



Growing Up with Vaccines: What Should Parents Know?

Why Vaccinate?

On-time vaccination throughout childhood is essential because it helps provide immunity *before* children are exposed to potentially life-threatening diseases. Vaccines are tested to ensure that they are safe and effective for children to receive at the recommended ages.

Pregnancy

By staying up to date with vaccines before and during pregnancy, you can pass along immunity that will help protect your baby from some diseases during the first few months after birth.

Vaccines given before pregnancy may also help protect you from serious disease while you are pregnant, including rubella, which can cause miscarriages and birth defects.

Recommended vaccines:

- ☐ **Measles, mumps, rubella (MMR) vaccine:** At least a month before becoming pregnant
- ☐ **Tetanus, diphtheria, and pertussis (Tdap) vaccine:** During the third trimester of every pregnancy
- ☐ **Yearly seasonal flu vaccine:** By the end of October, if possible



Infant and Toddler Years: Birth to Age 2



Vaccination helps give infants and toddlers a healthy start.

More than one dose is necessary for many vaccines, to build and boost immunity.

Because influenza viruses are constantly changing and the body's immune response declines over time, everyone over the age of 6 months needs a flu shot every year.

Recommended vaccines:

- ☐ **Chickenpox (varicella) vaccine:** At 12 through 15 months
- ☐ **Diphtheria, tetanus, and pertussis (DTaP) vaccine:** At 2 months, 4 months, 6 months, and 15 through 18 months
- ☐ **Flu vaccine:** Every year by the end of October, if possible, starting at 6 months
- ☐ **Haemophilus influenzae type b (Hib) vaccine:** At 2 months, 4 months, 6 months (if needed; depends on brand), and 12 through 15 months
- ☐ **Hepatitis A vaccine:** At 12 through 23 months and a second dose 6 months following first dose
- ☐ **Hepatitis B vaccine:** Shortly after birth, at 1 through 2 months, and at 6 through 18 months
- ☐ **Measles, mumps, rubella (MMR) vaccine:** At 12 through 15 months; however, infants 6 through 11 months old should have one dose of MMR vaccine before traveling abroad
- ☐ **Pneumococcal (PCV13) vaccine:** At 2 months, 4 months, 6 months, and 12 through 15 months
- ☐ **Polio (IPV) vaccine:** At 2 months, 4 months, and 6 through 18 months
- ☐ **Rotavirus (RV) vaccine:** At 2 months and 4 months (for Rotarix brand); or 2 months, 4 months, and 6 months (for RotaTeq brand)

Preschool and Elementary School Years: Ages 3 through 10

Your child needs additional doses of some vaccines from ages 3 through 6.

You may need a certificate of immunization to enroll your child in school.

Recommended vaccines:

- ☐ **Chickenpox (varicella) vaccine:** At 4 through 6 years
- ☐ **Diphtheria, tetanus, and pertussis (DTaP) vaccine:** At 4 through 6 years
- ☐ **Flu vaccine:** Every year by the end of October, if possible
- ☐ **Measles, mumps, rubella (MMR) vaccine:** At 4 through 6 years
- ☐ **Polio (IPV) vaccine:** At 4 through 6 years



Preteen and Teen Years: Ages 11 through 18

As protection from childhood vaccines wears off, adolescents need additional vaccines to extend protection.

Adolescents need protection from additional infections as well, before the risk of exposure increases.

As your child heads to college, make sure all vaccinations are up to date and he or she has a copy of all immunization records.

If your child travels outside of the United States, [check](#) if he or she needs any additional vaccines.

Recommended vaccines:

- ☐ **Flu vaccine:** Every year by the end of October, if possible
- ☐ **Human papillomavirus (HPV) vaccine:** At 11 through 12 years and a second dose 6-12 months following the first dose
- ☐ **Meningococcal conjugate vaccine:** At 11 through 12 years and at 16 years
- ☐ **Serogroup B meningococcal vaccine:** May be given at 16 through 23 years; if interested, talk to your child's doctor
- ☐ **Tetanus, diphtheria, and pertussis (Tdap) vaccine:** At 11 through 12 years



Into Adulthood

Everyone should get a flu vaccine every year before the end of October, if possible.

Adults need a Td vaccine every ten years.

Healthy adults 50 years and older should get shingles vaccine.

Adults 65 years or older need one dose of pneumococcal conjugate vaccine followed by one dose of pneumococcal polysaccharide vaccine.

Adults younger than 65 years who have certain health conditions like heart disease, diabetes, cancer, or HIV should also get one or both of these vaccines.

Adults may need other vaccines based on health conditions, job, lifestyle, or travel habits.



More About Childhood & Adolescent Vaccines



Chickenpox (varicella) vaccine

Varicella vaccine protects against chickenpox, which can be serious and even life-threatening, especially in babies, adults, and people with weakened immune systems. Symptoms include tiredness, a fever, and an itchy rash of blisters.

