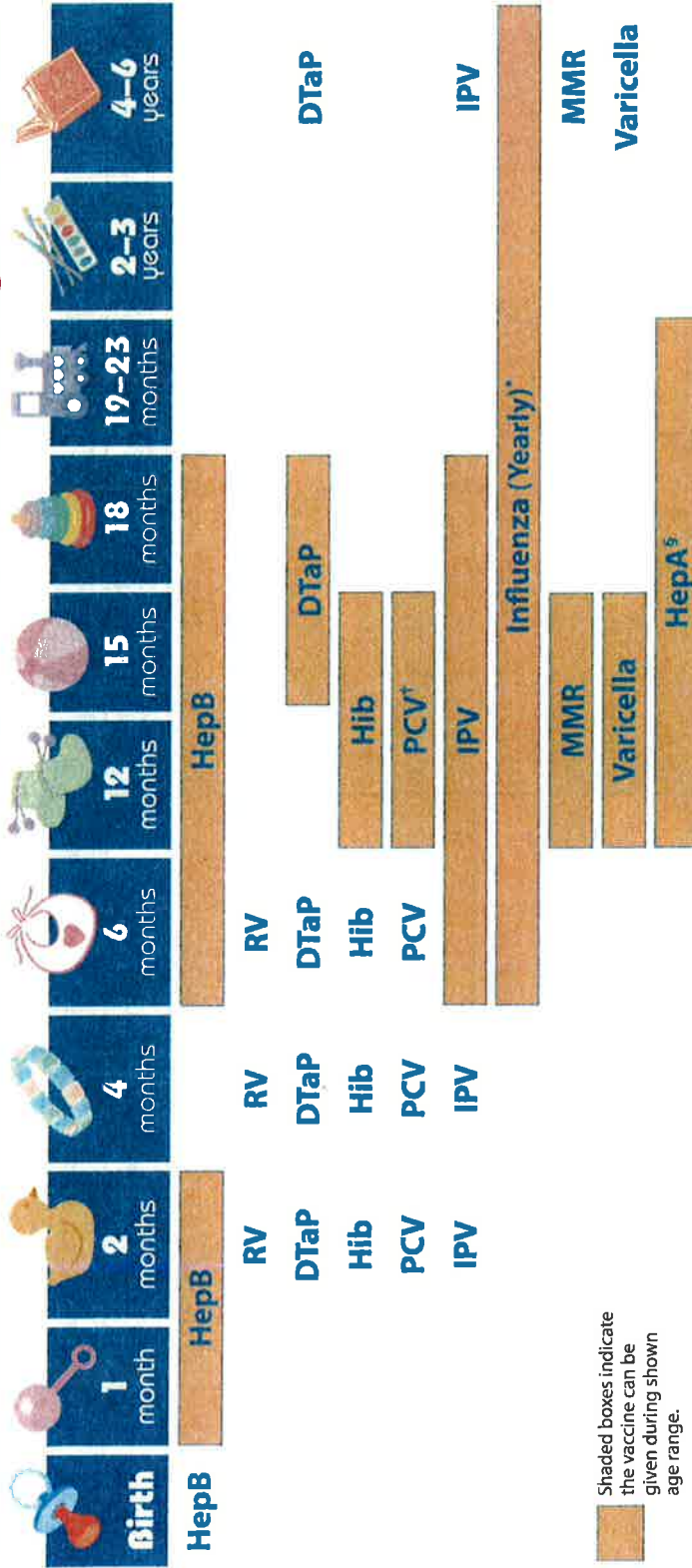


# Immunizations for Children from Birth through 6 Years

## 2012 Recommended Immunizations for Children from Birth Through 6 Years Old



Shaded boxes indicate the vaccine can be given during shown age range.

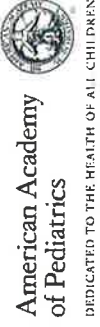
**NOTE:** If your child misses a shot, you don't need to start over, just go back to your child's doctor for the next shot. The doctor will keep your child up-to-date on vaccinations. Talk with your doctor if you have questions.

### FOOTNOTES

- † Children 2 years old and older with certain medical conditions may need a dose of pneumococcal vaccine (PPSV) and meningococcal vaccine (MCV4). See vaccine-specific recommendations at <http://www.cdc.gov/vaccines/pubs/ACIP-1st.htm>.
- \* Two doses given at least four weeks apart are recommended for children aged 6 months through 8 years of age who are getting a flu vaccine for the first time.
- § Two doses of HepA vaccine are needed for lasting protection. The first dose of HepA vaccine should be given between 12 months and 23 months of age. The second dose should be given 6 to 18 months later. HepA vaccination may be given to any child 12 months and older to protect against HepA. Children and adolescents who did not receive the HepA vaccine and are at high-risk, should be vaccinated against HepA.



