1</td>
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<td>See footnote 11</td>
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<tr>
<td>Pneumococcal polysaccharide1/2 (PPSV23)</td>
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<td>See footnote 5</td>
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</tbody>
</table>

**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, 2017.

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.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Minimum Interval Between Doses</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dose 1 to Dose 2</td>
<td>Dose 2 to Dose 3</td>
<td>Dose 3 to Dose 4</td>
</tr>
<tr>
<td>Hepatitis B&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Birth</td>
<td>4 weeks</td>
<td>8 weeks and at least 16 weeks after first dose. Minimum age for the final dose is 24 weeks.</td>
</tr>
<tr>
<td>Rotavirus&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Diphtheria, tetanus, and acellular pertussis&lt;sup&gt;3&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Haemophilus influenzae type b&lt;sup&gt;4&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks if first dose was administered before the 1&lt;sup&gt;st&lt;/sup&gt; birthday. 8 weeks (as final dose) if first dose was administered at age 12 through 14 months. No further doses needed if first dose was administered at age 15 months or older.</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt; if current age is younger than 12 months and first dose was administered at younger than age 7 months, and at least 1 previous dose was PRP-T (ActHib, Pentacel, Hiberix) or unknown. 8 weeks and age 12 through 59 months (as final dose)&lt;sup&gt;6&lt;/sup&gt;  • if current age is younger than 12 months and first dose was administered at age 7 through 11 months; OR  • if current age is 12 through 59 months and first dose was administered before the 1&lt;sup&gt;st&lt;/sup&gt; birthday, and second dose administered at younger than 15 months; OR  • if both doses were PRP-OMP (PedvaxHIB; Comvax) and were administered before the 1&lt;sup&gt;st&lt;/sup&gt; birthday. No further doses needed if previous dose was administered at age 15 months or older. 8 weeks (as final dose) if first dose was administered before the 1&lt;sup&gt;st&lt;/sup&gt; birthday. 8 weeks (as final dose) This dose only necessary for children age 12 through 59 months who received 3 doses before the 1&lt;sup&gt;st&lt;/sup&gt; birthday. 8 weeks (as final dose) This dose only necessary for children age 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.</td>
</tr>
<tr>
<td>Pneumococcal&lt;sup&gt;5&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks if first dose was administered before the 1&lt;sup&gt;st&lt;/sup&gt; birthday. 8 weeks (as final dose for healthy children) if first dose was administered at the 1&lt;sup&gt;st&lt;/sup&gt; birthday or after. No further doses needed for healthy children if first dose was administered at age 24 months or older.</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt; if current age is younger than 12 months and previous dose given at &lt;7 months old. 8 weeks (as final dose for healthy children) if previous dose given between 7-11 months (wait until at least 12 months old); OR  • if current age is 12 months or older and at least 1 dose was given before age 12 months. No further doses needed for healthy children if previous dose administered at age 24 months or older.</td>
</tr>
<tr>
<td>Inactivated poliovirus&lt;sup&gt;6&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt;</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>Measles, mumps, rubella&lt;sup&gt;7&lt;/sup&gt;</td>
<td>12 months</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Varicella&lt;sup&gt;8&lt;/sup&gt;</td>
<td>12 months</td>
<td>3 months</td>
<td>3 months</td>
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<tr>
<td>Hepatitis A&lt;sup&gt;9&lt;/sup&gt;</td>
<td>12 months</td>
<td>6 months</td>
<td>6 months&lt;sup&gt;5&lt;/sup&gt; (minimum age 4 years for final dose).</td>
</tr>
<tr>
<td>Meningococcal&lt;sup&gt;11&lt;/sup&gt; (Hib-MenCY ≥6 weeks; MenACWY-D ≥9 mos; MenACWY-CRM ≥2 mos)</td>
<td>6 weeks</td>
<td>8 weeks&lt;sup&gt;11&lt;/sup&gt;</td>
<td>See footnote 11</td>
</tr>
<tr>
<td>Meningococcal&lt;sup&gt;11&lt;/sup&gt; (MenACWY-D ≥9 mos; MenACWY-CRM ≥2 mos)</td>
<td>Not Applicable (N/A)</td>
<td>8 weeks&lt;sup&gt;11&lt;/sup&gt;</td>
<td>8 weeks&lt;sup&gt;11&lt;/sup&gt;</td>
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<tr>
<td>Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis&lt;sup&gt;12&lt;/sup&gt;</td>
<td>7 years&lt;sup&gt;12&lt;/sup&gt;</td>
<td>4 weeks</td>
<td>4 weeks if first dose of DTaP/DT was administered before the 1&lt;sup&gt;st&lt;/sup&gt; birthday. 6 months (as final dose) if first dose of DTaP/DT or Td was administered at or after the 1&lt;sup&gt;st&lt;/sup&gt; birthday.</td>
</tr>
<tr>
<td>Human papillomavirus&lt;sup&gt;13&lt;/sup&gt;</td>
<td>9 years</td>
<td>Routine dosing intervals are recommended&lt;sup&gt;11&lt;/sup&gt;</td>
<td>9 years</td>
</tr>
<tr>
<td>Hepatitis A&lt;sup&gt;13&lt;/sup&gt;</td>
<td>N/A</td>
<td>6 months</td>
<td>6 months</td>
</tr>
<tr>
<td>Hepatitis B&lt;sup&gt;1&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
<td>8 weeks and at least 16 weeks after first dose.</td>
</tr>
<tr>
<td>Inactivated poliovirus&lt;sup&gt;6&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt;</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>Measles, mumps, rubella&lt;sup&gt;7&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Varicella&lt;sup&gt;8&lt;/sup&gt;</td>
<td>N/A</td>
<td>3 months if younger than age 13 years. 4 weeks if age 13 years or older.</td>
<td>6 months&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

