

# Vaccines - Dangerous Infections They Prevent

## Definition

- Vaccines can protect your child from 17 severe infections.
- In the past, these infections killed thousands of children each year.
- In the present, vaccinated children rarely get them. But they are still around.
- Vaccines are also called immunizations.
- **Updated for COVID-19: April 6, 2022** (version 7)

## Health Information

### Vaccines Compared to Antibiotics.

- Vaccines are the best tool we have to prevent serious infections.
- Vaccines wiped out smallpox in the world. Polio is almost gone
- With greater antibiotic resistance, vaccines against bacteria are even more important.
- Disease experts state that vaccines are 1000 times more powerful than antibiotics.
- Here is the reason: vaccines turn on the human immune system. They make antibodies in the body that last a lifetime. Antibiotics only help while you are taking them.

### Vaccine Schedule

- The Centers for Disease Control (CDC) creates the policy for when shots are given. This is followed across the country. The vaccine schedule is updated each year. Any changes are based on research and review by expert panels.
- The American Academy of Pediatrics (AAP) suggests the same schedule.
- Most vaccines are given as shots in the legs of young children. Older children can have the shots in their arms.
- Baby shots start at 2 months and are done by 18 months. There also is one shot given to newborns to prevent hepatitis B.
- Booster shots are given once between 4 and 6 years.
- Teen shots are given between 11 and 12 years.
- Flu shots are needed each year.
- The up-to-date vaccine schedule can be viewed on [www.cdc.gov/vaccines/schedule](http://www.cdc.gov/vaccines/schedule)
- Try to keep your child's vaccine shots up-to-date.

## Care Advice

### Infections that are Prevented by Vaccines

#### 1. **Chickenpox (Varicella)**

- Viral illness.
- It causes a widespread rash with sores and fever.
- Complications: serious skin infections such as flesh-eating Strep. These are caused by bacteria. Also blood infections, pneumonia or brain infections.
- The shot also lowers the risk of shingles later in life.
- The shot is given at 1 year.

2. **COVID-19:**
  - The virus that started a deadly worldwide pandemic in 2020-2022.
  - Mainly attacks the lungs. Many serious complications. About 2 per 1000 people die.
  - The vaccine is safe and very effective.
  - The vaccine prevents most infections. Any breakthrough infections are usually mild.
  - The vaccine prevents almost all severe illness, hospital admissions and deaths.
3. **Diphtheria (in the DTaP or Tdap shot)**
  - Bacterial infection of the throat and tonsils.
  - Complications: trouble breathing due to blockage of the airway. Can result in death. It also can cause heart damage and paralyzed muscles.
  - The shot is started at 2 months.
4. **Haemophilus influenzae type b (Hib)**
  - Bacterial infection.
  - Complications: it's one of the bacteria that causes meningitis (spinal cord and brain infections). Meningitis can leave patients mentally retarded, blind, deaf, or with cerebral palsy. It also can cause pneumonia and blood infections. Also can cause swelling around the voicebox (epiglottitis). This can cause airway blockage and sometimes death.
  - The shot is started at 2 months.
5. **Hepatitis A (Hep A)**
  - Viral infection of the liver.
  - Causes jaundice, vomiting, fever.
  - Complications: liver failure.
  - The shot is started at 1 year.
6. **Hepatitis B (Hep B)**
  - Viral infection of the liver.
  - Complications: severe liver damage 20 or 30 years after a person is first infected.
  - Hepatitis B can cause liver cancer or cirrhosis. More than 5000 adults die each year in the U.S. from these health problems. This shot can prevent liver cancer.
  - The infection can be passed from the mother. For this reason, the shot series is started as a newborn.
7. **Human Papillomavirus (HPV)**
  - A virus that causes nearly all cases of genital warts.
  - Complications: cervical cancer, vaginal cancer and throat cancer 20-30 years later.
  - This shot can prevent all of these cancers. The vaccine must be given before exposed to HPV through sexual activity.
  - For this reason, the shot is started at 11 years.
8. **Influenza (Flu)**
  - Viral infection.
  - Complications: croup, bronchiolitis, pneumonia. Trouble breathing can result in low oxygen levels.
  - Children less than 2 years old can get very sick. They may need to be on oxygen.
  - A yearly flu shot is urged for children over 6 months of age.
9. **Measles (in the MMR shot)**
  - Viral infection.
  - It causes a widespread rash, fever and a bad cough.
  - Complications: brain infections, pneumonia, and bleeding.
  - The shot is started at 1 year.

#### 10. **Meningococcus (MCV)**

- Bacterial infection.
- Complications: it's one of the bacteria that causes meningitis (spinal cord and brain infections). Meningitis can leave patients mentally retarded, blind, deaf, or with cerebral palsy. It also can cause pneumonia, bleeding and blood infections.
- The disease is more common in high school and college students.
- For this reason, the shot is started 11 or 12 years.

#### 11. **Mumps (in the MMR shot)**

- Viral infection.
- It causes painful swelling of the parotid glands in the cheeks.
- Complications: brain infections and deafness.
- The shot is started at 1 year.

#### 12. **Pertussis (in the DTaP or Tdap shot)**

- Also called whooping cough.
- Bacterial infection of the windpipe and lungs.
- It causes a bad cough that can last 4 to 6 weeks.
- Complications: trouble breathing. Very serious in babies.
- The shot is started at 2 months.

#### 13. **Pneumococcus (PCV)**

- Bacterial infection.
- Complications: It's one of the bacteria that causes meningitis (spinal cord and brain infection). It also can cause pneumonia and blood infections.
- The shot is started at 2 months.

#### 14. **Polio**

- Viral infection.
- Complications: It starts with muscle weakness. Can progress to not being able to walk or even move. May need to be placed on a breathing machine. Patients are left with weakness or paralyzed muscles.
- The shot is started at 2 months.

#### 15. **Rotavirus (RV)**

- Viral infection.
- It is the most common cause of severe diarrhea in babies and toddlers.
- Complications: dehydration. This is a condition where there isn't enough fluid in the body. Children may need to be in the hospital for fluids given in a vein.
- The vaccine is given by mouth and started at 2 months.

#### 16. **Rubella (in the MMR shot)**

- Also called German Measles.
- Viral infection that causes a widespread rash.
- Complications: If a pregnant woman gets Rubella, it harms the baby. It can cause the unborn baby to have brain damage. It can also cause heart disease and eye disease.
- The shot is started at 1 year.

#### 17. **Tetanus (in the DTaP or Tdap shot)**

- Bacterial infection that starts in open wounds.
- Complications: Starts with local muscle spasms around a wound. Progresses to trouble swallowing and then can't open the mouth ("lockjaw"). Total body stiffness and seizures can follow.

## Call Your Doctor If

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- You think your child is behind in vaccine shots
- You think your child needs to be seen
- You have other questions or concerns

### **Pediatric Care Advice**

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