



VACCINATION

Frequently Asked Questions

Vaccines save millions of lives each year. Vaccines work by training and preparing the body's natural defences — the immune system— to recognize and fight off the viruses and bacteria they target. If the body is exposed to those disease-causing germs later, the body is immediately ready to destroy them, preventing illness.

Q. What is a vaccination?

Vaccination is a simple, safe, and effective way of protecting people against harmful diseases, before they come into contact with them. It uses your body's natural defenses to build resistance to specific infections and makes your immune system stronger.

Vaccines train your immune system to create antibodies, just as it does when it is exposed to a disease. However, because vaccines contain only killed or weakened forms of germs like viruses or bacteria, they do not cause the disease or put you at risk of its complications.

Most vaccines are given by an injection, but some are given orally (by mouth) or sprayed into the nose.

Q. Why is vaccination important?

Vaccination is a safe and effective way to prevent disease and save lives – now more than ever. Today there are vaccines available to protect against at least 20 diseases, such as diphtheria, tetanus, pertussis, influenza and measles. Together, these vaccines save the lives of up to 3 million people every year.

When we get vaccinated, we are not just protecting ourselves, but also those around us. Some people, like those who are seriously ill, are advised not to get certain vaccines – so they depend on the rest of us to get vaccinated and help reduce the spread of disease.

During the COVID-19 pandemic, vaccination continues to be critically important. The pandemic has caused a decline in the number of children receiving routine immunizations, which could lead to an increase in illness and death from preventable diseases. The World Health Organization has urged countries to ensure that essential immunization and health services continue, despite the challenges posed by COVID-19.

Q. How does a vaccine work?

Vaccines reduce risks of getting a disease by working with your body's natural defenses to build protection. When you get a vaccine, your immune system responds. It

- Recognizes the invading germ, such as the virus or bacteria.
- Produces antibodies. Antibodies are proteins produced naturally by the immune system to fight disease.
- Remembers the disease and how to fight it. If you are then exposed to the germ in the future, your immune system can quickly destroy it before you become unwell.

The vaccine is therefore a safe and clever way to produce an immune response in the body, without causing illness.

Our immune systems are designed to remember. Once exposed to one or more doses of a vaccine, we typically remain protected against a disease for years, decades or even a lifetime. This is what makes vaccines so effective. Rather than treating a disease after it occurs, vaccines prevent us in the first instance from getting sick.

Q. What is in a vaccine?

All the ingredients of a vaccine play an important role in ensuring a vaccine is safe and effective. Some of these include:

- The antigen. This is a killed or weakened form of a virus or bacteria, which trains our bodies to recognize and fight the disease if we encounter it in the future.
- Adjuvants, which help to boost our immune response. This means they help vaccines to work better.
- Preservatives, which ensure a vaccine stays effective.
- Stabilisers, which protect the vaccine during storage and transportation.

Vaccine ingredients can look unfamiliar when they are listed on a label. However, many of the components used in vaccines occur naturally in the body, in the environment, and in the foods we eat. All of the ingredients in vaccines – as well as the vaccines themselves – are thoroughly tested and monitored to ensure they are safe.

*Sources
World Health Organization
Bahamas Government

Q. How are vaccines developed and tested?

The most commonly used vaccines have been around for decades, with millions of people receiving them safely every year. As with all medicines, every vaccine must go through extensive and rigorous testing to ensure it is safe before it can be introduced in a country.

An experimental vaccine is first tested in animals to evaluate its safety and potential to prevent disease. It is then tested in human clinical trials, in three phases:

- *In phase I*, the vaccine is given to a small number of volunteers to assess its safety, confirm it generates an immune response, and determine the right dosage.
- *In phase II*, the vaccine is usually given to hundreds of volunteers, who are closely monitored for any side effects, to further assess its ability to generate an immune response. In this phase, data are also collected whenever possible on disease outcomes, but usually not in large enough numbers to have a clear picture of the effect of the vaccine on disease. Participants in this phase have the same characteristics (such as age and sex) as the people for whom the vaccine is intended. In this phase, some volunteers receive the vaccine and others do not, which allows comparisons to be made and conclusions drawn about the vaccine.
- *In phase III*, the vaccine is given to thousands of volunteers – some of whom receive the investigational vaccine, and some of whom do not, just like in phase II trials. Data from both groups is carefully compared to see if the vaccine is safe and effective against the disease it is designed to protect against.

Once the results of clinical trials are available, a series of steps is required, including reviews of efficacy, safety, and manufacturing for regulatory and public health policy approvals, before a vaccine may be introduced into a national immunization programme.

Following the introduction of a vaccine, close monitoring continues to detect any unexpected adverse side effects and further assess effectiveness in the routine use setting among even larger numbers of people to continue assessing how best to use the vaccine for the greatest protective impact.

Q. Are vaccines safe?

Vaccination is safe and side effects from a vaccine are usually minor and temporary, such as a sore arm or mild fever. More serious side effects are possible, but extremely rare.

Any licensed vaccine is rigorously tested across multiple phases of trials before it is approved for use, and regularly reassessed once it is introduced. Scientists are also constantly monitoring information from several sources for any sign that a vaccine may cause health risks.

Remember, you are far more likely to be seriously injured by a vaccine-preventable disease than by a vaccine. For example, tetanus can cause extreme pain, muscle spasms (lockjaw) and blood clots, measles can cause encephalitis (an infection of the brain) and blindness.

Many vaccine-preventable diseases can even result in death. The benefits of vaccination greatly outweigh the risks, and many more illnesses and deaths would occur without vaccines.

Q. Are there side effects from vaccines?

Like any medicine, vaccines can cause mild side effects, such as a low-grade fever, or pain or redness at the injection site. Mild reactions go away within a few days on their own.

Severe or long-lasting side effects are extremely rare. Vaccines are continually monitored for safety, to detect rare adverse events.

Q. I still have questions about vaccination, what should I do?

If you have questions about vaccines be sure to talk to your healthcare provider. He or she can provide you with science-based advice about vaccination for you and your family, including the recommended vaccination schedule. You can also contact the Extended Program on Immunization (E.P.I.) at 341-1741 or 341-1743 for more information.

When looking online for information about vaccines, be sure to consult only trustworthy sources. To help you find them, WHO has reviewed and 'certified' many websites across the world that provide only information based on reliable scientific evidence and independent reviews by leading technical experts. These websites are all members of the Vaccine Safety Net.