NOTE: The above recommendations must be read along with the footnotes of this schedule.
### Figure 3. Vaccines that might be indicated for children and adolescents aged 18 years or younger based on medical indications

<table>
<thead>
<tr>
<th>VACCINE ▼</th>
<th>INDICATION ▼</th>
<th>Pregnancy</th>
<th>Immunocompromised status (excluding HIV infection)</th>
<th>HIV infection CD4+ count (cells/μL)</th>
<th>Kidney failure, end-stage renal disease, on hemodialysis</th>
<th>Heart disease, chronic lung disease</th>
<th>CSF leaks/ cochlear implants</th>
<th>Asplenia and persistent complement component deficiencies</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
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<tbody>
<tr>
<td>Hepatitis B¹</td>
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<tr>
<td>Diphtheria, tetanus, &amp; acellular pertussis (DTaP)</td>
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<td><em>Hoemophilus influenzae type b</em>³</td>
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<tr>
<td>Tetanus, diphtheria, &amp; acellular pertussis (Tdap)</td>
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<td>Human papillomavirus¹²</td>
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*Severe Combined Immunodeficiency

**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
Footnotes — Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, UNITED STATES, 2017

For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

For vaccine recommendations for persons 19 years of age and older, see the Adult Immunization Schedule.

Additional information

- For information on contraindications and precautions for the use of a vaccine and for additional information regarding that vaccine, vaccination providers should consult the ACIP General Recommendations on Immunization and the relevant ACIP statement, available online at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.
- Vaccine doses administered ≤4 days before the minimum interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum interval or minimum age should not be counted as valid doses and should be repeated as age-appropriate. The repeat dose should be spaced after the invalid dose by the recommended minimum interval. For further details, see Table 1, Recommended and minimum ages and intervals between vaccine doses, in MMWR, General Recommendations on Immunization and Reports / Vol. 60 / No. 2, available online at www.cdc.gov/mmwr/pdf/rr/rr6002.pdf.
- Information on travel vaccine requirements and recommendations is available at www.cdc.gov/travel/.
- The National Vaccine Injury Compensation Program (VICP) is a no-fault alternative to the traditional legal system for resolving vaccine injury petitions. Created by the National Childhood Vaccine Injury Act of 1986, it provides compensation to people found to be injured by certain vaccines. All vaccines within the recommended childhood immunization schedule are covered by VICP except for pneumococcal polysaccharide vaccine (PPSV23). For more information; see www.hrsa.gov/vaccinecompensation/index.html.

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

Routine vaccination:

At birth:
- Administer monovalent HepB vaccine to all newborns within 24 hours of birth.
- 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) at age 9 through 12 months (preferably at the next well-child visit) or 1 to 2 months after completion of the HepB series if the series was delayed.
- If mother’s HBsAg status is unknown, within 12 hours of birth, administer HepB vaccine regardless of birth weight. For infants weighing less than 2,000 grams, administer HBIG in addition to HepB vaccine within 12 hours of birth. Determine mother’s HBsAg status as soon as possible and, if mother is HBsAg-positive, also administer HBIG to infants weighing 2,000 grams or more as soon as possible, but no later than age 7 days.

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).
- Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks); administer the third dose at least 8 weeks after the second dose AND at least 16 weeks after the first dose. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks.

- Administration of a total of 4 doses of HepB vaccine is permitted 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 guidance, see Figure 2.

2. Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV1 [Rotarix] and RV5 [RotaTeq])

Routine vaccination:

Administer a series of RV vaccine to all infants as follows:
1. If Rotarix is used, administer a 2-dose series at ages 2 and 4 months.
2. If RotaTeq is used, administer a 3-dose series at ages 2, 4, and 6 months.
3. If any dose in the series was RotaTeq 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.
- For other catch-up guidance, see Figure 2.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks. Exception: DTaP-IPV [Kinrix, Quadracel]; 4 years)

Routine vaccination:

- Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15 through 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.
- Inadvertent administration of fourth DTaP dose early: If the fourth dose of DTaP was administered at least 4 months after the third dose of DTaP and the child was 12 months of age or older, it does not need to be repeated.