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



For more information, call toll free  
**1-800-CDC-INFO** (1-800-232-4636)  
or visit  
<http://www.cdc.gov/vaccines>

# Immunizations for Children from Birth through 6 Years Old

## Vaccine-Preventable Diseases and the Vaccines that Prevent Them

Disease	Vaccine	Disease spread by	Disease symptoms	Disease complications
<b>Chickenpox</b>	Varicella vaccine protects against chickenpox.	Air, direct contact	Rash, tiredness, headache, fever	Infected blisters, bleeding disorders, encephalitis (brain swelling), pneumonia (infection in the lungs)
<b>Diphtheria</b>	DTaP* vaccine protects against diphtheria.	Air, direct contact	Sore throat, mild fever, weakness, swollen glands in neck	Swelling of the heart muscle, heart failure, coma, paralysis, death
<b>Hib</b>	Hib vaccine protects against <i>Haemophilus influenzae</i> type b.	Air, direct contact	May be no symptoms unless bacteria enter the blood	Meningitis (infection of the covering around the brain and spinal cord), mental retardation, epiglottitis (life-threatening infection that can block the windpipe and lead to serious breathing problems) and pneumonia (infection in the lungs), death
<b>HepA</b>	HepA vaccine protects against hepatitis A.	Personal contact, contaminated food or water	May be no symptoms, fever, stomach pain, loss of appetite, fatigue, vomiting, jaundice (yellowing of skin and eyes), dark urine	Liver failure
<b>HepB</b>	HepB vaccine protects against hepatitis B.	Contact with blood or body fluids	May be no symptoms, fever, headache, weakness, vomiting, jaundice (yellowing of skin and eyes), joint pain	Chronic liver infection, liver failure, liver cancer
<b>Flu</b>	Flu vaccine protects against influenza.	Air, direct contact	Fever, muscle pain, sore throat, cough, extreme fatigue	Pneumonia (infection in the lungs)
<b>Measles</b>	MMR** vaccine protects against measles.	Air, direct contact	Rash, fever, cough, runny nose, pinkeye	Encephalitis (brain swelling), pneumonia (infection in the lungs), death
<b>Mumps</b>	MMR** vaccine protects against mumps.	Air, direct contact	Swollen salivary glands (under the jaw), fever, headache, tiredness, muscle pain	Meningitis (infection of the covering around the brain and spinal cord), encephalitis (brain swelling), inflammation of testicles or ovaries, deafness
<b>Pertussis</b>	DTaP* vaccine protects against pertussis (whooping cough).	Air, direct contact	Severe cough, runny nose, apnea (a pause in breathing in infants)	Pneumonia (infection in the lungs), death
<b>Polio</b>	IPV vaccine protects against polio.	Through the mouth	May be no symptoms, sore throat, fever, nausea, headache	Paralysis, death
<b>Pneumococcal</b>	PCV vaccine protects against pneumococcus.	Air, direct contact	May be no symptoms, pneumonia (infection in the lungs)	Bacteremia (blood infection), meningitis (infection of the covering around the brain and spinal cord), death
<b>Rotavirus</b>	RV vaccine protects against rotavirus.	Through the mouth	Diarrhea, fever, vomiting	Severe diarrhea, dehydration
<b>Rubella</b>	MMR** vaccine protects against rubella.	Air, direct contact	Children infected with rubella virus sometimes have a rash, fever, and swollen lymph nodes.	Very serious in pregnant women—can lead to miscarriage, stillbirth, premature delivery, and birth defects
<b>Tetanus</b>	DTaP* vaccine protects against tetanus.	Exposure through cuts in skin	Stiffness in neck and abdominal muscles, difficulty swallowing, muscle spasms, fever	Broken bones, breathing difficulty, death

\* DTaP is a combination vaccine that protects against diphtheria, tetanus, and pertussis.

\*\* MMR is a combination vaccine that protects against measles, mumps, and rubella.