Diphtheria, tetanus, and pertussis (DTaP) vaccine

DTaP vaccine protects against three serious diseases:

- Diphtheria is a serious infection that causes a thick covering in the back of the nose or throat. It can lead to difficulty breathing, heart failure, paralysis, and even death.
- Tetanus is a potentially deadly infection that causes painful muscle stiffness and lockjaw.
- Whooping cough, or pertussis, is a highly contagious disease known for uncontrollable, violent coughing that often makes it hard to breathe. It can be deadly for babies.

Flu vaccine

Seasonal flu vaccine protects against flu, a potentially serious, contagious respiratory illness caused by influenza viruses. Changes in immune, heart, and lung functions during pregnancy make pregnant women more likely to get seriously ill from the flu. The flu may also increase the chances that the developing baby will have serious problems. Everyone 6 months and older should get a flu vaccine every year by the end of October, if possible.

Haemophilus influenzae type b (Hib) vaccine

Hib vaccine protects against Hib disease, which ranges from mild ear infections to serious bloodstream infections, pneumonia (infection in the lungs), and meningitis (infection of the covering around the brain and spinal cord). Hib disease can cause brain damage, hearing loss, or even death.

Hepatitis A vaccine

Hepatitis A vaccine protects against a serious, contagious liver disease caused by the hepatitis A virus. Symptoms can include fever, loss of appetite, tiredness, stomach pain, vomiting, dark urine, and yellow skin and eyes. Infected children may not have symptoms, but may still pass the disease to others.

Hepatitis B vaccine

Hepatitis B vaccine protects against hepatitis B, a virus that can cause chronic swelling of the liver and possible lifelong complications. Nine out of 10 infants who contract hepatitis B from their mothers become chronically infected.

Human papillomavirus (HPV) vaccine

HPV vaccine protects against a common infection that can cause certain cancers in men and women. While most HPV infections go away on their own, infections that don't go away can cause

- cancers of the cervix, vagina, and vulva in women;
- cancers of the penis in men;
- and cancers of the anus and back of the throat (oropharynx) in men and women.

Some HPV infections can also cause genital warts.

Measles, mumps, rubella (MMR) vaccine

Measles, mumps, rubella (MMR) vaccine protects against three serious diseases:

- The measles virus can cause a fever that can get very high, a distinctive rash, cough, runny nose, and red eyes. Sometimes, it can also cause diarrhea and ear infection. It can also lead to pneumonia (infection in the lungs), brain damage, deafness, and death.
- Mumps typically starts with a fever, headache, muscle aches, tiredness, and loss of appetite. Then, most people's salivary glands swell, which causes puffy cheeks and a swollen jaw. Mumps is pretty mild in most people but can sometimes cause lasting problems, such as deafness, meningitis (infection of the covering around the brain and spinal cord), and swelling of the brain, testicles, ovaries, or breasts.
- Rubella may cause a rash or fever, but many people have no symptoms. Rubella can cause miscarriage or serious birth defects in a developing baby if a woman is infected while she is pregnant. Infected children can spread rubella to pregnant women.

Meningococcal conjugate vaccine

Meningococcal conjugate vaccine protects against some types of meningococcal bacteria, which can cause serious and even deadly infections, including meningitis (infection of the covering around the brain and spinal cord) and bloodstream infections.

Pneumococcal conjugate vaccine (PCV13) and pneumococcal polysaccharide vaccine (PPSV23)

PCV13 protects against 13 strains of pneumococcal bacteria and PPSV23 protects against 23 strains of pneumococcal bacteria. Both vaccines provide protection against illnesses like meningitis and bacteremia. PCV13 also provides protection against pneumonia. Talk to your doctor and child's doctor about which vaccines they recommend.

Polio (IPV) vaccine

IPV vaccine protects against polio, a highly infectious disease caused by a virus that can invade the brain and spinal cord. Polio can cause lifelong paralysis and even death.

Rotavirus (RV) vaccine

RV vaccine protects against a contagious virus that causes severe diarrhea, often with vomiting, fever, and abdominal pain, requiring hospitalization. It is most common in infants and young children. Adults who get rotavirus tend to have milder symptoms.

Serogroup B meningococcal vaccine

Serogroup B meningococcal vaccine protects against one type of meningococcal bacteria, which can cause serious and even deadly infections, including meningitis (infection of the covering around the brain and spinal cord) and bloodstream infections.

Tetanus, diphtheria, and pertussis (Tdap) vaccine

Tdap vaccine is a booster vaccine that protects older children and adults from tetanus, diphtheria, and pertussis (whooping cough). When you get Tdap vaccine during pregnancy, your body will create protective antibodies against whooping cough and pass some of them to your baby before birth, providing some short-term, early protection.