Catch-up vaccination:
- The fifth dose of DTaP vaccine is not necessary if the fourth dose was administered at age 4 years or older.
- For other catch-up guidance, see Figure 2.

4. Haemophilus influenzae type b (Hib) conjugate vaccine. (Minimum age: 6 weeks for PRP-T [ActHIB, DTaP-IPV/Hib (Pentacel), Hiberix, and Hib-MenCY [MenHibrix]), PRP-OMP [PediaVaxHIB])

Routine vaccination:
- Administer a 2- or 3-dose Hib vaccine primary series and a booster dose (dose 3 or 4, depending on vaccine used in primary series) at age 12 through 15 months to complete a full Hib vaccine series.
- The primary series with ActHIB, MenHibrix, Hiberix, or Pentacel consists of 3 doses and should be administered at ages 2, 4, and 6 months. The primary series with PediaVaxHIB consists of 2 doses and should be administered at ages 2 and 4 months; a dose at age 6 months is not indicated.
- One booster dose (dose 3 or 4, depending on vaccine used in primary series) of any Hib vaccine should be administered at age 12 through 15 months.
- For recommendations on the use of MenHibrix in patients at increased risk for meningococcal disease, refer to the meningococcal vaccine footnotes and also to MMWR February 28, 2014 / 63(RR01):1-13, available at www.cdc.gov/mmwr/PDF/rr/rr6301.pdf.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

**Catch-up vaccination:**
- If dose 1 was administered at ages 12 through 14 months, administer a second (final) dose at least 8 weeks after dose 1, regardless of Hib vaccine used in the primary series.
- If both doses were PRP-OMP (PedvaxHib or COMVAX) and were administered before the first birthday, the third (and final) dose should be administered at age 12 through 59 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 third (and final) dose at age 12 through 15 months or 8 weeks after second dose, whichever is later.
- If first dose is administered before the first birthday and second dose administered at younger than 15 months, a third (and final) dose should be administered 8 weeks later.
- For unvaccinated children aged 15–59 months, administer only 1 dose.
- For other catch-up guidance, see Figure 2. For catch-up guidance related to MenHibrix, see the meningococcal vaccine footnotes and also MMWR February 28, 2014 / 63(RR01):1-13, available at www.cdc.gov/mmwr/PDF/rt/rr6301.pdf.

**Vaccination of persons with high-risk conditions:**
Children aged 12 through 59 months who are at increased risk for Hib disease, including chemotherapy recipients and those with anatomic or functional asplenia (including sickle cell disease), human immunodeficiency virus (HIV) infection, immunoglobulin deficiency, or early component complement deficiency, who have received either no doses or only 1 dose of Hib vaccine before age 12 months, should receive 2 additional doses of Hib vaccine, 8 weeks apart; children who received 2 or more doses of Hib vaccine before age 12 months should receive 1 additional dose.
- For patients younger than age 5 years undergoing chemotherapy or radiation treatment who received a Hib vaccine dose(s) within 14 days of starting therapy or during therapy, repeat the dose(s) at least 3 months following therapy completion.
- Recipients of hematopoietic stem cell transplant (HSCT) should be revaccinated with a 3-dose regimen of Hib vaccine starting 6 to 12 months after successful transplant, regardless of vaccination history; doses should be administered at least 4 days before procedure.
- A single dose of any Hib-containing vaccine should be administered to unimmunized* children and adolescents 15 months of age and older undergoing an elective splenectomy; if possible, vaccine should be administered at least 14 days before procedure.
- Hib vaccine is not routinely recommended for patients 5 years or older. However, 1 dose of Hib vaccine should be administered to unimmunized* persons aged 5 years or older who have anatomic or functional asplenia (including sickle cell disease) and unimmunized* persons 5 through 18 years of age with HIV infection.
- *Patients who have not received a primary series and booster dose or at least 1 dose of Hib vaccine after 14 months of age are considered unimmunized.

5. **Pneumococcal vaccines. (Minimum age: 6 weeks for PCV13, 2 years for PPSV23)**
- Routine vaccination with PCV13:
  - Administer a 4-dose series of PCV13 at ages 2, 4, and 6 months and at age 12 through 15 months.
- Catch-up vaccination with PCV13:
  - Administer 1 dose of PCV13 to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
  - For other catch-up guidance, see Figure 2.
- Vaccination of persons with high-risk conditions with PCV13 and PPSV23:
  - All recommended PCV13 doses should be administered prior to PPSV23 vaccination if possible.
  - For children aged 2 through 5 years with any of the following conditions: chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy); diabetes mellitus; cerebrospinal fluid leak; cochlear implant; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma.

