

## How Do Vaccines Work?

Our bodies were designed with some natural defense mechanisms to protect us. Sometimes a pathogen or bacteria or virus that can cause disease, gets through those barriers. Our immune system kicks into gear to help us fight off the illness. If our body has seen this pathogen before, we already have antibodies that recognize and attack it. If not, our immune system produces new antibodies. This process takes time and in the meantime, we probably get sick.

In a vaccine, your body is exposed to tiny inactive parts of a pathogen, called antigens – which will not make you sick – but allow the body to produce antibodies to protect you from that pathogen in the future. Vaccination also works on a large scale through something called herd immunity. When many people in a community have been vaccinated against a certain disease, that pathogen has a much harder time circulating and infecting people.

## Recommended Immunization Schedule – Birth to 2 years old

The Immunization Schedule by Age is available from the CDC. Keep in mind that while these diseases are serious, most of them are uncommon now in the United States because of widespread vaccination. It is important to continue to immunize children against these diseases to prevent outbreaks or resurgence.

**Hepatitis B**– The Hepatitis B virus causes a highly contagious liver disease. This is the first vaccine your baby will receive, and it is typically administered in the hospital before you go home.

Dosage: 3 doses – at birth, 1-2 months, and 6-18 months

**DTaP** – The DTaP vaccine protects against three viruses: Diphtheria, Tetanus, and Pertussis.

Because babies under 2 months are not able to be vaccinated with DTaP, it is important to get the Tdap (a similar vaccine) while you are pregnant to pass along some protection to your child before birth.

Dosage: 5 doses – 2 months, 4 months, 6 months, 15-18 months, and 4-6 years.

**Hib** – Haemophilus influenzae type b is another bacterial disease that can cause a wide range of symptoms including fever, nausea, and infections in the blood, joints, or bones.

Dosage: 3 or 4 doses – 2 months, 4 months, 6 months – for some brands, and 12-15 months.

**PCV**– the PCV vaccine protects against pneumococcal diseases. Without this vaccine, children are more susceptible to serious infections which can have lifelong negative effects.

Dosage: 4 doses – 2 months, 4 months, 6 months, 12-15 months

**Polio**– Polio is a viral disease that attacks the nervous system and can cause paralysis or death. Polio is rare in the U.S., but it is very contagious and still exists in other parts of the world.

Dosage: 4 doses – 2 months, 4 months, 6-18 months, 4-6 years

**MMR**– the MMR vaccine protects against measles, mumps, and rubella. Measles is a serious and highly contagious respiratory infection that is still common in other countries.

Dosage: 2 doses – 12-15 months, 4-6 years

**Varicella (Chicken Pox)**– Although chicken pox usually causes a mild illness with an itchy rash, it can develop into a serious and even life-threatening infection. Being vaccinated is the best way to prevent complications.

Dosage: 2 doses – 12-15 months, 4-6 years

**Hepatitis A**– Hepatitis A is a virus that attacks the liver. Children under 6 usually show no symptoms but can easily pass the virus to adults. There is no treatment and symptoms like fever, fatigue, and stomach pains can last up to 6 months.

Dosage: 2 doses – 12-23 months, 6 months after first dose

**RSV**– RSV, Respiratory Syncytial Virus, is a common virus that circulates in the fall and winter months. The recommendations for this vaccine are specific to the child based on a variety of factors.

Dosage: 1 dose for children under 24 months who fit recommendations

**Influenza (flu)**— A flu vaccine is recommended for children over 6 months each year to protect against current strains of the influenza virus.

**COVID-19**– Age and dosage varies by brand of vaccine; talk to your provider for details.

## General Side Effects

Your child may experience mild fever, or swelling, redness, and tenderness at the injection site. If your child's side effects last longer than 5 days, or they develop a high fever (104 or above), seem very sick, or cry inconsolably after a vaccine, contact your provider for guidance.

Concern: Allergic reactions – A severe allergic reaction to a vaccine is very rare. Signs show up 20 minutes to 2 hours after the vaccine and include faintness, difficulty breathing, hives or rashes, and nausea. If you notice this type of reaction in your child, get help by calling 911 immediately.

Concern: Do all these vaccines overwhelm a baby's immune system?

Remember that this recommended schedule has been thoroughly researched, tested, and approved by multiple health organizations. The immunization schedule is designed to give your baby the best protection against these serious diseases at the time when they are most susceptible and vulnerable.

## How to Prepare

Before the appointment –

- For babies, remind yourself that vaccination is important to your baby's health, safety, and future. If you are calm and collected at the appointment, your baby will feel safe.
- For toddlers and older children, help them understand what will happen. Play with a doctor's toy set and allow them to pick a special toy or animal to bring for comfort.

During –

- For babies, help your baby sit or lay in a comfortable position on your lap for the shot. Use a calm voice and smile at your baby through the appointment.
- Most vaccines are administered in the upper arm or thigh, and it is important that your child doesn't move around while they get the vaccine. You can try to distract them or just help them breathe deeply during the shot.
- It's okay if your baby or child cries during or after the shot. Reassure and comfort them!

After –

- Give your child time to rest and recover comfortably. They might be a little fussy or extra sleepy. Be sure to keep them hydrated.

## Why Vaccinate?

As parents, we do a lot to keep our babies safe! Immunization through vaccines is one important way to protect your baby's health – and the health of the community and future generations too! The vaccines that are currently recommended for babies and children are safe. Americans are healthier now than we ever have been, thanks to medical advancements including vaccines. The mild side effects are worth it for a healthy child in the long run!

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