# Immunizations for Children from 7 through 18 Years Old

## 2012 Recommended Immunizations for Children from 7 Through 18 Years Old



### FOOTNOTES

- <sup>1</sup> Tdap vaccine is combination vaccine that is recommended at age 11 or 12 to protect against tetanus, diphtheria and pertussis. If your child has not received any or all of the DTap vaccine series, or if you don't know if your child has received these shots, your child needs a single dose of Tdap when they are 7-10 years old. Talk to your child's health care provider to find out if they need additional catch-up vaccines.
- <sup>2</sup> All 11 or 12 year olds – both girls and boys – should receive 3 doses of HPV vaccine to protect against HPV-related disease. Either HPV vaccine (Cervarix\* or Gardasil\*) can be given to girls and young women; only one HPV vaccine (Gardasil\*) can be given to boys and young men.
- <sup>3</sup> Meningococcal conjugate vaccine (MCV) is recommended at age 11 or 12. A booster shot is recommended at age 16. Teens who received MCV for the first time at age 13 through 15 years will need a one-time booster dose between the ages of 16 and 18 years. If your teenager missed getting the vaccine altogether, ask their health care provider about getting it now, especially if your teenager is about to move into a college dorm or military barracks.
- <sup>4</sup> Everyone 6 months of age and older—including preteens and teens—should get a flu vaccine every year. Children under the age of 9 years may require more than one dose. Talk to your child's health care provider to find out if they need more than one dose.
- <sup>5</sup> A single dose of Pneumococcal Conjugate Vaccine (PCV13) is recommended for children who are 6-18 years old with certain medical conditions that place them at high risk. Talk to your healthcare provider about pneumococcal vaccine and what factors may place your child at high risk for pneumococcal disease.
- <sup>6</sup> Hepatitis A vaccination is recommended for older children with certain medical conditions that place them at high risk. HepA vaccine is licensed, safe, and effective for all children of all ages. Even if your child is not at high risk, you may decide you want your child protected against HepA. Talk to your healthcare provider about HepA vaccine and what factors may place your child at high risk for HepA.



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# Immunizations for Children from 7 through 18 Years Old

## Vaccine-Preventable Diseases and the Vaccines that Prevent Them

### **Diphtheria** (Can be prevented by Tdap vaccine)

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 from an infected person's cough or sneeze. 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, the illness can cause coma, paralysis, and even death.

### **Hepatitis A** (Can be prevented by HepA vaccine)

Hepatitis A is an infection in the liver caused by hepatitis A virus. The virus is spread primarily 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 exchange of 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 is a common virus. HPV is most common in people in their teens and early 20s. It is the major cause of cervical cancer in women and genital warts in women and men. The strains of HPV that cause cervical cancer and genital warts are spread during sex.

### **Influenza** (Can be prevented by annual flu vaccine)

Influenza is a highly contagious viral infection of the nose, throat, and lungs. The virus spreads easily through droplets when an infected person coughs or sneezes and can cause mild to severe illness. Typical symptoms include a sudden high fever, chills, a dry cough, headache, runny nose, sore throat, and muscle and joint pain. Extreme fatigue can last from several days to weeks. Influenza may lead to hospitalization or even death, even among previously healthy children.

### **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 can persist, rash can last for up to a week, and coughing can last about 10 days. Measles can also cause pneumonia, seizures, brain damage, or 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. The bacteria are spread through the exchange of nose and throat droplets, such as when 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, fever, muscle aches, tiredness, and loss of appetite. Severe complications for children who get mumps are uncommon, 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 rarely can lead to sterility in men.

### **Pertussis (Whooping Cough)** (Can be prevented by Tdap vaccine)

Pertussis is caused by bacteria spread through direct contact with respiratory droplets when an infected person coughs or sneezes. In the beginning, symptoms of pertussis are similar to the common cold, including runny nose, sneezing, and cough. After 1-2 weeks, pertussis can cause spells of violent coughing and choking, making it hard to breathe, drink, or eat. This cough can last for weeks. Pertussis is most serious for babies, who can get pneumonia, have seizures, become brain damaged, or even die. About two-thirds of children under 1 year of age who get pertussis must be hospitalized.

### **Pneumococcal Disease**

(Can be prevented by Pneumococcal vaccine)

Pneumonia is an infection of the lungs that can be caused by the bacteria called pneumococcus. This bacteria can cause other types of infections too, such as ear infections, sinus infections, meningitis (infection of the covering around the brain and spinal

cord), bacteremia and sepsis (blood stream infection). Sinus and ear infections are usually mild and are much more common than the more severe forms of pneumococcal disease. However, in some cases pneumococcal disease can be fatal or result in long-term problems, like brain damage, hearing loss and limb loss. Pneumococcal disease spreads when people cough or sneeze. Many people have the bacteria in their nose or throat at one time or another without being ill—this is known as being a carrier.

### **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 may 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, serious heart defects, mental retardation and loss of hearing and eye sight.

### **Tetanus (Lockjaw)** (Can be prevented by Tdap vaccine)

Tetanus is caused by bacteria found in soil. The bacteria enters 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, sneeze. It can also spread from the blisters on the skin, either by touching them or by breathing in these 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), or even death.

If you have any questions about your child's vaccines, talk to your healthcare provider.