- Routine vaccination:
  - Administer a 4-dose series of IPV at ages 2, 4, 6 through 18 months, and 4 through 6 years. The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.
- Catch-up vaccination:
  - In the first 6 months of life, minimum age and minimum intervals are only recommended if the person is at risk of imminent exposure to circulating poliovirus (i.e., travel to a polio-endemic region or during an outbreak).
  - If 4 or more doses are administered before age 4 years, an additional dose should be administered at age 4 through 6 years and at least 6 months after the previous dose.
  - A fourth dose is not necessary if the third dose was administered at age 4 years or older and at least 6 months after the previous dose.
  - If both oral polio vaccine (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.
  - If only OPV was administered, and all doses were given prior to age 4 years, 1 dose of IPV should be given at 4 years or older, at least 4 weeks after the last OPV dose.
  - IPV is not routinely recommended for U.S. residents aged 18 years or older.
  - For other catch-up guidance, see Figure 2.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

7. Influenza vaccines. (Minimum age: 6 months for inactivated influenza vaccine [IIV], 18 years for recombinant influenza vaccine [RIV])

**Routine vaccination:**
- Administer influenza vaccine annually to all children beginning at age 6 months. For the 2016–17 season, use of live attenuated influenza vaccine (LAIV) is not recommended.

For children aged 6 months through 8 years:
- For the 2016–17 season, administer 2 doses (separated by at least 4 weeks) to children who are receiving influenza vaccine for the first time or who have not previously received ≥2 doses of trivalent or quadrivalent influenza vaccine before July 1, 2016. For additional guidance, follow dosing guidelines in the 2016–17 ACIP influenza vaccine recommendations (see MMWR August 26, 2016;65(5):1-54, available at www.cdc.gov/mmwr/volumes/65/rr/pdfs/rr6505.pdf).
- For the 2017–18 season, follow dosing guidelines in the 2017–18 ACIP influenza vaccine recommendations.

For persons aged 9 years and older:
- Administer 1 dose.

8. Measles, mumps, and rubella (MMR) vaccine. (Minimum age: 12 months for routine vaccination)

**Routine vaccination:**
- Administer a 2-dose series of MMR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 4 weeks have elapsed since the first dose.
- Administer 1 dose of MMR vaccine to infants aged 6 through 11 months before departure from the United States for international travel. These children should be revaccinated with 2 doses of MMR vaccine, the first at age 12 through 15 months (12 months if the child remains in an area where disease risk is high), and the second dose at least 4 weeks later.
- Administer 2 doses of MMR vaccine to children aged 12 months and older before departure from the United States for international travel. The first dose should be administered on or after age 12 months and the second dose at least 4 weeks later.

**Catch-up vaccination:**
- Ensure that all school-aged children and adolescents have had 2 doses of MMR vaccine; the minimum interval between the 2 doses is 4 weeks.

9. Varicella (VAR) vaccine. (Minimum age: 12 months)

**Routine vaccination:**
- Administer a 2-dose series of VAR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 3 months have elapsed since the first dose. If the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

**Catch-up vaccination:**
- Ensure that all persons aged 7 through 18 years without evidence of immunity (see MMWR 2007;56[No. RR-4], available at www.cdc.gov/mmwr/pdf/rr/rr5604.pdf) have 2 doses of varicella vaccine. For children aged 7 through 12 years, the recommended minimum interval between doses is 3 months (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.

10. Hepatitis A (HepA) vaccine. (Minimum age: 12 months)

**Routine vaccination:**
- Initiate the 2-dose HepA vaccine series at ages 12 through 23 months; separate the 2 doses by 6 to 18 months.
- Children who have received 1 dose of HepA vaccine before age 24 months should receive a second dose 6 to 18 months after the first dose.
- For any person aged 2 years and older who has not already received the HepA vaccine series, 2 doses of HepA vaccine separated by 6 to 18 months may be administered if immunity against hepatitis A virus infection is desired.

**Catch-up vaccination:**
- The minimum interval between the 2 doses is 6 months.

**Special populations:**
- Administer 2 doses of HepA vaccine at least 6 months apart to previously unvaccinated persons who live in areas where vaccination programs target older children, or who are at increased risk for infection. This includes persons traveling to or working in countries that have high or intermediate endemicity of infection; men having sex with men; users of injection and non-injection illicit drugs; persons who work with HAV-infected primates or with HAV in a research laboratory; persons with clotting-factor disorders; persons with chronic liver disease; and persons who anticipate close, personal contact (e.g., household or regular babysitting) with an international adoptee during the first 60 days after arrival in the United States from a country with high or intermediate endemicity. The first dose should be administered as soon as the adoption is planned, ideally, 2 or more weeks before the arrival of the adoptee.

