

Vaccination and Immunization



What is immunization? It is the process by which an immune response is obtained, that is, the body achieves resistance to a specific disease. One of the ways that immunization occurs is through vaccination. Vaccines are the safest and most effective way to prevent disease, disability, and even death.

Getting vaccinated is important to protect children and adults from preventable diseases. Once we are vaccinated, the immune system develops a memory, when exposed to a germ, is activated, and can fight against it. Vaccines contain dead or weakened germs, or parts of their structure, that cause a particular disease. When a vaccine is given to a healthy person, it provokes an immune system response that creates immunity.

Weeks after birth, babies have some immune protection. This is transmitted from the mother's body to the baby through the placenta during pregnancy. After a short time, this protection wears off, so the shots will help protect the baby against many diseases. Before there were vaccines, people could only be immune when they contracted the disease and survived it.

Why is immunization and vaccination important?

Immunization can help prevent many diseases, its complications, and even death. Some diseases that are prevented by vaccination are:

- Cervical cancer
- Hepatitis B
- Measles
- Pneumonia
- Influenza
- Tetanus
- COVID-19



Main types of vaccines:

1. **Live attenuated vaccines:** they use the weakened virus form the germ that causes a disease. These vaccines are used to protect against

measles, mumps, and rubella (MMR), rotavirus, smallpox, chickenpox, and yellow fever.

2. **Killed or inactivated vaccine:** it is made from a protein or other small fragments taken from a virus or bacteria. These vaccines are used to protect against hepatitis A, influenza (injectable only), polio (injectable only), and rabies.

3. **Biosynthetic vaccines:** they can contain artificial substances that are very similar to pieces of viruses or bacteria. These vaccines are used to protect against Hib disease (Haemophilus influenzae type b), Hepatitis B, HPV (Human Papillomavirus), Pertussis (part of a combined DTaP vaccine), and shingles.

4. **Toxoid vaccines:** contain a toxin or chemical produced by bacteria or viruses. These vaccines make the person who receives them immune to the harmful effects of the infection rather than the infection itself. These vaccines are used to protect against diphtheria and tetanus.

Recommended vaccines:

• **DTaP:** tetanus, diphtheria, and whooping cough can be very serious illnesses. It is safe to get the DTaP vaccine at the same time as other vaccines, even for babies. For best protection, five doses of the vaccine should be given at the following ages: 2, 4, 6 months, 15-18 months, and 4-6 years.

• **Poliomyelitis (Polio) IPV:** is a viral disease that can affect the spinal cord causing muscle weakness and permanent paralysis and even death. However, the vaccine prepares the child to fight the virus. Most children who receive all the recommended doses of the vaccine will be protected against the virus.

• **Mumps:** is a contagious disease caused by a virus. It is easily spread by coughing and sneezing.

There is no cure, and it can cause long-term health problems. The MMP vaccine protects against mumps and is a shot that combines vaccines against three diseases: measles, mumps, and rubella.

- **Chickenpox:** is an illness caused by a virus that causes a rash, fever and can be serious. Some children who have received the vaccine can get chickenpox, but usually in a very mild case.
- **Meningococcus (MCV4):** frequently strikes without warning, even in apparently healthy people. Protects against bacterial meningitis. Two doses are recommended: the first between 11 and 12 years and the second at 16 years.
- **Hepatitis:** is a disease that causes inflammation in the liver. It can cause liver failure, joint pain, complications in the kidneys, pancreas, blood, and even death. The vaccines protect against types of hepatitis A and B.
- **Human Papillomavirus (HPV):** is a group of viruses that can cause warts in different parts of the body and cause cancer. The first dose is applied from 9 to 12 years old, the second, 1 or 2 months after the first. Finally, the third, 6 months after the first dose.
- **Influenza:** respiratory infection caused by a virus. The vaccine protects against the virus and must be given annually.
- **COVID-19:** this is an easily transmitted virus that causes respiratory symptoms, much like the flu, and includes: fever, shortness of breath, cough, fatigue, and more. Minors can now receive the coronavirus vaccine. Consult with the pediatrician. Apart from these vaccines, you may need some others, check with your doctor for more details.

References:

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Social and Emotional Aspect

For tips, tools, and resources on how you and your family can deal with emotional and physical concerns that occur during and after your medical treatment, please visit your primary care physician or contact the following phone lines:

Medical Advice Line

1-844-347-7801

TTY/TDD 1-844-347-7804

APS Healthcare

787-641-9133

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Prepared by Licensed Health Educators.
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