

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

Dept of Community Health

7-10 YEARS	11-12 YEARS	13-18 YEARS
Tdap <sup>1</sup>	Tetanus, Diphtheria, Pertussis (Tdap) Vaccine	Tdap
MCV4	Human Papillomavirus (HPV) Vaccine (3 Doses) <sup>2</sup> Meningococcal Conjugate Vaccine (MCV4) Dose 1 <sup>3</sup>	HPV MCV4 Dose 1 <sup>3</sup> Booster at age 16 Years
Influenza (Yearly) <sup>4</sup>		
Pneumococcal Vaccine <sup>5</sup>		
Hepatitis A (HepA) Vaccine Series <sup>6</sup>		
Hepatitis B (HepB) Vaccine Series		
Inactivated Polio Vaccine (IPV) Series		
Measles, Mumps, Rubella (MMR) Vaccine Series		
Varicella Vaccine Series		

 These shaded boxes indicate when the vaccine is recommended for all children unless your doctor tells you that your child cannot safely receive the vaccine.

 These shaded boxes indicate the vaccine should be given if a child is catching-up on missed vaccines.

 These shaded boxes indicate the vaccine is recommended for children with certain health conditions that put them at high risk for serious diseases. Note that healthy children **can** get the HepA series<sup>6</sup>. See vaccine-specific recommendations at [www.cdc.gov/vaccines/pubs/ACIP-list.htm](http://www.cdc.gov/vaccines/pubs/ACIP-list.htm).

## 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<sup>®</sup> or Gardasil<sup>®</sup>) can be given to girls and young women; only one HPV vaccine (Gardasil<sup>®</sup>) 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.

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



U.S. Department of Health and Human Services  
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American Academy of Pediatrics



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## 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.**

Bill to Change School Reporting Requirement for Immunization from 6<sup>th</sup> Grade to 7<sup>th</sup> Grade.

**Background:**

- School reporting requirements have been in place for many years and have been one of the key factors to the dramatic decreases in vaccine preventable diseases in Michigan and across the country.
- Since 1978, Michigan law requires that each student upon entry into kindergarten or into a new school district involving grades 1-12 possess a certificate of immunization or a signed waiver at the time of registration.
- Public Act 89 in 2000 mandated that an immunization assessment be completed for each sixth grade student. The above laws (which amend the *Revised School Code*, the *Public Health Code*, and the *State School Aid Act*) were implemented to ensure that children are adequately immunized against vaccine preventable diseases prior to achieving adolescence for vaccines recommended for children.
- Since 2005, newer vaccines were licensed and became recommended to prevent diseases occurring in adolescence, such as pertussis, meningitis, influenza and HPV.
- In 2010, Tdap (tetanus, diphtheria, and pertussis) and Meningococcal vaccines were added to the existing Michigan school rules and required for all students entering 6<sup>th</sup> grade if they were at least 11 years of age at the time they entered 6<sup>th</sup> grade.

**Issues:**

- Tdap and Meningococcal vaccines are routinely recommended at 11 through 12 years of age. Some 6<sup>th</sup> grade students enter the program at 10 years of age before the vaccines are routinely recommended.
- Since school reporting is done at time of registration, students who enter 6<sup>th</sup> grade who are only 10 years of age may never be required to receive the vaccines and therefore are at risk of becoming ill.
- Schools, accustomed to sorting students by grade, find it difficult to track students who enter the program at 10 years of age and those who enter at 11 years of age.
- There is a short turnaround time for school staff to remind students/parents that the vaccine is required since the student may have just turned 11 years of age before entering sixth grade.
- Healthcare providers have had to establish quick turnaround appointment times for immunizations at school entry, creating large amounts of patients at back to school time.
- 24 states currently have a 7<sup>th</sup> grade requirement for immunizations.

**Solution:**

- Removing the 6<sup>th</sup> grade requirement and changing to a 7<sup>th</sup> grade requirement benefits all stakeholders; schools, physicians, and local health departments.
- Allows physicians to plan well child visits for adolescents, as well as immunizing them, and have more flexibility to vaccinate within the entire 11-12 year old window instead of pushing vaccinations at earlier ages.
- Allow schools to send notices during the prior school year to better prepare families.
- Almost all 7<sup>th</sup> grade students will be required to receive the vaccines since most students are 11-12 years of age. The Michigan Department of Education and the Michigan Advisory Committee on Immunizations (MACI) has supported this change for schools.
- The first year transition would be made easy by having most of the students who are in 7<sup>th</sup> grade complete since they were assessed as 6<sup>th</sup> grade students.