11. Meningococcal vaccines. (Minimum age: 6 weeks for Hib-MenCY [MenHibrix], 2 months for MenACWY-CRM [Menveo], 9 months for MenACWY-D [Menactra], 10 years for serogroup B meningococcal [MenB] vaccines: MenB-4C [Bexsero] and MenB-FHbp [Trumenba])

**Routine vaccination:**
- Administer a single dose of Menactra or Menveo vaccine at age 11 through 12 years, with a booster dose at age 16 years.
- For children aged 2 months through 18 years with high-risk conditions, see “Meningococcal conjugate ACWY vaccination of persons with high-risk conditions and other persons at increased risk of disease” below.

**Catch-up vaccination:**
- Administer Menactra or Menveo vaccine at age 13 through 18 years if not previously vaccinated.
- If the first dose is administered at age 13 through 15 years, a booster dose should be administered at age 16 through 18 years, with a minimum interval of at least 8 weeks between doses.
- If the first dose is administered at age 16 years or older, a booster dose is not needed.
- For other catch-up guidance, see Figure 2.

**Clinical discretion:**
- Young adults aged 16 through 23 years (preferred age range is 16 through 18 years) who are not at increased risk for meningococcal disease may be vaccinated with a 2-dose series of either Bexsero (0, ≥1 month) or Trumenba (0, 6 months) vaccine to provide short-term protection against most strains of serogroup B meningococcal disease. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses.
- If the second dose of Trumenba is given at an interval of <6 months, a third dose should be given at least 6 months after the first dose; the minimum interval between the second and third doses is 4 weeks.

**Meningococcal conjugate ACWY vaccination of persons with high-risk conditions and other persons at increased risk:**

- **Children with anatomic or functional asplenia (including sickle cell disease), children with HIV infection, or children with persistent complement component deficiency (includes persons with inherited or chronic deficiencies in C3, C5-9, properdin, factor D, factor H, or taking eculizumab [Soliris]):**
  - **Menveo**
    - **Children who initiate vaccination at 8 weeks.** Administer doses at ages 2, 4, 6, and 12 months.
    - **Unvaccinated children who initiate vaccination at 7 through 23 months.** Administer 2 primary doses, with the second dose at least 12 weeks after the first dose AND after the first birthday.
    - **Children 24 months and older who have not received a complete series.** Administer 2 primary doses at least 8 weeks apart.
  - **MenHibrix**
    - **Children who initiate vaccination at 6 weeks.** Administer doses at ages 2, 4, 6, and 12 through 15 months.
    - **If the first dose of MenHibrix is given at or after age 12 months, a total of 2 doses should be given at least 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.**
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

- **Menactra**
  - **Children with anatomic or functional asplenia or HIV infection**
    - Children 24 months and older who have not received a complete series. Administer 2 primary doses at least 8 weeks apart. If Menactra is administered to a child with asplenia (including sickle cell disease) or HIV infection, do not administer Menactra until age 2 years and at least 4 weeks after the completion of all PCV13 doses.
  - **Children with persistent complement component deficiency**
    - Children 9 through 23 months. Administer 2 primary doses at least 12 weeks apart.
    - Children 24 months and older who have not received a complete series. Administer 2 primary doses at least 8 weeks apart.
  - **All high-risk children**
    - If Menactra is to be administered to a child at high risk for meningococcal disease, it is recommended that Menactra be given either before or at the same time as DTaP.

Meningococcal B vaccination of persons with high-risk conditions and other persons at increased risk of disease: Children with anatomic or functional asplenia (including sickle cell disease) or children with persistent complement component deficiency (includes persons with inherited or chronic deficiencies in C3, C5, properdin, factor D, factor H, or taking eculizumab [Soliris]):
  - Bexsero or Trumenba
    - Persons 10 years or older who have not received a complete series. Administer a 2-dose series of Bexsero, with doses at least 1 month apart, or a 3-dose series of Trumenba, with the second dose at least 1–2 months after the first and the third dose at least 6 months after the first. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses.

For serogroup B: Administer a 2-dose series of Bexsero, with doses at least 1 month apart, or a 3-dose series of Trumenba, with the second dose at least 1–2 months after the first and the third dose at least 6 months after the first. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses. For MenACWY booster doses among persons with high-risk conditions, refer to MMWR 2013;62(RR02):1-22, at www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm, MMWR June 20, 2014 / 63(24):527-530, at www.cdc.gov/mmwr/pdf/wk/mm6324.pdf, and MMWR November 4, 2016 / 65(43):1189-1194, at www.cdc.gov/mmwr/volumes/65/ww/pdfs/mm6543a3.pdf.

For other catch-up recommendations for these persons and complete information on use of meningococcal vaccines, including guidance related to vaccination of persons at increased risk of infection, see meningococcal MMWR publications, available at: www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html.

