Your Child's First Vaccines: What You Need to Know

Why get vaccinated?

Vaccines can prevent disease. Most vaccine-preventable diseases are much less common than they used to be, but some of these diseases still occur in the United States. **When fewer babies get vaccinated, more babies get sick.**

Diphtheria, tetanus, and pertussis

- **Diphtheria (D)** can lead to difficulty breathing, heart failure, paralysis, or death.
- **Tetanus (T)** causes painful stiffening of the muscles. Tetanus can lead to serious health problems, including being unable to open the mouth, having trouble swallowing and breathing, or death.
- **Pertussis (aP)**, also known as "whooping cough," can cause uncontrollable, violent coughing which makes it hard to breathe, eat, or drink. Pertussis can be extremely serious in babies and young children, causing pneumonia, convulsions, brain damage, or death. In teens and adults, it can cause weight loss, loss of bladder control, passing out, and rib fractures from severe coughing.

Hib (Haemophilus influenzae type b) disease

Haemophilus influenzae type b can cause many different kinds of infections. These infections usually affect children under 5 years old. Hib bacteria can cause mild illness, such as ear infections or bronchitis, or they can cause severe illness, such as infections of the bloodstream. Severe Hib infection requires treatment in a hospital and can sometimes be deadly.

Hepatitis B

Hepatitis B is a liver disease. Acute hepatitis B infection is a short-term illness that can lead to fever, fatigue, loss of appetite, nausea, vomiting, jaundice (yellow skin or eyes, dark urine, clay-colored bowel movements), and pain in the muscles, joints, and stomach. Chronic hepatitis B infection is a long-term illness that is very serious and can lead to liver damage (cirrhosis), liver cancer, and death.

Polio

Polio is caused by a poliovirus. Most people infected with a poliovirus have no symptoms, but some people experience sore throat, fever, tiredness, nausea, headache, or stomach pain. A smaller group of people will develop more serious symptoms that affect the brain and spinal cord. In the most severe cases, polio can cause weakness and paralysis (when a person can't move parts of the body) which can lead to permanent disability and, in rare cases, death.

Pneumococcal disease

Pneumococcal disease is any illness caused by pneumococcal bacteria. These bacteria can cause pneumonia (infection of the lungs), ear infections, sinus infections, meningitis (infection of the tissue covering the brain and spinal cord), and bacteremia (bloodstream infection). Most pneumococcal infections are mild, but some can result in long-term problems, such as brain damage or hearing loss. Meningitis, bacteremia, and pneumonia caused by pneumococcal disease can be deadly.

DTaP, Hib, hepatitis B, polio, and pneumococcal conjugate vaccines

Infants and children usually need:

- 5 doses of **diphtheria, tetanus, and acellular pertussis vaccine (DTaP)**

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- 3 or 4 doses of **Hib vaccine**
- 3 doses of **hepatitis B vaccine**
- 4 doses of **polio vaccine**
- 4 doses of **pneumococcal conjugate vaccine (PCV13)**

Some children might need fewer or more than the usual number of doses of some vaccines to be fully protected because of their age at vaccination or other circumstances.

Older children, adolescents, and adults with certain health conditions or other risk factors might also be recommended to receive 1 or more doses of some of these vaccines.

These vaccines may be given as stand-alone vaccines, or as part of a combination vaccine (a type of vaccine that combines more than one vaccine together into one shot).

Talk with your health care provider

Tell your vaccine provider if the child getting the vaccine:

For all vaccines:

- Has had **an allergic reaction after a previous dose of the vaccine**, or has **any severe, life-threatening allergies**.

For DTaP:

- Has had **an allergic reaction after a previous dose of any vaccine that protects against tetanus, diphtheria, or pertussis**.
- Has had **a coma, decreased level of consciousness, or prolonged seizures within 7 days after a previous dose of any pertussis vaccine** (DTP or DTaP).
- Has **seizures or another nervous system problem**.
- Has ever had **Guillain-Barré Syndrome** (also called GBS).
- Has had **severe pain or swelling after a previous dose of any vaccine that protects against tetanus or diphtheria**.

For PCV13:

- Has had an **allergic reaction after a previous dose of PCV13, to an earlier pneumococcal conjugate vaccine known as PCV7, or to any vaccine containing diphtheria toxoid** (for example, DTaP).

In some cases, your child's health care provider may decide to postpone vaccination to a future visit.

Children with minor illnesses, such as a cold, may be vaccinated. Children who are moderately or severely ill should usually wait until they recover before being vaccinated.

Your child's health care provider can give you more information.

Risks of a vaccine reaction

For DTaP vaccine:

- Soreness or swelling where the shot was given, fever, fussiness, feeling tired, loss of appetite, and vomiting sometimes happen after DTaP vaccination.
- More serious reactions, such as seizures, non-stop crying for 3 hours or more, or high fever (over 105˚F) after DTaP vaccination happen much less often. Rarely, the vaccine is followed by swelling of the entire arm or leg, especially in older children when they receive their fourth or fifth dose.
- Very rarely, long-term seizures, coma, lowered consciousness, or permanent brain damage may happen after DTaP vaccination.

For Hib vaccine:

- Redness, warmth, and swelling where the shot was given, and fever can happen after Hib vaccine.

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For hepatitis B vaccine:

- Soreness where the shot is given or fever can happen after hepatitis B vaccine.

For polio vaccine:

- A sore spot with redness, swelling, or pain where the shot is given can happen after polio vaccine.

For PCV13:

- Redness, swelling, pain, or tenderness where the shot is given, and fever, loss of appetite, fussiness, feeling tired, headache, and chills can happen after PCV13.
- Young children may be at increased risk for seizures caused by fever after PCV13 if it is administered at the same time as inactivated influenza vaccine. Ask your health care provider for more information.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website (http://www.vaers.hhs.gov/) or call **1-800-822-7967**.

VAERS is only for reporting reactions, and VAERS staff do not give medical advice.

The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Visit the VICP website (http://www.hrsa.gov/vaccinecompensation) or call **1-800-338-2382** to learn about the program and about filing a claim. There is a time limit to file a claim for compensation.

How can I learn more?

- Ask your health care provider.
- Call your local or state health department (https://www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html).
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call 1-800-232-4636 (1-800-CDC-INFO) or
  - Visit CDC's vaccine website (https://www.cdc.gov/vaccines/index.html)

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The information contained on this Web site should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

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