12. **Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. (Minimum age: 10 years for both Boostrix and Adacel)**

**Routine vaccination:**
- Administer 1 dose of Tdap vaccine to all adolescents aged 11 through 12 years.
- Tdap may be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
- Administer 1 dose of Tdap vaccine to pregnant adolescents during each pregnancy (preferably during the early part of gestational weeks 27 through 36), regardless of time since prior Td or Tdap vaccination.

**Catch-up vaccination:**
- Persons aged 7 years and older who are not fully immunized with DTaP vaccine should receive Tdap vaccine as 1 dose (preferably the first) in the catch-up series; if additional doses are needed, use Td vaccine. For children 7 through 10 years who receive a dose of Tdap as part of the catch-up series, an adolescent Tdap vaccine dose at age 11 through 12 years may be administered.
- 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.
- Inadvertent doses of DTaP vaccine:
  - If administered inadvertently to a child aged 7 through 10 years, the dose may count as part of the catch-up series. This dose may count as the adolescent Tdap dose, or the child may receive a Tdap booster dose at age 11 through 12 years.
  - If administered inadvertently to an adolescent aged 11 through 18 years, the dose should be counted as the adolescent Tdap booster.
  - For other catch-up guidance, see Figure 2.

13. **Human papillomavirus (HPV) vaccines. (Minimum age: 9 years for 4vHPV [Gardasil] and 9vHPV [Gardasil 9])**

**Routine and catch-up vaccination:**
- Administer a 2-dose series of HPV vaccine on a schedule of 0, 6–12 months to all adolescents aged 11 or 12 years. The vaccination series can start at age 9 years.
- Administer HPV vaccine to all adolescents through age 18 years who were not previously adequately vaccinated. The number of recommended doses is based on age at administration of the first dose.
- For persons initiating vaccination before age 15, the recommended immunization schedule is 2 doses of HPV vaccine at 0, 6–12 months.
- For persons initiating vaccination at age 15 years or older, the recommended immunization schedule is 3 doses of HPV vaccine at 0, 1–2, 6 months.
- A vaccine dose administered at a shorter interval should be readministered at the recommended interval.
  - In a 2-dose schedule of HPV vaccine, the minimum interval is 5 months between the first and second dose. If the second dose is administered at a shorter interval, a third dose should be administered a minimum of 12 weeks after the second dose and a minimum of 5 months after the first dose.
  - In a 3-dose schedule of HPV vaccine, the minimum intervals are 4 weeks between the first and second dose, 12 weeks between the second and third dose, and 5 months between the first and third dose. If a vaccine dose is administered at a shorter interval, it should be readministered after another minimum interval has been met since the most recent dose.

**Special populations:**
- For children with history of sexual abuse or assault, administer HPV vaccine beginning at age 9 years.
- Immunocompromised persons*, including those with human immunodeficiency virus (HIV) infection, should receive a 3-dose series at 0, 1–2, and 6 months, regardless of age at vaccine initiation.
- Note: HPV vaccination is not recommended during pregnancy, although there is no evidence that the vaccine poses harm. If a woman is found to be pregnant after initiating the vaccination series, no intervention is needed; the remaining vaccine doses should be delayed until after the pregnancy. Pregnancy testing is not needed before HPV vaccination.

*See MMWR December 16, 2016;65(49):1405-1408, available at www.cdc.gov/mmwr/volumes/65/ww/pdfs/mm6549a5.pdf.
# Vaccination of Persons with Primary and Secondary Immune Deficiencies

<table>
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<th>PRIMARY</th>
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<tr>
<td><strong>Category</strong></td>
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<td>T-lymphocyte (cell-mediated and humoral)</td>
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<tr>
<td>Complement</td>
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<td>Phagocytic function</td>
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<sup>1</sup> Other vaccines that are universally or routinely recommended should be given if not contraindicated.

<sup>2</sup> OPV is no longer available in the United States.

<sup>3</sup> Live bacterial vaccines: BCG, and Ty21a *Salmonella typhi* vaccine.

<sup>4</sup> Live viral vaccines: MMR, MMRV, OPV, LAIV, yellow fever, varicella, zoster, rotavirus, and vaccinia (smallpox). Smallpox vaccine is not recommended for children or the general public.

<sup>5</sup> Regarding T-lymphocyte immunodeficiency as a contraindication for rotavirus vaccine, data exist only for severe combined immunodeficiency.

<sup>6</sup> Pneumococcal vaccine is not indicated for children with chronic granulomatous disease beyond age-based universal recommendations for PCV. Children with chronic granulomatous disease are not at increased risk for pneumococcal disease.
## Vaccination of Persons with Primary and Secondary Immune Deficiencies

<table>
<thead>
<tr>
<th>Specific Immunodeficiency</th>
<th>Contrainindicated Vaccines</th>
<th>Risk-Specific Recommended Vaccines</th>
<th>Effectiveness &amp; Comments</th>
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<tbody>
<tr>
<td>HIV/AIDS</td>
<td>OPV&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Pneumococcal</td>
<td>MMR, varicella, rotavirus, and all inactivated vaccines, including inactivated influenza, might be effective.&lt;sup&gt;4&lt;/sup&gt;</td>
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<tr>
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<td>Withhold MMR and varicella in severely immunocompromised persons.</td>
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<td>Yellow fever vaccine might have a contraindication or a precaution depending on clinical parameters of immune function.&lt;sup&gt;3&lt;/sup&gt;</td>
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<td>Malignant neoplasm, transplantation, immunosuppressive or radiation therapy</td>
<td>Live viral and bacterial, depending on immune status.&lt;sup&gt;5,6&lt;/sup&gt;</td>
<td>Pneumococcal</td>
<td>Effectiveness of any vaccine depends on degree of immune suppression.</td>
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<td>Pneumococcal</td>
<td>All routine vaccines likely effective.</td>
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</table>

1 Other vaccines that are universally or routinely recommended should be given if not contraindicated.
2 OPV is no longer available in the United States.
3 Symptomatic HIV infection or CD4+ T-lymphocyte count of <200/mm<sup>3</sup> or <15% of total lymphocytes for children <6 years of age is a contraindication to yellow fever vaccine administration. Asymptomatic HIV infection with CD4+ T-lymphocyte count of 200 to 499/ mm<sup>3</sup> for persons ≥6 years of age or 15% to 24% of total lymphocytes for children <6 years of age is a precaution for yellow fever vaccine administration. Details of yellow fever vaccine recommendations are available from CDC. (CDC. Yellow Fever Vaccine: Recommendations of the ACIP. MMWR 2010:59 [No. RR-7].)
4 HIV-infected children should receive IG after exposure to measles, and may receive varicella, measles, and yellow fever vaccine if CD4+ T-lymphocyte count is ≥15%.
5 Live bacterial vaccines: BCG, and Ty21a *Salmonella typhi* vaccine.
6 Live viral vaccines: MMR, MMRV, OPV, LAIV, yellow fever, varicella, zoster, rotavirus, and vaccinia (smallpox). Smallpox vaccine is not recommended for children or the general public.
7 Indicated based on the risk from dialysis-based bloodborne transmission.

Adapted from Table 13, ACIP General Recommendations on Immunization. January 2011

Centers for Disease Control and Prevention
Epidemiology and Prevention of Vaccine-Preventable Diseases, 13th Edition
April, 2015
# INTERNATIONAL TRAVEL VACCINE CLINICS in OKLAHOMA

<table>
<thead>
<tr>
<th>City</th>
<th>Clinic Name</th>
<th>Address</th>
<th>Contact Information</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken Arrow</td>
<td>Passport Health of Oklahoma</td>
<td>1615 S. Eucalyptus Ave., #206, Broken Arrow, OK 74012</td>
<td>(918) 770-4290</td>
<td><a href="http://www.passporthealthok.com">http://www.passporthealthok.com</a></td>
</tr>
<tr>
<td>Claremore</td>
<td>Claremore Physicians Immediate Care</td>
<td>1926 S. Highway 66, Claremore, OK 74010</td>
<td>(918) 343-2273</td>
<td><a href="http://claremoreimmediatecare.com">http://claremoreimmediatecare.com</a></td>
</tr>
<tr>
<td>Clinton</td>
<td>Salisbury Pharmacy</td>
<td>815 Frisco Ave., Clinton, OK 73601</td>
<td>(580) 323-1244</td>
<td><a href="http://salisburyrx.com">http://salisburyrx.com</a></td>
</tr>
<tr>
<td>Elk City</td>
<td>United Pharmacy # 362</td>
<td>2700 W. 3rd Street, Elk City, OK 73644</td>
<td>(580) 225-1600</td>
<td><a href="http://salisburyrx.com">http://salisburyrx.com</a></td>
</tr>
<tr>
<td>Enid</td>
<td>Garfield County Health Department</td>
<td>2501 Mercer Dr., Enid, OK 73701-8602</td>
<td>(580) 233-0650</td>
<td><a href="http://www.ok.gov/health/County_HEALTH_Departments/Garfield_County.Health_Department/">http://www.ok.gov/health/County_HEALTH_Departments/Garfield_County.Health_Department/</a></td>
</tr>
<tr>
<td>Guymon</td>
<td>Texas County Health Department</td>
<td>2600 N.E. 63rd St., Oklahoma City, OK 73111</td>
<td>(405) 419-4090</td>
<td><a href="http://www.ok.gov/health/County_Health_Departments/Texas.County_Health_Department/">http://www.ok.gov/health/County_Health_Departments/Texas.County_Health_Department/</a></td>
</tr>
<tr>
<td>Ponca City</td>
<td>Family Discount Pharmacy</td>
<td>310 Fairview, Ponca City, OK 74066</td>
<td>(580) 762-6335</td>
<td><a href="http://familydiscountpharmacy.com">http://familydiscountpharmacy.com</a></td>
</tr>
<tr>
<td>Oklahoma City</td>
<td>University of Oklahoma Dept. of Family Medicine</td>
<td>900 N.E. 10th St., Oklahoma City, OK 73104</td>
<td>(405) 271-2577</td>
<td><a href="http://www.uomd.ouhsc.edu/familymedicine">http://www.uomd.ouhsc.edu/familymedicine</a></td>
</tr>
<tr>
<td>Oklahoma City</td>
<td>Oklahoma City County Health Department</td>
<td>3330 N.W. 58th Street, #106, Oklahoma City, OK 73112</td>
<td>(405) 563-8961</td>
<td><a href="http://www.occhd.org/">http://www.occhd.org/</a></td>
</tr>
<tr>
<td>Norman</td>
<td>Physicains &amp; Surgeons Pharmacy</td>
<td>900 N. Porter, Norman, OK 73071</td>
<td>(405) 364-5222</td>
<td><a href="http://www.travelclinicsofamerica.com">http://www.travelclinicsofamerica.com</a></td>
</tr>
<tr>
<td>Oklahoma City</td>
<td>Visiting Nurse Association</td>
<td>3000 United Founders Blvd., #109G, Oklahoma City, OK 73112</td>
<td>(405) 848-9530</td>
<td><a href="http://www.vnatulsa.org">http://www.vnatulsa.org</a></td>
</tr>
</tbody>
</table>

*Updated 6-29-2016*
Sapulpa
Med-World Pharmacy
14 S. Mission St.
Sapulpa, OK 74066
(918) 227-2010
Walk-in:
9:00 am - 6:00pm  Monday – Friday
Website: http://sapulpapharmacy.com/

Shawnee
The Clinic Pharmacy
3210 Kethley Road
Shawnee, OK 74804
(405) 273-9417
Walk-in:
8:00 am – 7:00 pm  Monday – Friday
8:00 am – 5:00 pm  Saturday
1:00 pm – 5:00 pm  Sunday
Website: http://www.shawneeregionalpharmacy.com/

Stillwater
Razook’s Drug
1518 W. 9th Ave.
Stillwater, OK 74074
(405) 377-4445
Call for information on hours of operation
Website: http://razooksdrug.com/

Tiger Drug Company
825 S. Walnut
Stillwater, OK  74074
(405) 372-7900
By Appointment or Walk-in
https://www.facebook.com/TigerDrug

Stilwell
Dr. Jimmie W. Taylor
735 W. Locust Highway 100 West
Stilwell, OK  74960
(918) 966-3155
By Appointment Only

Tulsa
Caring Nurses Association
5520 S. Memorial
Tulsa, OK  74145
(918) 992-6266
Walk In & By Appointment:
8:30 am - 4:00 pm  Monday - Friday

Concentra Medical Centers
1541 North Sheridan
Tulsa, OK  74115
(918) 836-5406
By Appointment Only

Children & Adolescent Medical Services
8803 S. 101st East Ave. Suite 200
Tulsa, OK
(918) 307-2273
By Appointment Only

International Travel Medicine
Dr. Stanley Grogg & Dr. Ruth Miller
8803 S. 101st East Ave.
Tulsa, OK  74133
(918) 633-2542
By Appointment Only
Website: www.travelmedicine.com

National Occupational Health Services
6848 E. 41st St.
Tulsa, OK  74145
(918) 794-4777
By Appointment Only
Website: www.nohs.com

Oklahoma State University Medical Clinic
700 North Greenwood
North Hall No. 265
Tulsa, OK  74106
(918) 594-8926
By Appointment Only

Premise Health Clinic – AA Tulsa
3900 N. Mingo Road
Turbine Bldg. MD 4
Tulsa, OK 74116
(918) 292-3250
By Appointment Only

Tulsa City-County Health Department
Sites
Caring Van
315 South Utica
Tulsa, OK 74107
(918) 595-4146

James O. Goodwin Regional Health Center
5051 S. 129th E. Ave.
Tulsa, OK 74134
(918) 595-4107

North Regional Health and Wellness Center
5635 N. Martin Luther King Jr. Blvd.
Tulsa, OK 74126
(918) 595-4107

All Tulsa City-County Health Department Sites are by Appointment and Walk-In as Schedule Allows
Website: www.tulsa-health.org/

Yale
Yale Drug
121 N. Main St.
Yale, OK 74085
(918) 387-4183
Walk-In:
8:30 am -5:30 pm  Monday - Friday.
8:30 am – 12:00 pm  Saturday
Website: http://www.yaledrug.com/